United States Air Force
611th Air Support Group/
Civil Engineering Squadron

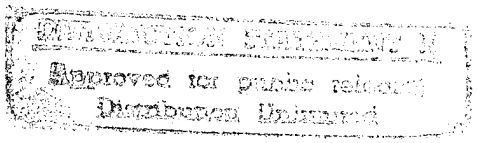
Elmendorf AFB, Alaska

Final

Remedial Investigation and Feasibility Study

Point Lonely Radar Installation, Alaska

(Volume 2 of 2 Includes Appendices D - G)



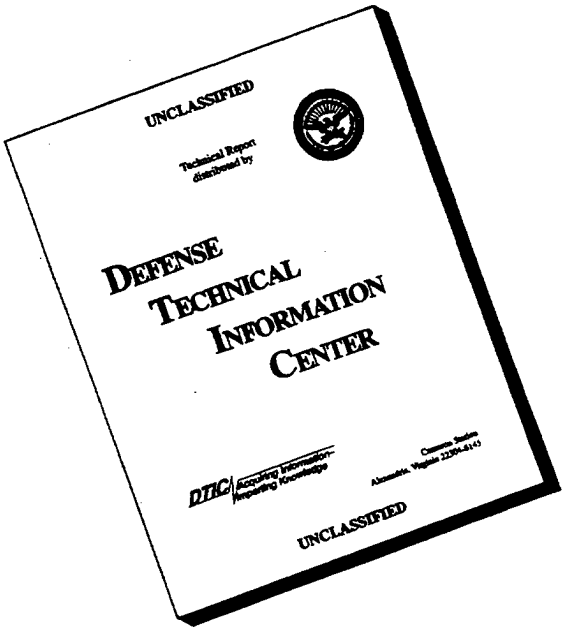
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APPENDIX D

SAMPLE COLLECTION LOGS

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SAMPLE COLLECTION LOGS FOR THE SEWAGE DISPOSAL AREA (SS01)

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S01

RADAR STATION: Point Lonely WEATHER: Overcast and chilly, 45°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 55 MAGNETIC HEADING: 225°

FIXED POINT: Centerline of road intersection of Beach Road (east-west) and Main Road out to beach (north-south)

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO

TIME SAMPLED: 09:50 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Fine to medium sand and gravel, moist. Ten percent slightly compacted fines. Located adjacent to outlet of drainage pipe at intersection of beach and main road. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S02-03

RADAR STATION: Point Lonely WEATHER: Overcast, chilly, 45°F, windy

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 55 MAGNETIC HEADING: 225°

FIXED POINT: Centerline of road intersection, Beach Road (east-west) and Main Road out to beach (north-south)

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO

TIME SAMPLED: 10:15 DEPTH OF SAMPLE (feet): 3.0 to 3.5

SAMPLE DESCRIPTION/COMMENTS: QA/QC soil sample. Fine to medium sand and gravel, moist. Ten percent fines. No odor, slightly stained. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Hand auger and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS01-S14-03

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S03

RADAR STATION: Point Lonely WEATHER: Overcast, chilly, 45°F, windy

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 25 MAGNETIC HEADING: 225°

FIXED POINT: Three semi-buried pipes from beneath road, lying on beach trending north.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, PG

TIME SAMPLED: 10:15 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Thirty feet west of triple pipe outfall. Fine sands with no petroleum odor or staining. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
10:18	BZ = 0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S04-03

RADAR STATION: Point Lonely WEATHER: Overcast, chilly, 45°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 25 MAGNETIC HEADING: 225°

FIXED POINT: Three semi-buried pipes from beneath road lying on beach trending north.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, RT

TIME SAMPLED: 10:30 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Fine sands and gravel, i.e., fill material. Strong diesel odor and staining. VOC-BTEX 8020 and VOC 8260 were collected in 8 ounce jars.

SAMPLING METHOD: Hand auger and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
10:30	BZ = 0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S05

RADAR STATION: Point Lonely WEATHER: Chilly, windy

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 50 MAGNETIC HEADING: 135

FIXED POINT: Go 50' perpendicular to centerline on Beach Road trending SE from SS01-S03 and SS01-S04

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, PG

TIME SAMPLED: 10:40 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Collected from depression area south of SS01-S03 and SS01-S04. Clay with minor organic matter. No odor or sheen. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
10:45	BZ = 0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S06-03

RADAR STATION: Point Lonely WEATHER: Chilly, cool, 40°F, windy

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 50 MAGNETIC HEADING: 135°

FIXED POINT: Go 50 feet perpendicular to centerline of Beach Road trending southeast from SS01-S03 and SS01-S04

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, RT

TIME SAMPLED: 10:50 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Sample collected at permafrost boundary. Clay and ice rock with natural organic odor. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Hand auger, scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
10:52	BZ = 0	0	NR		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S07-1.0

RADAR STATION: Point Lonely WEATHER: Chilly, cool, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 2 MAGNETIC HEADING: Vicinity

FIXED POINT: Down elbow joint of oil fill pipe for beach diesel tanks south of Beach Road at edge of road.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, PG

TIME SAMPLED: 11:15 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Well sorted medium sand (fill material). Moist, heavy diesel odor, visible sheen on moist sediments. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S08-2.5

RADAR STATION: Point Lonely WEATHER: Chilly, cool, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 2 MAGNETIC HEADING: Vicinity

FIXED POINT: Down elbow joint of oil fill pipe for bench diesel tanks south of Beach Road at edge of road.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, RT

TIME SAMPLED: 11:25 DEPTH OF SAMPLE (feet): 2.5

SAMPLE DESCRIPTION/COMMENTS: Well sorted medium sand, fill material. Moist, heavy diesel odor, visible sheen in moist sediments, diesel odor, sheen presist through profile to clay layer, 2.5 feet. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S09

RADAR STATION: Point Lonely WEATHER: Chilly, cool, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 65 MAGNETIC HEADING: 225°

FIXED POINT: Beach diesel fill line head north-northwest 65 feet along road.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO

TIME SAMPLED: 11:20 DEPTH OF SAMPLE (feet): Surface

SAMPLE DESCRIPTION/COMMENTS: Fine sand to coarse gravel (fill material). Moist, no detectable odor. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S10-4.0

RADAR STATION: Point Lonely WEATHER: Chilly, cool, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 65 MAGNETIC HEADING: 225°

FIXED POINT: Beach diesel fill line, head north-northwest 65 feet along road.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO

TIME SAMPLED: 11:30 DEPTH OF SAMPLE (feet): 4

SAMPLE DESCRIPTION/COMMENTS: Fine sand to medium/coarse gravel, moist. No detectable odor. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S11-2.5

RADAR STATION: Point Lonely WEATHER: Cloudy, calm, cool

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 13.5 MAGNETIC HEADING: 335°

FIXED POINT: Northeast corner of pump house for POL storage.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JB

TIME SAMPLED: 11:57 DEPTH OF SAMPLE (feet): 2.5

SAMPLE DESCRIPTION/COMMENTS: Fine sand to coarse gravel (fill material). Heavy petroleum staining, heavy petroleum odor, moist. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S12-2.5

RADAR STATION: Point Lonely WEATHER: Cloudy, calm, cool

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 18.5 MAGNETIC HEADING: 265°

FIXED POINT: Northeast corner of pump house for POL storage.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 12:10 DEPTH OF SAMPLE (feet): 2.5

SAMPLE DESCRIPTION/COMMENTS: Fine sand to coarse gravel (fill material). Moist, petroleum staining, petroleum odor. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S13-1.0

RADAR STATION: Point Lonely WEATHER: Overcast, chilly

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 2 MAGNETIC HEADING: Vicinity

FIXED POINT: End of fill line on beach at valve.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 12:00 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Beach sand grading into fine gravel, to an abrupt change to dark clay. Moist, water infilled hole outlet and has a heavy sheen. Mild odor (diesel). VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S14-03

RADAR STATION: Point Lonely WEATHER: Windy, chilly, 45°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 10 MAGNETIC HEADING: West

FIXED POINT: 5 to 10 feet west of drainage pipe outlet on berm at intersection of beach and main road.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO

TIME SAMPLED: 10:15 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Fine sand and gravel. No odor, slightly stained black, moist, at edge of permafrost. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Hand auger and scoop.

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS01-S02-03

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-S15

RADAR STATION: Point Lonely WEATHER: Cloudy

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: Inspection pit south of pump house (center).

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 12:10 DEPTH OF SAMPLE (feet): 2'-8"

SAMPLE DESCRIPTION/COMMENTS: Well sorted fine sands and some gravel, saturated, heavy black staining and detectable odors. VOC-BTEX 8020 and VOC 8260 were collected in 8 ounce jars.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS01-2S16-1

RADAR STATION: Point Lonely WEATHER: 100 percent cloud cover, gushing winds

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 50 MAGNETIC HEADING: Northwest

FIXED POINT: Fill pipe on beach

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG, RT

TIME SAMPLED: 14:10 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Beach sands above grey-green clay. Location moved from 20 feet, observed contamination. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS01-2S17-1

RADAR STATION: Point Lonely WEATHER: 100 percent cloud cover, gusting winds

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 15 MAGNETIC HEADING: North-northeast

FIXED POINT: Fill pipe

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG, RT

TIME SAMPLED: 14:15 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Well sorted beach sands above grey-green clay. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS01-2S18-1.0

RADAR STATION: Point Lonely WEATHER: 100 percent cloud cover, strong gusty wind

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 75 MAGNETIC HEADING: Northwest

FIXED POINT: Northwest corner of pump house

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG, RT

TIME SAMPLED: 13:50 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Well sorted fill sands above grey-green clay. Note: Location was moved from 47 feet northwest to 75 feet, visable contamination. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS01-2S19-1.0

RADAR STATION: Point Lonely WEATHER: Cloud cover, strong gusty winds

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 35 MAGNETIC HEADING: South

FIXED POINT: Sample is 35 feet south along pipeline, in line with the pumphouse east wall.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 14:27 DEPTH OF SAMPLE (feet): 7

SAMPLE DESCRIPTION/COMMENTS: Rounded scattered pebble, surface underlain by grey silty clay and tundra grading into 0.5 inches of black compacted organic material. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS01-2S20-2.0

RADAR STATION: Point Lonely WEATHER: 100 percent cloud cover with gusting winds

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 75 MAGNETIC HEADING: Northeast

FIXED POINT: Northeast corner of pump house building

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG, RT

TIME SAMPLED: 14:00 DEPTH OF SAMPLE (feet): 2

SAMPLE DESCRIPTION/COMMENTS: Well sorted sands. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS01-2S21-1.5

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, 39°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 32 MAGNETIC HEADING: Southeasterly

FIXED POINT: Down elbow of POL pipe, 32 feet along pipe inland, 10 feet perpendicular to pipe to the east.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, PG

TIME SAMPLED: 15:55 DEPTH OF SAMPLE (feet): 1.5

SAMPLE DESCRIPTION/COMMENTS: Dark brown to black. Silty clay to clay silt with moderate organics on grey-green organic poor clay. Moist, permafrost at 1.5 feet.

SAMPLING METHOD: Auger and dedicated scoop, sampled at auger refusal (permafrost).

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SD01

RADAR STATION: Point Lonely WEATHER: Cool, windy, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 2 MAGNETIC HEADING: SW

FIXED POINT: Southwest corner pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 10:30 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Black fine to coarse sand, some fine gravel, petroleum odor. VOC 8260 and VOC-BTEX 8020 were collected in 8 ounce jars.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS01-SD04

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SD02

RADAR STATION: Point Lonely WEATHER: Cold, cloudy, breezy, 30°F, dry

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 31 MAGNETIC HEADING: 95°

FIXED POINT: Northeast corner of pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 12:05 DEPTH OF SAMPLE (feet): Surface to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Silty sandy soil with some fine gravel leachate into water from gravel pad. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SD03

RADAR STATION: Point Lonely WEATHER: Cold, cloudy, 30°F, breezy

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 48.5 MAGNETIC HEADING: 25°

FIXED POINT: Northeast corner pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 11:40 DEPTH OF SAMPLE (feet): 0 to 3 inches

SAMPLE DESCRIPTION/COMMENTS: Silty sand with some fine gravel. Noticable petroleum surfacing from digging. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SD04

RADAR STATION: Point Lonely WEATHER: Cool, windy, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 2 MAGNETIC HEADING: SW

FIXED POINT: Southwest corner of pumphouse at POL Storage

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 10:30 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Black fine to coarse sand. Some fine gravel. Petroleum odor. VOC-BTEX 8020 and VOC 8260 were collected in 8 ounce jars.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS01-SD01

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SW01

RADAR STATION: Point Lonely WEATHER: Cloudy, 30°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 37 MAGNETIC HEADING: 170°

FIXED POINT: Southwest corner pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 10:15 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Yellowish tint

SAMPLING METHOD: Direct to bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-SS01-SW06

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
10:12	7.8	450	3°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SW02

RADAR STATION: Point Lonely WEATHER: Cold, cloudy, 30°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 47 MAGNETIC HEADING: 170°

FIXED POINT: Southwest corner pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML

TIME SAMPLED: 11:25 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS:

SAMPLING METHOD: Direct to bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
	8.1	90	4°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SW03

RADAR STATION: Point Lonely WEATHER: Cold, cloudy, breezy, dry, 30°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 31 MAGNETIC HEADING: 95°

FIXED POINT: Northeast corner of pump house for POL storage.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 12:00 DEPTH OF SAMPLE (feet): Surface to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Water is clear with a brown tint. Leachate at boundary of shore and water.

SAMPLING METHOD: Direct to bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
12:00	8.3	200	5°C	Fresh water	<0.0001

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SW04

RADAR STATION: Point Lonely WEATHER: Cloudy, breezy, cold, clear, 40°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 41 MAGNETIC HEADING: 95°

FIXED POINT: Northeast corner of pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO, PG

TIME SAMPLED: 14:20 DEPTH OF SAMPLE (feet): 0 to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Amber colored water, vegetative silty bottom

SAMPLING METHOD: Disposable scoop dipped bottle method.

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
14:00	8.2	190	6°C	Fresh Water	<0.0001

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SW05

RADAR STATION: Point Lonely WEATHER: Cold, cloudy, breezy, 30°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 48.5 MAGNETIC HEADING: 25°

FIXED POINT: Northeast corner of pump house for POL storage

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 11:30 DEPTH OF SAMPLE (feet): Surface, 0 to 2 inches

SAMPLE DESCRIPTION/COMMENTS: Yellowish water silt bottom, small pond, shallow with leachate seeping in from road shoulder.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
11:30	7.8	120	5°C	Fresh Water	<0.0001

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-SS01-SW06

RADAR STATION: Point Lonely WEATHER: Cloudy, 30°F

SITE/AOC: SS01 Sewage Disposal FEET FROM FIXED POINT: 37 MAGNETIC HEADING: 170°

FIXED POINT: Southwest corner pump house for POL Storage

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 10:15 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Yellowish tint

SAMPLING METHOD: Direct to bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-SS01-SW01

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
10:15	7.8	450	3°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE DRUM STORAGE AREA (ST02)

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-ST02-S01-3

RADAR STATION: Point Lonely WEATHER: Cold, cloudy, cool, 40°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 15:10 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Stained area toward southwest end of berm. Collect from surface to bottom of visible stain from bbl auger. Strong hydrocarbon odors. Fine sand, fine gravel (fill material), medium moist, visible POL staining and odor persists throughout 4 foot augered profile.

SAMPLING METHOD: Disposable glove, auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES	✓				TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-ST02-S02

RADAR STATION: Point Lonely WEATHER: Foggy, cool

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: Intersection of road and Gravel Pad.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 15:40 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: S02 and SW01 collect in ponded area near/between road and pad. Fine sands to medium gravel (fill material), saturated soil and sediments.

SAMPLING METHOD: Spade and scoop, hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-S03

RADAR STATION: Point Lonely WEATHER: Foggy, cool

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: SW

FIXED POINT: Southwest corner of gravel pad.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:10 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: S03 and SW02. Tundra material, saturated, high organic content at edge of clay layer.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS			
		WATER	SOIL			WATER		SOIL	
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz	
PCB	✓			SVOC (8270)		1 liter		8 oz	
PESTICIDES				TOTAL METALS		1 liter		8 oz	
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter		---	
VOC-BTEX 8020	✓			TDS		250 ml		---	
				TSS		250 ml		---	
				TOC		500 ml		4 oz	
				TCLP		2 liters		2 x 8 oz	

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-S04

RADAR STATION: Point Lonely WEATHER: Foggy cool

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: West

FIXED POINT:

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:30 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: S04 and SW03 leachate/runoff from pad. Tundra material, edge of clay layer, no odor in ponded area at edge of berm.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB	✓			SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-S05

RADAR STATION: Point Lonely WEATHER: Cloudy, breezy, cold

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: NW

FIXED POINT: Sample location is NW of gravel pad.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:45 DEPTH OF SAMPLE (feet): 0 - 0.5

SAMPLE DESCRIPTION/COMMENTS: Sample for surface runoff and leachate from pad. Fine to medium sands and minor gravels, trace organic material, moist.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-S06-2.0

RADAR STATION: Point Lonely WEATHER: Cloudy, breezy, cold

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: Center of gravel pad

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 10:05 DEPTH OF SAMPLE (feet): 2.0

SAMPLE DESCRIPTION/COMMENTS: Sample from surface to bottom of stained area visible in auger core. Shoveled to 2 feet. Sands and gravel fill material, moist, no visible stains or odor.

SAMPLING METHOD: Hand auger (bbl core)

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-S07

RADAR STATION: Point Lonely WEATHER: Cloudy, breezy, cold

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: _____ MAGNETIC HEADING: East

FIXED POINT: Sample collected from east side of gravel road.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:55 DEPTH OF SAMPLE (feet): Surface (0-6")

SAMPLE DESCRIPTION/COMMENTS: Tundra material, high organic material, black color, strong reduced organic matter odor present.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-S08

RADAR STATION: Point Lonely WEATHER: Foggy, cool, 45°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: NE

FIXED POINT: Sample collected northeast of gravel pad

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 10:20 DEPTH OF SAMPLE (feet): Surface

SAMPLE DESCRIPTION/COMMENTS: Tundra material, organic rich clays, fine sand and gravel fill material, moist, abundant organic matter.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/04/93 SAMPLE ID: LON-ST02-2S09-1.5

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, 39°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 77 MAGNETIC HEADING: SW

FIXED POINT: Southwest corner of ST02 Pad.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JB

TIME SAMPLED: 16:30 DEPTH OF SAMPLE (feet): 1.5

SAMPLE DESCRIPTION/COMMENTS: Organic rich dark brown to black tundra material, no clay or other soil layer present, material persists to permafrost at 1.5 feet, moist to saturated.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/04/93 SAMPLE ID: LON-ST02-2S10-1.0

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, 39°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: Sampled at 25' S along Rd of S07, 40' towards lagoon from rd, 103' along rd from the S edge of ST02 Pad.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JB

TIME SAMPLED: 16:45 DEPTH OF SAMPLE (feet): 1.0

SAMPLE DESCRIPTION/COMMENTS: Dark brown to black organic rich tundra material on top of thin layer of gray-green silt to clay layer (organic poor), moist to saturated, permafrost at just over 2 feet.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/04/93 SAMPLE ID: LON-ST02-2S11-1.0

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, 39°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 65 MAGNETIC HEADING: East

FIXED POINT: 65 feet perpendicular to road toward lagoon.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JB

TIME SAMPLED: 18:50 DEPTH OF SAMPLE (feet): 1.0

SAMPLE DESCRIPTION/COMMENTS: Brown to gray silty clays, minor organic material (roots), near saturation to saturated.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-ST02-SW01

RADAR STATION: Point Lonely WEATHER: Cool, calm, partly sunny, 45°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SSE

FIXED POINT: Southeast corner adjacent to gravel pad.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RO

TIME SAMPLED: 15:20 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: S02 and SW01 collected in ponded area between road and pond. Standing water ~6-8" deep, light amber color.

SAMPLING METHOD: Dedicated beaker

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
15:30	8.1	500	7°C		<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-SW02

RADAR STATION: Point Lonely WEATHER: Cloudy, calm cool

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: SW

FIXED POINT: Sample collected from southwest corner of gravel pad.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:00 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: S03 and SW02 upgradient/upwind sample.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-ST02-SW05

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
09:05		200	4°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-SW03

RADAR STATION: Point Lonely WEATHER: Foggy, cool

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: West

FIXED POINT: Sample collected from the west side of gravel pad.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:20 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: S04 and SW03 leachate/runoff from Pad.

SAMPLING METHOD: Deconned beaker

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
09:22	8.2	890	5°C		
	(pH meter is suspect)				

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB					ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS			ANALYSES	✓	CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-SW04

RADAR STATION: Point Lonely WEATHER: Foggy, cool

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: NW

FIXED POINT: Sample collected near the northwest corner fo the gravel pad.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:40 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Edge of gravel area, SW04 and S05 runoff from leachate from pad.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
09:50	11.1	240	5°C		<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-SW05

RADAR STATION: Point Lonely WEATHER: Cloudy, breezy, cold

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: SW

FIXED POINT: Sample collected form southwest corner of gravel pad.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 09:50 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: See SW02 / Duplicate of SW02.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-ST02-SW02

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
09:50	8.1	200	4.5°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB	✓			SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-ST02-SW06

RADAR STATION: Point Lonely WEATHER: Foggy, cool, 40°F

SITE/AOC: ST02 Gravel Pad FEET FROM FIXED POINT: 10 MAGNETIC HEADING: East

FIXED POINT: Sample collected from tundra area east of gravel pad.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, PG

TIME SAMPLED: 10:15 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS:

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
	8.1	200			<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE BEACH DIESEL TANKS (SS03)

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-S01

RADAR STATION: Point Lonely WEATHER: Damp cold, breezy, rain

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 25 MAGNETIC HEADING: 180°

FIXED POINT: From the ladder of the north tank

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 17:15 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Light brown sand and gravel. No odor or staining.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-S02

RADAR STATION: Point Lonely WEATHER: Freezing rain, cold, damp

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 25 MAGNETIC HEADING: 180°

FIXED POINT: From the ladder of the north tank

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 17:25 DEPTH OF SAMPLE (feet): 2.0 to 2.5

SAMPLE DESCRIPTION/COMMENTS: Sands and gravels, moist. Very high petroleum odor and black staining. Collected with SS03-S01 (surface)

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-S03

RADAR STATION: Point Lonely WEATHER: Breezy, damp, cold, 32°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 120 MAGNETIC HEADING: 90°

FIXED POINT: From the pipe by the sea that extends out from the tank area.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JB

TIME SAMPLED: 17:54 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Organic material, silts, clays, moist.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-S04

RADAR STATION: Point Lonely WEATHER: Freezing rain, cold, 30°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 75 MAGNETIC HEADING: 45°

FIXED POINT: The south mid-point of the south tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, ML, JM

TIME SAMPLED: 16:30 DEPTH OF SAMPLE (feet): 0 to 0.75

SAMPLE DESCRIPTION/COMMENTS: Underside tundra mat. Top of silt layer. Decanted under pressure from scoop. Mainly silts and clays. Tundra replaced in hole.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS03-S05

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-S05

RADAR STATION: Point Lonely WEATHER: Freezing rain, cold, 30°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 75 MAGNETIC HEADING: 45°

FIXED POINT: The south mid-point of the south tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, ML, JM

TIME SAMPLED: 16:30 DEPTH OF SAMPLE (feet): 0 to 0.75

SAMPLE DESCRIPTION/COMMENTS: Underside tundra mat. Top of silt layer. Decanted under pressure from scoop. Mainly silts and clays. Tundra replaced in hole.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS03-S04

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS03-2S06

RADAR STATION: Point Lonely WEATHER: 40°F, windy, 20 mph

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 25 MAGNETIC HEADING: 180°

FIXED POINT: South westerly from ladder of north tank (just north of multiflanged piping).

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:00 DEPTH OF SAMPLE (feet): 0.1 to 0.3

SAMPLE DESCRIPTION/COMMENTS: 30 percent small pebble gravel (pea gravel), 70 percent mixed sand, high content of diesel. Sample checks lab which previously reported ND. Sample was well homogenized in pan.

SAMPLING METHOD: Disposable scoop. This sample is generally colocated with LON-SS03-S02.

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS03-2S07

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS03-2S07

RADAR STATION: Point Lonely WEATHER: 40°F, windy to 25 mph, cloudy, rainy

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 25 MAGNETIC HEADING: 180°

FIXED POINT: South westerly from ladder of north tank, just north of multiflanged piping.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:00 DEPTH OF SAMPLE (feet): .1 to .3

SAMPLE DESCRIPTION/COMMENTS: 30 percent pea gravel, 70 percent mixed sand, high content of diesel. Replicate of SS03-2S06. Sample well homogenized in pan. Check on lab as lab previously reported ND. Colocated with sample LON-SS03-S02.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS03-2S06

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-SD01

RADAR STATION: Point Lonely WEATHER: Windy, damp, cold, 30°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 60 MAGNETIC HEADING: 345°

FIXED POINT: From the ladder of the north tank.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 17:05 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Gravel berm with oily sheen.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-SD02

RADAR STATION: Point Lonely WEATHER: Breezy, cold, 30°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 50 MAGNETIC HEADING: 135°

FIXED POINT: From the south mid-point of the south tank.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, JM

TIME SAMPLED: 17:10 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Collected with SS03-SW02. Collected at downside of berm at southern side of tank pad at confluence of drainage ditch.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-SW01

RADAR STATION: Point Lonely WEATHER: Freezing rain, cold, 30°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 60 MAGNETIC HEADING: 345°

FIXED POINT: From the ladder of the north tank.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 16:45 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Brownish tint and a lot of suspended solids. Collected with LON-SS03-SD01.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
17:00	7.6	>1,990	5°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-24-93 SAMPLE ID: LON-SS03-SW02

RADAR STATION: Point Lonely WEATHER: Freezing rain, cold, 30°F

SITE/AOC: SS03 Beach Diesel Tanks FEET FROM FIXED POINT: 50 MAGNETIC HEADING: 135°

FIXED POINT: The south midpoint of the south tank.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, JM

TIME SAMPLED: 17:00 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Collected with SS03-SD02. Collected on downside of berm at outlet to drainage ditch. Very high pH

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
17:15	11.2	>1,990	3°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE POL STORAGE (SS04)

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS04-S01

RADAR STATION: Point Lonely WEATHER: Foggy, cool, misty, damp

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 10 MAGNETIC HEADING: 140°

FIXED POINT: Southwest corner of jet fuel tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:05 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Light brown fine-medium sand with 10% rounded to subrounded pebbles. Located 15 feet south of jet fuel storage tank.

SAMPLING METHOD: Shovel and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS	✓	1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS04-S02-2

RADAR STATION: Point Lonely WEATHER: Foggy, cool, misty, damp

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 10 MAGNETIC HEADING: 140°

FIXED POINT: Southwest corner of jet fuel tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:18 DEPTH OF SAMPLE (feet): 2.0-2.5

SAMPLE DESCRIPTION/COMMENTS: Fine-medium sand and rounded to subrounded gravel. Light brown, moist, no odor or staining present.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/04/93 SAMPLE ID: LON-SS04-2S03-2

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, 15°F

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 30 MAGNETIC HEADING: SW

FIXED POINT: Southwest corner of JP-4 aboveground storage tank

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, RT

TIME SAMPLED: 16:15 DEPTH OF SAMPLE (feet): 2

SAMPLE DESCRIPTION/COMMENTS: Gravel fill material, 30 feet south-southwest from southwest corner of JP-4 tank, south of wooden pallets.

SAMPLING METHOD: Deconned shovel, disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
16:10	BZ=0	0	NR		
16:12	BH=0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020				TDS		250 ml		---
				TSS		250 ml		---
Note: This sample was received by lab but not analyzed.				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS04-SD01

RADAR STATION: Point Lonely WEATHER: Misty, cold, damp

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 36 MAGNETIC HEADING: 195°

FIXED POINT: Southeast corner of jet fuel tank.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:15 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Collected with SW01. Dark brown to black, fine to medium sands and gravel, heavily stained with petroleum.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS04-SD02

RADAR STATION: Point Lonely WEATHER: Misty, cold, damp

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 29 MAGNETIC HEADING: 240°

FIXED POINT: Southwest corner of jet fuel tank.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:30 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Fine to medium sands and gravels, dark brown to black.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/04/93 SAMPLE ID: LON-SS04-2SD03

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, 15°F

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 90 MAGNETIC HEADING: SSW

FIXED POINT: Southwest corner of jet fuel tank at northeast edge of pond.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, RT

TIME SAMPLED: 16:20 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Tundra material, clay, root material.

SAMPLING METHOD: Deconned shovel and disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS04-SW01

RADAR STATION: Point Lonely WEATHER: Foggy, misty, damp, cold

SITE/AOC: SS04 POL Storage FEET FROM FIXED POINT: 36 MAGNETIC HEADING: 195°

FIXED POINT: Southeast corner of jet fuel tank.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 14:41 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Sampled from ponded area at edge of berm approximately 40 feet from jet fuel tank.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
14:44	7.2	1,120	4°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE DIESEL SPILLS (SS05)

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S01

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 35 MAGNETIC HEADING: 240°

FIXED POINT: The mid-point of the west side of the furthest northwest tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 11:25 DEPTH OF SAMPLE (feet): 0 - 6"

SAMPLE DESCRIPTION/COMMENTS: Fine to medium sands and gravels. Moist, minor organic matter. Drainage stream with low flow emptying into sample area.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S02

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 35 MAGNETIC HEADING: 240°

FIXED POINT: The midpoint of the west side of the furthest NW Tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 11:30 DEPTH OF SAMPLE (feet): 0 - 6"

SAMPLE DESCRIPTION/COMMENTS: Sands and gravels, minor organics.

SAMPLING METHOD: Auger and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S03

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 70 MAGNETIC HEADING: 280°

FIXED POINT: Midpoint of the west side of the furthest southwest tank

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 11:35 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Sands and gravels, moist

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S04

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 70 MAGNETIC HEADING: 280°

FIXED POINT: Midpoint of the west side of the most far southwest tank.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 11:40 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: No odors. Sands and gravels at confluence of drainage ditch. Taken just above depth of water.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S05

RADAR STATION: Point Lonely WEATHER: Misty, frigid, nearly calm

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 23 MAGNETIC HEADING: 255°

FIXED POINT: The outfall pipe on the south side.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, JM

TIME SAMPLED: 11:55 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Fifty percent peaty organic plant matter and grey clayey silt. At end of discharge pipe from berm for easternmost tank.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S06-1

RADAR STATION: Point Lonely WEATHER: Misty, warm

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 23 MAGNETIC HEADING: 255°

FIXED POINT: The outfall pipe on the south side.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:15 DEPTH OF SAMPLE (feet): 0.5 to 1.0

SAMPLE DESCRIPTION/COMMENTS: At edge of berm near standing water. Peat and organic material and gray clayey silt. Collected with SS05-S05.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S07

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: At the south outfall

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 12:05 DEPTH OF SAMPLE (feet): 0-6"

SAMPLE DESCRIPTION/COMMENTS: Thirty percent organic plant matter, 30 percent coarse sand and fine gravel, and 40 percent gray silt, discharge end of berm drain pipe for westernmost tank.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S08

RADAR STATION: Point Lonely WEATHER: Misty, cool to cold, 45°F

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 0 MAGNETIC HEADING: South

FIXED POINT: At the south outfall.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM, RT

TIME SAMPLED: 14:30 DEPTH OF SAMPLE (feet): 0-6"

SAMPLE DESCRIPTION/COMMENTS: Coarse sand and gravel some silt.

SAMPLING METHOD: Hand auger, scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S10-3

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NW

FIXED POINT: Sample collected from area grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:38 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: NW corner of pad on 3x3 sample point grade, fine sands, gravels, High petroleum odor, color changed from oxidized orange to dull gray at 2', gray sediments smell strongly of diesel, water table at 3', diesel odor.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S11-3.5

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: North

FIXED POINT: Sample collected from sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JB

TIME SAMPLED: 15:40 DEPTH OF SAMPLE (feet): 3.5

SAMPLE DESCRIPTION/COMMENTS: North center of 3x3 sample point grid. Heavy petroleum odor. Discolored soils from black to reddish-brown.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S12-3

RADAR STATION: Point Lonely WEATHER: Misty, cold

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NE

FIXED POINT: Sample collected from area grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JB

TIME SAMPLED: 15:20 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Northeast corner of 3x3 sample point grid, heavy petroleum/solvent odor. Sands and gravel.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S13-3

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: West

FIXED POINT: Sample collected within area sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, PG

TIME SAMPLED: 16:30 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: West side of pond, lateral midpoint of 3x3 sample point grid. Very high petroleum odor. Sands and gravels.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS05-S19-3

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S14-3

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: Sample collected within area grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 15:49 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Midpoint of 3x3 sample point grid. At 2.6' below ground surface, penetrated gray nylon material. Diesel stain/sheen on sediment from 1'8" to 3'. Generally reddish coarse sand with 3 percent small pebbles.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S15-3

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: East

FIXED POINT: Sample collected from within sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JB

TIME SAMPLED: 15:00 DEPTH OF SAMPLE (feet): 2.5 to 3.0

SAMPLE DESCRIPTION/COMMENTS: East lateral midpoint of 3x3 sample point grid.

SAMPLING METHOD: Hand auger, scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S16-5

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: Sample collected from within sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 16:25 DEPTH OF SAMPLE (feet): 5

SAMPLE DESCRIPTION/COMMENTS: Southwest corner of 3x3 sample point grid. Gravels and sands, slight odor.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S17-3

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: Sample collected from within sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 15:25 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: South lateral midpoint of 3x3 sample point grid. Sands, gravels, and rocks above ice rocks; petroleum odor.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S18-3

RADAR STATION: Point Lonely WEATHER: Misty, frigid, cold blooded

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SE

FIXED POINT: Sample collected from area sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 14:55 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Southeast corner of 3x3 sample point grid. Sands and gravels with slight petroleum odor.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-S19-3

RADAR STATION: Point Lonely WEATHER: Misty and cold

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: West

FIXED POINT: Sample collected from within sampling grid.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, RT

TIME SAMPLED: 16:30 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: West side of pond, lateral midpoint of 3x3 sample point grid. Very high petroleum odor. Sands and gravels.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS05-S13

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2S19-3

RADAR STATION: Point Lonely WEATHER: Windy, cloudy, cold

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: East

FIXED POINT: Collect 100 feet east of SS05-S12.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JB

TIME SAMPLED: 14:10 DEPTH OF SAMPLE (feet): 3

SAMPLE DESCRIPTION/COMMENTS: Duplicate analyses (one to Barrow lab/one to Anchorage) as check on Barrow lab. Dark gray sand and gravel fill with ice located in permafrost.

SAMPLING METHOD: Hand auger and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz
					TPH	✓			

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD01

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 90 MAGNETIC HEADING: 270°

FIXED POINT: The midpoint of the west side of the furthest northwest tank.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, ML

TIME SAMPLED: 11:35 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: QA/QC sample. Sands and gravel.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter		8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD02

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 150 MAGNETIC HEADING: 262°

FIXED POINT: Midpoint of the west side of the furthest southwest tank.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, RT

TIME SAMPLED: 11:37 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Peat and sod located in ponded area 70 feet due west of tank farm.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD03

RADAR STATION: Point Lonely WEATHER: Overcast, humid, cold, 40°F

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 50 MAGNETIC HEADING: 285°

FIXED POINT: The southwest corner of the pump house.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG

TIME SAMPLED: 11:20 DEPTH OF SAMPLE (feet): Surface

SAMPLE DESCRIPTION/COMMENTS: Fine sands to fine gravels (fill material). Heavy black staining, visible sheen, and strong petroleum odor.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB				ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS		ANALYSES	✓	CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD04

RADAR STATION: Point Lonely WEATHER: Misty, cool

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 53 MAGNETIC HEADING: 210°

FIXED POINT: The outfall pipe on the south side.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:50 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Fine sands and silts, some gravels. Highly organic material collected in ponded area at eye of outlet pipe.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD05

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 20:00 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Midpoint of ponded area south of raised gravel pad. Collect with SS05-SW05. Organic rich clay, heavy black staining, reduced organic odor.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD06

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SE

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 20:00 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Southeast area of ponded area along berm. Collect with SS05-SW06. Organic rich clay, heavy petroleum (black) staining. Petroleum and reduced organic odor.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD07-1

RADAR STATION: Point Lonely WEATHER: Misty and frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NW

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, RT

TIME SAMPLED: 11:55 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Northwest corner of ponded area along berm of pad. Collect with SS05-SW07. Clay material with some petroleum sheen.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS05-SD08

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SD08-1

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, RT

TIME SAMPLED: 15:55 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Northwest corner of ponded area along berm of pad. Collect with SS05-SW07. Clay material with some petroleum sheen.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS05-SD07

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 liter	8 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2SD09

RADAR STATION: Point Lonely WEATHER: Windy, rainy, cold

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 30 MAGNETIC HEADING: SW

FIXED POINT:

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 13:40 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Collect 30 feet southwest of SS05-SD05. Collect TPH analyses for Anchorage and Barrow lab to check on Barrow lab. Light gray silty clay at interface of tundra mat.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz
					TPH	✓			8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2SD10

RADAR STATION: Point Lonely WEATHER: Windy, overcast, cold

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 30 MAGNETIC HEADING: South

FIXED POINT:

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, ML

TIME SAMPLED: 13:30 DEPTH OF SAMPLE (feet): 0 to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Collect 30 feet south of SS05-SD06. Light gray silty clay, saturated at boundary of tundra mat and subsurface soils.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2SD11

RADAR STATION: Point Lonely WEATHER: Sunny, windy, cold, 30°F

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 30 MAGNETIC HEADING: North

FIXED POINT:

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:10 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Collect sample at 30 feet north of SS05-SD03. Dark gray silty clay at interface of tundra mat.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2SD12

RADAR STATION: Point Lonely WEATHER: Rainy, cold, windy, 33°F

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 40 MAGNETIC HEADING: North

FIXED POINT:

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:25 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Collect sample at 180 feet west (down drainage) of SS05-SD03 berm and 40 feet north of berm. Light gray silty clay at edge of tundra mat.

SAMPLING METHOD: Scoop and spade

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2SD13

RADAR STATION: Point Lonely WEATHER: Windy, cold, cloudy

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 25 MAGNETIC HEADING: South

FIXED POINT: Utility pole at eastern edge of pad.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 14:35 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Collect 100 feet southeast of S18 and 25 feet off eastern most utility pole in tundra. Sand and gravel fill below 2" of sod. Saturated, organic odor.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020				TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS05-2SD14

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, cold, 33°F

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 10 MAGNETIC HEADING: South

FIXED POINT:

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 15:40 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Collect 10 feet south of SS05-SD04 as confirmation sample. Sand and gravel fill, saturated at edge of ponded area.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020				TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz
				TPH	✓		8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW01

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 90 MAGNETIC HEADING: 270°

FIXED POINT: The midpoint of the west side of the furthest northwest tank.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG

TIME SAMPLED: 17:25 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Collected with SS05-SD01.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
17:40	6.9	1,030	4°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW02

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 150 MAGNETIC HEADING: 262°

FIXED POINT: Midpoint of the west side of the furthest southwest tank.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, DP

TIME SAMPLED: 17:35 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Collected with SS05-SD02

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW03

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 50 MAGNETIC HEADING: 285°

FIXED POINT: The southwest corner of the pump house.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, PG

TIME SAMPLED: 17:15 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS:

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
17:30	7.3	1,090			

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW04

RADAR STATION: Point Lonely WEATHER: Misty, cool, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: 53 MAGNETIC HEADING: 210°

FIXED POINT: The outfall pipe on the south side.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:50 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS:

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW05

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 20:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Midpoint of ponded area. Collect with SS05-SD05. QA/QC water sample. Petroleum sheen highly visible. Collected for VOAs only.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
20:10	9.0	820	4°C		<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH		1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW06

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SE

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 20:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Southeast corner of ponded area. Collected with SS05-SD06. Surface petroleum sheen, heavy, and apparent.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
20:05	8.3	850	4°C		<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW07

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NW

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JM

TIME SAMPLED: 16:45 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Northwest corner of ponded area on edge of berm.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-SS05-SW08

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
16:30	8.3	750	3°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-25-93 SAMPLE ID: LON-SS05-SW08

RADAR STATION: Point Lonely WEATHER: Misty, frigid

SITE/AOC: SS05 Diesel Spill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NW

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JM

TIME SAMPLED: 16:45 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Northwest corner of ponded area on edge of berm.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-SS05-SW07

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
16:30	8.3	750	3°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE OLD DUMP SITE (LF07)

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S01

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breeze

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:58 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Collected from runoff ditch on base of south wall of berm. Sample is mixed organic debris, clayey silt, mixed sand and small pebble gravel, and is moist.

SAMPLING METHOD: Scoops

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-LF07-S08

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB	✓			SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S02

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breeze

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SE

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 15:47 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Collect from base of southeast end of wall of bermed area. Sample is mixed organic debris, clayey silt, med-coarse sand with small pebble gravel, and is moist.

SAMPLING METHOD: Auger or spade and scoop.

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S03

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breeze variable

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:01 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Collect from approximate lateral mid point at base of bermed area.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S04

RADAR STATION: Point Lonely WEATHER: Overcast, 30°F, variable breezy

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NE

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:15 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Collected from northeast end at base of berm. Collected in slightly stained area between two stained areas.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S05

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breaze

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 15:36 DEPTH OF SAMPLE (feet): 1 to 3 inches

SAMPLE DESCRIPTION/COMMENTS: Representative surface sample of center of landfill surface.

SAMPLING METHOD: Two scoops

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S06

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breeze

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 15:25 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Collect at north end, top of bermed area. Dug to bottom of stain (1'). Composited from 2" to 1' deep. This is likely to be the worst contamination in soils onsite.

SAMPLING METHOD: Dedicated spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S07

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breeze

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 15:15 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Upgradient sample at south side entrance to dump. Mixed sand and small pebble gravel immediately beneath rooted organic mat in tundra.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓			SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-S08

RADAR STATION: Point Lonely WEATHER: Overcast, 36°F, breeze

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 16:58 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Collected from runoff ditch on base of south wall of berm. Sample is mixed organic debris, clayey silt, mixed sand and small pebble gravel, and is moist.

SAMPLING METHOD: Spade and scoop or hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-LF07-S01

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB					ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS			ANALYSES	✓	CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-LF07-2S08

RADAR STATION: Point Lonely WEATHER: Sunny, warm, 55°F

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: 60 MAGNETIC HEADING: South

FIXED POINT: In ditch boundary south side of landfill, 60 feet west of LF07-S01 (60 feet up drainage)

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 15:55 DEPTH OF SAMPLE (feet): 0 to 0.5

SAMPLE DESCRIPTION/COMMENTS: Dark gray clay underlying organic rich tundra mat. Sample collected at interface.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-LF07-2S09-1

RADAR STATION: Point Lonely WEATHER: Partly cloudy, calm, cool 45 to 50°F

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: 10 MAGNETIC HEADING: _____

FIXED POINT: Sample located 10 feet down drainage from LF07-SW02

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 15:50 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Tundra mat - organic rich (roots). Intermingled with sands and gravel fill material.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-LF07-SW01

RADAR STATION: Point Lonely WEATHER: Cold, Windy

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 14:14 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Upgradient ponded area at south side of entrance to dump. Collected with LF07-S01.

SAMPLING METHOD: Deconned scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-26-93 SAMPLE ID: LON-LF07-SW02

RADAR STATION: Point Lonely WEATHER: Cool, windy

SITE/AOC: LF07 Old Dump Site FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 16:48 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Representative discharge to lagoon.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES	✓			TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS	✓	1 liter	---
VOC-BTEX 8020	✓			TDS	✓	250 ml	---
				TSS	✓	250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE GARAGE (SS09)

SAMPLE COLLECTION LOG

DATE: 8-22-93 SAMPLE ID: LON-SS09-S01-1

RADAR STATION: Point Lonely WEATHER: Cloudy, winds calm

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NW

FIXED POINT: Sample was collected from inside the garage at the holes in west posts northwest hole.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, DP

TIME SAMPLED: 11:00 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Collect sample from beneath the northwest floor drain.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-22-93 SAMPLE ID: LON-SS09-S02-1

RADAR STATION: Point Lonely WEATHER: Cloudy, winds calm

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: Inside garage from the middle hole on the south side.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 11:05 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Collect sample from the southwest floor drain.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-22-93 SAMPLE ID: LON-SS09-S03-1

RADAR STATION: Point Lonely WEATHER: Cloudy, winds calm

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: NE

FIXED POINT: Inside garage from the northeast hole.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, DP

TIME SAMPLED: 11:10 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Collect samples from beneath the northeast floor drain.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓			SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-22-93 SAMPLE ID: LON-SS09-S05

RADAR STATION: Point Lonely WEATHER: Cloudy with calm winds

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: West

FIXED POINT: Near far west end of the garage building.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JB

TIME SAMPLED: 10:30 DEPTH OF SAMPLE (feet): Surface to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Far end of culvert at west end of garage. Drain line end located with metal detector. No water or drip sample below water level because leaky pipe flange nearby. Sample should test infiltration from end of culvert.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS09-S06

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB					ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS			ANALYSES	✓	CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-22-93 SAMPLE ID: LON-SS09-S06

RADAR STATION: Point Lonely WEATHER: Cloudy

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: West

FIXED POINT: West end of the garage building

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, JB

TIME SAMPLED: 10:30 DEPTH OF SAMPLE (feet): 0 - 6"

SAMPLE DESCRIPTION/COMMENTS: Far end of culvert at west end of garage. Drain line end located with metal detector. No water or drip sample below water level because leaky pipe flange nearby. Sample should test infiltration from end of culvert.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS09-S05

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS09-2S04

RADAR STATION: Point Lonely WEATHER: Windy, cloudy, 15°F

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: 33 MAGNETIC HEADING: Northwest

FIXED POINT: 33 feet northwest of SD01/SW01 sample locations.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, RT

TIME SAMPLED: 13:10 DEPTH OF SAMPLE (feet): Under tundra mat

SAMPLE DESCRIPTION/COMMENTS: Plant material, gravel, and fine silts collected at 5 inches to 1 foot.

SAMPLING METHOD: Deconned shovel and disposable scoop.

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS09-2S06

RADAR STATION: Point Lonely WEATHER: Cloudy with a mild wind from the south

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: 85 MAGNETIC HEADING: 290°

FIXED POINT: From the northwest corner of the garage building

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT

TIME SAMPLED: 13:20 DEPTH OF SAMPLE (feet): 8 inches to 1 foot

SAMPLE DESCRIPTION/COMMENTS: Taken under the tundra gravel, fine sand, and tundra mat. At 80 feet from the same location, a visual contamination and an odor were detected.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-4-93 SAMPLE ID: LON-SS09-2S07

RADAR STATION: Point Lonely WEATHER: Cloudy with a mild wind from the south

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: 85 MAGNETIC HEADING: 270°

FIXED POINT: The southwest corner of the garage building.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, ML

TIME SAMPLED: 13:30 DEPTH OF SAMPLE (feet): 6 inches

SAMPLE DESCRIPTION/COMMENTS: Tundra mat peat. The sample was collected from under the tundra.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-SS09-SD01

RADAR STATION: Point Lonely WEATHER: Foggy, 36°F

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: 65 MAGNETIC HEADING: 333°

FIXED POINT: NW corner of garage.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 09:30 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: 333° and 65 feet from northwest corner of garage collected with SS09-SW01. QA/QC sample. Blown sand and fine gravel, wet.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS09-SD03

WATER PARAMETERS

TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS

TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-SS09-SD02

RADAR STATION: Point Lonely WEATHER: Foggy, 36°F

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: West

FIXED POINT: North end of sewer line.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 10:20 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: West end of drainage pond adjacent to northern end of old sewer line, collected with SS09-SW02.

SAMPLING METHOD: Hand auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-SS09-SD03

RADAR STATION: Point Lonely WEATHER: Foggy, 36°

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: 65 MAGNETIC HEADING: 333°

FIXED POINT: NW corner of garage.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 09:30 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Brown sand and fine gravel, wet.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-SS09-SD01

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-SS09-SW01

RADAR STATION: Point Lonely WEATHER: Foggy, 36°F

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: 65 MAGNETIC HEADING: 333°

FIXED POINT: NW corner of garage.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 09:15 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: 333° and 65 feet from northwest corner of garage. Collected with SD01. Yellow/rust tinted water, clear.

SAMPLING METHOD: Deconned beaker

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
	7.9	1,560	5°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-SS09-SW02

RADAR STATION: Point Lonely WEATHER: Foggy, 36°F

SITE/AOC: SS09 Garage FEET FROM FIXED POINT: _____ MAGNETIC HEADING: West

FIXED POINT: North end of sewer line.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 09:45 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: West end of ponded area adjacent to northern end of old sewer line. Collected with SS09-SD02.

SAMPLING METHOD: Deconned beaker

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS	✓	1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE DIESEL TANK (WEST OF HANGAR) (ST10)

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-S01

RADAR STATION: Point Lonely WEATHER: 42°F, partly cloudy

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 0 MAGNETIC HEADING: East

FIXED POINT: Base east side berm near three valves.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 11:54 DEPTH OF SAMPLE (feet): 1 foot into berm (lateral)

SAMPLE DESCRIPTION/COMMENTS: Medium sand with 30 percent small pellets to granules.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-ST10-2S02-1.5

RADAR STATION: Point Lonely WEATHER: 42°F, partly cloudy

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 22 feet out MAGNETIC HEADING: NW

FIXED POINT: Northwest corner of berm, 43 feet east from northwest corner.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM

TIME SAMPLED: 14:47 DEPTH OF SAMPLE (feet): 1.5

SAMPLE DESCRIPTION/COMMENTS: Typical sand and gravel pad material. No evidence of contamination.

SAMPLING METHOD: Auger and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-ST10-2S03-1.5

RADAR STATION: Point Lonely WEATHER: Sunny, warm, 50°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 34 MAGNETIC HEADING: NW

FIXED POINT: Pumphouse and light pole. 34' from pumphouse stairway northwest post, 30' from light pole west of stairs.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JM, JB

TIME SAMPLED: 15:20 DEPTH OF SAMPLE (feet): 1.5

SAMPLE DESCRIPTION/COMMENTS: Sand and gravel fill, moist. No odor or observed POL contamination.

SAMPLING METHOD: Hand auger and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-ST10-2S04-1.2

RADAR STATION: Point Lonely WEATHER: Sunny, warm, 50°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 84 MAGNETIC HEADING: North 3°East

FIXED POINT: Southwest corner of pumphouse

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, JM

TIME SAMPLED: 15:20 DEPTH OF SAMPLE (feet): 1.2

SAMPLE DESCRIPTION/COMMENTS: Dark brown silty clay at permafrost refusal, frozen, no evidence of contamination, about 1 to 1.2 feet deep.

SAMPLING METHOD: Auger and disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD01

RADAR STATION: Point Lonely WEATHER: Sunny, warm, 50°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 0 MAGNETIC HEADING: _____

FIXED POINT: Beneath valve, south side pumphouse

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 11:50 DEPTH OF SAMPLE (feet): 2"

SAMPLE DESCRIPTION/COMMENTS: Black odorous mud.

SAMPLING METHOD: Disposable scoop, auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD02

RADAR STATION: Point Lonely WEATHER: Fog, 41°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: Base of southwest corner of berm

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 11:15 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Replicate of ST10-SD07. VOC-BTEX 8020 was collected in an 8 ounce jar.

SAMPLING METHOD: Disposable scoop, auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-ST10-SD07

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD03

RADAR STATION: Point Lonely WEATHER: Dense fog, 41°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 0 MAGNETIC HEADING: South

FIXED POINT: Base center south side berm

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 11:30/11:37 DEPTH OF SAMPLE (feet): 0 to 2 inches

SAMPLE DESCRIPTION/COMMENTS: Sampled contact of berm with clayey organic algal matter. Sheen released from sample during decanting. Sheen on water at base of beam and along edge of pond near berm. VOC-BTEX 8020 collected in 8 oz jar.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD04

RADAR STATION: Point Lonely WEATHER: Fog, 41°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SE

FIXED POINT: Base southeast corner berm

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: NA DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Organic clay material.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD05

RADAR STATION: Point Lonely WEATHER: Fog, 41°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 6 MAGNETIC HEADING: 190°

FIXED POINT: Southeast corner of new steel frame pad.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 13:40 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Sheen present.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD06-2

RADAR STATION: Point Lonely WEATHER: Fog, 40°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 6 MAGNETIC HEADING: 190°

FIXED POINT: Southeast conrner of new steel frame pad.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB, RT

TIME SAMPLED: 13:40 DEPTH OF SAMPLE (feet): 2

SAMPLE DESCRIPTION/COMMENTS: Deep sample below ST10-SD05

SAMPLING METHOD: Disposable scoop, auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-ST10-2SD08

RADAR STATION: Point Lonely WEATHER: 39°F, 15 mph wind, cloudy

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 52 MAGNETIC HEADING: East

FIXED POINT: Southeast corner of berm (pipe following top of berm). Tape measured from pipe.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 14:04 DEPTH OF SAMPLE (feet): Surface to 0.2

SAMPLE DESCRIPTION/COMMENTS: Moderate sand and small pellets. Gravel silty, light brown, generally clean.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 9-5-93 SAMPLE ID: LON-ST10-2SD09

RADAR STATION: Point Lonely WEATHER: 42°F, partly cloudy

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: 113 MAGNETIC HEADING: _____

FIXED POINT: Southeast corner of pad elbow in pipe. Southern most edge of water arm connected to base of pad.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 14:30 DEPTH OF SAMPLE (feet): 0.2 feet, under 6 inches of water

SAMPLE DESCRIPTION/COMMENTS: Mixed sand and 25 percent pea gravel. Sample generally clean except thin layer in last scoop, 1/4" thick organic rich and smelled of diesel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SW01

RADAR STATION: Point Lonely WEATHER: Dense fog, 40°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: _____ MAGNETIC HEADING: South

FIXED POINT: Beneath valve, south side pump house.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 11:45 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: _____

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SW02

RADAR STATION: Point Lonely WEATHER: Fog, 40°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SE

FIXED POINT: Base center southeast corner of berm

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 12:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: _____

SAMPLING METHOD: Drip bottles

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
12:05	8.2	790	4.0°C		<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB				ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS		ANALYSES	✓	CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH		1 liter	8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020				TDS	✓	250 ml		---
				TSS	✓	250 ml		---
				TOC	✓	500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 8-27-93 SAMPLE ID: LON-ST10-SD07

RADAR STATION: Point Lonely WEATHER: Foggy, 40°F

SITE/AOC: ST10 Diesel Tank FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: Base of southwest corner of berm.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: JB

TIME SAMPLED: 11:15 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: See ST10-SD02, replicate of ST10-SD02

SAMPLING METHOD: Disposable scoop and auger

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-ST02-SD02

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE INACTIVE
LANDFILL (LF11)/VEHICLE STORAGE AREA (SS14)

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-S01

RADAR STATION: Point Lonely WEATHER: Cloudy, 36°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: 18 paces from the south end and 4 paces from the west end on the landfill.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 14:45 DEPTH OF SAMPLE (feet): 2-6"

SAMPLE DESCRIPTION/COMMENTS: Brown, moist sand, some fine gravel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-LF11-S05

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-S02

RADAR STATION: Point Lonely WEATHER: Cloudy, 36°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: 67 paces from the south end and 4 paces from the west end of the landfill.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 14:30 DEPTH OF SAMPLE (feet): 4-6"

SAMPLE DESCRIPTION/COMMENTS: Wet, brown sand, some fine to medium gravel

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB					ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS			ANALYSES	✓	CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-S03

RADAR STATION: Point Lonely WEATHER: Cloudy, 36°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: North end of landfill on the south outfall.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 15:15 DEPTH OF SAMPLE (feet): 0-6"

SAMPLE DESCRIPTION/COMMENTS: Brown sand and medium to fine gravel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-S04

RADAR STATION: Point Lonely WEATHER: Cloudy, 36°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: North end of landfill on the north outfall.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 15:20 DEPTH OF SAMPLE (feet): 0-6"

SAMPLE DESCRIPTION/COMMENTS: Brown sand, some fine gravel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-S05

RADAR STATION: Point Lonely WEATHER: Cloudy, 36°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: SW

FIXED POINT: 18 paces from the south end and 4 paces from the west end on the landfill.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 14:45 DEPTH OF SAMPLE (feet): 2-6"

SAMPLE DESCRIPTION/COMMENTS: Brown, moist sand, some fine gravel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ■ Replicate of Soil Sample ID LON-LF11-S01

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB	✓			SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-SD01

RADAR STATION: Point Lonely WEATHER: Cloudy, 36°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: 3 MAGNETIC HEADING: 195°

FIXED POINT: The southeast corner point of the landfill, 3 feet out.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 14:00 DEPTH OF SAMPLE (feet): 4-6"

SAMPLE DESCRIPTION/COMMENTS: Wet, brown sand, some fine gravel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-SD02

RADAR STATION: Point Lonely WEATHER: Cloudy, mild breeze

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: The second drainage ditch from south to north.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 14:30 DEPTH OF SAMPLE (feet): 6"

SAMPLE DESCRIPTION/COMMENTS: The sediment is a mixture of sand and gravel with plant material.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-SD03

RADAR STATION: Point Lonely WEATHER: Cloudy, mild breeze

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: 20 MAGNETIC HEADING: N

FIXED POINT: The fourth drainage ditch from the south to north 20 feet out.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 15:10 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Sediment is a mixture of sand and gravel.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-SW01

RADAR STATION: Point Lonely WEATHER: Cloudy, 40°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: Drainage No.2 counting from south to north.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 14:00 DEPTH OF SAMPLE (feet): Surface to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Water is clear with an oily sheen present. A lot of tundra grass in water.

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
14:00	8.2	10	6°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS	✓	1 liter	---
VOC-BTEX 8020	✓			TDS	✓	250 ml	---
				TSS	✓	250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-SW02

RADAR STATION: Point Lonely WEATHER: Cloudy, mild wind

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: Drainage No.3 counting from south to north.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 14:50 DEPTH OF SAMPLE (feet): Surface to 6 inches

SAMPLE DESCRIPTION/COMMENTS: Oily sheen present.

SAMPLING METHOD: Disposable scoop.

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
	8.3		8°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB	✓				SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-LF11-SW03

RADAR STATION: Point Lonely WEATHER: Cloudy, 40°F

SITE/AOC: LF11 Inactive Landfill FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: Drainage No.4 counting from south to north.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, ML

TIME SAMPLED: 15:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: _____

SAMPLING METHOD: Direct to bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
	8.0	20	8°C		

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB	✓			SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE MODULE TRAIN (SS12)

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS12-S01

RADAR STATION: Point Lonely WEATHER: Cloudy, rain, 30°F

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 12 MAGNETIC HEADING: 100°

FIXED POINT: Northwest corner foundation post.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, RT

TIME SAMPLED: 17:30 DEPTH OF SAMPLE (feet): Soil sample at 4" depth

SAMPLE DESCRIPTION/COMMENTS: Fine sands and pea size gravel. (Photo 14, Lonely Roll 1.)

SAMPLING METHOD: Disposable scoop, clean gloves

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
17:30	BZ=0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS12-S02

RADAR STATION: Point Lonely WEATHER: Cloudy, rain, 30°F

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 26 MAGNETIC HEADING: 5°

FIXED POINT: The southwest end of foundation post.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, RT

TIME SAMPLED: 17:35 DEPTH OF SAMPLE (feet): Soil sample at 4" depth

SAMPLE DESCRIPTION/COMMENTS: Fine sands and pea size gravel. (Photo 15, Lonely Roll 1).

SAMPLING METHOD: Disposable scoop, clean gloves

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
17:35	BZ=0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS12-S03

RADAR STATION: Point Lonely WEATHER: Cloudy, rain, 30°F

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 48 MAGNETIC HEADING: 145°

FIXED POINT: From the southwest corner foundation post.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, RT

TIME SAMPLED: 17:20 DEPTH OF SAMPLE (feet): Surface soil - 2"

SAMPLE DESCRIPTION/COMMENTS: Dark soil, heavy organic matter. 20% gravel. (Photo 13, Lonely Roll 1.)

SAMPLING METHOD: Disposable scoop, clean gloves

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
17:20	BZ=0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS12-2S04-1

RADAR STATION: Point Lonely WEATHER: Cloudy, mild wind

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 19 MAGNETIC HEADING: 180°

FIXED POINT: 19 feet from the location of S03.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, ML

TIME SAMPLED: 14:00 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Tundra matt and some gravel. Collected at 1 foot under the tundra.

SAMPLING METHOD:

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS12-SD01

RADAR STATION: Point Lonely WEATHER: Cloudy, rain, 30°F

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 48 MAGNETIC HEADING: 180°

FIXED POINT: The southwest corner foundation post.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, RT

TIME SAMPLED: 17:10 DEPTH OF SAMPLE (feet): Sediment

SAMPLE DESCRIPTION/COMMENTS: Coarse sand and gravel. (Photo 12, Lonely Roll 1.)

SAMPLING METHOD: Disposable scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
16:59	8.4	930	5°C	Fresh Water	.5 mg/1000 ml

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
17:10	BZ=0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-SS12-2SD02

RADAR STATION: Point Lonely WEATHER: Cloudy, mild wind

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 30 MAGNETIC HEADING: 180°

FIXED POINT: 10 feet from the location of SW01 and SD01 in the tundra.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, ML

TIME SAMPLED: 14:10 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Tundra matt with some gravel and fine sands.

SAMPLING METHOD: Scooped into jar

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-SS12-SW01

RADAR STATION: Point Lonely WEATHER: Cloudy, rain, 30°F

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 48 MAGNETIC HEADING: 180°

FIXED POINT: The southwest corner of the foundation post.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP, RT

TIME SAMPLED: 17:00 DEPTH OF SAMPLE (feet): Surface water

SAMPLE DESCRIPTION/COMMENTS: Water is orangish-yellow with slight organic matter. Filters easily. (Photo 12, Lonely Roll 1.)

SAMPLING METHOD: Dipping bottles, filtered TDS sample

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
16:59	8.4	930	5° C	Fresh Water	.5 ml/1000 ml

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
17:00	BZ=0	0	NR		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-SS12-2SW02

RADAR STATION: Point Lonely WEATHER: Cloudy, mild wind

SITE/AOC: SS12 Module Train FEET FROM FIXED POINT: 30 MAGNETIC HEADING: 180°

FIXED POINT: Approximately 10 feet from the location of SW01 in the tundra.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, ML

TIME SAMPLED: 13:05 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: A lot of sediment in water. Collected from a puddle in the tundra.

SAMPLING METHOD: Scooped into jar

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR THE HANGAR PAD AREA (SS13)

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-S01-1.5

RADAR STATION: Point Lonely WEATHER: Partly cloudy, 45°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 78 MAGNETIC HEADING: West (Due)

FIXED POINT: Base of gravel pad from second light pole from Hangar (due north of Hangar central area).

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:50 DEPTH OF SAMPLE (feet): 1-2" below surface

SAMPLE DESCRIPTION/COMMENTS: Dug to 1.5 feet, sample taken at visible color change boundary. Sampled material is silts, sands and gravels (fill material). Near saturation, dark staining (gray), mild POL odor.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-SS13-2SD04

RADAR STATION: Point Lonely WEATHER: Cold, windy, 35°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 200 MAGNETIC HEADING: SW

FIXED POINT: Southwest corner of Hangar building.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 13:25 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Dark brown organic poor clay underlying organic rich (roots) tundra material. Sheen was observed in ponds 100-150 feet from the building. No sheen visible where sample was collected.

SAMPLING METHOD: Scoop

1A/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020				TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-SS13-2SD05

RADAR STATION: Point Lonely WEATHER: Cold, windy, 35°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 200 MAGNETIC HEADING: East

FIXED POINT: 150 feet due east of SD01, and 200 feet due east from northeast corner of Hangar. (150 feet east of Hangar gravel pad, approximately splitting a line between SD01 and SD02.)

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 13:20 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Tundra material and dark gray saturated clay at interface of tundra and clay.

SAMPLING METHOD: Scoop and spade

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020				TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-SS13-2SD06

RADAR STATION: Point Lonely WEATHER: Cloudy, windy, cold, 35°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 70 MAGNETIC HEADING: North

FIXED POINT: 20 feet east of gravel pad; 70 feet north of utility light pole (adjacent northeast corner of Hangar).

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 13:30 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Clayey silts, sands, and gravels, saturated, underlying a thin layer of heavily decayed tundra material.

SAMPLING METHOD: Scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-SW01

RADAR STATION: Point Lonely WEATHER: Foggy, cool

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 40 + ~10 MAGNETIC HEADING: 50° (NE)

FIXED POINT: Post at northeast corner of Hangar.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 13:35 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Collect 10 feet from shore (or there about) from SD01. Sample should represent bulk of water in pond rather than near pad waters. Light amber colored with abundant living organisms.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
13:40	8.8	60	4.5°C		<1.0

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)	✓	1 liter	8 oz
PESTICIDES	✓			TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS	✓	250 ml	---
				TSS	✓	250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-SW02

RADAR STATION: Point Lonely WEATHER: Foggy, cool, 40-45°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: _____ MAGNETIC HEADING: North

FIXED POINT: Base gravel pad at north end of gray diesel tank (~1,000 gal).

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:05 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Near SD02. Water amber color with visible POL sheen on surface, abundant live organisms.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
14:10	9.2	Meter not working (>1,990)	4°C		
Conductivity meter integrity is suspect; will recalibrate.					

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		
BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)					

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-SW03

RADAR STATION: Point Lonely WEATHER: Cloudy, breezy, cool, 41°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 40 MAGNETIC HEADING: SW

FIXED POINT: Post at southwest corner of Hangar.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:35 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Note sheen apparently draining from pad. POL odor apparent. POL draining all along south wall of gravel berm adjacent sampling area.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
14:40	8.8	Meter not working (>1,990)	4.5°C		<1.0
Conductivity meter integrity is suspect; will recalibrate.					

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

		BARROW LAB				ANCHORAGE LAB		
ANALYSES	✓	CONTAINERS		ANALYSES	✓	CONTAINERS		
		WATER	SOIL			WATER		SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB				SVOC (8270)		1 liter		8 oz
PESTICIDES				TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓			TDS		250 ml		---
				TSS		250 ml		---
				TOC		500 ml		4 oz
				TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-SD01

RADAR STATION: Point Lonely WEATHER: Foggy, cool, 45°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 40 MAGNETIC HEADING: 41°, (NE)

FIXED POINT: Post at northeast corner of Hangar building.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 13:40 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Sands and gravels, minor silts and clays, dark brown to black, high organic content and odor.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-SD02

RADAR STATION: Point Lonely WEATHER: Foggy, cool, 45°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: _____ MAGNETIC HEADING: N

FIXED POINT: Base of gravel pad at north end of gray diesel tank (~1,000 gal).

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:05 DEPTH OF SAMPLE (feet): 0-0.5

SAMPLE DESCRIPTION/COMMENTS: Near SW02. Silts, sands, gravels; POL odor and staining detectable, minor organic matter, visible sheen.

SAMPLING METHOD: Spade and scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010		1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-SS13-SD03

RADAR STATION: Point Lonely WEATHER: Cloudy, cool, breezy, 41°F

SITE/AOC: SS13 Hanger Pad Area FEET FROM FIXED POINT: 40 MAGNETIC HEADING: 190°

FIXED POINT: Post at southwest corner of Hangar.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, JM

TIME SAMPLED: 14:45 DEPTH OF SAMPLE (feet): 0 - 6"

SAMPLE DESCRIPTION/COMMENTS: Note sheen apparently draining from pad. Sands and gravel fill material with dark brown to black organic rich clay, visible POL sheen and reduced organic odor, strong apparent POL odor.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR BACKGROUND (BKGD)

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-BKGD-S01

RADAR STATION: Point Lonely WEATHER: Rainy, wet, cold, cloudy, low 40's°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 400 MAGNETIC HEADING: 25°

FIXED POINT: Northeast corner of blue hangar building

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RO

TIME SAMPLED: 18:00 DEPTH OF SAMPLE (feet): 12-16" below surface tundra

SAMPLE DESCRIPTION/COMMENTS: Peat, vegetative matter and silt, very moist. 5°N of due E from south edge of stairway of radar dome, and second light pole N of Hanger is N34°W of sample. Respective bearings are 85° and 326°

SAMPLING METHOD: Knife, disposable gloves

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES	✓			TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS	✓	1 liter	---
VOC-BTEX 8020	✓			TDS	✓	250 ml	---
				TSS	✓	250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-BKGD-SD01

RADAR STATION: Point Lonely WEATHER: Drizzle, cool, wet, foggy, cloudy, 40°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 180 MAGNETIC HEADING: 105°

FIXED POINT: Second shoulder past landfill on left on road out to fresh water drinking supply lake between 2 ponds.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RO, ML

TIME SAMPLED: 15:00 DEPTH OF SAMPLE (feet): Surface 0-6"

SAMPLE DESCRIPTION/COMMENTS: Vegetative matter, bottom of pond, silt and plant rooted bottom, lots of bugs in and out of water.

SAMPLING METHOD: Disposable glove

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES	✓				TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-BKGD-SD02

RADAR STATION: Point Lonely WEATHER: Wet, drizzle, cold, foggy, 40°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 2400 MAGNETIC HEADING: 70°

FIXED POINT: East end of runway, south edge, 2 foot red-blue ground light pole

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RO, ML

TIME SAMPLED: 16:35 DEPTH OF SAMPLE (feet): Peat 6" deep, 8" underwater

SAMPLE DESCRIPTION/COMMENTS: Peat, vegetative matter underlying pond with some silt.

SAMPLING METHOD: Shovel, disposable glove

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES	✓				TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-BKGD-SW01

RADAR STATION: Point Lonely WEATHER: Drizzle, cool, wet, foggy, cloudy, 40°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 60 MAGNETIC HEADING: 105°

FIXED POINT: Second land shoulder from landfill on the left, on road out to freshwater supply lake, between ponds.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RO, ML

TIME SAMPLED: 14:25 DEPTH OF SAMPLE (feet): Surface 0-6"

SAMPLE DESCRIPTION/COMMENTS: Small pond, vegetative bottom, yellowish clear water 6-8" deep, flat wide open area south of DEW Line module train, north of fresh water lake, lots of biological activity in water (bugs).

SAMPLING METHOD: Dipped bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
14:35	6.9	550	5°C	Fresh Water	<0.0001

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES	✓				TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-BKGD-SW02

RADAR STATION: Point Lonely WEATHER: Wet, drizzle, cold, foggy, 40°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 2400 MAGNETIC HEADING: 70°

FIXED POINT: East end of runway, south edge 2 foot red/blue light pole. From 12th double barrel from end of runway go 150 ft at 165° through black dirt mounds to a small pond.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RO, ML

TIME SAMPLED: 16:20 DEPTH OF SAMPLE (feet): 0-8"

SAMPLE DESCRIPTION/COMMENTS: Small pond, vegetative matter on bottom, some silt (like peat bottom).

SAMPLING METHOD: Dipped bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY
15:46	7.1	360	4°C	Fresh Water	<0.0001

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES	✓				TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS	✓	1 liter		---
VOC-BTEX 8020	✓				TDS	✓	250 ml		---
					TSS	✓	250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-BKGD-SW03

RADAR STATION: Point Lonely WEATHER: Drizzle, cool, wet, foggy, cloudy, 40°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 60 MAGNETIC HEADING: 105°

FIXED POINT: Second land shoulder from landfill on the left, on road out to fresh drinking water supply lakes, between 2 ponds.

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RO, ML

TIME SAMPLED: 14:25 DEPTH OF SAMPLE (feet): 0-6"

SAMPLE DESCRIPTION/COMMENTS: Small pond, vegetative matter on bottom, yellowish clear water 6-8" deep, flat wide open area south of DEW Line module train, north of fresh water lake, lots of biological activity in water.

SAMPLING METHOD: Dipped bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ■ Duplicate of Water Sample ID LON-BKGD-SW01

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES	✓			TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS	✓	1 liter	---
VOC-BTEX 8020	✓			TDS	✓	250 ml	---
				TSS	✓	250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-BKGD-2SD03

RADAR STATION: Point Lonely WEATHER: Partly cloudy, breezy, 38°F

SITE/AOC: BKGD Background FEET FROM FIXED POINT: 180 MAGNETIC HEADING: 105°

FIXED POINT: Second land shoulder from landfill on the left, on road out to freshwater supply lake.

SAMPLE MATRIX: ☐ Soil (S) ■ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, PG

TIME SAMPLED: 18:00 DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: Dark brown organic rich tundra material underlined by dark brown organic silty clay, saturated.

SAMPLING METHOD: Disposable scoop (same as AFCEE sample and collected at/near BKGDSD01)

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOGS FOR QA/QC

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-TB-01

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 10:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Trip blank received from lab.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

■ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole: NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH		1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-TB-02

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 11:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Trip blank received from lab.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

■ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH		1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-TB-03

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 13:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Trip blank received from lab.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

■ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: **Radar Station - site identifier - matrix + sample number - depth (feet)**
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-TB-04

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Water (W) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 10:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Trip blank received from lab.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

■ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW: Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-EB-01

RADAR STATION: Point Lonely WEATHER: Taken in warehouse

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ■ Water (W) ☐ Groundwater (GW)

SAMPLERS: RT, RO

TIME SAMPLED: 18:14 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Equipment rinsate from a disposable scoop.

SAMPLING METHOD: HPLC reagent grade water over a disposable scoop.

QA/QC SAMPLES COLLECTED: ■ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)		1 liter	8 oz
PESTICIDES	✓			TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS	✓	250 ml	---
				TSS	✓	250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-EB-02

RADAR STATION: Point Lonely WEATHER: Taken in warehouse

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: _____

TIME SAMPLED: _____ DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: _____

SAMPLING METHOD: HPLC reagent poured over a disposable scoop

QA/QC SAMPLES COLLECTED: ■ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES	✓			TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC	✓	500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/26/93 SAMPLE ID: LON-EB-03

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 18:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: HPLC water (organic). Lab DI (inorganic).

SAMPLING METHOD: Water through spoon

QA/QC SAMPLES COLLECTED: ■ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB	✓			SVOC (8270)	✓	1 liter	8 oz
PESTICIDES				TOTAL METALS	✓	1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-EB-04

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: 15:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: HPLC water (organic). Lab DI (inorganic).

SAMPLING METHOD: Water through auger

QA/QC SAMPLES COLLECTED: ■ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC	✓	500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/04/93 SAMPLE ID: LON-EB-05

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: PG, ML, JB

TIME SAMPLED: 17:15 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: _____

SAMPLING METHOD: Grab

QA/QC SAMPLES COLLECTED: ■ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz
					TPH	✓			

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-EB-08

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, PG

TIME SAMPLED: 15:30 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: _____

SAMPLING METHOD: Grab

QA/QC SAMPLES COLLECTED: ■ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH	✓	1 liter	8 oz	VOC (8260)	✓	3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz
				TPH	✓		

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/25/93 SAMPLE ID: LON-AB-01

RADAR STATION: Point Lonely WEATHER: Cool, light rain, calm to slightly windy

SITE/AOC: AB FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: Collected outside warehouse

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: _____

TIME SAMPLED: 21:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Ambient condition blank, poured HPLC reagant into VOA vial.

SAMPLING METHOD: _____

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

■ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH		1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/27/93 SAMPLE ID: LON-AB-02

RADAR STATION: Point Lonely WEATHER:

SITE/AOC: AB FEET FROM FIXED POINT: MAGNETIC HEADING:

FIXED POINT:

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: DP

TIME SAMPLED: DEPTH OF SAMPLE (feet):

SAMPLE DESCRIPTION/COMMENTS: HPLC water.

SAMPLING METHOD: Direct, into bottle

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID

■ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS		ANALYSES	✓	ANCHORAGE LAB CONTAINERS	
		WATER	SOIL			WATER	SOIL
TPH		1 liter	8 oz	VOC (8260)		3 x 40 ml	4 oz
PCB				SVOC (8270)		1 liter	8 oz
PESTICIDES				TOTAL METALS		1 liter	8 oz
HVOC 8010	✓	1 x 40 ml	4 oz	DISS METALS		1 liter	---
VOC-BTEX 8020	✓			TDS		250 ml	---
				TSS		250 ml	---
				TOC		500 ml	4 oz
				TCLP		2 liters	2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 08/24/93 SAMPLE ID: LON-GAR-TB

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: Garage

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, JM

TIME SAMPLED: 12:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Trip blank left in garage to determine whether sample containers left in poorly ventilated area were contaminated. Fresh trip blank used.

SAMPLING METHOD: Grab

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

■ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010	✓	1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020	✓				TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-IDW-01

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, PG

TIME SAMPLED: 16:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: Investigation derived waste.

SAMPLING METHOD: Grab

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS	✓	1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz
					TPH	✓			

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/08/93 SAMPLE ID: LON-W01

RADAR STATION: Point Lonely WEATHER: _____

SITE/AOC: _____ FEET FROM FIXED POINT: _____ MAGNETIC HEADING: _____

FIXED POINT: _____

SAMPLE MATRIX: ☐ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: RT, RC

TIME SAMPLED: 18:00 DEPTH OF SAMPLE (feet): _____

SAMPLE DESCRIPTION/COMMENTS: PCB and pesticide analyses at Anchorage lab.

SAMPLING METHOD: Grab

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ■ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS WATER		BARROW LAB CONTAINERS SOIL	ANALYSES	✓	ANCHORAGE LAB CONTAINERS WATER		ANCHORAGE LAB CONTAINERS SOIL
TPH	✓	1 liter		8 oz	VOC (8260)	✓	3 x 40 ml		4 oz
PCB	✓				SVOC (8270)	✓	1 liter		8 oz
PESTICIDES	✓				TOTAL METALS	✓	1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz
					HERBICIDES	✓			

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

SAMPLE COLLECTION LOG

DATE: 09/05/93 SAMPLE ID: LON-AFCEE-1,2,3,4,5,6,7,8,9

RADAR STATION: Point Lonely WEATHER: Partly cloudy, breezy, 38°F

SITE/AOC: AFCEE FEET FROM FIXED POINT: 180 MAGNETIC HEADING: 105°

FIXED POINT: Second land shoulder from landfill on the left, on road out to fresh water supply lake.

SAMPLE MATRIX: ■ Soil (S) ☐ Sediment (SD) ☐ Surface Water (SW) ☐ Groundwater (GW)

SAMPLERS: ML, PG

TIME SAMPLED: 12:00 DEPTH OF SAMPLE (feet): 1

SAMPLE DESCRIPTION/COMMENTS: Dark brown, organic, rich, abundant roots, tundra material underlain by dark, brown organic poop, silty clay material at or near saturation. Samples submitted to AFCEE for special analyses.

SAMPLING METHOD: Dedicated scoop

QA/QC SAMPLES COLLECTED: ☐ Equipment Blank (EB) ☐ QA/QC Extra Volumes

☐ Trip Blank (TB) ☐ Duplicate of Water Sample ID _____

☐ Ambient Condition Blank (AB) ☐ Replicate of Soil Sample ID _____

WATER PARAMETERS					
TIME	PH	CONDUCTIVITY	TEMPERATURE	SPECIFIC GRAVITY	TURBIDITY

MONITORING READINGS					
TIME	PID READING (ppm)	CG/LEL (%)	HANBY SCREENING (standard/ppm)		

BG=Background; BZ=Breathing Zone; BH=Borehole; NR=No Readings; HS=Headspace; S=Sample (uncontained)

✓ CHECK ANALYSES REQUESTED

ANALYSES	✓	BARROW LAB CONTAINERS			ANALYSES	✓	ANCHORAGE LAB CONTAINERS		
		WATER		SOIL			WATER		SOIL
TPH		1 liter		8 oz	VOC (8260)		3 x 40 ml		4 oz
PCB					SVOC (8270)		1 liter		8 oz
PESTICIDES					TOTAL METALS		1 liter		8 oz
HVOC 8010		1 x 40 ml		4 oz	DISS METALS		1 liter		---
VOC-BTEX 8020					TDS		250 ml		---
					TSS		250 ml		---
					TOC		500 ml		4 oz
					TCLP		2 liters		2 x 8 oz

SAMPLES SUBMITTED TO AFCEE FOR SPECIAL ANALYSES.

Preservation: HVOC and VOC: HCl to pH <2; metals: HNO_3 to pH <2; Ice all samples to 4°C

Sample ID Format: Radar Station - site identifier - matrix + sample number - depth (feet)
(i.e., BUL-ST05-SW07, BTR-EB04, WRT-SS08-S09-5.0)

Radar Station Codes: Bullen=BUL; Oliktok=OLI; Barter=BTR; Lonely=LON; Barrow=BRW; Wainwright=WRT; Lay=LAY; Lisburne=LIS

APPENDIX E

CHAIN-OF-CUSTODY FORMS

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0416

PROJ. NO.: LONELY

PROJECT NAME: DEW LINE

SAMPLERS: (Signature)

NO. OF CONTAINERS

BKGD + THUC

BKGD

PCB

R-T

TPH

YR MO NO.

REMARKS

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BKGD + THUC	BKGD	PCB	R-T	TPH	REMARKS
BKGD	8/25	1425		X	LON-BKGD-S001	5		X	X	X	X	
BKGD	8/25	1425		X	LON-BKGD-S003	5		X	X	X	X	
~~BKGD~~ EB	8/25	1500		X	LON-EB-02	5		X	X	X	X	
BKGD	8/25	1800		X	LON-BKGD-S01	2		X	X	X	X	
BKGD	8/25	1635		X	LON-BKGD-SD02	2		X	X	X	X	
SS05	8/25	1120		X	LON-SS05-S003	2	X				X	
SS05	8/25	1555		X	LON-SS05-S002	2	X				X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/25/93 2140			8/25/93 2350	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0417

PROJ. NO.	PROJECT NAME
LONELY	DEW LINE

SAMPLERS (Signature): M. Kristin Lemire, M. Jean

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + TPHG	PCB	PEST	TPH			REMARKS
9505	8/25	1125		X	LON-SS05-301	2	X				X			
9505	8/25	1130		X	LON-SS05-302-03	2	X				X			
9505	8/25	1135		X	LON-SS05-3D01	2	X				X			
9505	8/25	1135		X	LON-SS05-303	2	X				X			
9505	8/25	1137		X	LON-SS05-3D02	2	X				X			
9505	8/25	1140		X	LON-SS05-304-03	2	X				X			
9505	8/25	1205		X	LON-SS05-305	2	X				X			
9505	8/25	1150		X	LON-SS05-307	2	X				X			
9505	8/25	1155		X	LON-SS05-3D07	2	X				X			
9505	8/25	1450		X	LON-SS05-3D01	2	X				X			
9505	8/25	1415		X	LON-SS05-306-01	2	X				X			
9505	8/25	1430		X	LON-SS05-308-01	2	X				X			
9505	8/25	1450		X	LON-SS05-318-2.5	2	X				X			
BKGD	8/25	1500		X	LON BKGD 3001	4	X	X	X	X	X			MS/MSD
BKGD	8/25													

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
M. Kristin Lemire	8/25/93 2100			2330 8/25/93	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0418

PROJ. NO.	PROJECT NAME
LONE24	DEW LINE

SAMPLERS: (Signature) Jerry Mundell Memphis Lemmac

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + TMB	PCB	PCB + TPH	REMARKS
EB	8-24	1800		X	LON-EB-01	5		X	X	X	
SS03	8-24	1715		X	LON-SS03-901	2	X			X	
SS03	8-24	725		X	LON-SS03-302	2	X			X	
SS03	8-24	1741		X	LON-SS03-303	2	X			X	
SS03	8-24	1740		X	LON-SS03-304	2	X			X	
SS03	8-24	1740		X	LON-SS03-305	2	X			X	
SS03	8-24	1705		X	LON-SS03-3001	2	X			X	
SS03	8-24	1710		X	LON-SS03-5102	2	X			X	
SS03	8-24	1615		X	LON-SS03-3001	4	X			X	
SS02	8-24	1705		X	LON-SS03-3002	4	X			X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Memphis Lemmac	8/24/93 1700			8/24/93 2209	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0419

PROJ. NO.	PROJECT NAME
LOWELY	DEW LINE

SAMPLERS: (Signature) Nancy Stec Lemma Tony Mundell

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + HVOC	PCB	TPH	REMARKS
~~LON tf~~											
SS12	8-24	1735		X	LON-SS12-S01 /	2	X			X	
SS12	8-24	1720		X	LON-SS12-S03 /	2	X			X	
SS12	8-24	1730		X	LON-SS12-S02 /	2	X			X	
SS04	8-24	1441		X	LON-SS04-S001 /	4	X			X	
SS12	8-24	1700		X	LON-SS12-S001 /	4	X			X	
SS12	8-24	1710		X	LON-SS12-S101 /	2	X			X	
SS04	8-24	1505		X	LON-SS04-S01	2	X			X	
SS04	8-24	1515		X	LON-SS04-S101 /	2	X			X	
SS04	8-24	1530		X	LON-SS04-S102 /	2	X			X	
SS04	8-24	1545		X	LON-SS04-S02 /	2	X			X	
TB	8-24	1000		X	LON TB 01 /	2	X				
TEST	8-24	1200		X	LON GAR TB /	2	X				

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Nancy Stec Lemma	8/24/13 1830			8/24/13 2228	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0420

PROJ. NO.	PROJECT NAME
LONE24	DEW LINE

SAMPLERS: (Signature) Randolph Gilliland

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BOD	Bact	PCB	PEST	TPH	REMARKS
SS01	8/26	1015		X	LON-SS01-SW01	4	X			X		
SS01	8/26	1125		X	LON-SS01-SW02	4	X			X		
SS01	8/26	1200		X	LON-SS01-SW03	4	X			X		
SS01	8/26	1420		X	LON-SS01-SW04	4	X			X		
SS01	8/26	1130		X	LON-SS01-SW05	4	X			X		
SS01	8/26	1015		X	LON-SS01-SW06	4	X			X		
EB	8/26	1800		X	LON-EB03	5		X	X	X		

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bob Gilliland	8/26/93 1800			8/27/93 1300	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0421

PROJ. NO.	PROJECT NAME
LONE24	DEW LINE

SAMPLERS: (Signature) Penelope Orthwein, Jerry Mynatt, Beth G. McGraw

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + THOC	PCB	PEST + TPH	REMARKS
LF11	8/26	1400		X	LON-LF11-9X01 /	5		X	X	X	
LF11	8/26	1450		X	LON-LF11-9X02 /	5		X	X	X	
LF11	8/26	1500		X	LON-LF11-9X03 /	5		X	X	X	
~~LF7~~											
AB	8/25	2100		X	LON-AB-01 /	3		X			ON 8/25 COC.
LF07	8/26	1536		X	LON-LF07-905 /	2		X	X	X	
LF07	8/26	1525		X	LON-LF07-906 /	2		X	X	X	
LF07	8/26	1547		X	LON-LF07-902 /	2		X	X	X	
TB	8/26	1300		X	LON-TB-03 /	2		X			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	8/26/95 1800	[illegible]	[illegible]	[illegible]	[illegible]
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0422

PROJ. NO.	PROJECT NAME
LOWEZY	DEW LINE

SAMPLERS: (Signature) Randolph Orthum, Peter S.M. Grant

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB	CHL + HYDR	PEST	TPH	REMARKS
LF11	8/26	1415		X	LON. LF11 - SD1	2		X	X	X	
LF11	8/26	1415		X	LON - LF11 - SD2	2		X	X	X	
LF11	8/26	1515		X	LON - LF11 - SD3	2		X	X	X	X
LF11	8/26	1520		X	LON - LF11 - SD4	2		X	X	X	
LF11	8/26	1445		X	LON - LF11 - SD5	2		X	X	X	
LF11	8/26	1400		X	LON - LF11 - SD01	2		X	X	X	
LF11	8/26	1430		X	LON - LF11 - SD02	2		X	X	X	
LF11	8/26	1510		X	LON - LF11 - SD03	2		X	X	X	
ST02	8/26	1540		X	LON - ST02 - SD2	2		X	X	X	
ST02	8/26	1510		X	LON - ST02 - SD1 - QA1	2		X	X	X	
LF07	8/26	1601		X	LON - LF07 - SD3	2		X	X	X	
LF07	8/26	1615		X	LON - LF07 - SD4	4		X	X	X	MS/MSD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Peter S.M. Grant	8/26/93 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0423

PROJ. NO.	PROJECT NAME
LONELY	DEN LINE

SAMPLERS: (Signature) Randolph Orchard

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + TMB	PAH	PCB	TPH	REMARKS
SS01	8/26	1030		X	LON SS01 SD01 /	2	X				X	
SS01	8/26	1205		X	LON SS01 SD02 /	2	X				X	
SS01	8/26	1140		X	LON SS01 SD03 /	2	X				X	
SS01	8/26	1030		X	LON SS01 SD04 /	2	X				X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/26/93 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

1 of 2

NO. 0424

PROJ. NO.	PROJECT NAME
LOW24	DEW LINE

SAMPLERS: *(Signature)* Randolph Ottinger

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX + TPH	BTEX + TPH (SPLIT)	TPH	REMARKS
SS01	8/26	0950		X	LOW-SS01-S01-01	2	X		X	
SS01	8/26	1075		X	LOW-SS01-S02-0.3	4	X		X	MS/MSD
SS01	8/26	1045		X	LOW-SS01-S03	2	X		X	
SS01	8/26	1030		X	LOW-SS01-S04	2	X		X	
SS01	8/26	1040		X	LOW-SS01-S05	2	X		X	
SS01	8/26	1050		X	LOW-SS01-S06	2	X		X	
SS01	8/26	1115		X	LOW-SS01-S07-1	2	X		X	
SS01	8/26	1125		X	LOW-SS01-S08-2.5	2	X		X	
SS01	8/26	1120		X	LOW-SS01-S09	2	X		X	
SS01	8/26	1130		X	LOW-SS01-S10-04	2	X		X	
SS01	8/26	1157		X	LOW-SS01-S11	2	X		X	
SS01	8-26	1210		X	LOW-SS01-S12-2.5	2	X		X	
SS01	8/26	1200		X	LOW-SS01-S13-01	2	X		X	
SS01	8/26	1025		X	LOW-SS01-S14-03	2	X		X	
SS01	8/26	1210		X	LOW-SS01-S15	2	X		X	

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	8/26/93 1800			8/27/93 730	
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0425

PROJ. NO.	PROJECT NAME
LOWELL	DEW LINE

SAMPLERS: (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX + TPH	BTEX	TPH	REMARKS
SSOS	8.25	1615		Y	LON-SSOS-S1007	4	X		X	
SSOS	8.25	1615		X	LON-SSOS-S1008	4	X		X	
SSOS	8.25	1630		X	LON-SSOS-S19	2	X		X	
SSOS	8.25	1525		X	LON-SSOS-S17-3	2	X		X	
SSOS	8.25	1625		X	LON-SSOS-S16	2	X		X	
SSOS	8.25	1500		X	LON-SSOS-S15-2.8	2	X		X	
SSOS	8.25	1549		X	LON-SSOS-S14	2	X		X	
SSOS	8.25	1630		X	LON-SSOS-S13	2	X		X	
SSOS	8.25	1520		X	LON-SSOS-S12-03	2	X		X	
SSOS	8.25	1510		X	LON-SSOS-S11	2	X		X	
SSOS	8.25	2000		X	LON-SSOS-S1005	4	X		X	MS/MSD FOR VOAS
SSOS	8.25	2000		X	LON-SSOS-S1006	4	X		X	

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/25/93 2100			8/26/93 330	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

PARKING 3

NO. 0426

PROJ. NO.	PROJECT NAME
LONEL1	DEW LINE

SAMPLERS: (Signature) Kathi G. M. Ann

YR/MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + HVOC	PCB	PAH	TPH	REMARKS
SS05	8/25	1611		X	LON-SS05-[illegible]-3/	4		X			X	MS/MSD
SS05	8/25	1725		X	LON SS05-3001/	4	X				X	
SS05	8/25	1735		X	LON SS05-3002/	4	X				X	
SS05	8/25	1715		X	LON SS05 3003/	4	X				X	
BKGD	8/25	1620		X	LON BKGD 3004/	5	X→DC	X	X	X		
SS05	8/25	1450		X	LON SS05 3004/	4	X				X	
TB	8/25	1100		X	LON TB-02 /	3	X					
SS05	8/25	2015		X	LON-SS05-3006/	2	X				X	
SS05	8/25	2000		X	LON-SS05-3005/	2	X				X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/25/95 2100			8/26/95 0330	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0431

PROJ. NO. LONELY (UNALAKLEET)

PROJECT NAME: DEW LINE

SAMPLERS: (Signature) Peter G. M. Jones, Randolph Cattaneo

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + TMVS	Lead	PCB's	TPH
9102	8/26	1520		X	LOW STA 9001	15	X	X	X	X	
LF07	8/26	1648		X	LOW LF07 9002	5		X	X	X	
LF07	8/26	1658		X	LOW LF07 301	2		X	X	X	
LF07	8/26	1658		X	LOW LF07 308	2		X	X	X	
LF07	8/26	1515		X	LOW LF07 307	2		X	X	X	

NO. OF CONTAINERS: 1 / 1 / 1 / 1 / 1

REMARKS

YR MO NO.

Relinquished by: (Signature)	Date / Time 8-26-93 1800	Received by: (Signature)	Relinquished by: (Signature) / Date / Time / Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature) / Date / Time / Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time / Remarks:

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0442

PROJ. NO. (1)1624

PROJECT NAME DEW LINE

SAMPLERS: (Signature)

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX and TPH	BTEX + TPH	PAH	PEST	TPH			REMARKS
3309	8/27	1100		X	LON-3509-S01 /	2		X	X		X			
3509	8/27	1110		X	LON-3509-S02 /	4		X	X		X			MS/MSD
3509	8/27	1105		X	LON-3509-S03 /	2		X	X		X			
3509	8/27	1030		X	LON-3509-S05 /	2		X	X		X			
3509	8/27	1050		X	LON-3509-S06 /	2		X	X		X			
3509	8/27	0915		X	LON-3509-S101 /	5		X	X		X			
3509	8/27	0945		X	LON-3509-S102 /	5		X	X		X			
3509	8/27	0950		X	LON-3509-S103 /	2		X	X		X			
~~3509~~	8/27	1115		X	~~LON-3510-S102~~	2	X	~~X~~	~~X~~	~~X~~	X			DP
3509	8/27	0930		X	LON-3509-SD01 /	2		X			X			
3510	8/27	1115		X	LON-3510-S102 /	2	X				X			
3510	8/27	1115		X	LON-3510-SD07 /	2	X				X			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/27/93 1553			8/27/93 1900	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0443

PROJ. NO.	PROJECT NAME
LOWER 48	DEW LINE

SAMPLERS: (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BNA	BNA + HHC	VOC	TRS	TPH	REMARKS
ST10	8/27	1134		X	LON ST10 SD03	2	X				X	
ST10	8/27	1150		X	LON ST10 SD01	2	X				X	
ST10	8/27	1020		X	LON ST10 SD02	2		X	X		X	DP
ST02	8/27	0910		X	LON-ST02-S03	2		X	X		X	
					DP							
S309	8/27	1020		X	LON SD02 (S309)	2		X	X		X	
ST02	8/27	0730		X	LON-ST02-S04	2		X	X		X	
ST02	8/27	0915		X	LON-ST02-S05	2		X	X		X	
ST02	8/27	1005		X	LON-ST02-S06	2		X	X		X	
ST02	8/27	0955		X	LON-ST02-S07	2		X	X		X	
ST02	8/27	1020		X	LON-ST02-S08	2		X	X		X	
ST10	8/27	1340		X	LON ST10-SD05	2	X				X	
ST10	8/27			X	LON-ST10-SD04	2	X				X	
ST10	8/27	1154		X	LON-ST10-S01	2	X				X	
ST10	8/27	1340		X	LON-ST10-S06	2	X				X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8-27-93 1552				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0444

PROJ. NO.	PROJECT NAME: BDD DEW LINE
	SAMPLERS: (Signature)

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DTEL	DTEL + HNO3	TOC	R-51	TPH	REMARKS
ST10	8/27	1145		X	LON-ST10-SW001	4	X			X		
ST10	8/27	1200		X	LON-ST10-SW002	4	X			X		
ST02	8/27	0900		X	LON-ST02-SW002	5		X	X	X		
ST02	8/27	0920		X	LON-ST02-SW003	5		X	X	X		
ST02	8/27	0940		X	LON-ST02-SW004	5		X	X	X		
ST02	8/27	0950		X	LON-ST02-SW005	5		X	X	X		

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/27/93 1551				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0445

PROJ. NO.	PROJECT NAME
LONEZ4	DEW LINE

SAMPLERS: (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX	BTEX + HVOC	TPH	TLH	REMARKS
ST02	8/27	1015		X	LON-ST02-SW061	5	X	X		X	
LF07	8/27	1414		X	LON-LF07-SW001	5	X	X		X	
TB	8/27	1000		X	LON TB 04	2	X				
AB	8/27	1500		X	LON AB 02	3	X				
EB	8/27	1500		X	LON EB 04	5	X	X		X	

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	5-27-93 1557				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0446

PROJ. NO.	PROJECT NAME
10824	DCN LINE

SAMPLERS: (Signature) Jerry Mundell, Beth E. M. Quinn

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BTEX+HVOC	BTEX+HVOC	PAH	PAH	REMARKS
SS13	8/27	1415		X	DCN SS13 SD03	2	X			X	
SS13	8/27	1340		X	DCN SS13 SD01	2	X			X	
SS13	8/27	1450		X	DCN SS13 SD01	2	X			X	
SS13	8/27	1405		X	DCN SS13 SD02	2	X			X	
SS13	8/27	1335		X	DCN SS13 SW01	4	X			X	
SS13	8/27	1400		X	DCN SS13 SW02	4	X			X	
SS13	8/27	1435		X	DCN SS13 SW03	4	X			X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jerry Mundell	8/27/93 1500				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

1 BLANK 2 OF 2

NO. 0482

PROJ. NO.	PROJECT NAME
LONELY	DEAD LINE

SAMPLERS: (Signature) Kathy G. M. Chan

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS								REMARKS
SS04	9/4	1615		X	LON-SS04-2S03-21	1			X					
SS04	9/4	1620		X	LON-SS04-2S103 /	1			X					
EB	9/4	1715		X	LON-EB-05 /	4		X	X					VOA NOT PRESERVED
ST02	9/4	1600		X	LON-ST02-2S09-1.5	2	X		X					
ST02	9/4	1645		X	LON-ST02-2S10-1 /	2	X		X					
ST02	9/4	1650		X	LON-ST02-2S11-1 /	2	X		X					
SS03	9/4	1515		X	LON-SS03-2S06 /	2	X		X					
SS03	9/4	1515		X	LON-SS03-2S07 /	2	X		X					

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Kathy G. M. Chan	9/4/93 1800			9/6/93 1130	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0483

PROJ. NO.	PROJECT NAME
LAKE4	DEAD LINE

SAMPLERS (Signature) Mark Lemmer

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB's	METALS	VOA's	REMARKS
SS01	9/4	1410		X	LOD-SS01-2S16-1	1			X	
SS01	9/4	1415		X	LOD-SS01-2S17-1	1			X	
SS01	9/4	1350		X	LOD-SS01-2S18-1	1			X	
SS01	9/4	1427		X	LOD-SS01-2S19	1			X	
SS01	9/4	1400		X	LOD-SS01-2S20	1			X	
SS01	9/4	1555		X	LOD-SS01-2S21-1.5	2	X		X	
SS05	9/4	1410		X	LOD-SS05-2S19-3	1			X	
SS05	9/4	1340		X	LOD-SS05-2SD09	1			X	
SS05	9/4	1330		X	LOD-SS05-2SD10	1			X	
SS05	9/4	1510		X	LOD-SS05-2SD11	1			X	
SS05	9/4	1525		X	LOD-SS05-2SD12	1			X	
SS05	9/4	1435		X	LOD-SS05-2SD13	1			X	
SS05	9/4	1540		X	LOD-SS05-2SD14	1			X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mark Lemmer	9/4/93 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF ~~AFCEE~~ CUSTODY RECORD

NO. 0485

PROJ. NO.	PROJECT NAME
LCREL4	DED LINE

SAMPLERS: (Signature) Peter J. M. Ingram

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	T-21	REMARKS
AFCEE	9/5	1200		X	LCD - AFCEE - 1	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 2	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 3	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 4	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 5	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 6	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 7	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 8	1	X	
AFCEE	9/5	1200		X	LCD - AFCEE - 9	1	X	
AFCEE	9/5	1200		X	~~LCD - AFCEE - 10~~	1	X	TDH

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Peter J. M. Ingram	9/5/93 1300			9/6/93 11:45	Jenny Francis
Jenny Francis	9/7/93 12:30	77593/5831 FedEx			
		Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0486

PROJ. NO.	PROJECT NAME
LOWER	DEW LINE

SAMPLERS: (Signature) Kerry Merrill Meaghan Lemmer Peter G. McGowan

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CON-TAINERS	BLEW	STOP THING	TIN	REMARKS
S509	9/5	1310		X	LOW-S509-2504	2		X	X	
S509	9/5	1320		X	LOW-S509-2506	2		X	X	
S509	9/5	1330		X	LOW-S509-2507	2		X	X	
S512	9/5	1405		X	LOW-S512-2502	1			X	
S512	9/5	1400		X	LOW-S512-2504	1			X	
S512	9/5	1410		X	LOW-S512-2505	1			X	
S513	9/5	1325		X	LOW-S513-2504	1			X	
S513	9/5	1320		X	LOW-S513-2505	1			X	
S513	9/5	1330		X	LOW-S513-2506	1			X	
S710	9/5	1447		X	LOW-S710-2503	1			X	
S710	9/5	1404		X	LOW-S710-2508	1			X	
S710	9/5	1430		X	LOW-S710-2509	2	X		X	

Relinquished by: (Signature) Kerry Merrill Meaghan Lemmer	Date / Time 9/5/93 1630	Received by: (Signature)	Relinquished by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time

Date / Time 9/5/93 1970	Received by: (Signature) Jeffrey Stowell	
Date / Time	Received by: (Signature)	
Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0487

PROJ. NO.	PROJECT NAME
LONE24	DEW LINE

SAMPLERS: (Signature) Jerry Mansell, Peter J. M. Gram

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH	REMARKS
ST10	9/5	1520		X	LON-ST10-2504/	1	X	
ST10	9/5	1520		X	LON-ST10-2503/	1	X	
BKGD	9/5	1000		X	LON-BKGD-2503/	1	X	
EB	9/5	1530		X	LON-EB-08/	4	X X	
LF07	9/5	1555		X	LON-LF07-2508/	1	X	
LF07	9/5	1550		X	LON-LF07-2509/	1	X	

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jerry Mansell	9/5/93 1630			9/5/93 1720	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0588

PROJ. NO.	PROJECT NAME
41016-412-01	DEW Line RI/FS

SAMPLERS: (Signature) Robert Truitt

STAT. NO.	DATE 1993	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TCH	REMARKS
Barrow	9-8			X	BAR-W01	1	1	Soil MS
Lonely/Lisburne	11			X	LON-W01	3	3	BTEX

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Robert Truitt	9-8-93 1545				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0379

PROJ. NO.	PROJECT NAME
LORELY	DEAD LINE

SAMPLERS: *(Signature)*

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SOIL T. METAL	T. METAL	TCLP T. METAL	TCLP TPH	REMARKS
3505	8.25	1648		X	LON-3505-S1007 /	8	X	X		X	X	X	
3505	8/25	1645		V	LON-3505-S1008 /	8	X	V		V	X	X	
TB	8/25	1100		V	LON-TB-02 /	2	V						

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
	8/25/93 2100			8/25/93 2200	FED EX 804140696 2
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0380

PROJ. NO.	PROJECT NAME
LONELY	DEW LINE

SAMPLERS: (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	Semi VOA	T. METAL	D. METAL	TCLP	TDS	REMARKS
EB	8/25	1530		X	LON-EB-02	7	X	X	X		X		
BKGD	8/25	1620		X	LON-BKGD-SD02	10	X	X	X	X	X	X	X
BKGD	8/25	1800		X	LON-BKGD-301	3	X	X	X		X		
BKGD	8/25	1635		X	LON-BKGD-SD02	3	X	X	X		X		
LONDP													
9505	8/25	1555		X	LON 9505 SD08	2	X				X		

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/25/93 2100			8/25/93 2200	FEDEX 8041406962
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD (Anchorage)

NO. 0381

PROJ. NO.	PROJECT NAME
LON 41	DEW LINE

SAMPLERS (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SVOA	T.P.H.-418.1	T.P.H.-M.E.C.	TOC	TOX	TDS	REMARKS
BKGD	8/25	1425		X	LON-BKGD-SS001	10	X	X	X	X	X	X	X	
BKGD	8/25	1435		X	LON-BKGD-SS003	10	X	X	X	X	X	X	X	
BKGD	8/25	1500		X	LON-BKGD-SD01	6	X	X	X		X			MS/MSD
SSOS	8/25	1155		X	LON SSOS SD07	2	X	X			X			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/25/93 2100			8/25/93 2200	FEDEX 8041406902
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

(112)

NO. 0382

PROJ. NO.	PROJECT NAME
LONELY	DEW LINE

SAMPLERS: (Signature) Margaret Mangiatordi Lemmon

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SOIL TOTAL METAL	D. METAL	TOC	TOX	TD	REMARKS
FB	8/24	1800		X	LON-GB-01 /	7	X	X	X		X		
3503	8-24	1715		X	LON-5503-S01 /	2	X	X					
3503	8-24	1645		X	LON-5503-S1001 /	8	X	X			X	X	X
TB	8-24	1000		X	LON TR-01 /	2	X						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Margaret Lemmon	8/24/93 1900		FED EX 804406995	8/24/93 1930	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

DP

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0402

PROJ. NO.	PROJECT NAME
LONELY	DEN LINE

SAMPLERS: (Signature) [illegible]

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	1,2 DCA	1,1,1 TCA	1,1,2 TCA	TCE	TBS	TDS
9312	8-24	1720		X	LON-9312-3031	2	X	X					
9312	8-24	1700		X	LON-9312-3001	8	X	X			X	X	X
9804	8-24	1411		X	LON-9804-3001	10	X	X	X	X	X	X	X
9804	8-24	1505		X	LON-9804-301	3	X	X	X		X		

REMARKS

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	8/24/93 1830	[signature]	FED EX 804140699 5	8/24/93 1930	[signature]
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0403

PROJ. NO.	PROJECT NAME
LONE14	DEN LINE

SAMPLERS: (Signature) Jerry Russell, G.M. Gran

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	TOX	T. METAL	D. METAL	TOC	TSS	TDS	REMARKS
SS01	8/26	1015		X	LON-SS01-SW001	8	X	X			X	X	X	
SS01	8/26	1420		X	LON-SS01-SW004	8	X	X			X	X	X	
SS01	8/26	1015		X	LON-SS01-SW006	8	X	X			X	X	X	

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
G.M. Gran	8/26/93 1830			8/26/93 1900	FEDEX 804140692 3
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0412

PROJ. NO.	PROJECT NAME
LONELY	DEW LINE

SAMPLERS: (Signature) [illegible] Lemmon [illegible]
[illegible] Traffe Kerry Mundell

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SEMI	T. Metal	D. Metal	TOC	TOX	TDS	REMARKS
SS04	8/27	1030		X	LON SS04 SS05 /	3	X	X	X					
SS04	8/27	0930		X	LON SS04 SD01 /	3	X	X	X					
SS04	8/27	0830		X	LON SS01 SD03 /	3	X	X	X					
SS04	8/27	0915		X	LON SS04 SW01 /	7	X	X	X	X				
SS04	8/27	0945		X	LON SS04 SW02 /	7	X	X	X	X				

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible] Lemmon				8/27/ 1200	FEDEX 904407411
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0413

PROJ. NO.	PROJECT NAME
LONELY	DEW LINE

SAMPLERS: (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SEMI	T METAL	D METAL	TOC	TSS	TDS	REMARKS
LF11	8/26	1400		X	LON LF11 33001	10	X	X	X	X	X	X	X	
LF07	8/26	1648		X	LON LF07 33002	10	X	X	X	X	X	X	X	

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/26/93 830			8/26/93 1700	FED EX 804140623
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0414

PROJ. NO.	PROJECT NAME
LOVELY	DEW LINE

SAMPLERS: (Signature) Henry Gunnell, Peter G. McCann

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SEMI VOLATILES	PESTICIDES	TOC	TOX	TDS	REMARKS
ST02	8/26	1520		X	LOW ST02 #1001	25	X	X	X	X	X	X	X	

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Peter G. McCann	8/26/93 1830			8/26/93 1900	FEDEX 804406923
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

(F-10)

NO. 0415

PROJ. NO.	PROJECT NAME
LONELY	DEW LINE

SAMPLERS: (Signature) Jimmy Mundell Ruth G. M. Gunn JJF

YR MO NO.

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SEMI	T METAL	D METAL	TOC	TSS	TDS	REMARKS
3501	8/26	1030		X	LON-3501-304 /	2	X	X						
3501	8/26	1030		X	LON-3501-SD01 (SB 011)	2	X	X						
3501	8/26	1030		X	LON-3501-SD04 /	2	X	X						
3501	8/26	1210		X	LON-3501-315 /	2	X	X						
LF11	8/26	1515		X	LON-LF11-303 /	3	X	X	X					
ST02	8/26	1540		X	LON-ST02-302 /	3	X	X	X					
LF07	8/26	1601		X	LON LF07 303 /	3	X	X	X		X			
TB	8/26	1300		X	LON TB 303 /	2	X							
EB	8/26	1800		X	LON EB 03 /	1	X	X	X		X			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Ruth G. M. Gunn	8/26/93 1830			8/26/93 1900	FED EX 804140693
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0440

PROJ. NO.	PROJECT NAME
COVELL	DEW LINE

SAMPLERS: (Signature) Jerry Arnold

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SEMI	TOTAL METAL	D TOT METAL	TOC	TOX	TDS
SS13	8/27	1340		X	LOW SS13 SW01	3	X	X			X		
SS13	8/27	1335		X	LOW SS13 SW01	8	X	X			X	X	X

YR MO NO.

REMARKS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jerry Arnold	8/27/97 1:00			8/27/97 1700	FED EX 801407441
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0441

PROJ. NO.	PROJECT NAME
LOWE21	DEW LINE

SAMPLERS: (Signature)

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	SEMI	T METALS	D METALS	TOC	TSS	TDS	REMARKS
ST10	8/27	1131		X	LOW ST10 3D031	2	X	X						
ST10	8/27	1200		X	LOW ST10 3W021	8	X	X			X	X	X	
TB	8/27	1000		X	LOW TB 04 1	2	X							
EB	8/27	1500		X	LOW EB 04 1	7	X	X	X		X			

YR MO NO.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/27/16 16:14	[signature]	[signature]	8/27/16 20	FED EX 8041074141
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

ICF KAISER ENGINEERS

CHAIN OF CUSTODY RECORD

NO. 0484

PROJ. NO.	PROJECT NAME
LONELY	DEN LINE

SAMPLERS: (Signature) Meredith Lemmon, [illegible]

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	TPH	METALS					REMARKS
3305	9/4	1410		X	LON-3505-2SA-31	1		X						
3505	9/4	1340		X	LON-3505-2SD09	1		X						
3505	9/4	1540		X	LON-3505-2SD14	1		X						
EB	9/4	1715		X	LON-EB-05	4	X	X						VOAs NOT PRESERVED
3509	9/5	1310		X	(ON)-3509-2S04	1	X							
3509	9/5	1320		X	(ON)-3509-2S06	1	X							
3509	9/5	1330		X	(ON)-3509-2S07	1	X							
3710	9/5	1430		X	(ON)-3710-2SL09	1	X							
EB	9/5	1530		X	(ON)-EB-08	4	X	X						NOT PRESERVED
IDW	9/5	1600		X	(ON)-IDW-01	5	X	X	X					NOT PRESERVED

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Meredith Lemmon	9/5/93 1630	[signature]	[signature]	9/5/93 1800	SPEED MARK 09560 7740
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks:	

APPENDIX F

ANALYTICAL DATA

1. SUMMARY TABLES OF ANALYTICAL DATA (presented in Sections 3.0 and 4.0)
2. CROSS-REFERENCE TABLE FOR SAMPLE IDENTIFICATION
3. ANALYTICAL DATA (for each site CT&E Data is presented first followed by F&B Data)

2. CROSS-REFERENCE TABLE FOR SAMPLE IDENTIFICATION

CROSS-REFERENCE SAMPLE IDENTIFICATION

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Sewage Disposal Area (SS01)									
LON-SS01-S01	LON-SS01-S01	SS01		424		852		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S02-3	LON-SS01-S02-3	SS01		424		854		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S03	LON-SS01-S03	SS01		424		858		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S03	LON-SS01-S03DP	SS01		424		858		#6-08/28/93	Soil Duplicate
LON-SS01-S03	LON-SS01-S03S	SS01		424		858		#6-08/28/93	Soil Spike
LON-SS01-S03	LON-SS01-S03SD	SS01		424		858		#6-08/28/93	Soil Spike Duplicate
LON-SS01-S04	LON-SS01-S04	SS01	415	424	93.4425-1	860	93.4425	#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S05	LON-SS01-S05	SS01		424		862		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S06	LON-SS01-S06	SS01		424		864		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S07-1	LON-SS01-S07-1	SS01		424		866		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Sewage Disposal Area (SS01)									
LON-SS01-S08-2.5	LON-SS01-S08-2.5	SS01		424		868		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S09	LON-SS01-S09	SS01		424		870		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S10-04	LON-SS01-S10-04	SS01		424		872		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S10-04	LON-SS01-S10-04DP	SS01		424		872		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil Duplicate
LON-SS01-S10-04	LON-SS01-S10-04S	SS01		424		872		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil Spike
LON-SS01-S10-04	LON-SS01-S10-04SD	SS01		424		872		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil Spike Duplicate
LON-SS01-S11	LON-SS01-S11	SS01		424		874		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S12-2.5	LON-SS01-S12-2.5	SS01		424		876		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S13-01	LON-SS01-S13-01	SS01		424		878		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-S14-03	LON-SS01-S14-03	SS01		424		880		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Sewage Disposal Area (SS01)									
LON-SS01-S15	LON-SS01-S15	SS01	415	424	93.4425-4	882	93.4425	#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-SS01-2S16-1	LON-SS01-2S16-1	SS01		483		1780		#5-09/08/93	Soil
LON-SS01-2S17-1	LON-SS01-2S17-1	SS01		483		1781		#5-09/08/93	Soil
LON-SS01-2S18-1	LON-SS01-2S18-1	SS01		483		1782		#5-09/08/93	Soil
LON-SS01-2S19	LON-SS01-2S19	SS01		483		1783		#5-09/08/93	Soil
LON-SS01-2S20	LON-SS01-2S20	SS01		483		1784		#5-09/08/93	Soil
LON-SS01-2S21-1.5	LON-SS01-2S21-1.5	SS01		483		1786		#5-09/08/93 #1&2-09/07/93	Soil
LON-SS01-SD01	LON-SS01-SD01	SS01	415	423	93.4425-2	884	93.4425	#6-08/28/93 #1&2-08/31/93	Sediment
LON-SS01-SD02	LON-SS01-SD02	SS01		423		886		#6-08/28/93 #1&2-08/31/93	Sediment
LON-SS01-SD03	LON-SS01-SD03	SS01		423		888		#6-08/28/93 #3&4-08/31/93	Sediment
LON-SS01-SD04	LON-SS01-SD04	SS01	415	423	93.4425-3	890	93.4425	#6-08/28/93 #3&4-08/31/93	Sediment
LON-SS01-SW01	LON-SS01-SW01	SS01	403	420	93.4430-1	917 918	93.4430	#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-SS01-SW02	LON-SS01-SW02	SS01		420		921 922		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-SS01-SW03	LON-SS01-SW03	SS01		420		925 928		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Sewage Disposal Area (SS01)									
LON-SS01-SW04	LON-SS01-SW04	SS01	403	420	93.4430-2	929 932	93.4430	#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-SS01-SW05	LON-SS01-SW05	SS01		420		933 936		#5-08/28/93	Surface Water
LON-SS01-SW06	LON-SS01-SW06	SS01	403	420	93.4430-3	937 940	93.4430	#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Drum Storage Area (ST02)									
LON-ST02-S01-03	LON-ST02-S01-03	ST02		422		964		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-ST02-S02	LON-ST02-S02	ST02	415	422	93.4425-6	962	93.4425	#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-ST02-S03	LON-ST02-S03	ST02		443		1032		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-ST02-S04	LON-ST02-S04	ST02		443		1036		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-ST02-S05	LON-ST02-S05	ST02		443		1038		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-ST02-S06	LON-ST02-S06	ST02		443		1040		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-ST02-S06	LON-ST02-S06DP	ST02		443		1040		#6-08/28/93 #1&2-08/28/93	Soil Duplicate
LON-ST02-S06	LON-ST02-S06S	ST02		443		1040		#6-08/28/93 #1&2-08/28/93	Soil Spike
LON-ST02-S06	LON-ST02-S06SD	ST02		443		1040		#6-08/28/93 #1&2-08/28/93	Soil Spike Duplicate
LON-ST02-S07	LON-ST02-S07	ST02		443		1042		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-ST02-S08	LON-ST02-S08	ST02		443		1044		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Drum Storage Area (ST02)									
LON-ST02-2S09-1.5	LON-ST02-2S09-1.5	ST02		482		1800		#5-09/08/93 #1&2-09/07/93	Soil
LON-ST02-2S10-1	LON-ST02-2S10-1	ST02		482		1802		#5-09/08/93 #1&2-09/07/93	Soil
LON-ST02-2S11-1	LON-ST02-2S11-1	ST02		482		1804		#5-09/08/93 #1&2-09/07/93	Soil
LON-ST02-SW01	LON-ST02-SW01	ST02	414	431	93.4423-1	972 978	93.4423	#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-ST02-SW01	LON-ST02-SW01S	ST02	414		93.4423-2		93.4423		Surface Water Spike
LON-ST02-SW01	LON-ST02-SW01DP	ST02	414		93.4423-3		93.4423		Surface Water Duplicate
LON-ST02-SW01	LON-ST02-SW01SD	ST02	414		93.4423-4		93.4423		Surface Water Spike Duplicate
LON-ST02-SW02	LON-ST02-SW02	ST02		444		1062 1064		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-ST02-SW03	LON-ST02-SW03	ST02		444		1068 1070		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-ST02-SW04	LON-ST02-SW04	ST02		444		1072 1074		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Drum Storage Area (ST02)									
LON-ST02-SW05	LON-ST02-SW05	ST02		444		1077 1078 1080		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-ST02-SW06	LON-ST02-SW06	ST02		445		1082 1084		#5-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water

CT&E - Commercial Testing and Engineering Co.
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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Beach Diesel Tanks (SS03)									
LON-SS03-S01	LON-SS03-S01	SS03	382	418	93.4357-4	536	93.4357	#5-08/25/93 #1&2-08/25/93	Soil
LON-SS03-S02	LON-SS03-S02	SS03		418		538		#5-08/25/93 #1&2-08/25/93	Soil
LON-SS03-S03	LON-SS03-S03	SS03		418		540		#5-08/25/93 #1&2-08/25/93	Soil
LON-SS03-S04	LON-SS03-S04	SS03		418		542		#5-08/25/93 #1&2-08/25/93	Soil
LON-SS03-S05	LON-SS03-S05	SS03		418		544		#5-08/25/93 #1&2-08/25/93	Soil
LON-SS03-SD01	LON-SS03-SD01	SS03		418		546		#5-08/25/93 #1&2-08/25/93	Sediment
LON-SS03-SD02	LON-SS03-SD02	SS03		418		548		#5-08/25/93 #1&2-08/25/93	Sediment
LON-SS03-SW01	LON-SS03-SW01	SS03	382	418	93.4357-7	549	93.4357	#5-08/27/93	Surface Water
LON-SS03-SW02	LON-SS03-SW02	SS03		418		550 552 554		#5-08/27/93 #3&4-08/25/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
POL Storage (SS04)									
LON-SS04-S01	LON-SS04-S01	SS04	402	419	93.4355-6	518	93.4355	#5-08/25/93 #1&2-08/25/93	Soil
LON-SS04-S02	LON-SS04-S02	SS04		419		524		#5-08/25/93 #1&2-08/25/93	Soil
LON-SS04-S02	LON-SS04-S02S	SS04		419		524		#5-08/25/93 #1&2-08/25/93	Soil Spike
LON-SS04-S02	LON-SS04-S02DP	SS04		419		524		#5-08/25/93 #1&2-08/25/93	Soil Duplicate
LON-SS04-S02	LON-SS04-S02SD	SS04		419		524		#5-08/25/93 #1&2-08/25/93	Soil Spike Duplicate
LON-SS04-SD01	LON-SS04-SD01	SS04		419		520		#5-08/25/93 #1&2-08/25/93	Sediment
LON-SS04-SD02	LON-SS04-SD02	SS04		419		522		#5-08/25/93 #1&2-08/25/93	Sediment
LON-SS04-2SD03	LON-SS04-2SD03	SS04		482		1795		#5-09/08/93	Sediment
LON-SS04-SW01	LON-SS04-SW01	SS04	402	419	93.4355-3	508	93.4355	#3&4-08/25/93	Surface Water
LON-SS04-SW01	LON-SS04-SW01S	SS04	402		93.4355-4		93.4355		Surface Water Spike
LON-SS04-SW01	LON-SS04-SW01DP	SS04	402		93.4355-5		93.4355		Surface Water Duplicate
LON-SS04-SW01	LON-SS04-SW01SD	SS04	402		93.4355-9		93.4355		Surface Water Spike Duplicate

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Diesel Spill (SS05)									
LON-SS05-S01	LON-SS05-S01	SS05		417		708		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S01	LON-SS05-S01DP	SS05		417		708		#6-08/26/93 #1&2-08/28/93	Soil Duplicate
LON-SS05-S01	LON-SS05-S01S	SS05		417		708		#6-08/26/93 #1&2-08/28/93	Soil Spike
LON-SS05-S01	LON-SS05-S01SD	SS05		417		708		#6-08/26/93 #1&2-08/28/93	Soil Duplicate
LON-SS05-S02-03	LON-SS05-S02-03	SS05		417		710		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S03	LON-SS05-S03	SS05		417		714		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S04-03	LON-SS05-S04-03	SS05		417		718		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S04-03	LON-SS05-S04-03DP	SS05		417		718		#6-08/26/93 #1&2-08/28/93	Soil Duplicate
LON-SS05-S04-03	LON-SS05-S04-03S	SS05		417		718		#6-08/26/93 #1&2-08/28/93	Soil Spike
LON-SS05-S04-03	LON-SS05-S04-03SD	SS05		417		718		#6-08/26/93 #1&2-08/28/93	Soill Spike Duplicate
LON-SS05-S05	LON-SS05-S05	SS05		417		720		#6-08/26/93 #1&2-08/28/93	Soi
LON-SS05-S06-01	LON-SS05-S06-01	SS05		417		728		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S07	LON-SS05-S07	SS05		417		722		#6-08/26/93 #1&2-08/28/93	Soil

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Diesel Spill (SS05)									
LON-SS05-S08-01	LON-SS05-S08-01	SS05		417		730		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S11	LON-SS05-S11	SS05		425		760		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S12-03	LON-SS05-S12-03	SS05		425		758		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S13	LON-SS05-S13	SS05		425		756		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S14	LON-SS05-S14	SS05		425		754		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S15-2.5	LON-SS05-S15-2.5	SS05		425		752		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S15-2.5	LON-SS05-S15-2.5DP	SS05		425		752		#6-08/26/93 #1&2-08/28/93	Soil Duplicate
LON-SS05-S15-2.5	LON-SS05-S15-2.5S	SS05		425		752		#6-08/26/93 #1&2-08/28/93	Soil Spike
LON-SS05-S15-2.5	LON-SS05-S15-2.5SD	SS05		425		752		#6-08/26/93 #1&2-08/28/93	Soil Spike Duplicate
LON-SS05-S16	LON-SS05-S16	SS05		425		750		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S17-3	LON-SS05-S17-3	SS05		425		748		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S18-2.5	LON-SS05-S18-2.5	SS05		417		732		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-S19	LON-SS05-S19	SS05		425		746		#6-08/26/93 #1&2-08/28/93	Soil
LON-SS05-2S19-3	LON-SS05-2S19-3	SS05	484	483	93.4626-1	1787	93.4626	#5-09/08/93	Soil

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Diesel Spill (SS05)									
LON-SS05-SD01	LON-SS05-SD01	SS05		417		712		#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD02	LON-SS05-SD02	SS05		417		716		#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD03	LON-SS05-SD03	SS05		416		702		#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD04	LON-SS05-SD04	SS05		417		726		#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD05	LON-SS05-SD05	SS05		426		698		#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD06	LON-SS05-SD06	SS05		426		686		#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD07	LON-SS05-SD07	SS05	381	417	93.4504-10	724	93.4504	#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-SD08	LON-SS05-SD08	SS05	380	416	93.4506-5	704	93.4506	#6-08/26/93 #1&2-08/28/93	Sediment
LON-SS05-2SD09	LON-SS05-2SD09	SS05	484	483	93.4626-2	1788	93.4626	#5-09/08/93	Sediment
LON-SS05-2SD09	LON-SS05-2SD09S	SS05	484		93.4626-3		93.4626		Sediment Spike
LON-SS05-2SD09	LON-SS05-2SD09SD	SS05	484		93.4626-4		93.4626		Sediment Spike Duplicate
LON-SS05-2SD10	LON-SS05-2SD10	SS05		483		1789		#5-09/08/93	Sediment
LON-SS05-2SD11	LON-SS05-2SD11	SS05		483		1790		#5-09/08/93	Sediment
LON-SS05-2SD12	LON-SS05-2SD12	SS05		483		1791		#5-09/08/93	Sediment
LON-SS05-2SD13	LON-SS05-2SD13	SS05		483		1792		#5-09/08/93	Sediment
LON-SS05-2SD14	LON-SS05-2SD14	SS05	484		93.4626-5	1793	93.4626	#5-09/08/93	Sediment

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Diesel Spill (SS05)									
LON-SS05-SW01	LON-SS05-SW01	SS05		426		658 660		#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW02	LON-SS05-SW02	SS05		426		667 668		#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW03	LON-SS05-SW03	SS05		426		675 678		#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW04	LON-SS05-SW04	SS05		426		679 680		#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW05	LON-SS05-SW05	SS05		425		762 764 767		#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW06	LON-SS05-SW06	SS05		425		772 774		#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW07	LON-SS05-SW07	SS05	379	425	93.4505-1	738 739	93.4505	#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS05-SW08	LON-SS05-SW08	SS05	379	425	93.4505-2	742 745	93.4505	#5-08/27/93 #3&4-08/25/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Old Dump Site (LF07)									
LON-LF07-S01	LON-LF07-S01	LF07		431		992		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-S02	LON-LF07-S02	LF07		421		914		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-S03	LON-LF07-S03	LF07	415	422	93.4425-7	966	93.4425	#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-S04	LON-LF07-S04	LF07		422		968		#6-08/28/93 #6-08/29/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-S05	LON-LF07-S05	LF07		421		910		#6-08/28/93 #3&4-08/29/93	Soil
LON-LF07-S05	LON-LF07-S05DP	LF07		421		910		#6-08/28/93 #4-08/29/93	Soil Duplicate
LON-LF07-S05	LON-LF07-S05S	LF07		421		910		#6-08/28/93	Soil Spike
LON-LF07-S05	LON-LF07-S05SD	LF07		421		910		#6-08/28/93 #3&4-08/31/93	Soil Spike Duplicate
LON-LF07-S06	LON-LF07-S06	LF07		421		912		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-S06	LON-LF07-S06DP	LF07		421		912		#6-08/28/93	Soil Duplicate
LON-LF07-S06	LON-LF07-S06S	LF07		421		912		#6-08/28/93	Soil Spike
LON-LF07-S06	LON-LF07-S06SD	LF07		421		912		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil Spike Duplicate

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Old Dump Site (LF07)									
LON-LF07-S07	LON-LF07-S07	LF07		431		996		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-S08	LON-LF07-S08	LF07		431		994		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF07-2S08	LON-LF07-2S08	LF07		487		1778		#5-09/06/93	Soil
LON-LF07-2S09	LON-LF07-2S09	LF07		487		1779		#5-09/06/93	Soil
LON-LF07-SW01	LON-LF07-SW01	LF07		445		1088 1090		#5-08/30/93 #1&2-08/28/93	Surface Water
LON-LF07-SW02	LON-LF07-SW02	LF07	413	431	93.4428-2	988 990	93.4428	#6-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Garage (SS09)									
LON-SS09-S01	LON-SS09-S01	SS09		442		998		#6-08/29/93 #3&4-08/31/93	Soil
LON-SS09-S02	LON-SS09-S02	SS09		442		1000		#6-08/29/93 #3&4-08/31/93	Soil
LON-SS09-S03	LON-SS09-S03	SS09		442		1004		#6-08/29/93 #3&4-08/31/93	Soil
LON-SS09-S05	LON-SS09-S05	SS09	412	442	93.4427-1	1006	93.4427	#6-08/29/93 #3&4-08/31/93	Soil
LON-SS09-S06	LON-SS09-S06	SS09		442		1008		#6-08/29/93 #3&4-08/31/93	Soil
LON-SS09-2S04	LON-SS09-2S04	SS09	484	486	93.4626-7	1756	93.4626	#5-09/06/93 #1&2-08/28/93	Soil
LON-SS09-2S06	LON-SS09-2S06	SS09	484	486	93.4626-8	1758	93.4626	#5-09/06/93 #1&2-08/28/93	Soil
LON-SS09-2S06	LON-SS09-2S06S	SS09	484		93.4626-9		93.4626		Soil Spike
LON-SS09-2S06	LON-SS09-2S06SD	SS09	484		93.4626-10		93.4626		Soil Spike Duplicate
LON-SS09-2S07	LON-SS09-2S07	SS09	484	486	93.4626-11	1760	93.4626	#5-09/06/93 #1&2-08/28/93	Soil
LON-SS09-SD01	LON-SS09-SD01	SS09	412	442	93.4427-2	1022	93.4427	#1&2-08/28/93	Sediment
LON-SS09-SD02	LON-SS09-SD02	SS09		443		1034		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-SS09-SD03	LON-SS09-SD03	SS09	412		93.4427-3		93.4427		Sediment
LON-SS09-SW01	LON-SS09-SW01	SS09	412	442	93.4427-4	1010 1012	93.4427	#5-08/30/93 #1&2-08/28/93	Surface Water

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Garage (SS09)									
LON-SS09-SW02	LON-SS09-SW02	SS09	412	442	93.4427-5	1016 1018	93.4427	#5-08/30/93 #1&2-08/28/93	Surface Water

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Diesel Tank (West of Hangar) (ST10)									
LON-ST10-S01	LON-ST10-S01	ST10		443		1050		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-ST10-S01	LON-ST10-S01DP	ST10		443		1050		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil Duplicate
LON-ST10-S01	LON-ST10-S01S	ST10		443		1050		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil Spike
LON-ST10-S01	LON-ST10-S01SDP	ST10		443		1050		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil Spike Duplicate
LON-ST10-2S02	LON-ST10-2S02	ST10		486				#5-09/06/93	Soil
LON-ST10-2S03	LON-ST10-2S03	ST10		487		1772		#5-09/06/93	Soil
LON-ST10-2S03	LON-ST10-2S03DP	ST10		487		1772		#5-09/06/93	Soil Duplicate
LON-ST10-2S03	LON-ST10-2S03S	ST10		487		1772		#5-09/06/93	Soil Spike
LON-ST10-2S03	LON-ST10-2S03SD	ST10		487		1772		#5-09/06/93	Soil Spike Duplicate
LON-ST10-2S04	LON-ST10-2S04	ST10		487		1771		#5-09/06/93	Soil
LON-ST10-SD01	LON-ST10-SD01	ST10		443		1030		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-ST10-SD02	LON-ST10-SD02	ST10		442		1767 1024		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-ST10-SD03	LON-ST10-SD03	ST10	441	443	93.4426-1	1773 1028	93.4426	#6-08/29/93 #1&2-08/28/93	Sediment

CT&E - Commercial Testing and Engineering Co.
F&B - Friedman and Bruya, Inc.

CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Diesel Tank (West of Hangar) (ST10)									
LON-ST10-SD04	LON-ST10-SD04	ST10		443		1048		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-ST10-SD05	LON-ST10-SD05	ST10		443		1046		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-ST10-SD06	LON-ST10-SD06	ST10		443		1052		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-ST10-SD07	LON-ST10-SD07	ST10		442		1026		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-ST10-2SD08	LON-ST10-2SD08	ST10		486		1768		#5-09/06/93	Sediment
LON-ST10-2SD09	LON-ST10-2SD09	ST10	484	486	93.4626-12	1770	93.4626	#5-09/06/93 #1&2-09/07/93	Sediment
LON-ST10-SW01	LON-ST10-SW01	ST10		444		1054 1056		#5-08/30/93 #1&2-08/28/93	Surface Water
LON-ST10-SW02	LON-ST10-SW02	ST10	441	444	93.4426-2	1058 1060	93.4426	#5-08/30/93 #1&2-08/28/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Inactive Landfill (LF11)									
LON-LF11-S01	LON-LF11-S01	LF11		422		946		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF11-S01	LON-LF11-S01DP	LF11		422		946		#6-08/28/93	Soil Duplicate
LON-LF11-S01	LON-LF11-S01S	LF11		422		946		#6-08/28/93	Soil Spike
LON-LF11-S01	LON-LF11-S01SD	LF11		422		946		#6-08/28/93	Soil Spike Duplicate
LON-LF11-S02	LON-LF11-S02	LF11		422		948		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF11-S03	LON-LF11-S03	LF11	415	422	93.4425-5	950	93.4425	#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF11-S04	LON-LF11-S04	LF11		422		952		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF11-S05	LON-LF11-S05	LF11		422		954		#6-08/28/93 #3-08/28/93 #4-08/29/93	Soil
LON-LF11-SD01	LON-LF11-SD01	LF11		422		956		#6-08/28/93 #3-08/28/93 #4-08/29/93	Sediment
LON-LF11-SD02	LON-LF11-SD02	LF11		422		958		#6-08/28/93 #3-08/28/93 #4-08/29/93	Sediment
LON-LF11-SD03	LON-LF11-SD03	LF11		422		960		#6-08/28/93 #3-08/28/93 #4-08/29/93	Sediment

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Inactive Landfill (LF11)									
LON-LF11-SW01	LON-LF11-SW01	LF11	413	421	93.4428-1	892 894	93.4428	#6-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-LF11-SW02	LON-LF11-SW02	LF11		421		896		#6-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water
LON-LF11-SW03	LON-LF11-SW03	LF11		421		902 904		#6-08/28/93 #3-08/28/93 #4-08/29/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Module Train (SS12)									
LON-SS12-S01	LON-SS12-S01	SS12		419		502		#5-08/25/93 1&2-08/25/93	Soil
LON-SS12-S02	LON-SS12-S02	SS12		419		506		#5-08/25/93 1&2-08/25/93	Soil
LON-SS12-S03	LON-SS12-S03	SS12	402	419	93.4355-1	504	93.4355	#5-08/25/93 1&2-08/25/93	Soil
LON-SS12-2S04	LON-SS12-2S04	SS12		486		1762		#5-09/06/93	Soil
LON-SS12-SD01	LON-SS12-SD01	SS12		419		516		#5-08/25/93 1&2-08/25/93	Sediment
LON-SS12-2SD02	LON-SS12-2SD02	SS12		486		1763		#5-09/06/93	Sediment
LON-SS12-SW01	LON-SS12-SW01	SS12	402	419	93.4355-2	512 514	93.4355	#5-08/27/93 #3&4-08/25/93	Surface Water
LON-SS12-SW02	LON-SS12-SW02	SS12		486		1761		#5-09/06/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Hangar Pad Area (SS13)									
LON-SS13-S01	LON-SS13-S01	SS13		446		1106		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Soil
LON-SS13-SD01	LON-SS13-SD01	SS13	440	446	93.4429-1	1104	93.4429	#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-SS13-SD02	LON-SS13-SD02	SS13		446		1108		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-SS13-SD03	LON-SS13-SD03	SS13		446		1102		#6-08/29/93 #1&2-08/28/93 #3&4-08/31/93	Sediment
LON-SS13-2SD04	LON-SS13-2SD04	SS13		486		1764		#5-09/06/93	Sediment
LON-SS13-2SD05	LON-SS13-2SD05	SS13		486		1765		#5-09/06/93	Sediment
LON-SS13-2SD06	LON-SS13-2SD06	SS13		486		1766		#5-09/06/93	Sediment
LON-SS13-SW01	LON-SS13-SW01	SS13	440	446	93.4429-2	1110 1112	93.4429	#5-08/30/93 1&2-08/28/93	Surface Water
LON-SS13-SW02	LON-SS13-SW02	SS13		446		1114 1116		#5-08/30/93 1&2-08/28/93	Surface Water
LON-SS13-SW03	LON-SS13-SW03	SS13		446		1118 1120 1020		#6-08/29/93 #5-08/30/93 #1&2-08/28/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
Background (BKGD)									
LON-BKGD-S01	LON-BKGD-S01	BKGD	380	416	93.4506-3	699	93.4506	#6-08/26/93 #1&2-08/28/93	Soil
LON-BKGD-SD01	LON-BKGD-SD01	BKGD	381	417	93.4504-6	734	93.4504	#6-08/26/93 #1&2-08/28/93	Sediment
LON-BKGD-SD01	LON-BKGD-SD01S	BKGD	381		93.4504-7		93.4504		Sediment Spike
LON-BKGD-SD01	LON-BKGD-SD01DP	BKGD	381		93.4504-8		93.4504		Sediment Duplicate
LON-BKGD-SD01	LON-BKGD-SD01SD	BKGD	381		93.4504-9		93.4504		Sediment Duplicate Spike
LON-BKGD-SD02	LON-BKGD-SD02	BKGD	380	416	93.4506-4	700	93.4506	#6-08/26/93 #1&2-08/28/93	Sediment
LON-BKGD-2SD03	LON-BKGD-2SD03	BKGD		487		1771		#5-09/06/93	Soil
LON-BKGD-SW01	LON-BKGD-SW01	BKGD	381	416	93.4504-1	706 707	93.4504	#5-08/27/93 #3&4-08/25/93	Surface Water
LON-BKGD-SW01	LON-BKGD-SW01S	BKGD	381		93.4504-3		93.4504		Surface Water Spike
LON-BKGD-SW01	LON-BKGD-SW01DP	BKGD	381		93.4504-2		93.4504		Surface Water Duplicate
LON-BKGD-SW02	LON-BKGD-SW02	BKGD	380	426	93.4506-2	666 672	93.4506	#5-08/27/93 #3&4-08/25/93	Surface Water
LON-BKGD-SW03	LON-BKGD-SW03	BKGD	381	416	93.4504-5	688 690	93.4504	#5-08/27/93 #3&4-08/25/93	Surface Water

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
QA/QC									
LON-AB01	LON-AB01	AB		421		906		#3-08/28/93 #4-08/29/93	Ambient Blank
LON-AB02	LON-AB02	AB		445		1094		#1&2-08/28/93	Ambient Blank
LON-EB01	LON-EB01	EB	382	418	93.4357-1	530 534	93.4357	#5-08/27/93 #3&4-08/25/93	Equipment Blank
LON-EB01	LON-EB01S	EB	382		93.4357-2		93.4357		Equipment Blank Spike
LON-EB01	LON-EB01DP	EB	382		93.4357-3		93.4357		Equipment Blank Duplicate
LON-EB01	LON-EB01SD	EB	382		93.4357-0		93.4357		Equipment Blank Spike Duplicate
LON-EB02	LON-EB02	EB	380	416	93.4506-1	694 696	93.4506	#5-08/27/93 #3&4-08/25/93	Equipment Blank
LON-EB03	LON-EB03	EB	415	420	93.4425-9	942 944	93.4425	#6-08/28/93 #3-08/28/93 #4-08/29/93	Equipment Blank
LON-EB04	LON-EB04	EB	441	445	93.4426-4	1098 1100	93.4426	#5-08/30/93 #1&2-08/28/93	Equipment Blank
LON-EB05	LON-EB05	EB	484	482	93.4626-6	1796 1798	93.4626	#6-09/09/93 #1&2-09/07/93	Equipment Blank
LON-EB08	LON-EB08	EB	484	487	93.4626-13	1774 1776	93.4626	#6-09/09/93 #1&2-09/07/93	Equipment Blank
LON-EB08	LON-EB08S	EB	484		93.4626-13		93.4626		Equipment Blank Spike
LON-EB08	LON-EB08SD	EB	484		93.4626-13		93.4626		Equipment Blank Spike Duplicate
LON-TB01	LON-TB01	TB	382	419	93.4357-8	528	93.4357	#3&4-08/25/93	Trip Blank

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CROSS-REFERENCE SAMPLE IDENTIFICATION (CONTINUED)

RI/FS TEXT AND TABLE SAMPLE IDENTIFICATION	FIELD CHAIN-OF-CUSTODY AND DATA VALIDATION SAMPLE IDENTIFICATION	SITE IDENTIFICATION	FIELD BATCH IDENTIFICATION		LABORATORY IDENTIFICATION		LABORATORY BATCH IDENTIFICATION		SAMPLE DESCRIPTION
			CT&E	F&B	CT&E	F&B	CT&E	F&B	
QA/QC									
LON-TB02	LON-TB02	TB	379	426	93.4505-3	684	93.4505	#3&4-08/25/93	Trip Blank
LON-TB03	LON-TB03	TB	415	421	93.4425-8	916	93.4425	#3-08/28/93 #4-08/29/93	Trip Blank
LON-TB04	LON-TB04	TB	441	445	93.4426-3	1092	93.4426	#1&2-08/28/93	Trip Blank
LON-W01	LON-W01	W	589	588	93.4696-2	1906	93.4696	#6-09/09/93	Waste Sample
LON-W01	LON-W01S	W	589		93.4696-3		93.4696		Waste Sample Spike
LON-W01	LON-W01DP	W	589		93.4696-4		93.4696		Waste Sample Duplicate
LON-W01	LON-W01SD	W	589		93.4696-5		93.4696		Waste Sample Spike Duplicate
LON-GAR-TB	LON-GAR-TB	GAR		419		526		#3&4-08/25/93	Trip Blank

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F&B - Friedman and Bruya, Inc.

3. ANALYTICAL DATA

ANALYTICAL DATA SHEETS FOR THE SEWAGE DISPOSAL AREA (SS01)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1979

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-1
Client Sample ID :LON-SS01-S04
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 10:30 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromobenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.287	D	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2-Chlorotoluene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
cis-1,2-Dichloroethene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
trans1,2-Dichloroethene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Isopropylbenzene	0.200	U	mg/Kg	EPA 8260		08/30	09/13	KWM
p-Isopropyltoluene	1.12	D	mg/Kg	EPA 8260		08/30	09/13	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-1
Client Sample ID :LON-SS01-S04
Matrix :SOIL

5633 B ST
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Napthalene	2.29	D	mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichlorofluoromethane	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	5.73	D	mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	4.32	D	mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.200	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.601	D	mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.990	D	mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethyl)ether	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chlorophenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,3-Dichlorobenzene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,4-Dichlorobenzene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzyl Alcohol	1.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2-Dichlorobenzene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylphenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroisopropyl)e	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Methylphenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
n-Nitroso-di-n-Propylam	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachloroethane	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Nitrobenzene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Isophorone	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Nitrophenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dimethylphenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzoic Acid	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethoxy)Meth	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dichlorophenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2,4-Trichlorobenzene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Naphthalene	0.485		mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloroaniline	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorobutadiene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloro-3-Methylphenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylnaphthalene	1.63		mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorocyclopentadie	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,6-Trichlorophenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,5-Trichlorophenol	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chloronaphthalene	0.230	U	mg/Kg	EPA 8270	09/09	10/03	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-1
Client Sample ID :LON-SS01-S04
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Dimethylphthalate	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Acenaphthylene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
2,6-Dinitrotoluene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
3-Nitroaniline	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Acenaphthene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
2,4-Dinitrophenol	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Nitrophenol	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Dibenzofuran	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
2,4-Dinitrotoluene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Diethylphthalate	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Chlorophenyl-Phenylet	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Fluorene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Nitroaniline	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
4,6-Dinitro-2-Methylphe	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
n-Nitrosodiphenylamine	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Bromophenyl-Phenyleth	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Hexachlorobenzene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Pentachlorophenol	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Phenanthrene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Anthracene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
di-n-Butylphthalate	1.00	U	mg/Kg	EPA 8270	09/09 10/03	MT
Fluoranthene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Pyrene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Butylbenzylphthalate	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
3,3-Dichlorobenzidine	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(a)Anthracene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Chrysene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
bis(2-Ethylhexyl)Phthal	1.00	U	mg/Kg	EPA 8270	09/09 10/03	MT
di-n-Octylphthalate	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(b)Fluoranthene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(k)Fluoranthene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(a)Pyrene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Indeno(1,2,3-cd)Pyrene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Dibenz(a,h)Anthracene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(g,h,i)Perylene	0.230	U	mg/Kg	EPA 8270	09/09 10/03	MT

* See Special Instructions Above
See Sample Remarks Above
= Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-4
Client Sample ID :LON-SS01-S15
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 12:10 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director: STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Qualifier/Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.400	U	mg/Kg	EPA 8260 (J) A.1		08/30	09/14	KWM
Bromobenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromochloromethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromodichloromethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromoform	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromomethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
n-Butylbenzene	3.51	D	mg/Kg	EPA 8260		08/30	09/14	KWM
sec-Butylbenzene	0.490	D	mg/Kg	EPA 8260		08/30	09/14	KWM
tert-Butylbenzne	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Carbon Tetrachloride	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chlorobenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chloroethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chloroform	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chloromethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
2-Chlorotoluene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
4-Chlorotoluene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Dibromochloromethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
12Dibromo3Chloropropane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dibromoethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Dibromomethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dichlorobenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,3-Dichlorobenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,4-Dichlorobenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Dichlorodifluoromethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,1-Dichloroethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dichloroethane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,1-Dichloroethene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
cis-1,2-Dichloroethene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
transi,2-Dichloroethene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dichloropropane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,3-Dichloropropane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
2,2-Dichloropropane	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,1-Dichloropropene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Ethylbenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Hexachlorobutadiene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Isopropylbenzene	0.400	U	mg/Kg	EPA 8260		08/30	09/14	KWM
p-Isopropyltoluene	0.931	D	mg/Kg	EPA 8260	A	08/30	09/14	KWM

5-1-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-4
Client Sample ID :LON-SS01-S15
Matrix :SOIL

Qualifiers/Comments

Methylene Chloride	0.400	U	mg/Kg	EPA 8260(J)-A-1	08/30	09/14	KWM
Napthalene	6.80	D	mg/Kg	EPA 8260	08/30	09/14	KWM
n-Propylbenzene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Styrene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1112-Tetrachloroethane	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1122-Tetrachloroethane	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Tetrachloroethene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Toluene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,3-Trichlorobenzene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,4-Trichlorobenzene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,1,1-Trichloroethane	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,1,2-Trichloroethane	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Trichloroethene	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Trichlorofluoromethane	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,3-Trichloropropane	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,4-Trimethylbenzene	7.82	D	mg/Kg	EPA 8260	08/30	09/14	KWM
1,3,5-Trimethylbenzene	6.89	D	mg/Kg	EPA 8260	08/30	09/14	KWM
Vinyl Chloride	0.400	U	mg/Kg	EPA 8260	08/30	09/14	KWM
p+m-Xylene	2.55	D	mg/Kg	EPA 8260	08/30	09/14	KWM
o-Xylene	2.02	D	mg/Kg	EPA 8260	08/30	09/14	KWM
Semivolatile Organics				EPA 8270			
Phenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethyl)ether	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chlorophenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,3-Dichlorobenzene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,4-Dichlorobenzene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzyl Alcohol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2-Dichlorobenzene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylphenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroisopropyl)e	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Methylphenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
n-Nitroso-di-n-Propylam	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachloroethane	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Nitrobenzene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Isophorone	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Nitrophenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dimethylphenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzoic Acid	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethoxy)Meth	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dichlorophenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2,4-Trichlorobenzene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Naphthalene	3.45		mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloroaniline	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorobutadiene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloro-3-Methylphenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylnaphthalene	6.82		mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorocyclopentadie	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,6-Trichlorophenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,5-Trichlorophenol	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chloronaphthalene	3.20	U	mg/Kg	EPA 8270	09/09	10/03	MTT

OD 6-1-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-4
Client Sample ID :LON-SS01-S15
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Dimethylphthalate	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Acenaphthylene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
2,6-Dinitrotoluene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
3-Nitroaniline	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Acenaphthene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
2,4-Dinitrophenol	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Nitrophenol	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Dibenzofuran	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
2,4-Dinitrotoluene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Diethylphthalate	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Chlorophenyl-Phenylet	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Fluorene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Nitroaniline	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4,6-Dinitro-2-Methylphe	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
n-Nitrosodiphenylamine	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Bromophenyl-Phenyleth	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Hexachlorobenzene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Pentachlorophenol	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Phenanthrene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Anthracene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
di-n-Butylphthalate	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Fluoranthene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Pyrene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	[redacted]
Butylbenzylphthalate	3.20	U	mg/Kg	EPA 8270	09/09 10/03	[redacted]
3,3-Dichlorobenzidine	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(a)Anthracene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Chrysene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
bis(2-Ethylhexyl)Phthal	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
di-n-Octylphthalate	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(b)Fluoranthene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(k)Fluoranthene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(a)Pyrene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Indeno(1,2,3-cd)Pyrene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Dibenz(a,h)Anthracene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(g,h,i)Perylene	3.20	U	mg/Kg	EPA 8270	09/09 10/03	MTT

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-2
Client Sample ID :LON-SS01-SD01
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 10:30 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics								
Benzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromobenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2-Chlorotoluene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
cis-1,2-Dichloroethene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
trans1,2-Dichloroethene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Isopropylbenzene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM
p-Isopropyltoluene	0.350	U	mg/Kg	EPA 8260		08/30	09/13	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-2
Client Sample ID :LON-SS01-SD01
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Napthalene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichlorofluoromethane	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	0.779	D	mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.350	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	[redacted]
bis(2-Chloroethyl)ether	2.90	U	mg/Kg	EPA 8270	09/09	10/03	[redacted]
2-Chlorophenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,3-Dichlorobenzene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,4-Dichlorobenzene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzyl Alcohol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2-Dichlorobenzene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylphenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroisopropyl)e	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Methylphenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
n-Nitroso-di-n-Propylam	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachloroethane	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Nitrobenzene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Isophorone	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Nitrophenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dimethylphenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzoic Acid	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethoxy)Meth	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dichlorophenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2,4-Trichlorobenzene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Naphthalene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloroaniline	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorobutadiene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloro-3-Methylphenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylnaphthalene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorocyclopentadie	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,6-Trichlorophenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,5-Trichlorophenol	2.90	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chloronaphthalene	2.90	U	mg/Kg	EPA 8270	09/09	10/03	[redacted]

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-2
Client Sample ID :LON-SS01-SD01
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Dimethylphthalate	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Acenaphthylene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
2,6-Dinitrotoluene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
3-Nitroaniline	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Acenaphthene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
2,4-Dinitrophenol	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Nitrophenol	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Dibenzofuran	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
2,4-Dinitrotoluene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Diethylphthalate	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Chlorophenyl-Phenylet	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Fluorene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Nitroaniline	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
4,6-Dinitro-2-Methylphe	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
n-Nitrosodiphenylamine	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
4-Bromophenyl-Phenyleth	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Hexachlorobenzene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Pentachlorophenol	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Phenanthrene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Anthracene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
di-n-Butylphthalate	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Fluoranthene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Pyrene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Butylbenzylphthalate	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
3,3-Dichlorobenzidine	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(a)Anthracene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Chrysene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
bis(2-Ethylhexyl)Phthal	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
di-n-Octylphthalate	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(b)Fluoranthene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(k)Fluoranthene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(a)Pyrene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Indeno(1,2,3-cd)Pyrene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Dibenz(a,h)Anthracene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT
Benzo(g,h,i)Perylene	2.90	U	mg/Kg	EPA 8270	09/09 10/03	MT

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-3
Client Sample ID :LON-SS01-SD04
Matrix :SOIL

5633 B St
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 10:30 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromochloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromodichloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromoform	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Bromomethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
n-Butylbenzene	0.372		mg/Kg	EPA 8260		08/30	09/14	KWM
sec-Butylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
tert-Butylbenzne	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Carbon Tetrachloride	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chloroethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chloroform	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Chloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
2-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
4-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Dibromochloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
12Dibromo3Chloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dibromoethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Dibromomethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,3-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,4-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Dichlorodifluoromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,1-Dichloroethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dichloroethane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,1-Dichloroethene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
cis-1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
trans1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,3-Dichloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
2,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
1,1-Dichloropropene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Ethylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Hexachlorobutadiene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
Isopropylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/14	KWM
p-Isopropyltoluene	0.037		mg/Kg	EPA 8260		08/30	09/14	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1974

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-3
Client Sample ID :LON-SS01-SD04
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Napthalene	0.187		mg/Kg	EPA 8260	08/30	09/14	KWM
n-Propylbenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Styrene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1112-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1122-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Tetrachloroethene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Toluene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,3-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,4-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,1,1-Trichloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,1,2-Trichloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Trichloroethene	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
Trichlorofluoromethane	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,3-Trichloropropane	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
1,2,4-Trimethylbenzene	0.313		mg/Kg	EPA 8260	08/30	09/14	KWM
1,3,5-Trimethylbenzene	0.774		mg/Kg	EPA 8260	08/30	09/14	KWM
Vinyl Chloride	0.030	U	mg/Kg	EPA 8260	08/30	09/14	KWM
p+m-Xylene	0.069		mg/Kg	EPA 8260	08/30	09/14	KWM
o-Xylene	0.082		mg/Kg	EPA 8260	08/30	09/14	KWM
Semivolatile Organics				EPA 8270			
Phenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethyl)ether	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chlorophenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,3-Dichlorobenzene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,4-Dichlorobenzene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzyl Alcohol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2-Dichlorobenzene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylphenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroisopropyl)e	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Methylphenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
n-Nitroso-di-n-Propylam	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachloroethane	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Nitrobenzene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Isophorone	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Nitrophenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dimethylphenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzoic Acid	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethoxy)Meth	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dichlorophenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2,4-Trichlorobenzene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Naphthalene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloroaniline	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorobutadiene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloro-3-Methylphenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylnaphthalene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorocyclopentadie	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,6-Trichlorophenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,5-Trichlorophenol	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chloronaphthalene	2.50	U	mg/Kg	EPA 8270	09/09	10/03	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-3
Client Sample ID :LON-SS01-SD04
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Dimethylphthalate	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Acenaphthylene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
2,6-Dinitrotoluene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
3-Nitroaniline	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Acenaphthene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
2,4-Dinitrophenol	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Nitrophenol	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Dibenzofuran	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
2,4-Dinitrotoluene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Diethylphthalate	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Chlorophenyl-Phenylet	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Fluorene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Nitroaniline	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4,6-Dinitro-2-Methylphe	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
n-Nitrosodiphenylamine	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
4-Bromophenyl-Phenyleth	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Hexachlorobenzene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Pentachlorophenol	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Phenanthrene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Anthracene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
di-n-Butylphthalate	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Fluoranthene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Pyrene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	[illegible]
Butylbenzylphthalate	2.50	U	mg/Kg	EPA 8270	09/09 10/03	[illegible]
3,3-Dichlorobenzidine	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(a)Anthracene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Chrysene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
bis(2-Ethylhexyl)Phthal	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
di-n-Octylphthalate	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(b)Fluoranthene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(k)Fluoranthene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(a)Pyrene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Indeno(1,2,3-cd)Pyrene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Dibenz(a,h)Anthracene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT
Benzo(g,h,i)Perylene	2.50	U	mg/Kg	EPA 8270	09/09 10/03	MTT

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-1
Client Sample ID :LON-SS01-SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70221
Report Completed :09/28/93
Collected :08/26/93 @ 10:15 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Hamstead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., P.M.J., AND M. LEMMA.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0066		mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0077		mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-1
Client Sample ID :LON-SS01-SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Semivolatile Organics				EPA 8270		
Phenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
bis(2-Chloroethyl)ether	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2-Chlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
1,3-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
1,4-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Benzyl Alcohol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
1,2-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2-Methylphenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
bis(2-Chloroisopropyl)e	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
4-Methylphenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
n-Nitroso-di-n-Propylam	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Hexachloroethane	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Nitrobenzene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Isophorone	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2-Nitrophenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2,4-Dimethylphenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Benzoic Acid	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
bis(2-Chloroethoxy)Meth	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2,4-Dichlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
1,2,4-Trichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Naphthalene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
4-Chloroaniline	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Hexachlorobutadiene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
4-Chloro-3-Methylphenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2-Methylnaphthalene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
Hexachlorocyclopentadie	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2,4,6-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2,4,5-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT
2-Chloronaphthalene	0.010	U	mg/L	EPA 8270	09/02 09/24	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-1
Client Sample ID :LON-SS01-SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Dimethylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Acenaphthylene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
2,6-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
3-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Acenaphthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
2,4-Dinitrophenol	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Nitrophenol	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Dibenzofuran	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
2,4-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Diethylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Chlorophenyl-Phenylet	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Fluorene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4,6-Dinitro-2-Methylphe	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
n-Nitrosodiphenylamine	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Bromophenyl-Phenyleth	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Hexachlorobenzene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Pentachlorophenol	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Phenanthrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
di-n-Butylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
[illegible]luoranthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
[illegible]rene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Butylbenzylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
3,3-Dichlorobenzidine	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(a)Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Chrysene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
bis(2-Ethylhexyl)Phthal	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
di-n-Octylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(b)Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(k)Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(a)Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Indeno(1,2,3-cd)Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Dibenz(a,h)Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(g,h,i)Perylene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	64.2-64.9		mg/L	EPA 9060		09/10	CMR
...TOC Concentration	64.5		mg/L	EPA 9060		09/10	CMR
Residue, Non-Filterable	28		mg/L	EPA 160.2		09/02 09/02	GPP
Residue,Filterable(TDS)	1050		mg/L	EPA 160.1	500	09/08 09/10	RJK

* See Special Instructions Above
\# See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-2
Client Sample ID :LON-SS01-SW04
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70221
Report Completed :09/28/93
Collected :08/26/93 @ 14:20 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., P.M.J., AND M. LEMMA.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0034		mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-2
Client Sample ID :LON-SS01-SW04
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Semivolatile Organics				EPA 8270			
enol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
s(2-Chloroethyl)ether	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2-Chlorophenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
1,3-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
1,4-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Benzyl Alcohol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
1,2-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2-Methylphenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
bis(2-Chloroisopropyl)e	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
4-Methylphenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
n-Nitroso-di-n-Propylam	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Hexachloroethane	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Nitrobenzene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Isophorone	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2-Nitrophenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2,4-Dimethylphenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Benzoic Acid	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
bis(2-Chloroethoxy)Meth	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2,4-Dichlorophenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
1,2,4-Trichlorobenzene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Naphthalene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
4-Chloroaniline	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Hexachlorobutadiene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
4-Chloro-3-Methylphenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2-Methylnaphthalene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
Hexachlorocyclopentadie	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2,4,6-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
2,4,5-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT
-Chloronaphthalene	0.010	U	mg/L	EPA 8270	09/02	09/24	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-2
Client Sample ID :LON-SS01-SW04
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Dimethylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
A enaphthylene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
.troaniline	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Acenaphthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
2,4-Dinitrophenol	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Nitrophenol	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Dibenzofuran	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
2,4-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Diethylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Chlorophenyl-Phenylet	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Fluorene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4,6-Dinitro-2-Methylphe	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
n-Nitrosodiphenylamine	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
4-Bromophenyl-Phenyleth	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Hexachlorobenzene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Pentachlorophenol	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Phenanthrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
di-n-Butylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MT
Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MT
Butylbenzylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
3,3-Dichlorobenzidine	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(a)Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Chrysene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
bis(2-Ethylhexyl)Phthal	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
di-n-Octylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(b)Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(k)Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(a)Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Indeno(1,2,3-cd)Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Dibenz(a,h)Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
Benzo(g,h,i)Perylene	0.010	U	mg/L	EPA 8270		09/02 09/24	MTT
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	49.1-49.9		mg/L	EPA 9060		09/13	CMR
...TOC Concentration	49.6		mg/L	EPA 9060		09/13	CMR
esidue, Non-Filterable	19		mg/L	EPA 160.2		09/02 09/02	GPP
Residue,Filterable(TDS)	1030		mg/L	EPA 160.1	500	09/08 09/10	RJK

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-3
Client Sample ID :LON-SS01-SW06
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70221
Report Completed :09/28/93
Collected :08/26/93 @ 10:15 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., P.M.J., AND M. LEMMA.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,2-Dichloroethane	0.0023		mg/L	EPA 8260		09/04	09/04	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
transi,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/04	09/04	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1952

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-3
Client Sample ID :LON-SS01-SW06
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
Napthalene	0.0011		mg/L	EPA 8260	09/04 09/04	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
1,3,5-Trimethylbenzene	0.0014		mg/L	EPA 8260	09/04 09/04	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/04 09/04	KWM
p+m-Xylene	0.0011		mg/L	EPA 8260	09/04 09/04	KWM
o-Xylene	0.0011		mg/L	EPA 8260	09/04 09/04	KWM
Semivolatile Organics				EPA 8270		
Phenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
bis(2-Chloroethyl)ether	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2-Chlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
1,3-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
1,4-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Benzyl Alcohol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
1,2-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2-Methylphenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
bis(2-Chloroisopropyl)e	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
4-Methylphenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
n-Nitroso-di-n-Propylam	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Hexachloroethane	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Nitrobenzene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Isophorone	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2-Nitrophenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2,4-Dimethylphenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Benzoic Acid	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
bis(2-Chloroethoxy)Meth	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2,4-Dichlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
1,2,4-Trichlorobenzene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Naphthalene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
4-Chloroaniline	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Hexachlorobutadiene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
4-Chloro-3-Methylphenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2-Methylnaphthalene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
Hexachlorocyclopentadie	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2,4,6-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2,4,5-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM
2-Chloronaphthalene	0.010	U	mg/L	EPA 8270	09/02 09/26	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4430-3
Client Sample ID :LON-SS01-SW06
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Dimethylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Acenaphthylene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
2,6-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
3-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Acenaphthene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
2,4-Dinitrophenol	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
4-Nitrophenol	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Dibenzofuran	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
2,4-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Diethylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
4-Chlorophenyl-Phenylet	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Fluorene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
4-Nitroaniline	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
4,6-Dinitro-2-Methylphe	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
n-Nitrosodiphenylamine	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
4-Bromophenyl-Phenyleth	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Hexachlorobenzene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Pentachlorophenol	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Phenanthrene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
di-n-Butylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Butylbenzylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
3,3-Dichlorobenzidine	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Benzo(a)Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Chrysene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
bis(2-Ethylhexyl)Phthal	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
di-n-Octylphthalate	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Benzo(b)Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Benzo(k)Fluoranthene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Benzo(a)Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Indeno(1,2,3-cd)Pyrene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Dibenz(a,h)Anthracene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
Benzo(g,h,i)Perylene	0.010	U	mg/L	EPA 8270		09/02 09/26	KWM
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	68.7-69.7		mg/L	EPA 9060		09/13	CMR
...TOC Concentration	69.2		mg/L	EPA 9060		09/13	CMR
Residue, Non-Filterable	32		mg/L	EPA 160.2		09/02 09/02	GPP
Residue,Filterable(TDS)	1090		mg/L	EPA 160.1	500	09/08 09/10	RJK

* See Special Instructions Above
\# See Sample Remarks Above
U Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-SS01-S01	LON-SS01-S02-3	LON-SS01-S03
F&BI Number	852	854	858
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	97	97	95
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<50	<50
Lube Oil	<100	<100	<100
Diesel	<50	~~<70~~ <50	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	96	74	91
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
alpha-BHC	<0.01	<0.01	<0.01
beta-BHC	<0.01	<0.01	<0.01
gamma-BHC	<0.01	<0.01	<0.01
delta-BHC	<0.01	<0.01	<0.01
Heptachlor	<0.01	<0.01	<0.01
Aldrin	<0.01	<0.01	<0.01
Heptachlor Epoxide	<0.01	<0.01	<0.01
Endosulfan I	<0.01	<0.01	<0.01
DDE	<0.01	<0.01	<0.01
Dieldrin	<0.01	<0.01	<0.01
Endrin	<0.01	<0.01	<0.01
Endosulfan II	<0.01	<0.01	<0.01
DDD	<0.01	<0.01	<0.01
Endrin Aldehyde	<0.01	<0.01	<0.01
DDT	<0.01	<0.01	<0.01
Endosulfan Sulfate	<0.01	<0.01	<0.01
Endrin Ketone	<0.01	<0.01	<0.01
Methoxy Chlor	<0.1	<0.1	<0.1
Chlordane	<0.5	<0.5	<0.5
Dibutyl Chlorendate	97	95	95
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	~~<0.02~~ <0.2 J	<0.02	<0.02
TCE			
Toluene	~~<0.02~~ <0.2 J	<0.02	<0.02
PCE			
Ethylbenzene	~~<0.02~~ <0.2 J	<0.02	<0.02
Xylenes	~~<0.04~~ <0.4 J	<0.04	<0.04
Gasoline	~~<2~~ <20 J	<2 J	<2 J
Spike level			
BFB	82	98	103

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not validated

not validated

not validated

ICF ID	LON-SS01-S03	LON-SS01-S03	LON-SS01-S03
F&BI Number	858 dup	858 ms	858 msd
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50		
Lube Oil	<100		
Diesel	<50	87	96
Spike Level		500	500
Unknown Semi-volatile			
Pentacosane	91	106	106
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221	<0.1		
PCB 1232	<0.1		
PCB 1016	<0.1		
PCB 1242	<0.1		
PCB 1248	<0.1		
PCB 1254	<0.1	96	97
PCB 1260	<0.1		
Spike Level		10	10
Dibutyl Chlorendate	91	106	106
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			
CCl4			
TCA			
Benzene			
TCE			
Toluene			
PCE			
Ethylbenzene			
Xylenes			
Gasoline			
Spike level			
BFB			

ICF ID	LON-SS01-S04	LON-SS01-S05	LON-SS01-S06
F&BI Number	860	862	864
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	88	73	62
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<50	<80
Lube Oil	<100	<140	<150
Diesel	2500 J	<70	~~<70~~ <80
Spike Level			
Unknown Semi-volatile			
Pentacosane	103	90	90
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
alpha-BHC	<0.01	<0.01	<0.01
beta-BHC	<0.01	<0.01	<0.01
gamma-BHC	<0.01	<0.01	<0.01
delta-BHC	<0.01	<0.01	<0.01
Heptachlor	<0.01	<0.01	<0.01
Aldrin	<0.01	<0.01	<0.01
Heptachlor Epoxide	<0.01	<0.01	<0.01
Endosulfan I	<0.01	<0.01	<0.01
DDE	<0.01	<0.01	<0.01
Dieldrin	<0.01	<0.01	<0.01
Endrin	<0.01	<0.01	<0.01
Endosulfan II	<0.01	<0.01	<0.01
DDD	<0.01	<0.01	<0.01
Endrin Aldehyde	<0.01	<0.01	<0.01
DDT	<0.01	<0.01	<0.01
Endosulfan Sulfate	<0.01	<0.01	<0.01
Endrin Ketone	<0.01	<0.01	<0.01
Methoxy Chlor	<0.1	<0.1	<0.1
Chlordane	<0.5	<0.5	<0.5
Dibutyl Chlorendate	103	90	90
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	~~<0.02~~ <0.2 J	<0.02	<0.02
TCE			
Toluene	~~<0.02~~ <0.2 J	<0.02	1.4 J
PCE			
Ethylbenzene	~~<0.02~~ <0.2 J	<0.02	<0.4
Xylenes	~~<0.04~~ <0.4 J	<0.04	<0.8
Gasoline	<109 J	<2 J	270 J
Spike level			
BFB	105	113	140

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not Validated

not Validated

not Validated

ICF ID	LON-SS01-S07-1	LON-SS01-S08-2.5	LON-SS01-S09
F&BI Number	866	868	870
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	87	89	95
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<60	<60	<50
Lube Oil	<110	<110	<100
Diesel	5000J	16000J	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	101	99	86
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
alpha-BHC	<0.01	<0.01	<0.01
beta-BHC	<0.01	<0.01	<0.01
gamma-BHC	<0.01	<0.01	<0.01
delta-BHC	<0.01	<0.01	<0.01
Heptachlor	<0.01	<0.01	<0.01
Aldrin	<0.01	<0.01	<0.01
Heptachlor Epoxide	<0.01	<0.01	<0.01
Endosulfan I	<0.01	<0.01	<0.01
DDE	<0.01	<0.01	<0.01
Dieldrin	<0.01	<0.01	<0.01
Endrin	<0.01	<0.01	<0.01
Endosulfan II	<0.01	<0.01	<0.01
DDD	<0.01	<0.01	<0.01
Endrin Aldehyde	<0.01	<0.01	<0.01
DDT	<0.01	<0.01	<0.01
Endosulfan Sulfate	<0.01	<0.01	<0.01
Endrin Ketone	<0.01	<0.01	<0.01
Methoxy Chlor	<0.1	<0.1	<0.1
Chlordane	<0.5	<0.5	<0.5
Dibutyl Chlorendate	101	99	86
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	<0.2	<0.2	<0.02
TCE			
Toluene	<0.2	<0.2	<0.02
PCE			
Ethylbenzene	<0.4	<0.2	<0.02
Xylenes	<0.8	<0.8	<0.04
Gasoline	100 diesel J	80 diesel J	<2 J
Spike level			
BFB	137	140	111

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not validated

not validated

not validated

Compiled by SAM 10-5-95

ICF ID	LON-SS01-S10-4	LON-SS01-S10-4	LON-SS01-S10-4
F&BI Number	872	872 dup	872 ms
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	96		
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<50	
Lube Oil	<100	<100	
Diesel	<50	<50	87
Spike Level			500
Unknown Semi-volatile			
Pentacosane	86	113	113
Sequence Date		#6-08/28/93	#6-08/28/93
PCB 1221		<0.1	
PCB 1232		<0.1	
PCB 1016		<0.1	
PCB 1242		<0.1	
PCB 1248		<0.1	
PCB 1254		<0.1	105
PCB 1260		<0.1	
Spike Level			10
Dibutyl Chlorendate		96	113
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	<0.02	<0.02	74
TCE			
Toluene	<0.02	<0.02	93
PCE			
Ethylbenzene	<0.02	<0.02 J	119
Xylenes	<0.04	<0.04 J	114
Gasoline	<2 J	<2 J	
Spike level			1
BFB	102	114	131

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ICF ID	LON-SS01-S10-4	LON-SS01-S11	LON-SS01-S12-2.5
F&BI Number	872 msd	874	876
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight		96	95
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4		<50	<50
Lube Oil		<100	<100
Diesel	85	3000 J	2300 J
Spike Level	500		
Unknown Semi-volatile			
Pentacosane	124	98	100
Sequence Date	#6-08/28/93		
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254	96		
PCB 1260			
Spike Level	10		
Dibutyl Chlorendate	125		
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	106	<0.02	<0.02
TCE			
Toluene	98	<0.2	10 J
PCE			
Ethylbenzene	104	0.7 J	7 J
Xylenes	98	10 J	32 J
Gasoline		80 J	1000 diesel J
Spike level	1		
BFB	105	110	92

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ICF ID	LON-SS01-S13-01	LON-SS01-S14-03	LON-SS01-S15
F&BI Number	878	880	882
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	74	100	58
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<70	<50	<70
Lube Oil	<140	<100	<170
Diesel	1500J	<50	6300J
Spike Level			
Unknown Semi-volatile			
Pentacosane	138	92	110
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	<0.02	<0.02	<0.04
TCE			
Toluene	<0.02	<0.02	<0.04
PCE			
Ethylbenzene	<0.02	<0.02	<0.04
Xylenes	<0.04	<0.04	<0.08
Gasoline	580 diesel J	<2 J	<4
Spike level			
BFB	117	118	129

ICF ID	LON-SS01-2S16-1	LON-SS01-2S17-1	LON-SS01-2S18-1
F&BI Number	1780	1781	1782
Sample Type	soil	soil	soil
Date Received	9/4/93	9/4/93	9/4/93
% Dry Weight	90	75	91
Sequence Date	#5-09/08/93	#5-09/08/93	#5-09/08/93
Leaded Gas			
JP-4	<60	<70	<60
Lube Oil	<120	<140	<120
Diesel	<60	<70	<60
Spike Level			
Unknown Semi-volatile			
Pentacosane	83	81	68
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			
CCl4			
TCA			
Benzene			
TCE			
Toluene			
PCE			
Ethylbenzene			
Xylenes			
Gasoline			
Spike level			
BFB			

ICF ID	LON-SS01-2S19	LON-SS01-2S20	LON-SS01-2S21-1.5
F&BI Number	1783	1784	1786
Sample Type	soil	soil	soil
Date Received	9/4/93	9/4/93	9/4/93
% Dry Weight	76	83	65
Sequence Date	#5-09/08/93	#5-09/08/93	#5-09/08/93
Leaded Gas			
JP-4	<70	<60	<70
Lube Oil	<140	<120	<140
Diesel	~~7500~~ 6600 J	<60	~~≤70~~ <80
Spike Level			
Unknown Semi-volatile			
Pentacosane	82	85	73
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			#1&2-09/07/93
CCl4			<0.3
TCA			<0.3
Benzene			<0.03
TCE			<0.06
Toluene			<0.03
PCE			<0.2
Ethylbenzene			<0.05
Xylenes			<0.1
Gasoline			<2 J
Spike level			
BFB			92

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ICF ID	LON-SS01-SD01	LON-SS01-SD02	LON-SS01-SD03
F&BI Number	884	886	888
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	81	85	77
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<60	<60	<60
Lube Oil	<120	<120	<120
Diesel	~~<60~~ 120J	180 J	<280
Spike Level			
Unknown Semi-volatile			
Pentacosane	97	99	96
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/31/93		#3&4-08/31/93
CCl4			
TCA			
Benzene	<0.4	<0.4	<0.4
TCE			
Toluene	<0.4	<0.4	<0.4
PCE			
Ethylbenzene	<0.4	<0.4	<0.4
Xylenes	<0.8	<0.8	<0.8
Gasoline	100 diesel J	180 diesel	<2
Spike level			
BFB	143	140	126

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Elevated PQL's due to carry over interference

ICF ID	LON-SS01-SD04	LON-SS01-SW01	LON-SS01-SW01
F&BI Number	890	917	918
Sample Type	soil	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	82		
Sequence Date	#6-08/28/93	#5-08/28/93	
Leaded Gas			
JP-4	<60	<200	
Lube Oil	<120	<2000	
Diesel	~~<60~~ 270 J	~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane	98	50	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/29/93		#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	<0.4		2
TCE			
Toluene	<0.4		<1
PCE			
Ethylbenzene	<0.4		<1
Xylenes	<0.8		<2
Gasoline	<2		<100 J
Spike level			
BFB	116		91

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ICF ID	LON-SS01-SW02	LON-SS01-SW02	LON-SS01-SW03
F&BI Number	921	922	925
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date	#5-08/28/93		#5-08/28/93
Leaded Gas			
JP-4	<200		<200
Lube Oil	<2000		<2000
Diesel	~~<200~~ <1000		~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	50		50
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#3-08/28/93, #4-08/29/93	
CCl4			
TCA			
Benzene		<1	
TCE			
Toluene		<1	
PCE			
Ethylbenzene		<1	
Xylenes		<2	
Gasoline		<100 J	
Spike level			
BFB		88	

Compiled by SAM 10-5-95

ICF ID	LON-SS01-SW03	LON-SS01-SW04	LON-SS01-SW04
F&BI Number	928	929	932
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date		#5-08/28/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		50	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93		#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene	<1		1
TCE			
Toluene	<1		1
PCE			
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	<100 J		<100 J
Spike level			
BFB	90		72

compiled by SAM 10-5-95

ICF ID	LON-SS01-SW05	LON-SS01-SW06	LON-SS01-SW06
F&BI Number	933	937	940
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date	#5-08/28/93	#5-08/28/93	
Leaded Gas			
JP-4	<200	<200	
Lube Oil	<2000	<2000	
Diesel	~~<200~~ <1000	~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane	60	50	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene			1
TCE			
Toluene			1
PCE			
Ethylbenzene			1 J
Xylenes			2 J
Gasoline			<100 J
Spike level			
BFB			88

compiled by SAM 10-5-95

ANALYTICAL DATA SHEETS FOR THE DRUM STORAGE AREA (ST02)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-6
Client Sample ID :LON-ST02-S02
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 15:40 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Qualifier Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.020	U	mg/Kg	EPA 8260 (J)-A.1		08/30	09/13	KWM
Bromobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
cis-1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
transi,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Isopropylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
p-Isopropyltoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM

3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-6
Client Sample ID :LON-ST02-S02
Matrix :SOIL

Qualifier/Comments

Methylene Chloride	0.020	U	mg/Kg	EPA 8260(J)-A.1	08/30	09/13	KWM
Napthalene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichlorofluoromethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	
bis(2-Chloroethyl)ether	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chlorophenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,3-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,4-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzyl Alcohol	1.01 ~~2.00~~	~~U~~ e	mg/Kg	EPA 8270(U) E.1	09/09	10/03	MTT
1,2-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroisopropyl)e	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
n-Nitroso-di-n-Propylam	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachloroethane	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Nitrobenzene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Isophorone	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Nitrophenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dimethylphenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzoic Acid	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethoxy)Meth	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dichlorophenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2,4-Trichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Naphthalene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloroaniline	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorobutadiene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloro-3-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylnaphthalene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorocyclopentadie	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,6-Trichlorophenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,5-Trichlorophenol	0.220	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chloronaphthalene	0.220	U	mg/Kg	EPA 8270	09/09	10/03	

3-15-95 Combined by JS

09
3-10-94

Computer SMM 11-16-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-6
Client Sample ID :LON-ST02-S02
Matrix :SOIL

Qualifiers/Comments

		Qualifier	Comments				
2-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Dimethylphthalate	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Acenaphthylene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
2,6-Dinitrotoluene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
3-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Acenaphthene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
2,4-Dinitrophenol	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
4-Nitrophenol	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Dibenzofuran	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
2,4-Dinitrotoluene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Diethylphthalate	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
4-Chlorophenyl-Phenylet	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Fluorene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
4-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
4,6-Dinitro-2-Methylphe	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
n-Nitrosodiphenylamine	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
4-Bromophenyl-Phenyleth	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Hexachlorobenzene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Pentachlorophenol	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Phenanthrene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Anthracene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
di-n-Butylphthalate	0.548 ~~1.00~~	~~U~~	mg/Kg	EPA 8270	(a)-E.1	09/09 10/03	MTT
Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Pyrene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Butylbenzylphthalate	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
3,3-Dichlorobenzidine	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Benzo(a)Anthracene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Chrysene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
bis(2-Ethylhexyl)Phthal	0.247 ~~1.00~~	~~U~~	mg/Kg	EPA 8270	(a)-E.1	09/09 10/03	MTT
di-n-Octylphthalate	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Benzo(b)Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Benzo(k)Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Benzo(a)Pyrene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Indeno(1,2,3-cd)Pyrene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Dibenz(a,h)Anthracene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Benzo(g,h,i)Perylene	0.220	U	mg/Kg	EPA 8270		09/09 10/03	MTT
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	3000		mg/Kg	EPA 6010		08/31 09/02	DFL
Antimony	54	U	mg/Kg	EPA 6010		08/31 09/02	DFL
Arsenic	54	U	mg/Kg	EPA 6010		08/31 09/02	DFL
Barium	92		mg/Kg	EPA 6010		08/31 09/02	DFL
Beryllium	2.7	U	mg/Kg	EPA 6010		08/31 09/02	DFL
Cadmium	2.7	U	mg/Kg	EPA 6010		08/31 09/02	DFL
Calcium	38000	J	mg/Kg J.2	EPA 6010		08/31 09/02	DFL
Chromium	3.0		mg/Kg	EPA 6010		08/31 09/02	DFL
Cobalt	5.4	U	mg/Kg	EPA 6010		08/31 09/02	DFL
Copper	27	U	mg/Kg	EPA 6010		08/31 09/02	DFL
Iron	10000		mg/Kg	EPA 6010		08/31 09/02	DFL

original changes by D.L. 2/16/94

CAP 3-15-94

compiled SMF 11.16.94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-6
Client Sample ID :LON-ST02-S02
Matrix :SOIL

		Qualifier				
Lead	54	U	mg/Kg	EPA 6010	08/31 09/02	DFL
Magnesium	22000	J	mg/Kg J, 2	EPA 6010	08/31 09/02	DFL
Manganese	110		mg/Kg	EPA 6010	08/31 09/02	DFL
Molybdenum	2.7	U	mg/Kg	EPA 6010	08/31 09/02	DFL
Nickel	5.1		mg/Kg	EPA 6010	08/31 09/02	DFL
Potassium	460		mg/Kg	EPA 6010	08/31 09/06	DLG
Selenium	54	U	mg/Kg	EPA 6010	08/31 09/06	DLG
Silver	27	U R	mg/Kg J: 1	EPA 6010	08/31 09/06	DLG
Sodium	280		mg/Kg	EPA 6010	08/31 09/06	DLG
Thallium	0.27	U	mg/Kg	EPA 7841	08/30 09/01	KAW
Vanadium	22		mg/Kg	EPA 6010	08/31 09/02	DFL
Zinc	13		mg/Kg	EPA 6010	08/31 09/02	DFL

All chgs s.c 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-1
Client Sample ID :LON ST02 SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70207
Report Completed :09/30/93
Collected :08/26/93 @ 15:20 hr
Received :08/29/93 @ 12:45 hr
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., AND S.S.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0019		mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-1
Client Sample ID :LON ST02 SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Napthalene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Styrene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Toluene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MC
Semivolatile Organics				EPA 8270		
Phenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
bis(2-Chloroethyl)ether	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2-Chlorophenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
1,3-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
1,4-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Benzyl Alcohol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
1,2-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2-Methylphenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
bis(2-Chloroisopropyl)e	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
4-Methylphenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
n-Nitroso-di-n-Propylam	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Hexachloroethane	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Nitrobenzene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Isophorone	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2-Nitrophenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2,4-Dimethylphenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Benzoic Acid	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
bis(2-Chloroethoxy)Meth	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2,4-Dichlorophenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
1,2,4-Trichlorobenzene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Naphthalene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
4-Chloroaniline	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Hexachlorobutadiene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
4-Chloro-3-Methylphenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2-Methylnaphthalene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
Hexachlorocyclopentadie	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2,4,6-Trichlorophenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2,4,5-Trichlorophenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MT
2-Chloronaphthalene	0.030	U	mg/L	EPA 8270	09/02 09/25	MT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-1
Client Sample ID :LON ST02 SW01
Matrix :WATER

2-Nitroaniline	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Dimethylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthylene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
2,6-Dinitrotoluene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
3-Nitroaniline	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrophenol	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitrophenol	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenzofuran	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrotoluene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Diethylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Chlorophenyl-Phenylet	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluorene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitroaniline	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4,6-Dinitro-2-Methylphe	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
n-Nitrosodiphenylamine	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Bromophenyl-Phenyleth	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Hexachlorobenzene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Pentachlorophenol	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Phenanthrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Anthracene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Butylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluoranthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Pyrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Butylbenzylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
3,3-Dichlorobenzidine	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Anthracene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Chrysene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
bis(2-Ethylhexyl)Phthal	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Octylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(b)Fluoranthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(k)Fluoranthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Pyrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Indeno(1,2,3-cd)Pyrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenz(a,h)Anthracene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(g,h,i)Perylene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.16		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	57		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	0.38		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-1
Client Sample ID :LON ST02 SW01
Matrix :WATER

		Qualifier	Comment					
Magnesium	48		mg/L	EPA 6010		09/07	09/10	DLC
Manganese	0.055		mg/L	EPA 6010		09/07	09/10	DLC
Molybdenum	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Nickel	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Potassium	5.0	U	mg/L	EPA 6010		09/07	09/10	DLC
Selenium	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Silver	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Sodium	110	J	mg/L J.1	EPA 6010		09/07	09/10	DLC
Thallium	0.005	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Zinc	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Dissolved Metals Analys	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Antimony	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Arsenic	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Barium	0.16		mg/L	EPA 6010		09/07	09/10	DLC
Beryllium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Cadmium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Calcium	56		mg/L	EPA 6010		09/07	09/10	DLC
Chromium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Cobalt	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Copper	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Iron	0.18		mg/L	EPA 6010		09/07	09/10	DLC
Lead	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Magnesium	50	J	mg/L J.1	EPA 6010		09/07	09/10	DLC
Manganese	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Molybdenum	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Nickel	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Potassium	5.0	U	mg/L	EPA 6010		09/07	09/10	DLC
Selenium	0.10	U	mg/L	EPA 6010		09/07	09/10	DLC
Silver	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Sodium	130		mg/L	EPA 6010		09/07	09/10	DLC
Thallium	0.005	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
Zinc	0.050	U	mg/L	EPA 6010		09/07	09/10	DLC
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	28.9-30.8		mg/L	EPA 9060			09/08	CMR
...TOC Concentration	29.7		mg/L	EPA 9060			09/08	CMR
Residue, Non-Filterable	8.5		mg/L	EPA 160.2		09/02	09/02	GPF
Residue,Filterable(TDS)	858		mg/L	EPA 160.1	500	09/08	09/10	RJK

All clear S.L 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyze
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-3
Client Sample ID :LON ST02 SW01 DUPLICATE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70207
Report Completed :09/30/93
Collected :08/26/93 @ 15:20 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., AND S.S.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Total Metals Analysis ICP Screen, ICF	---			- EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Barium	0.17		mg/L	EPA 6010		09/07	09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Calcium	58		mg/L	EPA 6010		09/07	09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Iron	0.37		mg/L	EPA 6010		09/07	09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Magnesium	50		mg/L	EPA 6010		09/07	09/10	DLG
Manganese	0.054		mg/L	EPA 6010		09/07	09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07	09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Sodium	120		mg/L	EPA 6010		09/07	09/10	DLG
Thallium	0.0050	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Dissolved Metals Analys ICP Screen, ICF	---			- EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Barium	0.16		mg/L	EPA 6010		09/07	09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Calcium	56		mg/L	EPA 6010		09/07	09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-3
Client Sample ID :LON ST02 SW01 DUPLICATE
Matrix :WATER

Iron	0.18		mg/L	EPA 6010	09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010	09/07 09/10	DLG
Magnesium	49		mg/L	EPA 6010	09/07 09/10	DLG
Manganese	0.050	U	mg/L	EPA 6010	09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010	09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010	09/07 09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010	09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010	09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010	09/07 09/10	DLG
Sodium	120		mg/L	EPA 6010	09/07 09/10	DLG
Thallium	0.0050	U	mg/L	EPA 7841	09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010	09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010	09/07 09/10	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4423-2
Client Sample ID :LON ST02 SW01 SPIKE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70207
Report Completed :09/30/93
Collected :08/26/93 @ 15:20 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director: STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., AND S.S.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.020		mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chlorobenzene	0.020		mg/L	EPA 8260		09/03	09/03	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0023		mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.019		mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-2
Client Sample ID :LON ST02 SW01 SPIKE
Matrix :WATER

5633 B S[redacted]
ANCHORAGE, AK [redacted]
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Toluene	0.021		mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Trichloroethene	0.019		mg/L	EPA 8260	09/03	09/03	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Semivolatile Organics				EPA 8270			
Phenol	0.158		mg/L	EPA 8270	09/02	09/25	MTT
bis(2-Chloroethyl)ether	0.030	U	mg/L	EPA 8270	09/02	09/25	[redacted]
2-Chlorophenol	0.173		mg/L	EPA 8270	09/02	09/25	[redacted]
1,3-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
1,4-Dichlorobenzene	0.179		mg/L	EPA 8270	09/02	09/25	MTT
Benzyl Alcohol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
1,2-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Methylphenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
bis(2-Chloroisopropyl)e	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
4-Methylphenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
n-Nitroso-di-n-Propylam	0.232		mg/L	EPA 8270	09/02	09/25	MTT
Hexachloroethane	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Nitrobenzene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Isophorone	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Nitrophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4-Dimethylphenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Benzoic Acid	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
bis(2-Chloroethoxy)Meth	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4-Dichlorophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
1,2,4-Trichlorobenzene	0.203		mg/L	EPA 8270	09/02	09/25	MTT
Naphthalene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
4-Chloroaniline	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Hexachlorobutadiene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
4-Chloro-3-Methylphenol	0.229		mg/L	EPA 8270	09/02	09/25	MTT
2-Methylnaphthalene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Hexachlorocyclopentadie	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4,6-Trichlorophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4,5-Trichlorophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Chloronaphthalene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-2
Client Sample ID :LON ST02 SW01 SPIKE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

2-Nitroaniline	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Dimethylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthylene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
2,6-Dinitrotoluene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
3-Nitroaniline	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthene	0.213		mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrophenol	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitrophenol	0.098		mg/L	EPA 8270		09/02 09/25	MTT
Dibenzofuran	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrotoluene	0.258		mg/L	EPA 8270		09/02 09/25	MTT
Diethylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Chlorophenyl-Phenylet	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluorene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitroaniline	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4,6-Dinitro-2-Methylphe	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
n-Nitrosodiphenylamine	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Bromophenyl-Phenyleth	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Hexachlorobenzene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Pentachlorophenol	0.049		mg/L	EPA 8270		09/02 09/25	MTT
Phenanthrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Anthracene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Butylphthalate	0.178		mg/L	EPA 8270		09/02 09/25	MTT
Fluoranthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Pyrene	0.231		mg/L	EPA 8270		09/02 09/25	MTT
Butylbenzylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
3,3-Dichlorobenzidine	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Anthracene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Chrysene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
bis(2-Ethylhexyl)Phthal	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Octylphthalate	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(b)Fluoranthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(k)Fluoranthene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Pyrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Indeno(1,2,3-cd)Pyrene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenz(a,h)Anthracene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(g,h,i)Perylene	0.030	U	mg/L	EPA 8270		09/02 09/25	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.91		mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.82		mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.93		mg/L	EPA 6010		09/07 09/10	DLG
Barium	1.12		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.37		mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.46		mg/L	EPA 6010		09/07 09/10	DLG
Calcium	67		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.94		mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.91		mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.89		mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.29		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.87		mg/L	EPA 6010		09/07 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-2
Client Sample ID :LON ST02 SW01 SPIKE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562 2343
FAX (907) 561 5301

Magnesium	59	mg/L	EPA 6010		09/07 09/10	DLC
Manganese	0.99	mg/L	EPA 6010		09/07 09/10	DLC
Molybdenum	0.97	mg/L	EPA 6010		09/07 09/10	DLC
Nickel	0.91	mg/L	EPA 6010		09/07 09/10	DLC
Potassium	9.9	mg/L	EPA 6010		09/07 09/10	DLC
Selenium	0.88	mg/L	EPA 6010		09/07 09/10	DLC
Silver	0.16	mg/L	EPA 6010		09/07 09/10	DLC
Sodium	130	mg/L	EPA 6010		09/07 09/10	DLC
Thallium	0.015	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.92	mg/L	EPA 6010		09/07 09/10	DLC
Zinc	0.92	mg/L	EPA 6010		09/07 09/10	DLC
Dissolved Metals Analys	---		-			
ICP Screen, ICF			EPA	n/a		
Aluminum	0.86	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.81	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.93	mg/L	EPA 6010		09/07 09/10	DLG
Barium	1.13	mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.38	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.47	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	66	mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.96	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.93	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.89	mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.11	mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.90	mg/L	EPA 6010		09/07 09/10	DLG
Magnesium	58	mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.97	mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.95	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.93	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	9.3	mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.89	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.16	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	120	mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.017	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.93	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.93	mg/L	EPA 6010		09/07 09/10	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-4
Client Sample ID :LON ST02 SW01 SPIKE DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70207
Report Completed :09/30/93
Collected :08/26/93 @ 15:20 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director: STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., AND S.S.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.021		mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chlorobenzene	0.021		mg/L	EPA 8260		09/03	09/03	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0023		mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.019		mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-4
Client Sample ID :LON ST02 SW01 SPIKE DUPLICATE
Matrix :WATER

5633 B S
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Toluene	0.021		mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Trichloroethene	0.019		mg/L	EPA 8260	09/03	09/03	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Semivolatile Organics				EPA 8270			
Phenol	0.176		mg/L	EPA 8270	09/02	09/25	MTT
bis(2-Chloroethyl)ether	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Chlorophenol	0.216		mg/L	EPA 8270	09/02	09/25	MTT
1,3-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
1,4-Dichlorobenzene	0.167		mg/L	EPA 8270	09/02	09/25	MTT
Benzyl Alcohol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
1,2-Dichlorobenzene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Methylphenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
bis(2-Chloroisopropyl)e	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
4-Methylphenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
n-Nitroso-di-n-Propylam	0.269		mg/L	EPA 8270	09/02	09/25	MTT
Hexachloroethane	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Nitrobenzene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Isophorone	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Nitrophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4-Dimethylphenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Benzoic Acid	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
bis(2-Chloroethoxy)Meth	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4-Dichlorophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
1,2,4-Trichlorobenzene	0.187		mg/L	EPA 8270	09/02	09/25	MTT
Naphthalene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
4-Chloroaniline	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Hexachlorobutadiene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
4-Chloro-3-Methylphenol	0.243		mg/L	EPA 8270	09/02	09/25	MTT
2-Methylnaphthalene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
Hexachlorocyclopentadie	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4,6-Trichlorophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2,4,5-Trichlorophenol	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT
2-Chloronaphthalene	0.030	U	mg/L	EPA 8270	09/02	09/25	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4423-4
Client Sample ID :LON ST02 SW01 SPIKE DUPLICATE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

2-Nitroaniline	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Dimethylphthalate	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Acenaphthylene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
2,6-Dinitrotoluene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
3-Nitroaniline	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Acenaphthene	0.208		mg/L	EPA 8270	09/02 09/25	MTT
2,4-Dinitrophenol	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Nitrophenol	0.144		mg/L	EPA 8270	09/02 09/25	MTT
Dibenzofuran	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4-Dinitrotoluene	0.262		mg/L	EPA 8270	09/02 09/25	MTT
Diethylphthalate	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Chlorophenyl-Phenylet	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Fluorene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Nitroaniline	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
4,6-Dinitro-2-Methylphe	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
n-Nitrosodiphenylamine	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Bromophenyl-Phenyleth	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachlorobenzene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Pentachlorophenol	0.113		mg/L	EPA 8270	09/02 09/25	MTT
Phenanthrene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Anthracene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
di-n-Butylphthalate	0.190		mg/L	EPA 8270	09/02 09/25	MTT
Fluoranthene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Pyrene	0.241		mg/L	EPA 8270	09/02 09/25	MTT
Butylbenzylphthalate	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
3,3-Dichlorobenzidine	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzo(a)Anthracene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Chrysene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
bis(2-Ethylhexyl)Phthal	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
di-n-Octylphthalate	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzo(b)Fluoranthene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzo(k)Fluoranthene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzo(a)Pyrene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Indeno(1,2,3-cd)Pyrene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Dibenz(a,h)Anthracene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzo(g,h,i)Perylene	0.030	U	mg/L	EPA 8270	09/02 09/25	MTT

See Special Instructions Above
See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-ST02-S01-3	LON-ST02-S02	LON-ST02-S03
F&BI Number	964	962	1032
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	83	86	23
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/29/93
Leaded Gas			
JP-4	<60	<60	<220
Lube Oil	1300	<120	<430
Diesel	1000J	<60	<220
Spike Level			
Unknown Semi-volatile			
Pentacosane	104	87	87
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/29/93
PCB 1221	<0.1	<0.1	<0.4
PCB 1232	<0.1	<0.1	<0.4
PCB 1016	<0.1	<0.1	<0.4
PCB 1242	<0.1	<0.1	<0.4
PCB 1248	<0.1	<0.1	<0.4
PCB 1254	<0.1	<0.1	<0.4
PCB 1260	<0.1	<0.1	<0.4
Spike Level			
Dibutyl Chlorendate	104	88	87
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	2-08/28/93, #3&4-08/31
CCl4	<0.03	<0.02	~~<0.02~~ <0.08
TCA	<0.03	<0.02	~~<0.02~~ <0.08
Benzene	<0.03	<0.02	~~<0.2~~ <0.8
TCE	<0.03	<0.02	~~<0.02~~ <0.08
Toluene	0.08 J	<0.02	~~<0.2~~ <0.8
PCE	<0.02	<0.02	~~<0.02~~ <0.08
Ethylbenzene	~~1.7~~ 0.9J	<0.02	~~<0.2~~ <0.8
Xylenes	6.3 J	<0.04	~~<0.4~~ <0.16
Gasoline	72 J	<2 J	90 diesel J
Spike level			
BFB	133	103	107

compiled by sgm 10-5-95

ICF ID	LON-ST02-S04	LON-ST02-S05	LON-ST02-S06
F&BI Number	1036	1038	1040
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	36	91	98
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<140	<50	<50
Lube Oil	<280	<110	<100
Diesel	<140	<50	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	96	78	78
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
PCB 1221	<0.3	<0.1	<0.1
PCB 1232	<0.3	<0.1	<0.1
PCB 1016	<0.3	<0.1	<0.1
PCB 1242	<0.3	<0.1	<0.1
PCB 1248	<0.3	<0.1	<0.1
PCB 1254	<0.3	<0.1	<0.1
PCB 1260	<0.3	<0.1	<0.1
Spike Level			
Dibutyl Chlorendate	96	84	78
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31
CCl4	~~<0.02~~ <0.06	<0.02	<0.02
TCA	~~<0.02~~	<0.02	<0.02
Benzene	~~<0.02~~	<0.02	<0.02
TCE	~~<0.02~~	<0.02	<0.02
Toluene	~~<0.02~~	<0.02	<0.02
PCE	~~<0.02~~	<0.02	<0.02
Ethylbenzene	~~<0.02~~	<0.02	<0.02
Xylenes	~~<0.04~~ <0.11	<0.04	<0.04
Gasoline	~~<2~~ <6 J	<2 J	<2 J
Spike level			
BFB	116	110	119

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ICF ID	LON-ST02-S06	LON-ST02-S06	LON-ST02-S06
F&BI Number	1040 dup	1040 ms	1040 msd
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<50		
Lube Oil	<100		
Diesel	<50	92	90
Spike Level			
Unknown Semi-volatile			
Pentacosane	88	102	105
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
PCB 1221	<0.1		
PCB 1232	<0.1		
PCB 1016	<0.1		
PCB 1242	<0.1		
PCB 1248	<0.1		
PCB 1254	<0.1	105	107
PCB 1260	<0.1		
Spike Level		5	5
Dibutyl Chlorendate	84	102	105
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4	<0.02	91	98
TCA	<0.02	76	76
Benzene	<0.02	97	104
TCE	<0.02	110	127
Toluene	<0.02	97	102
PCE	<0.02	95	101
Ethylbenzene	<0.02	103	100
Xylenes	<0.04	100	102
Gasoline	<2		
Spike level		1	1
BFB	113	114	110

ICF ID	LON-ST02-S07	LON-ST02-S08	LON-ST02-2509-1.5
F&BI Number	1042	1044	1800
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	9/4/93
% Dry Weight	53	75	19
Sequence Date	#6-08/29/93	#6-08/29/93	#5-09/08/93
Leaded Gas			
JP-4	<90	<70	<270
Lube Oil	<190	<130	<530
Diesel	160 J	130 J	<270
Spike Level			
Unknown Semi-volatile			
Pentacosane	107	109	100
Sequence Date	#6-08/29/93	#6-08/29/93	
PCB 1221	<0.2	<0.1	
PCB 1232	<0.2	<0.1	
PCB 1016	<0.2	<0.1	
PCB 1242	<0.2	<0.1	
PCB 1248	<0.2	<0.1	
PCB 1254	<0.2	<0.1	
PCB 1260	<0.2	<0.1	
Spike Level			
Dibutyl Chlorendate	107	109	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#1&2-08/28/93, #3&4-08/31	#1&2-09/07/93
CCl4	<0.04	<0.02	<1
TCA	<0.04	<0.02	<1
Benzene	0.1 J	0.05 J	<0.1
TCE	<0.04	<0.02	<0.2
Toluene	<0.04	0.4 J	<0.1
PCE	<0.04	2 J	<0.5
Ethylbenzene	<0.04	0.08 J	<0.2
Xylenes	<0.08	0.7 J	<0.3
Gasoline	<4 J	8 J	6 diesel possible carry over J
Spike level			
BFB	115	127	88

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ICF ID	LON-ST02-2S10-1	LON-ST02-2S11-1	LON-ST02-SW01
F&BI Number	1802	1804	972
Sample Type	soil	soil	water
Date Received	9/4/93	9/4/93	8/27/93
% Dry Weight	67	75	
Sequence Date	#5-09/08/93	#5-09/08/93	#5-08/28/93
Leaded Gas			
JP-4	<100	<100	<200
Lube Oil	<200	<200	<2000
Diesel	~~<100~~ <70	~~<100~~ <70	~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	103	82	85
Sequence Date			#5-08/28/93
PCB 1221			<2
PCB 1232			<2
PCB 1016			<2
PCB 1242			<2
PCB 1248			<2
PCB 1254			<2
PCB 1260			<2
Spike Level			
Dibutyl Chlorendate			85
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-09/07/93	#1&2-09/07/93	
CCl4	<0.3	<0.3	
TCA	<0.3	<0.3	
Benzene	<0.03	<0.03	
TCE	<0.06	<0.05	
Toluene	<0.03	<0.03	
PCE	<0.2	<0.1	
Ethylbenzene	<0.05	<0.05	
Xylenes	<0.1	<1 J	
Gasoline	<2 J	15 diesel J	
Spike level			
BFB	93	90	

compiled by SJM 10-5-95

ICF ID	LON-ST02-SW01	LON-ST02-SW02	LON-ST02-SW02
F&BI Number	978	1062	1064
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date		#5-08/30/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000J	
Spike Level			
Unknown Semi-volatile			
Pentacosane		50 outside recovery limits	
Sequence Date		#5-08/30/1993	
PCB 1221		<2 J	
PCB 1232		<2	
PCB 1016		<2	
PCB 1242		<2	
PCB 1248		<2	
PCB 1254		<2	
PCB 1260		<2	
Spike Level			
Dibutyl Chlorendate		50 outside recovery limits	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93		#1&2-08/28/93
CCl4	<1		<1
TCA	<1		<1
Benzene	<1		<1
TCE	<1		<1
Toluene	<1		<1
PCE	<1		<1
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	<100 J		<50 J
Spike level			
BFB	67		113

compiled by SAM 10-5-95

ICF ID	LON-ST02-SW03	LON-ST02-SW03	LON-ST02-SW04
F&BI Number	1068	1070	1072
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date	#5-08/30/93		#5-08/30/93
Leaded Gas			
JP-4	<200		<200
Lube Oil	<2000		<2000
Diesel	~~<200~~ <1000 J		~~<200~~ <1000 J
Spike Level			
Unknown Semi-volatile			
Pentacosane	39 outside recovery limits		29 outside recovery limits
Sequence Date	#5-08/30/1993		#5-08/30/1993
PCB 1221	<2 J		<2 J
PCB 1232	<2		<2
PCB 1016	<2		<2
PCB 1242	<2		<2
PCB 1248	<2		<2
PCB 1254	<2		<2
PCB 1260	<2		<2
Spike Level			
Dibutyl Chlorendate	39 outside recovery limits		29 outside recovery limits
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#1&2-08/28/93	
CCl4		<1	
TCA		<1	
Benzene		<1	
TCE		<1	
Toluene		<1	
PCE		<1	
Ethylbenzene		<1	
Xylenes		<2	
Gasoline		<50 J	
Spike level			
BFB		114	

Compiled by SAM 10-5-95

ICF ID	LON-ST02-SW04	LON-ST02-SW05	LON-ST02-SW05
F&BI Number	1074	1077	1078
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date		#5-08/30/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		78	
Sequence Date			#5-08/30/1993
PCB 1221			<2
PCB 1232			<2
PCB 1016			<2
PCB 1242			<2
PCB 1248			<2
PCB 1254			<2
PCB 1260			<2
Spike Level			
Dibutyl Chlorendate			78
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93		
CCl4	<1		
TCA	<1		
Benzene	<1		
TCE	<1		
Toluene	<1		
PCE	<1		
Ethylbenzene	<1		
Xylenes	<2		
Gasoline	<50 J		
Spike level			
BFB	116		

Compiled by [illegible] 10-5-95

ICF ID	LON-ST02-SW05	LON-ST02-SW06	LON-ST02-SW06
F&BI Number	1080	1082	1084
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date		#5-08/30/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000 J	
Spike Level			
Unknown Semi-volatile			
Pentacosane		43 outside recovery limits	
Sequence Date		#5-08/30/1993	
PCB 1221		<2 J	
PCB 1232		<2	
PCB 1016		<2	
PCB 1242		<2	
PCB 1248		<2	
PCB 1254		<2	
PCB 1260		<2	
Spike Level			
Dibutyl Chlorendate		43 outside recovery limits	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93		#1&2-08/28/93
CCl4	<1		<1
TCA	<1		<1
Benzene	<1		500 J
TCE	<1		<1
Toluene	<1		1500 J
PCE	<1		<1
Ethylbenzene	<1		38
Xylenes	<2		1600 J
Gasoline	<50 J		<50 J
Spike level			
BFB	121		108

Compiled by SAM 10-5-95

ANALYTICAL DATA SHEETS FOR THE BEACH DIESEL TANKS (SS03)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1978

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-4
Client Sample ID :LON-SS03-S01
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 17:15 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA. THE SPIKE AND SPIKE DUP FOR THIS SAMPLE WENT DRY IN THE SOXLET. THE SAMPLE WAS REPREPPED WITH A SPIKE AND SPIKE DUP FROM ANOTHER WORK ORDER THE NEXT DAY BUT IT WAS OVER HOLD TIME. THE DATA REPORTED IS FROM THE RUN THAT MET HOLD TIMES.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Bromobenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Bromochloromethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Bromodichloromethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Bromoform	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Bromomethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
n-Butylbenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
sec-Butylbenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
tert-Butylbenzne	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Carbon Tetrachloride	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Chlorobenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Chloroethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Chloroform	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Chloromethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
2-Chlorotoluene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
4-Chlorotoluene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Dibromochloromethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
12Dibromo3Chloropropane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,2-Dibromoethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Dibromomethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,2-Dichlorobenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,3-Dichlorobenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,4-Dichlorobenzene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
Dichlorodifluoromethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,1-Dichloroethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,2-Dichloroethane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,1-Dichloroethene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
cis-1,2-Dichloroethene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
trans1,2-Dichloroethene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,2-Dichloropropane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,3-Dichloropropane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
2,2-Dichloropropane	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM
1,1-Dichloropropene	0.0020	U	mg/Kg	EPA 8260		08/26	09/04	SGM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

Chemlab Ref.# :93.4357-4
Client Sample ID :LON-SS03-S01
Matrix :SOIL

Qualifier/Comments

Ethylbenzene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Hexachlorobutadiene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Isopropylbenzene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
p-Isopropyltoluene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Methylene Chloride	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Napthalene	0.039		mg/Kg	EPA 8260	08/26	09/04	SGM
n-Propylbenzene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Styrene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1112-Tetrachloroethane	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1122-Tetrachloroethane	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Tetrachloroethene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Toluene	0.033		mg/Kg	EPA 8260	08/26	09/04	SGM
1,2,3-Trichlorobenzene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1,2,4-Trichlorobenzene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1,1,1-Trichloroethane	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1,1,2-Trichloroethane	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Trichloroethene	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
Trichlorofluoromethane	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1,2,3-Trichloropropane	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
1,2,4-Trimethylbenzene	0.174		mg/Kg	EPA 8260	08/26	09/04	SGM
1,3,5-Trimethylbenzene	0.071		mg/Kg	EPA 8260	08/26	09/04	SGM
Vinyl Chloride	0.0020	U	mg/Kg	EPA 8260	08/26	09/04	SGM
p+m-Xylene	0.085		mg/Kg	EPA 8260	08/26	09/04	SGM
o-Xylene	0.031		mg/Kg	EPA 8260	08/26	09/04	SGM
Semivolatile Organics				EPA 8270			
Phenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
bis(2-Chloroethyl)ether	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2-Chlorophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
1,3-Dichlorobenzene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
1,4-Dichlorobenzene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzyl Alcohol	0.367 ~~1.000~~	U	mg/Kg	EPA 8270 (u) - E.1	09/07	10/08	GV
1,2-Dichlorobenzene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2-Methylphenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
bis(2-Chloroisopropyl)e	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Methylphenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
n-Nitroso-di-n-Propylam	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Hexachloroethane	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Nitrobenzene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Isophorone	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2-Nitrophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,4-Dimethylphenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzoic Acid	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
bis(2-Chloroethoxy)Meth	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,4-Dichlorophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
1,2,4-Trichlorobenzene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Naphthalene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Chloroaniline	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Hexachlorobutadiene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Chloro-3-Methylphenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2-Methylnaphthalene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV

3-9-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-4
Client Sample ID :LON-SS03-S01
Matrix :SOIL

Analyst Comments

Hexachlorocyclopentadie	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,4,6-Trichlorophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,4,5-Trichlorophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2-Chloronaphthalene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2-Nitroaniline	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Dimethylphthalate	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Acenaphthylene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,6-Dinitrotoluene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
3-Nitroaniline	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Acenaphthene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,4-Dinitrophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Nitrophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Dibenzofuran	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
2,4-Dinitrotoluene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Diethylphthalate	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Chlorophenyl-Phenylet	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Fluorene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Nitroaniline	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4,6-Dinitro-2-Methylphe	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
n-Nitrosodiphenylamine	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
4-Bromophenyl-Phenyleth	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Hexachlorobenzene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Pentachlorophenol	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Phenanthrene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Anthracene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
di-n-Butylphthalate	0.552 ~~1.00 U~~		mg/Kg	EPA 8270 (u)-E.1	09/07	10/08	GV
Fluoranthene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Pyrene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Butylbenzylphthalate	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
3,3-Dichlorobenzidine	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzo(a)Anthracene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Chrysene	0.323 ~~1.00 U~~		mg/Kg	EPA 8270 (u)-E.1	09/07	10/08	GV
bis(2-Ethylhexyl)Phthal	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
di-n-Octylphthalate	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzo(b)Fluoranthene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzo(k)Fluoranthene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzo(a)Pyrene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Indeno(1,2,3-cd)Pyrene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Dibenz(a,h)Anthracene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV
Benzo(g,h,i)Perylene	0.210	U	mg/Kg	EPA 8270	09/07	10/08	GV

CP
3-9-94

See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
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REPORT of ANALYSIS

Chemlab Ref.# :93.4357-7
Client Sample ID :LON-SS03-SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 16:45 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Hoestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA.

Budgfici/Commits

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichloroethane	0.0029		mg/L	EPA 8260	(u)- 6.1	09/02	09/02	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
transi,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM

ADP 5-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL (907) 562-2343
FAX (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-7
Client Sample ID :LON-SS03-SW01
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Toluene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/02	09/02	MCM
Semivolatile Organics				EPA 8270			
Phenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
bis(2-Chloroethyl)ether	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2-Chlorophenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
1,3-Dichlorobenzene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
1,4-Dichlorobenzene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Benzyl Alcohol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
1,2-Dichlorobenzene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2-Methylphenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
bis(2-Chloroisopropyl)e	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
4-Methylphenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
n-Nitroso-di-n-Propylam	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Hexachloroethane	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Nitrobenzene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Isophorone	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2-Nitrophenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2,4-Dimethylphenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Benzoic Acid	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
bis(2-Chloroethoxy)Meth	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2,4-Dichlorophenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
1,2,4-Trichlorobenzene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Naphthalene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
4-Chloroaniline	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Hexachlorobutadiene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
4-Chloro-3-Methylphenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2-Methylnaphthalene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
Hexachlorocyclopentadie	0.013	U	mg/L	EPA 8270 (J)-L.1	08/31	09/10	MTT
2,4,6-Trichlorophenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2,4,5-Trichlorophenol	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT
2-Chloronaphthalene	0.013	U	mg/L	EPA 8270	08/31	09/10	MTT

3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1974

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-7
Client Sample ID :LON-SS03-SW01
Matrix :WATER

Qualifier Comments

2-Nitroaniline	0.013	U	mg/L	EPA 8270 (J) -2.1		08/31	09/10	MTT
Dimethylphthalate	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Acenaphthylene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
2,6-Dinitrotoluene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
3-Nitroaniline	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Acenaphthene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
2,4-Dinitrophenol	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
4-Nitrophenol	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Dibenzofuran	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
2,4-Dinitrotoluene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Diethylphthalate	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
4-Chlorophenyl-Phenylet	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Fluorene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
4-Nitroaniline	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
4,6-Dinitro-2-Methylphe	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
n-Nitrosodiphenylamine	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
4-Bromophenyl-Phenyleth	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Hexachlorobenzene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Pentachlorophenol	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Phenanthrene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Anthracene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
di-n-Butylphthalate	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Fluoranthene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Pyrene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Butylbenzylphthalate	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
3,3-Dichlorobenzidine	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Benzo(a)Anthracene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Chrysene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
bis(2-Ethylhexyl)Phthal	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
di-n-Octylphthalate	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Benzo(b)Fluoranthene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Benzo(k)Fluoranthene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Benzo(a)Pyrene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Indeno(1,2,3-cd)Pyrene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Dibenz(a,h)Anthracene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
Benzo(g,h,i)Perylene	0.013	U	mg/L	EPA 8270		08/31	09/10	MTT
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	43.1-44.2		mg/L	EPA 9060			09/10	CMR
...TOC Concentration	43.6		mg/L	EPA 9060			09/10	CMR
Residue, Non-Filterable	18		mg/L	EPA 160.2		08/30	08/31	GPP
Residue,Filterable(TDS)	1430		mg/L	EPA 160.1	500	09/01	09/02	RJK

3-10-94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-SS03-S01	LON-SS03-S02	LON-SS03-S03
F&BI Number	536	538	540
Sample Type	soil	soil	soil
Date Received	8/25/93	8/25/93	8/25/93
% Dry Weight	96	89	43
Sequence Date	#5-08/25/93	#5-08/25/93	#5-08/25/93
Leaded Gas			
JP-4	<50	<60	<100
Lube Oil	<100	<120	<200
Diesel	<50	<60	~~<100~~ <120
Spike Level			
Unknown Semi-volatile			
Pentacosane	127	124	125
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/25/93	#1&2-08/25/93	#1&2-08/25/93
CCl4			
TCA			
Benzene	<0.02	<0.02	<0.04
TCE			
Toluene	<0.02	<0.02	<0.04
PCE			
Ethylbenzene	<0.02	<0.02	<0.04
Xylenes	<0.04	<0.04	<0.08
Gasoline	<2 J	<2 J	<4 J
Spike level			
BFB	89	93	95

Compiled by SAM 10-05-95

ICF ID	LON-SS03-S04	LON-SS03-S05	SS#3 LON-~~2T0~~2-2S06
F&BI Number	542	544	1806
Sample Type	soil	soil	soil
Date Received	8/25/93	8/25/93	9/4/93
% Dry Weight	48	82	92
Sequence Date	#5-08/25/93	#5-08/25/93	#5-09/08/93
Leaded Gas			
JP-4	<100	<60	<100
Lube Oil	<200	<120	<200
Diesel	<100	<60	~~40000~~ 15,200J
Spike Level			
Unknown Semi-volatile			
Pentacosane	116	122	140
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/25/93	#1&2-08/25/93	#1&2-09/07/93
CCl4			<0.1
TCA			<0.1
Benzene	<0.05	<0.02	<0.02
TCE			<0.1
Toluene	<0.05	<0.02	<0.02
PCE			0.5
Ethylbenzene	<0.05	<0.02	0.3
Xylenes	<0.1	<0.04	1.5 J
Gasoline	<5 J	<2 J	150 diesel J
Spike level			
BFB	84	86	75

Compiled by SAM 10-5-93

ICF ID	LON-2~~T02~~-2S07 (5563)	LON-SS03-SD01	LON-SS03-SD02
F&BI Number	1808	546	548
Sample Type	soil	soil	soil
Date Received	9/4/93	8/25/93	8/25/93
% Dry Weight	93	88	88
Sequence Date	#5-09/08/93	#5-08/25/93	#5-08/25/93
Leaded Gas			
JP-4	<100	<100	<60
Lube Oil	<200	<200	<120
Diesel	~~45000~~ 13,700 J	~~<100~~ <60	<60
Spike Level			
Unknown Semi-volatile			
Pentacosane	150	112	114
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-09/07/93	#1&2-08/25/93	#1&2-08/25/93
CCl4	<0.1		
TCA	<0.1		
Benzene	<0.02	<0.02	<0.02
TCE	<0.1		
Toluene	<0.02	<0.02	<0.02
PCE	0.5		
Ethylbenzene	0.2	<0.02	<0.02
Xylenes	0.6 J	<0.04	<0.04
Gasoline	13 diesel J	<2 J	<2 J
Spike level			
BFB	113	89	85

compiled by SAM 10-5-95

ICF ID	LON-SS03-SW01	LON-SS03-SW02	LON-SS03-SW02
F&BI Number	549	550	552
Sample Type	water	water	water
Date Received	8/25/93	8/25/93	8/25/93
% Dry Weight			
Sequence Date	#5-08/27/93	#5-08/27/93	
Leaded Gas			
JP-4	<1000	<1000	
Lube Oil	<2000	<2000	
Diesel	<1000	<1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane	97	113	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			#3&4-08/25/93
CCl4			
TCA			
Benzene			<1
TCE			
Toluene			<1
PCE			
Ethylbenzene			<1
Xylenes			<2
Gasoline			~~<50~~ 100J
Spike level			
BFB			84

ICF ID	LON-SS03-SW02
F&BI Number	554
Sample Type	water
Date Received	8/25/93
% Dry Weight	
Sequence Date	
Leaded Gas	
JP-4	
Lube Oil	
Diesel	
Spike Level	
Unknown Semi-volatile	
Pentacosane	
Sequence Date	
PCB 1221	
PCB 1232	
PCB 1016	
PCB 1242	
PCB 1248	
PCB 1254	
PCB 1260	
Spike Level	
Dibutyl Chlorendate	
Sequence Date	
alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
Heptachlor	
Aldrin	
Heptachlor Epoxide	
Endosulfan I	
DDE	
Dieldrin	
Endrin	
Endosulfan II	
DDD	
Endrin Aldehyde	
DDT	
Endosulfan Sulfate	
Endrin Ketone	
Methoxy Chlor	
Chlordane	
Dibutyl Chlorendate	
Spike Level	
Vol Sequence	#3&4-08/25/93
CCl4	
TCA	
Benzene	<1
TCE	
Toluene	<1
PCE	
Ethylbenzene	<1
Xylenes	<2
Gasoline	<50 100J
Spike level	
BFB	94

ANALYTICAL DATA SHEETS FOR THE POL STORAGE (SS04)

COMMERCIAL TESTING & ENGINEERING CO.

ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-6
Client Sample ID :LON-SS04-S01
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 15:05 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M. THE EPA 8270 ANALYSIS WAS NOT PERFORMED BECAUSE THE HOLDING TIME WAS EXCEEDED.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromochloromethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromodichloromethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromoform	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromomethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
n-Butylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
sec-Butylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
tert-Butylbenzne	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Carbon Tetrachloride	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chlorobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chloroform	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chloromethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
2-Chlorotoluene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
4-Chlorotoluene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Dibromochloromethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
12Dibromo3Chloropropane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dibromoethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Dibromomethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dichlorobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,3-Dichlorobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,4-Dichlorobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Dichlorodifluoromethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1-Dichloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dichloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1-Dichloroethene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
cis-1,2-Dichloroethene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
trans1,2-Dichloroethene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dichloropropane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,3-Dichloropropane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
2,2-Dichloropropane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1-Dichloropropene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Ethylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Hexachlorobutadiene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Isopropylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-6
Client Sample ID :LON-SS04-S01
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

p-Isopropyltoluene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Methylene Chloride	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Napthalene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
n-Propylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Styrene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1112-Tetrachloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1122-Tetrachloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Tetrachloroethene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Toluene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2,3-Trichlorobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2,4-Trichlorobenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1,1-Trichloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1,2-Trichloroethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Trichloroethene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Trichlorofluoromethane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2,3-Trichloropropane	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2,4-Trimethylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,3,5-Trimethylbenzene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Vinyl Chloride	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
p+m-Xylene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
o-Xylene	0.100	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Sample Preparation	---			EPA 3050 Digest				
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	2400		mg/Kg	EPA 6010		08/31	09/02	DFL
Antimony	51	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Arsenic	51	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Barium	72		mg/Kg	EPA 6010		08/31	09/02	DFL
Beryllium	2.6	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Cadmium	2.6	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Calcium	45000		mg/Kg	EPA 6010		08/31	09/02	DFL
Chromium	3.4		mg/Kg	EPA 6010		08/31	09/02	DFL
Cobalt	5.1	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Copper	3.2		mg/Kg	EPA 6010		08/31	09/02	DFL
Iron	11000		mg/Kg	EPA 6010		08/31	09/02	DFL
Lead	5.1	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Magnesium	25000		mg/Kg	EPA 6010		08/31	09/02	DFL
Manganese	130		mg/Kg	EPA 6010		08/31	09/02	DFL
Molybdenum	2.6	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Nickel	5.1		mg/Kg	EPA 6010		08/31	09/02	DFL
Potassium	420		mg/Kg	EPA 6010		08/31	09/06	DLG
Selenium	51	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Silver	26	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Sodium	140		mg/Kg	EPA 6010		08/31	09/06	DFL
Thallium	0.26	U	mg/Kg	EPA 7841		08/30	09/01	KAW
Vanadium	25		mg/Kg	EPA 6010		08/31	09/02	DLG
Zinc	12		mg/Kg	EPA 6010		08/31	09/02	DLG
TOC, Soil	8510		mg/Kg	PSEP Ref Lab				

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-3
Client Sample ID :LON-SS04-SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 14:41 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director: STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M. J = INDICATES AN ANALYTE WHOSE CONCENTRATION IS ESTIMATED BECAUSE THE ANALYTE'S CONCENTRATION IS DETECTED BELOW THE CALIBRATION RANGE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.562	D	mg/L	EPA 8260		09/08	09/08	KWM
Bromobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromochloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromodichloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromoform	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromomethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
n-Butylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
sec-Butylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
tert-Butylbenzne	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Carbon Tetrachloride	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroform	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
2-Chlorotoluene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
4-Chlorotoluene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromochloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
12Dibromo3Chloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dibromoethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromomethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,4-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dichlorodifluoromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
cis-1,2-Dichloroethene	1.02	D	mg/L	EPA 8260		09/08	09/08	KWM
transi,2-Dichloroethene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
2,2-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloropropene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Ethylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Hexachlorobutadiene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-3
Client Sample ID :LON-SS04-SW01
Matrix :WATER

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Isopropylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
p-Isopropyltoluene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Methylene Chloride	0.161	D	mg/L	EPA 8260	09/08	09/08	KWM
Napthalene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
n-Propylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Styrene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1112-Tetrachloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1122-Tetrachloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Tetrachloroethene	1.83	D	mg/L	EPA 8260	09/08	09/08	KWM
Toluene	1.22	D	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichlorobenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trichlorobenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,1-Trichloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,2-Trichloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichloroethene	0.285	D	mg/L	EPA 8260	09/08	09/08	KWM
Trichlorofluoromethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichloropropane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trimethylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,3,5-Trimethylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Vinyl Chloride	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
p+m-Xylene	0.262	D	mg/L	EPA 8260	09/08	09/08	KWM
o-Xylene	0.256	D	mg/L	EPA 8260	09/08	09/08	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.0276	J	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroethyl)ether	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Chlorophenol	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
1,3-Dichlorobenzene	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
1,4-Dichlorobenzene	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzyl Alcohol	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
1,2-Dichlorobenzene	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Methylphenol	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroisopropyl)e	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Methylphenol	0.110		mg/L	EPA 8270	08/30	09/06	MTT
n-Nitroso-di-n-Propylam	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachloroethane	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Nitrobenzene	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Isophorone	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Nitrophenol	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dimethylphenol	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzoic Acid	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroethoxy)Meth	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dichlorophenol	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
1,2,4-Trichlorobenzene	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Naphthalene	0.0188	J	mg/L	EPA 8270	08/30	09/06	MTT
4-Chloroaniline	0.029	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachlorobutadiene	0.029	U	mg/L	EPA 8270	08/30	09/04	MTT
4-Chloro-3-Methylphenol	0.029	U	mg/L	EPA 8270	08/30	09/04	MTT
2-Methylnaphthalene	0.029	U	mg/L	EPA 8270	08/30	09/04	MTT
Hexachlorocyclopentadie	0.029	U	mg/L	EPA 8270	08/30	09/04	MTT
2,4,6-Trichlorophenol	0.029	U	mg/L	EPA 8270	08/30	09/04	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-3
Client Sample ID :LON-SS04-SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Qualifiers/Comments

2,4,5-Trichlorophenol	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
2-Chloronaphthalene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
2-Nitroaniline	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Dimethylphthalate	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Acenaphthylene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
2,6-Dinitrotoluene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
3-Nitroaniline	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Acenaphthene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
2,4-Dinitrophenol	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
4-Nitrophenol	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Dibenzofuran	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
2,4-Dinitrotoluene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Diethylphthalate	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
4-Chlorophenyl-Phenylet	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Fluorene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
4-Nitroaniline	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
4,6-Dinitro-2-Methylphe	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
n-Nitrosodiphenylamine	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
4-Bromophenyl-Phenyleth	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Hexachlorobenzene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Pentachlorophenol	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Phenanthrene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Anthracene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
di-n-Butylphthalate	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Fluoranthene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Pyrene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Butylbenzylphthalate	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
3,3-Dichlorobenzidine	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Benzo(a)Anthracene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Chrysene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
bis(2-Ethylhexyl)Phthal	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
di-n-Octylphthalate	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Benzo(b)Fluoranthene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Benzo(k)Fluoranthene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Benzo(a)Pyrene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Indeno(1,2,3-cd)Pyrene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Dibenz(a,h)Anthracene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Benzo(g,h,i)Perylene	0.029	U	mg/L	EPA 8270		08/30 09/04	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.13		mg/L	EPA 6010		09/02 09/06	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Barium	0.34		mg/L	EPA 6010		09/02 09/06	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Calcium	95		mg/L	EPA 6010 (J) - J.1		09/02 09/06	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Copper	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG

2.22.94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-3
Client Sample ID :LON-SS04-SW01
Matrix :WATER

Iron	26		mg/L	EPA 6010		09/02 09/06	DLG
Lead	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Magnesium	35		mg/L	EPA 6010		09/02 09/06	DLG
Manganese	3.1		mg/L	EPA 6010		09/02 09/06	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Potassium	8.3		mg/L	EPA 6010		09/15 09/17	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Silver	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Sodium	83		mg/L	EPA 6010		09/15 09/17	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/03 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/15 09/17	DFL
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Barium	0.25		mg/L	EPA 6010		09/02 09/06	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/02 09/06	
Calcium	97		mg/L	EPA 6010		09/02 09/06	
Chromium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Copper	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Iron	8.5		mg/L	EPA 6010		09/02 09/06	DLG
Lead	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Magnesium	36		mg/L	EPA 6010		09/02 09/06	DLG
Manganese	3.0		mg/L	EPA 6010		09/02 09/06	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Potassium	8.1		mg/L	EPA 6010		09/02 09/17	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Silver	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Sodium	80		mg/L	EPA 6010		09/02 09/17	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/03 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Zinc	0.22		mg/L	EPA 6010		09/02 09/06	DLG
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	51.4-55.1		mg/L	EPA 9060		09/07	CMR
...TOC Concentration	52.9		mg/L	EPA 9060		09/07	CMR
Residue, Non-Filterable	130		mg/L	EPA 160.2		08/31	TAV
Residue,Filterable(TDS)	681		mg/L	EPA 160.1	500	09/01 09/02	RJK

2-22-94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-5
Client Sample ID :LON-SS04-SW01 DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 14:41 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director:STEPHEN, C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.13		mg/L	EPA 6010		09/02	09/06	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Barium	0.35		mg/L	EPA 6010		09/02	09/06	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Calcium	99		mg/L	EPA 6010		09/02	09/06	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Copper	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Iron	27		mg/L	EPA 6010		09/02	09/06	DLG
Lead	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Magnesium	37		mg/L	EPA 6010		09/02	09/06	DLG
Manganese	3.2		mg/L	EPA 6010		09/02	09/06	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Potassium	---		mg/L	EPA 6010				
Selenium	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Silver	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Sodium	---		mg/L	EPA 6010				
Thallium	0.0050	U	mg/L	EPA 7841		09/03	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Zinc	---		mg/L	EPA 6010				
Dissolved Metals Analys	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.11		mg/L	EPA 6010		09/02	09/06	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Barium	0.25		mg/L	EPA 6010		09/02	09/06	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Calcium	99		mg/L	EPA 6010		09/02	09/06	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Copper	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-5
Client Sample ID :LON-SS04-SW01 DUPLICATE
Matrix :WATER

5633 B [illegible] ET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Iron	8.2		mg/L	EPA 6010	09/02 09/06	DLG
Lead	0.10	U	mg/L	EPA 6010	09/02 09/06	DLG
Magnesium	39		mg/L	EPA 6010	09/02 09/06	DLG
Manganese	3.0		mg/L	EPA 6010	09/02 09/06	DLG
Molybdenum	0.050	U	mg/L	EPA 6010	09/02 09/06	DLG
Nickel	0.050	U	mg/L	EPA 6010	09/02 09/06	DLG
Potassium	8.6		mg/L	EPA 6010	09/02 09/17	DLG
Selenium	0.10	U	mg/L	EPA 6010	09/02 09/06	DLG
Silver	0.050	U	mg/L	EPA 6010	09/02 09/06	DLG
Sodium	82		mg/L	EPA 6010	09/02 09/17	DLG
Thallium	---		mg/L	EPA 7841		
Vanadium	0.050	U	mg/L	EPA 6010	09/02 09/06	DLG
Zinc	0.22		mg/L	EPA 6010	09/02 09/06	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-4
Client Sample ID :LON-SS04-SW01 SPIKE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 14:41 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M. J = INDICATES AN ANALYTE WHOSE CONCENTRATION IS ESTIMATED BECAUSE THE ANALYTE'S CONCENTRATION IS DETECTED BELOW THE CALIBRATION RANGE. 8260: FOR SPIKE AND SPIKE DUPLICATE RECOVERY AND RPD, SEE QC SUMMARY.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260		—		
Benzene	1.05	D	mg/L	EPA 8260		09/08	09/08	KWM
Bromobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromochloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromodichloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromoform	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromomethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
n-Butylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
sec-Butylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
tert-Butylbenzne	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Carbon Tetrachloride	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chlorobenzene	0.493		mg/L	EPA 8260		09/08	09/08	KWM
Chloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroform	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
2-Chlorotoluene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
4-Chlorotoluene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromochloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
12Dibromo3Chloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dibromoethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromomethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,4-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dichlorodifluoromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethene	0.407	D	mg/L	EPA 8260		09/08	09/08	KWM
cis-1,2-Dichloroethene	1.02	D	mg/L	EPA 8260		09/08	09/08	KWM
trans1,2-Dichloroethene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
2,2-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloropropene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Ethylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-4
Client Sample ID :LON-SS04-SW01 SPIKE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Hexachlorobutadiene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Isopropylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
p-Isopropyltoluene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Methylene Chloride	0.153	D	mg/L	EPA 8260	09/08	09/08	KWM
Napthalene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
n-Propylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Styrene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1112-Tetrachloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1122-Tetrachloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Tetrachloroethene	1.83	D	mg/L	EPA 8260	09/08	09/08	KWM
Toluene	1.69		mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichlorobenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trichlorobenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,1-Trichloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,2-Trichloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichloroethene	0.728	D	mg/L	EPA 8260	09/08	09/08	KWM
Trichlorofluoromethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichloropropane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trimethylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,3,5-Trimethylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Vinyl Chloride	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
p+m-Xylene	0.259	D	mg/L	EPA 8260	09/08	09/08	KWM
o-Xylene	0.255	D	mg/L	EPA 8260	09/08	09/08	[redacted]
Semivolatile Organics				EPA 8270			
Phenol	0.202		mg/L	EPA 8270	08/30	09/07	MTT
bis(2-Chloroethyl)ether	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
2-Chlorophenol	0.207		mg/L	EPA 8270	08/30	09/07	MTT
1,3-Dichlorobenzene	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
1,4-Dichlorobenzene	0.203		mg/L	EPA 8270	08/30	09/07	MTT
Benzyl Alcohol	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
1,2-Dichlorobenzene	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
2-Methylphenol	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
bis(2-Chloroisopropyl)e	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
4-Methylphenol	0.097		mg/L	EPA 8270	08/30	09/07	MTT
n-Nitroso-di-n-Propylam	0.264		mg/L	EPA 8270	08/30	09/07	MTT
Hexachloroethane	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
Nitrobenzene	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
Isophorone	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
2-Nitrophenol	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
2,4-Dimethylphenol	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
Benzoic Acid	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
bis(2-Chloroethoxy)Meth	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
2,4-Dichlorophenol	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
1,2,4-Trichlorobenzene	0.218		mg/L	EPA 8270	08/30	09/07	MTT
Naphthalene	0.019	J	mg/L	EPA 8270	08/30	09/07	MTT
4-Chloroaniline	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
Hexachlorobutadiene	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
4-Chloro-3-Methylphenol	0.227		mg/L	EPA 8270	08/30	09/07	MTT
2-Methylnaphthalene	0.033	U	mg/L	EPA 8270	08/30	09/07	MTT
Hexachlorocyclopentadie	0.033	U	mg/L	EPA 8270	08/30	09/07	[redacted]

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

REPORT of ANALYSIS KCL

Chemlab Ref.# :93.4355-4
Client Sample ID :LON-SS04-SW01 SPIKE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2,4,6-Trichlorophenol	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
2,4,5-Trichlorophenol	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
2-Chloronaphthalene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
2-Nitroaniline	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Dimethylphthalate	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Acenaphthylene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
2,6-Dinitrotoluene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
3-Nitroaniline	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Acenaphthene	0.266		mg/L	EPA 8270		08/30 09/07	MTT
2,4-Dinitrophenol	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
4-Nitrophenol	0.158		mg/L	EPA 8270		08/30 09/07	MTT
Dibenzofuran	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
2,4-Dinitrotoluene	0.268		mg/L	EPA 8270		08/30 09/07	MTT
Diethylphthalate	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
4-Chlorophenyl-Phenylet	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Fluorene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
4-Nitroaniline	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
4,6-Dinitro-2-Methylphe	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
n-Nitrosodiphenylamine	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
4-Bromophenyl-Phenyleth	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Hexachlorobenzene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Pentachlorophenol	0.158		mg/L	EPA 8270		08/30 09/07	MTT
Phenanthrene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Anthracene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
di-n-Butylphthalate	0.030	J	mg/L	EPA 8270		08/30 09/07	MTT
Fluoranthene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Pyrene	0.276		mg/L	EPA 8270		08/30 09/07	MTT
Butylbenzylphthalate	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
3,3-Dichlorobenzidine	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Benzo(a)Anthracene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Chrysene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
bis(2-Ethylhexyl)Phthal	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
di-n-Octylphthalate	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Benzo(b)Fluoranthene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Benzo(k)Fluoranthene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Benzo(a)Pyrene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Indeno(1,2,3-cd)Pyrene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Dibenz(a,h)Anthracene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Benzo(g,h,i)Perylene	0.033	U	mg/L	EPA 8270		08/30 09/07	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	1.17		mg/L	EPA 6010		09/02 09/06	DLG
Antimony	0.88		mg/L	EPA 6010		09/02 09/06	DLG
Arsenic	0.92		mg/L	EPA 6010		09/02 09/06	DLG
Barium	1.33		mg/L	EPA 6010		09/02 09/06	DLG
Beryllium	0.40		mg/L	EPA 6010		09/02 09/06	DLG
Cadmium	0.49		mg/L	EPA 6010		09/02 09/06	DLG
Calcium	111		mg/L	EPA 6010		09/02 09/06	DLG
Chromium	0.98		mg/L	EPA 6010		09/02 09/06	DLG
Cobalt	0.97		mg/L	EPA 6010		09/02 09/06	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-4
Client Sample ID :LON-SS04-SW01 SPIKE
Matrix :WATER

5633 B St
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Copper	0.96	mg/L	EPA 6010		09/02 09/06	DLG
Iron	29	mg/L	EPA 6010		09/02 09/06	DLG
Lead	0.90	mg/L	EPA 6010		09/02 09/06	DLG
Magnesium	130	mg/L	EPA 6010		09/02 09/06	DLG
Manganese	4.3	mg/L	EPA 6010		09/02 09/06	DLG
Molybdenum	0.96	mg/L	EPA 6010		09/02 09/06	DLG
Nickel	0.97	mg/L	EPA 6010		09/02 09/06	DLG
Potassium	---	mg/L	EPA 6010			
Selenium	0.92	mg/L	EPA 6010		09/02 09/06	DLG
Silver	0.13	mg/L	EPA 6010		09/02 09/06	DLG
Sodium	---	mg/L	EPA 6010			
Thallium	0.014	mg/L	EPA 7841		09/03 09/08	BMW
Vanadium	0.95	mg/L	EPA 6010		09/02 09/06	DLG
Zinc	---	mg/L	EPA 6010			
Dissolved Metals Analys	---					
ICP Screen, ICF			EPA	n/a	—	
Aluminum	0.99	mg/L	EPA 6010		09/02 09/06	DLG
Antimony	0.84	mg/L	EPA 6010		09/02 09/06	DLG
Arsenic	0.91	mg/L	EPA 6010		09/02 09/06	DLG
Barium	1.20	mg/L	EPA 6010		09/02 09/06	DLG
Beryllium	0.38	mg/L	EPA 6010		09/02 09/06	DL
Cadmium	0.47	mg/L	EPA 6010		09/02 09/06	
Calcium	110	mg/L	EPA 6010		09/02 09/06	
Chromium	0.97	mg/L	EPA 6010		09/02 09/06	DL
Cobalt	0.94	mg/L	EPA 6010		09/02 09/06	DLG
Copper	0.91	mg/L	EPA 6010		09/02 09/06	DLG
Iron	9.0	mg/L	EPA 6010		09/02 09/06	DLG
Lead	0.90	mg/L	EPA 6010		09/02 09/06	DLG
Magnesium	130	mg/L	EPA 6010		09/02 09/06	DLG
Manganese	4.0	mg/L	EPA 6010		09/02 09/06	DLG
Molybdenum	0.95	mg/L	EPA 6010		09/02 09/06	DLG
Nickel	0.94	mg/L	EPA 6010		09/02 09/06	DLG
Potassium	12	mg/L	EPA 6010		09/02 09/06	DLG
Selenium	0.87	mg/L	EPA 6010		09/02 09/06	DLG
Silver	0.13	mg/L	EPA 6010		09/02 09/06	DLG
Sodium	90	mg/L	EPA 6010		09/02 09/17	DFL
Thallium	---	mg/L	EPA 7841			
Vanadium	0.93	mg/L	EPA 6010		09/02 09/06	DLG
Zinc	1.11	mg/L	EPA 6010		09/02 09/06	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-9
Client Sample ID :LON-SS04-SW01 SPIKE DUPLICATE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 14:41 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M. 8260: FOR SPIKE AND SPIKE DUPLICATE RECOVERY AND RPD, SEE QC SUMMARY. J = INDICATES AN ANALYTE WHOSE CONCENTRATION IS ESTIMATED BECAUSE THE ANALYTE'S CONCENTRATION IS DETECTED BELOW THE CALIBRATION RANGE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260		—		
Benzene	1.05	D	mg/L	EPA 8260		09/08	09/08	KWM
Bromobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromochloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromodichloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromoform	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromomethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
n-Butylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
sec-Butylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
tert-Butylbenzne	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Carbon Tetrachloride	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chlorobenzene	0.495	D	mg/L	EPA 8260		09/08	09/08	KWM
Chloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroform	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
2-Chlorotoluene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
4-Chlorotoluene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromochloromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
12Dibromo3Chloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dibromoethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromomethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,4-Dichlorobenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Dichlorodifluoromethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloroethane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethene	0.451	D	mg/L	EPA 8260		09/08	09/08	KWM
cis-1,2-Dichloroethene	1.01	D	mg/L	EPA 8260		09/08	09/08	KWM
transi,2-Dichloroethene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
2,2-Dichloropropane	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloropropene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM
Ethylbenzene	0.050	U	mg/L	EPA 8260		09/08	09/08	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-9
Client Sample ID :LON-SS04-SW01 SPIKE DUPLICATE
Matrix :WATER

5633 B S[redacted]T
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Hexachlorobutadiene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Isopropylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
p-Isopropyltoluene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Methylene Chloride	0.156	D	mg/L	EPA 8260	09/08	09/08	KWM
Napthalene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
n-Propylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Styrene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1112-Tetrachloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1122-Tetrachloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Tetrachloroethene	1.79	D	mg/L	EPA 8260	09/08	09/08	KWM
Toluene	1.69	D	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichlorobenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trichlorobenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,1-Trichloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,2-Trichloroethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichloroethene	0.743	D	mg/L	EPA 8260	09/08	09/08	KWM
Trichlorofluoromethane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichloropropane	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trimethylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
1,3,5-Trimethylbenzene	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
Vinyl Chloride	0.050	U	mg/L	EPA 8260	09/08	09/08	KWM
p+m-Xylene	0.253	D	mg/L	EPA 8260	09/08	09/08	KWM
o-Xylene	0.245	D	mg/L	EPA 8260	09/08	09/08	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.194		mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroethyl)ether	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Chlorophenol	0.196		mg/L	EPA 8270	08/30	09/06	MTT
1,3-Dichlorobenzene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
1,4-Dichlorobenzene	0.148		mg/L	EPA 8270	08/30	09/06	MTT
Benzyl Alcohol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
1,2-Dichlorobenzene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Methylphenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroisopropyl)e	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Methylphenol	0.106		mg/L	EPA 8270	08/30	09/06	MTT
n-Nitroso-di-n-Propylam	0.194		mg/L	EPA 8270	08/30	09/06	MTT
Hexachloroethane	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Nitrobenzene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Isophorone	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Nitrophenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dimethylphenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzoic Acid	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroethoxy)Meth	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dichlorophenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
1,2,4-Trichlorobenzene	0.163		mg/L	EPA 8270	08/30	09/06	MTT
Naphthalene	0.014	J	mg/L	EPA 8270	08/30	09/06	MTT
4-Chloroaniline	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachlorobutadiene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Chloro-3-Methylphenol	0.243		mg/L	EPA 8270	08/30	09/06	MTT
2-Methylnaphthalene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachlorocyclopentadie	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1934

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-9
Client Sample ID :LON-SS04-SW01 SPIKE DUPLICATE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2,4,6-Trichlorophenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4,5-Trichlorophenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Chloronaphthalene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Nitroaniline	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Dimethylphthalate	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Acenaphthylene	0.032		mg/L	EPA 8270	08/30	09/06	MTT
2,6-Dinitrotoluene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
3-Nitroaniline	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Acenaphthene	0.204		mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dinitrophenol	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Nitrophenol	0.096		mg/L	EPA 8270	08/30	09/06	MTT
Dibenzofuran	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dinitrotoluene	0.205		mg/L	EPA 8270	08/30	09/06	MTT
Diethylphthalate	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Chlorophenyl-Phenylet	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Fluorene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Nitroaniline	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4,6-Dinitro-2-Methylphe	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
n-Nitrosodiphenylamine	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Bromophenyl-Phenyleth	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachlorobenzene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Pentachlorophenol	0.106		mg/L	EPA 8270	08/30	09/06	MTT
Phenanthrene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Anthracene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
di-n-Butylphthalate	0.014	J	mg/L	EPA 8270	08/30	09/06	MTT
Fluoranthene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Pyrene	0.228		mg/L	EPA 8270	08/30	09/06	MTT
Butylbenzylphthalate	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
3,3-Dichlorobenzidine	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzo(a)Anthracene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Chrysene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Ethylhexyl)Phthal	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
di-n-Octylphthalate	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzo(b)Fluoranthene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzo(k)Fluoranthene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzo(a)Pyrene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Indeno(1,2,3-cd)Pyrene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Dibenz(a,h)Anthracene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzo(g,h,i)Perylene	0.032	U	mg/L	EPA 8270	08/30	09/06	MTT

* See Special Instructions Above
* See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-SS04-S01	LON-SS04-S02	LON-SS04-S02
F&BI Number	518	524	524 dup
Sample Type	soil	soil	soil
Date Received	8/25/93	8/25/93	8/25/93
% Dry Weight	98	96	
Sequence Date	#5-08/25/93	#5-08/25/93	#5-08/25/93
Leaded Gas			
JP-4	<60	<50	<50
Lube Oil	<100	<120	<100
Diesel	<2000	<50	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	122	116	119
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/25/93	#1&2-08/25/93	
CCl4	<0.02	<0.02	
TCA	<0.02	<0.02	
Benzene	<0.02	<0.02	
TCE	<0.02	<0.02	
Toluene	<0.02	<0.02	
PCE	0.36	<0.02	
Ethylbenzene	<0.02	<0.02	
Xylenes	<0.04	<0.04	
Gasoline	<2 J	<2 J	
Spike level			
BFB	92	89	

Compiled by SAM 10-5-95

ICF ID	LON-SS04-S02	LON-SS04-S02	LON-SS04-SD01
F&BI Number	524 ms	524 msd	520
Sample Type	soil	soil	soil
Date Received	8/25/93	8/25/93	8/25/93
% Dry Weight			86
Sequence Date	#5-08/25/93	#5-08/25/93	#5-08/25/93
Leaded Gas			
JP-4			<60
Lube Oil			<120
Diesel	121	113	<60
Spike Level	500	500	
Unknown Semi-volatile			
Pentacosane	132	160 outside control limits	116
Sequence Date	#5-08/25/93	#5-08/25/93	
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254	130	119	
PCB 1260	5	5	
Spike Level			
Dibutyl Chlorendate	132	160 outside control limits	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/25/93	#1&2-08/25/93	#1&2-08/25/93
CCl4	101	70	<0.02
TCA	108	88	<0.02
Benzene	91	98	1.6
TCE	111	96	24
Toluene	95	104	~~0.7~~ 1.4
PCE	130	89	6.7 J
Ethylbenzene	86	86	~~2.5~~ 2.0
Xylenes	97	86	~~2.2~~ 2.5 J
Gasoline			64 J
Spike level	1	1	
BFB	94	100	93

Compiled by SGM 10-5-95

ICF ID	LON-SS04-SD02	LON-SS04-2SD03	SS12 LON-~~SS04~~-SW01
F&BI Number	522	1795	508
Sample Type	soil	soil	water
Date Received	8/25/93	9/4/93	8/25/93
% Dry Weight	75	41	
Sequence Date	#5-08/25/93	#5-09/08/93	
Leaded Gas			
JP-4	<60	<120	
Lube Oil	<120	<240	
Diesel	<60	<120	
Spike Level			
Unknown Semi-volatile			
Pentacosane	114	102	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/25/93		#3&4-08/25/93
CCl4	<0.02		
TCA	<0.02		
Benzene	<0.02		<1
TCE	<0.02		
Toluene	<0.02		<1
PCE	0.02		
Ethylbenzene	<0.02		<1
Xylenes	<0.04		<2
Gasoline	<2 J		~~<50~~ <100 J
Spike level			
BFB	89		84

Compiled by SAM 10-5-95

ANALYTICAL DATA SHEETS FOR THE DIESEL SPILLS (SS05)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-1
Client Sample ID :LON-SS05-2S19-3
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/04/93 @ 14:10 hrs
Received :09/07/93 @ 11:00 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. EPH PATTERN IS NOT CONSISTENT WITH MIDDLE DISTILLATE FUEL.

Qualifier/Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	52.1		%	SM17 2540G			09/08	EAL
Hydrocarbons EPH	419	D	mg/Kg	3510/3550/8100M (J)-E.1,J.1		09/14	09/16	DRS
Hydrocarbons VPH	1.00	U	mg/Kg	EPA 5030/8015M		09/08	09/09	WLS

3-7-94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-10
Client Sample ID :LON-SS05-SD07
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 11:55 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromobenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromochloromethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromodichloromethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromoform	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromomethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
n-Butylbenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
sec-Butylbenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
tert-Butylbenzne	0.030	U	mg/Kg	EPA 8260		09/01	09/04	
Carbon Tetrachloride	0.030	U	mg/Kg	EPA 8260		09/01	09/04	
Chlorobenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroform	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloromethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
4-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromochloromethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
12Dibromo3Chloropropane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dibromoethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromomethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,4-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dichlorodifluoromethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloroethane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
cis-1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
trans1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichloropropane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloropropene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Ethylbenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Hexachlorobutadiene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Isopropylbenzene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM
p-Isopropyltoluene	0.030	U	mg/Kg	EPA 8260		09/01	09/04	SGM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93:4504-10
Client Sample ID :LON-SS05-SD07
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Napthalene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
n-Propylbenzene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Styrene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1112-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1122-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Tetrachloroethene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Toluene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,3-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,4-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,1,1-Trichloroethane	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,1,2-Trichloroethane	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Trichloroethene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Trichlorofluoromethane	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,3-Trichloropropane	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,4-Trimethylbenzene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,3,5-Trimethylbenzene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Vinyl Chloride	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
p+m-Xylene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
o-Xylene	0.030	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Semivolatile Organics				EPA 8270			
Phenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Chloroethyl)ether	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Chlorophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,3-Dichlorobenzene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,4-Dichlorobenzene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzyl Alcohol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,2-Dichlorobenzene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Methylphenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Chloroisopropyl)e	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Methylphenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
n-Nitroso-di-n-Propylam	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachloroethane	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Nitrobenzene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Isophorone	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Nitrophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4-Dimethylphenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzoic Acid	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Chloroethoxy)Meth	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4-Dichlorophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,2,4-Trichlorobenzene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Naphthalene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Chloroaniline	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachlorobutadiene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Chloro-3-Methylphenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Methylnaphthalene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachlorocyclopentadie	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4,6-Trichlorophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4,5-Trichlorophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Chloronaphthalene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-10
Client Sample ID :LON-SS05-SD07
Matrix :SOIL

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Dimethylphthalate	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Acenaphthylene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,6-Dinitrotoluene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
3-Nitroaniline	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Acenaphthene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4-Dinitrophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Nitrophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Dibenzofuran	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4-Dinitrotoluene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Diethylphthalate	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Chlorophenyl-Phenylet	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Fluorene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Nitroaniline	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4,6-Dinitro-2-Methylphe	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
n-Nitrosodiphenylamine	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Bromophenyl-Phenyleth	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachlorobenzene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Pentachlorophenol	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Phenanthrene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Anthracene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
di-n-Butylphthalate	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Fluoranthene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Pyrene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Butylbenzylphthalate	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
3,3-Dichlorobenzidine	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzo(a)Anthracene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Chrysene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Ethylhexyl)Phthal	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
di-n-Octylphthalate	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzo(b)Fluoranthene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzo(k)Fluoranthene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzo(a)Pyrene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Indeno(1,2,3-cd)Pyrene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Dibenz(a,h)Anthracene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzo(g,h,i)Perylene	2.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
TOC, Soil	46100		mg/Kg	PSEP Ref Lab			

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-5
Client Sample ID :LON-SS05-SD08
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70353
Report Completed :10/12/93
Collected :08/25/93 @ 15:55 hrs.
Received :08/31/93 @ 15:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, J.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Bromobenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Bromochloromethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Bromodichloromethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Bromoform	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Bromomethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
n-Butylbenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
sec-Butylbenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
tert-Butylbenzne	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Carbon Tetrachloride	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Chlorobenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Chloroethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Chloroform	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Chloromethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
2-Chlorotoluene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
4-Chlorotoluene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Dibromochloromethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
12Dibromo3Chloropropane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,2-Dibromoethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Dibromomethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,2-Dichlorobenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,3-Dichlorobenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,4-Dichlorobenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Dichlorodifluoromethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,1-Dichloroethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,2-Dichloroethane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,1-Dichloroethene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
cis-1,2-Dichloroethene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
transi,2-Dichloroethene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,2-Dichloropropane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,3-Dichloropropane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
2,2-Dichloropropane	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
1,1-Dichloropropene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Ethylbenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Hexachlorobutadiene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
Isopropylbenzene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM
p-Isopropyltoluene	0.35	U	mg/kg	EPA 8260		09/03	09/04	SGM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4506-5
Client Sample ID :LON-SS05-SD08
Matrix :SOIL

Methylene Chloride	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Napthalene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
n-Propylbenzene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Styrene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1112-Tetrachloroethane	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1122-Tetrachloroethane	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Tetrachloroethene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Toluene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,2,3-Trichlorobenzene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,2,4-Trichlorobenzene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,1,1-Trichloroethane	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,1,2-Trichloroethane	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Trichloroethene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Trichlorofluoromethane	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,2,3-Trichloropropane	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,2,4-Trimethylbenzene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
1,3,5-Trimethylbenzene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
Vinyl Chloride	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
p+m-Xylene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
o-Xylene	0.35	U	mg/kg	EPA 8260	09/03 09/04	SGM
TOC, Soil	437000		mg/kg	PSEP Ref Lab	09/30	

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-2
Client Sample ID :LON-SS05-2SD09
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/04/93 @ 13:40 hrs
Received :09/07/93 @ 11:00 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. EPH PATTERN IS NOT CONSISTENT WITH MIDDLE DISTILLATE FUEL.

Qualifier Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	65.3		%	SM17 2540G			09/08	EAL
Hydrocarbons EPH	188		mg/Kg	3510/3550/8100M (J) E.1, J.1		09/14	09/15	DRS
Hydrocarbons VPH	0.700	U	mg/Kg	EPA 5030/8015M		09/08	09/09	WLS

3-7-94

* See Special Instructions Above
See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-3
Client Sample ID :LON-SS05-2SD09 SPIKE
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/04/93 @ 13:40 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. FOR SPIKING CONCENTRATION AND PERCENT RECOVERY SEE QA/QC PACKAGE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	65.3		%	SM17 2540G			09/08	EAL
Hydrocarbons EPH	245		mg/Kg	3510/3550/8100M		09/14	09/17	DRS
Hydrocarbons VPH	18.2		mg/Kg	EPA 5030/8015M		09/08	09/09	WLS

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Emlab Ref.# :93.4626-4
Client Sample ID :LON-SS05-2SD09 SPIKE DUPLICATE
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/04/93 @ 13:40 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY:M. LEMMA AND PETER M.G. FOR SPIKING CONCENTRATION AND PERCENT RECOVERY SEE QA/QC PACKAGE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	69.3		%	SM17 2540G			09/08	EAL
Hydrocarbons EPH	264		mg/Kg	3510/3550/8100M		09/14	09/17	DRS
Hydrocarbons VPH	17.7		mg/Kg	EPA 5030/8015M		09/08	09/09	WLS

* See Special Instructions Above
See Sample Remarks Above
= Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-5
Client Sample ID :LON-SS05-2SD14
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/04/93 @ 15:40 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. 188 MG/KG OF EPH PATTERN IS NOT CONSISTENT WITH MIDDLE DISTILLATE FUEL.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	77.6		%	SM17 2540G			09/08	EAL
Hydrocarbons EPH	898	D	mg/Kg	3510/3550/8100M		09/14	09/16	DRS
Hydrocarbons VPH	30.2		mg/Kg	EPA 5030/8015M		09/08	09/09	WLS

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREE
ANCHORAGE, AK 9951
TEL. (907) 562-234
FAX. (907) 561-530

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-1
Client Sample ID :LON-SS05-SW07
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70355
Report Completed :09/29/93
Collected :08/25/93 @ 16:45 h:
Received :08/31/93 @ 15:10 h:
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND Z.M. 8270: SURROGATE RECOVERY FOR NITROBENZENE-D5 AND 4-NITROPHENOL IS OUTSIDE OF QC LIMITS.

Qualifier Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	In:
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Bromoform	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Bromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Chloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Chloroform	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Chloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260	(T) -5.1	09/02	09/02	KW
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,2-Dichloroethane	0.0044		mg/L	EPA 8260		09/02	09/02	KW
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	KW

OB
3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-1
Client Sample ID :LON-SS05-SW07
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Napthalene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Styrene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Toluene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
o-Xylene	0.0010	U	mg/L	EPA 8260	09/02 09/02	KW
Semivolatile Organics				EPA 8270		
Phenol	0.011	U	mg/L	EPA 8270	09/01 09/04	
bis(2-Chloroethyl)ether	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2-Chlorophenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
1,3-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
1,4-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Benzyl Alcohol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
1,2-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2-Methylphenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
bis(2-Chloroisopropyl)e	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
4-Methylphenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
n-Nitroso-di-n-Propylam	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Hexachloroethane	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Nitrobenzene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Isophorone	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2-Nitrophenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2,4-Dimethylphenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Benzoic Acid	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
bis(2-Chloroethoxy)Meth	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2,4-Dichlorophenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
1,2,4-Trichlorobenzene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Naphthalene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
4-Chloroaniline	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Hexachlorobutadiene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
4-Chloro-3-Methylphenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2-Methylnaphthalene	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
Hexachlorocyclopentadie	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2,4,6-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT
2,4,5-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/01 09/04	MT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-1
Client Sample ID :LON-SS05-SW07
Matrix :WATER

Qualifiers/Comments

5633 B STREET
ANCHORAGE AK 99518
TEL: (907) 562-2343
FAX (907) 561-5301

2-Chloronaphthalene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
2-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Dimethylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Acenaphthylene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
2,6-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
3-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Acenaphthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
2,4-Dinitrophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
4-Nitrophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Dibenzofuran	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
2,4-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Diethylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
4-Chlorophenyl-Phenylet	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Fluorene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
4-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
4,6-Dinitro-2-Methylphe	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
n-Nitrosodiphenylamine	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
4-Bromophenyl-Phenyleth	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Hexachlorobenzene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Pentachlorophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Phenanthrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
di-n-Butylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Butylbenzylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
3,3-Dichlorobenzidine	0.011	U	mg/L	EPA 8270 (J) -D.1		09/01	09/04	MT
Benzo(a)Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Chrysene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
bis(2-Ethylhexyl)Phthal	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
di-n-Octylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Benzo(b)Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Benzo(k)Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Benzo(a)Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Indeno(1,2,3-cd)Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Dibenz(a,h)Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
Benzo(g,h,i)Perylene	0.011	U	mg/L	EPA 8270		09/01	09/04	MT
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	166-204		mg/L	EPA 9060			09/14	CM
...TOC Concentration	178		mg/L	EPA 9060			09/14	CM
Residue, Non-Filterable	1440		mg/L	EPA 160.2		09/02	09/02	GP
Residue,Filterable(TDS)	298		mg/L	EPA 160.1	500	09/20	09/21	RJ

DEP 3-9-94

See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-2
Client Sample ID :LON-SS05-SW08
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70355
Report Completed :09/29/93
Collected :08/25/93 @ 16:45 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Ede

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND Z.M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0023		mg/L	EPA 8260	(J) - J.1	09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0040		mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
transi,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-2
Client Sample ID :LON-SS05-SW08
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Semivolatile Organics				EPA 8270			
Phenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroethyl)ether	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Chlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,3-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,4-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzyl Alcohol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,2-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Methylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroisopropyl)e	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Methylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
n-Nitroso-di-n-Propylam	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachloroethane	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Nitrobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Isophorone	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Nitrophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dimethylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzoic Acid	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroethoxy)Meth	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dichlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,2,4-Trichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Naphthalene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chloroaniline	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorobutadiene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chloro-3-Methylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Methylnaphthalene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorocyclopentadie	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4,6-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4,5-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Chloronaphthalene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL. (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-2
Client Sample ID :LON-SS05-SW08
Matrix :WATER

Qualifiers/Comments

2-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Dimethylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Acenaphthylene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2,6-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
3-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Acenaphthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2,4-Dinitrophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Nitrophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Dibenzofuran	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2,4-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Diethylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Chlorophenyl-Phenylet	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Fluorene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4,6-Dinitro-2-Methylphe	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
n-Nitrosodiphenylamine	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Bromophenyl-Phenyleth	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Hexachlorobenzene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Pentachlorophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Phenanthrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
di-n-Butylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Butylbenzylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
3,3-Dichlorobenzidine	0.011	U	mg/L	EPA 8270(J)-D.1		09/01	09/04	MTT
Benzo(a)Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Chrysene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
bis(2-Ethylhexyl)Phthal	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
di-n-Octylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(b)Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(k)Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(a)Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Indeno(1,2,3-cd)Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Dibenz(a,h)Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(g,h,i)Perylene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	245-261		mg/L	EPA 9060			09/14	RJK
...TOC Concentration	254		mg/L	EPA 9060			09/14	RJK
Residue, Non-Filterable	8260		mg/L	EPA 160.2		09/02	09/02	GPP
Residue,Filterable(TDS)	326		mg/L	EPA 160.1	500	09/20	09/21	RJK

3-9-94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-SS05-S01	LON-SS05-S01	LON-SS05-S01
F&BI Number	708	708 dup	708 ms
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	92		
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<50	<50	
Lube Oil	<100	<110	
Diesel	<50	60	98
Spike Level			500
Unknown Semi-volatile			
Pentacosane	102	96	111
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4		<0.02	75
TCA		<0.02	75
Benzene	<~~0.02~~ <0.04J	<0.02	70
TCE		<0.02	84
Toluene	<~~0.02~~ <0.04J	<0.02	80
PCE		<0.02	84
Ethylbenzene	<~~0.02~~ <0.04J	<0.02	84
Xylenes	<~~0.04~~ <0.08J	<0.04	94
Gasoline	~~<2J~~ <10J	<2	
Spike level			1
BFB	93	91	100

Compiled by SAM 10-5-95

ICF ID	LON-SS05-S01	LON-SS05-S02-03	LON-SS05-S03
F&BI Number	708 msd	710	714
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight		94	95
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4		<50	<50
Lube Oil		<100	<100
Diesel	82	~~50 oil~~ <50	~~50 oil~~ <50
Spike Level	500		
Unknown Semi-volatile			
Pentacosane	106	99	102
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4	72		
TCA	89		
Benzene	82	<0.02	<0.02
TCE	92		
Toluene	82	<0.02	<0.02
PCE	86		
Ethylbenzene	100	<0.02	<0.02
Xylenes	92	<0.04	<0.04
Gasoline		<2 J	<2 J
Spike level	1		
BFB	100	84	88

Compiled by SAM 10-5-95

ICF ID	LON-SS05-S04-03	LON-SS05-S04-03	LON-SS05-S04-03
F&BI Number	718	718 dup	718 ms
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	95		
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<50	<50	
Lube Oil	<100	<100	
Diesel	~~70 oil~~ <50	<50	87
Spike Level			500
Unknown Semi-volatile			
Pentacosane	99	98	107
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4		<0.02	71
TCA		<0.02	80
Benzene	<0.02	<0.02	72
TCE		<0.02	86
Toluene	<0.02	<0.02	88
PCE		<0.02	90
Ethylbenzene	<0.02	<0.02	96
Xylenes	<0.04	<0.04	88
Gasoline	<2 J	<2	
Spike level			1
BFB	82	92	91

ICF ID	LON-SS05-S04-03	LON-SS05-S05	LON-SS05-S06-01
F&BI Number	718 msd	720	728
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight		52	74
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4		<100	<70
Lube Oil		<200	<140
Diesel	102	<100	~~70~~ oil <70
Spike Level	500		
Unknown Semi-volatile			
Pentacosane	121	98	100
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4	70		
TCA	82		
Benzene	70	<0.05	<0.03
TCE	86		
Toluene	90	<0.05	<0.03
PCE	98		
Ethylbenzene	82	<0.05	0.2
Xylenes	78	<0.1	0.2 J
Gasoline		<5 J	7 J
Spike level	1		
BFB	80	87	108

Compiled by SAM 10-5-95

compiled by [illegible] 10-5-95

ICF ID	LON-SS05-S07	LON-SS05-S08-01	LON-SS05-S11
F&BI Number	722	730	760
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	60	74	92
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<170	<70	<50
Lube Oil	<170	<140	<110
Diesel	~~120~~ oil <80	~~90~~ oil <70	930 J
Spike Level			
Unknown Semi-volatile			
Pentacosane	99	98	106
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4			
TCA			
Benzene	<0.05	<0.03	<0.02
TCE			
Toluene	<0.05	<0.03	
PCE			
Ethylbenzene	<0.05	<0.03	
Xylenes	<0.1	<0.06	6 J
Gasoline	<5 J	<3 J	100 J
Spike level			
BFB	84	96	116

compiled by SAM 10-5-95

ICF ID	LON-SS05-S12-03	LON-SS05-S13	LON-SS05-S14
F&BI Number	758	756	754
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	91	93	94
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<50	<50	<50
Lube Oil	<110	<100	<100
Diesel	1400 J	280 J	4300 J
Spike Level			
Unknown Semi-volatile			
Pentacosane	102	102	102
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4			
TCA			
Benzene	<0.02 J	<0.02	<0.02
TCE			
Toluene	<0.2 J	0.4	0.7
PCE			
Ethylbenzene	<0.3 J	0.3	3
Xylenes	< 4 J	4 J	6 J
Gasoline	< 50 J	54 J	120 J
Spike level			
BFB	113	83	120

ICF ID	LON-SS05-S15-2.5	LON-SS05-S15-2.5	LON-SS05-S15-2.5
F&BI Number	752	752 dup	752 ms
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	97		
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<50	<50	
Lube Oil	<100	<100	
Diesel	50 J	60	87
Spike Level			500
Unknown Semi-volatile			
Pentacosane	103	87	113
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4		<0.02	84
TCA		<0.02	84
Benzene	<0.02	<0.02	74
TCE		<0.02	92
Toluene	<0.02	<0.02	84
PCE		<0.02	90
Ethylbenzene	<0.02	<0.02	104
Xylenes	<0.04	<0.04	80
Gasoline	<2 J	<2	
Spike level			1
BFB	89	70	96

compiled by sqm 10-5-95

ICF ID	LON-SS05-S15-2.5	LON-SS05-S16	LON-SS05-S17-3
F&BI Number	752 msd	750	748
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight		93	94
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4		<50	<50
Lube Oil		<100	<100
Diesel	89	50 J	<50
Spike Level	500		
Unknown Semi-volatile			
Pentacosane	113	94	96
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4	89		
TCA	74		
Benzene	74	<0.02	~~<0.02~~ <0.2 J
TCE	92		
Toluene	90	0.03	~~<0.02~~ <0.2 J
PCE	102		
Ethylbenzene	102	0.25	~~<0.02~~ <0.2 J
Xylenes	78	2 J	~~<0.04~~ <0.4 J
Gasoline		9 J	~~<2~~ <20 J
Spike level	1		
BFB	86	89	92

compiled by SAM 10-5-95

ICF ID	LON-SS05-S18-2.5	LON-SS05-S19	LON-SS05-2S19-3
F&BI Number	732	746	1787
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	9/4/93
% Dry Weight	98	94	63
Sequence Date	#6-08/26/93	#6-08/26/93	#5-09/08/93
Leaded Gas			
JP-4	<50	<50	<70
Lube Oil	<100	<100	<140
Diesel	1300J	290J	~~<70~~ <80
Spike Level			
Unknown Semi-volatile			
Pentacosane	96	99	80
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	
CCl4			
TCA			
Benzene	<0.02	<0.02	
TCE			
Toluene	<0.02	~~0.1~~ 0.3	
PCE			
Ethylbenzene	2	0.5	
Xylenes	7 J	~~2~~ 3J	
Gasoline	80 J	47 J	
Spike level			
BFB	117	88	

copied by AM 10-5-95

ICF ID	LON-SS05-SD01	LON-SS05-SD02	LON-SS05-SD03
F&BI Number	712	716	702
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	92	14	86
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<50	<360	<60
Lube Oil	<110	<710	<120
Diesel	~~60~~ oil <50	<360	600 J
Spike Level			
Unknown Semi-volatile		220 biological	60 biological
Pentacosane	94	110	113
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4			
TCA			
Benzene	<0.02	~~<0.04~~ <0.14J	<0.4 possible carryover J
TCE			
Toluene	<0.02	~~<0.04~~ <0.14J	<0.4 possible carryover J
PCE			
Ethylbenzene	<0.02	~~<0.04~~ <0.14J	<1.4 possible carryover J
Xylenes	<0.04	~~<0.16~~ <0.28J	<2.4 possible carryover J
Gasoline	<2 J	~~<4~~ <7J	<40 possible carryover J
Spike level			
BFB	83	80	102

Compiled by SGM 10-5-95

ICF ID	LON-SS05-SD04	LON-SS05-SD05	LON-SS05-SD06
F&BI Number	726	698	686
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	87	38	17
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<60	<130	<290
Lube Oil	420	<260	<590
Diesel	1300 J	240 J	690 J
Spike Level			
Unknown Semi-volatile			
Pentacosane	109	125	121
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4			
TCA			
Benzene	1.2	<0.1	<0.1
TCE			
Toluene	2	<0.1	<0.1
PCE			
Ethylbenzene	2	<0.1	<0.1
Xylenes	5 J	<0.2	<0.2
Gasoline	80 J	<10 J	<10 J
Spike level			
BFB	101	60	73

Compiled by SAM 10-5-95

ICF ID	LON-SS05-SD07	LON-SS05-SD08	LON-SS05-2SD09
F&BI Number	724	704	1788
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	9/4/93
% Dry Weight	75	57	67
Sequence Date	#6-08/26/93	#6-08/26/93	#5-09/08/93
Leaded Gas			
JP-4	<70	<90	<70
Lube Oil	<130	<180	<140
Diesel	~~80 oil~~ <70	90 J	<70
Spike Level			
Unknown Semi-volatile		90 biological	
Pentacosane	98	108	80
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	
CCl4			
TCA			
Benzene	<0.03	<0.04	
TCE			
Toluene	<0.03	<0.04	
PCE			
Ethylbenzene	<0.03	<0.04	
Xylenes	<0.06	<0.08	
Gasoline	<3 J	<2 J	
Spike level			
BFB	86	97	

Compiled by SAM 10-5-93

ICF ID	LON-SS05-2SD10	LON-SS05-2SD11	LON-SS05-2SD12
F&BI Number	1789	1790	1791
Sample Type	soil	soil	soil
Date Received	9/4/93	9/4/93	9/4/93
% Dry Weight	65	72	58
Sequence Date	#5-09/08/93	#5-09/08/93	#5-09/08/93
Leaded Gas			
JP-4	<70	<70	<100
Lube Oil	<140	<140	<200
Diesel	<70	<70	~~<100~~ <90
Spike Level			
Unknown Semi-volatile			
Pentacosane	89	81	85
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			
CCl4			
TCA			
Benzene			
TCE			
Toluene			
PCE			
Ethylbenzene			
Xylenes			
Gasoline			
Spike level			
BFB			

Compiled by sgm 10-5-95

ICF ID	LON-SS05-2SD13	LON-SS05-2SD14	LON-SS05-SW01
F&BI Number	1792	1793	658
Sample Type	soil	soil	water
Date Received	9/4/93	9/4/93	8/26/93
% Dry Weight	90	76	
Sequence Date	#5-09/08/93	#5-09/08/93	#5-08/27/93
Leaded Gas			
JP-4	<60	<70	<200
Lube Oil	<120	<140	<2000
Diesel	~~140~~ 80J	~~310~~ 220J	~~≤200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	97	95	105
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			
CCl4			
TCA			
Benzene			
TCE			
Toluene			
PCE			
Ethylbenzene			
Xylenes			
Gasoline			
Spike level			
BFB			

compiled by SAM 10-5-95

ICF ID	LON-SS05-SW01	LON-SS05-SW02	LON-SS05-SW02
F&BI Number	660	667	668
Sample Type	water	water	water
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight			
Sequence Date		#5-08/27/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		111	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/25/93		#3&4-08/25/93
CCl4			
TCA			
Benzene	<1		<1
TCE			
Toluene	<1		<1
PCE			
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	~~<50~~ <100J		~~<50~~ <100J
Spike level			
BFB	104		150

compiled by SAM 10-5-95

ICF ID	LON-SS05-SW03	LON-SS05-SW03	LON-SS05-SW04
F&BI Number	675	678	679
Sample Type	water	water	water
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight			
Sequence Date	#5-08/27/93		#5-08/27/93
Leaded Gas			
JP-4	<200		<200
Lube Oil	<2000		<2000
Diesel	~~<200~~ <1000		~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	102		88
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#3&4-08/25/93	
CCl4			
TCA			
Benzene		21	
TCE			
Toluene		<1	
PCE			
Ethylbenzene		10 J	
Xylenes		46 J	
Gasoline		240 J	
Spike level			
BFB		144	

Compiled by SJM 10-5-93

ICF ID	LON-SS05-SW04	LON-SS05-SW05	LON-SS05-SW05
F&BI Number	680	762	764
Sample Type	water	water	water
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight			
Sequence Date		#5-08/27/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		101	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/25/93		#3&4-08/25/93
CCl4			
TCA			
Benzene	<1		<1
TCE			
Toluene	<1		<1
PCE			
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	~~<50~~ <100J		~~<50~~ <100
Spike level			
BFB	118		115

Compiled by SAM 10-5-95

ICF ID	LON-SS05-SW05	LON-SS05-SW06	LON-SS05-SW06
F&BI Number	767	772	774
Sample Type	water	water	water
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight			
Sequence Date		#5-08/27/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		96	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/25/93		#3&4-08/25/93
CCl4			
TCA			
Benzene	<1		<1
TCE			
Toluene	<1		<1
PCE			
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	~~<50~~ <100		~~<50~~ <100
Spike level			
BFB	119		114

Compiled by KJM 10-5-95

ICF ID	LON-SS05-SW07	LON-SS05-SW07	LON-SS05-SW08
F&BI Number	738	739	742
Sample Type	water	water	water
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight			
Sequence Date	#5-08/27/93		#5-08/27/93
Leaded Gas			
JP-4	<200		<200
Lube Oil	<2000		<2000
Diesel	~~<200~~ <1000		~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	109		89
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#3&4-08/25/93	
CCl4			
TCA			
Benzene		<1	
TCE			
Toluene		<1	
PCE			
Ethylbenzene		<1	
Xylenes		<2	
Gasoline		~~<50~~ <100	
Spike level			
BFB		139	

Compiled by SAM 10-5-95

ICF ID	LON-SS05-SW08
F&BI Number	745
Sample Type	water
Date Received	8/26/93
% Dry Weight	
Sequence Date	
Leaded Gas	
JP-4	
Lube Oil	
Diesel	
Spike Level	
Unknown Semi-volatile	
Pentacosane	
Sequence Date	
PCB 1221	
PCB 1232	
PCB 1016	
PCB 1242	
PCB 1248	
PCB 1254	
PCB 1260	
Spike Level	
Dibutyl Chlorendate	
Sequence Date	
alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
Heptachlor	
Aldrin	
Heptachlor Epoxide	
Endosulfan I	
DDE	
Dieldrin	
Endrin	
Endosulfan II	
DDD	
Endrin Aldehyde	
DDT	
Endosulfan Sulfate	
Endrin Ketone	
Methoxy Chlor	
Chlordane	
Dibutyl Chlorendate	
Spike Level	
Vol Sequence	#3&4-08/25/93
CCl4	
TCA	
Benzene	<1
TCE	
Toluene	<1
PCE	
Ethylbenzene	<1
Xylenes	<2
Gasoline	~~<50~~ <100
Spike level	
BFB	118

ANALYTICAL DATA SHEETS FOR THE OLD DUMP SITE (LF07)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-7
Client Sample ID :LON-LF07-S03
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 16:01 hrs
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.020	U	mg/Kg	EPA 8260 (J)-A.1		08/30	09/13	KWM
Bromobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
cis-1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
trans1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Isopropylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
p-Isopropyltoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM

3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4425-7
Client Sample ID :LON-LF07-S03
Matrix :SOIL

Qualifier Comments

Methylene Chloride	0.020	U	mg/Kg	EPA 8260 (J) A.1	08/30	09/13	KWM
Napthalene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichlorofluoromethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethyl)ether	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chlorophenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,3-Dichlorobenzene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,4-Dichlorobenzene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzyl Alcohol	0.266 ~~1.00 U~~		mg/Kg	EPA 8270 (1) E.1	09/09	10/03	MTT
1,2-Dichlorobenzene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylphenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroisopropyl)e	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Methylphenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
n-Nitroso-di-n-Propylam	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachloroethane	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Nitrobenzene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Isophorone	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Nitrophenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dimethylphenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Benzoic Acid	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
bis(2-Chloroethoxy)Meth	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4-Dichlorophenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
1,2,4-Trichlorobenzene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Naphthalene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloroaniline	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorobutadiene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
4-Chloro-3-Methylphenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Methylnaphthalene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
Hexachlorocyclopentadie	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,6-Trichlorophenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2,4,5-Trichlorophenol	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT
2-Chloronaphthalene	0.200	U	mg/Kg	EPA 8270	09/09	10/03	MTT

organic by: [illegible] 5-15-94
Completed: SMF 11-16-94

3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-7
Client Sample ID :LON-LF07-S03
Matrix :SOIL

		Qualifier	comment					Qualifier/Comment
2-Nitroaniline	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Dimethylphthalate	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Acenaphthylene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
2,6-Dinitrotoluene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
3-Nitroaniline	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Acenaphthene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
2,4-Dinitrophenol	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
4-Nitrophenol	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Dibenzofuran	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
2,4-Dinitrotoluene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Diethylphthalate	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
4-Chlorophenyl-Phenylet	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Fluorene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
4-Nitroaniline	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
4,6-Dinitro-2-Methylphe	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
n-Nitrosodiphenylamine	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
4-Bromophenyl-Phenyleth	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Hexachlorobenzene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Pentachlorophenol	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Phenanthrene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Anthracene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
di-n-Butylphthalate	0.225 ~~1.00~~	~~B~~	mg/Kg	EPA 8270	(U)-E.1	09/09	10/03	MTT
uoranthene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
yrene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Butylbenzylphthalate	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
3,3-Dichlorobenzidine	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Benzo(a)Anthracene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Chrysene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
bis(2-Ethylhexyl)Phthal	0.248 ~~1.00~~	~~B~~	mg/Kg	EPA 8270	(U)-E.1	09/09	10/03	MTT
di-n-Octylphthalate	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Benzo(b)Fluoranthene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Benzo(k)Fluoranthene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Benzo(a)Pyrene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Indeno(1,2,3-cd)Pyrene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Dibenz(a,h)Anthracene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Benzo(g,h,i)Perylene	0.200	U	mg/Kg	EPA 8270		09/09	10/03	MTT
Sample Preparation	---			EPA 3050 Digest				
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	1600	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Antimony	48	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Arsenic	48	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Barium	65		mg/Kg	EPA 6010		08/31	09/02	DFL
Beryllium	2.4	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Cadmium	2.4	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Calcium	53000	J	mg/Kg	EPA 6010	J2	08/31	09/02	DFL
Chromium	2.4	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Cobalt	4.8	U	mg/Kg	EPA 6010		08/31	09/02	DFL
Copper	24	U	mg/Kg	EPA 6010		08/31	09/02	DFL
on	8200		mg/Kg	EPA 6010		08/31	09/02	DFL

original changes: P.C. 2/16/94

3/15/94

compiled: SMF 11/16/94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4425-7
Client Sample ID :LON-LF07-S03
Matrix :SOIL

Qualifier Comment

Lead	48	U	mg/Kg	EPA 6010	08/31 09/02	DFL
Magnesium	30000	J	mg/Kg J, L	EPA 6010	08/31 09/02	DFL
Manganese	110		mg/Kg	EPA 6010	08/31 09/02	DFL
Molybdenum	2.4	U	mg/Kg	EPA 6010	08/31 09/02	DFL
Nickel	3.7		mg/Kg	EPA 6010	08/31 09/02	DFL
Potassium	370		mg/Kg	EPA 6010	08/31 09/06	DLG
Selenium	48	U	mg/Kg	EPA 6010	08/31 09/02	DFL
Silver	24	U	R mg/Kg B-1, J-1	EPA 6010	08/31 09/02	DFL
Sodium	120		mg/Kg	EPA 6010	08/31 09/06	DLG
Thallium	0.26	U	mg/Kg	EPA 7841	08/30 09/01	KAW
Vanadium	15		mg/Kg	EPA 6010	08/31 09/02	DFL
Zinc	7.5		mg/Kg	EPA 6010	08/31 09/02	DFL
TOC, Soil	9040		mg/Kg	PSEP Ref Lab		

All charges J.L 2/16/94

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* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4428-2
Client Sample ID :LON ~~LF01~~ SW02
Matrix :WATER LF07 6-1-94

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70217
Report Completed :09/29/93
Collected :08/26/93 @ 16:48 hr:
Received :08/29/93 @ 12:45 hr:
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER J.J., AND S.S.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4428-2
Client Sample ID :LON LF01 SW02 S.C
Matrix :WATER 07

Quality Comments

Methylene Chloride	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.43	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.17		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	80		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.1		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Magnesium	44		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.27		mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010(J)-J.1		09/07 09/10	DLG
Sodium	130		mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

CAD
5/27/97

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4428-2
Client Sample ID :LON LF01 SW02
Matrix :WATER LF07

Qualifier Comment

Methylene Chloride	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260		09/03 09/03	KWM
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.43	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.17		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	80		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.1		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Magnesium	44		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.27		mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	130	J	mg/L J.1	EPA 6010		09/07 09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

All chgs s.l. 2/16/94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL. (907) 562-2343
FAX (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4428-2
Client Sample ID :LON LFUL SW02
Matrix :WATER

		Qualifier	Comment					
Arsenic	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Barium	0.12		mg/L	EPA 6010		09/07	09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Calcium	78		mg/L	EPA 6010		09/07	09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Iron	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Magnesium	42	J	mg/L J.1	EPA 6010		09/07	09/10	DLG
Manganese	0.069		mg/L	EPA 6010		09/07	09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07	09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Sodium	120		mg/L	EPA 6010		09/07	09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		~~09/07~~	~~09/10~~	~~DLG~~
						09/11	09/14	DFL
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	32.0-33.6		mg/L	EPA 9060			09/08	CMR
...TOC Concentration	32.6		mg/L	EPA 9060			09/08	CMR
Residue, Non-Filterable	4.5		mg/L	EPA 160.2		09/02	09/02	GPP
Residue,Filterable(TDS)	972		mg/L	EPA 160.1	500		09/10	RJK

All charges 1.C 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-LF07-S01	LON-LF07-S02	LON-LF07-S03
F&BI Number	992	914	966
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	91	80	97
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<60	<50
Lube Oil	180	<120	<100
Diesel	<50	<60	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	101	92	91
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221	<0.1	<0.1	<0.1
PCB 1232	<0.1	<0.1	<0.1
PCB 1016	<0.1	<0.1	<0.1
PCB 1242	<0.1	<0.1	<0.1
PCB 1248	<0.1	<0.1	<0.1
PCB 1254	<0.1	<0.1	<0.1
PCB 1260	<0.1	<0.1	<0.1
Spike Level			
Dibutyl Chlorendate	101	92	91
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4	<0.02	<0.02	<0.02
TCA	<0.02	<0.02	<0.02
Benzene	<0.02	<0.03	<0.02
TCE	<0.02	<0.03	<0.02
Toluene	<0.02	<0.03	<0.02
PCE	<0.02	<0.03	<0.02
Ethylbenzene	<0.02	<0.05	<0.02
Xylenes	<0.04	<0.05	<0.04
Gasoline	<2 J	<3 J	<2 J
Spike level			
BFB	99	96	100

compiled by SAM 10-5-95

ICF ID	LON-LF07-S04	LON-LF07-S05	LON-LF07-S05
F&BI Number	968	910	910 dup
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	98	97	
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<50	<50
Lube Oil	1500	<100	<100
Diesel	80 J	<50	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	100	123	98
Sequence Date	#6-08/29/93	#6-08/28/93	#6-08/28/93
PCB 1221	<0.1	<0.1	<0.1
PCB 1232	<0.1	<0.1	<0.1
PCB 1016	<0.1	<0.1	<0.1
PCB 1242	<0.1	<0.1	<0.1
PCB 1248	<0.1	<0.1	<0.1
PCB 1254	<0.1	<0.1	<0.1
PCB 1260	<0.1	<0.1	<0.1
Spike Level			
Dibutyl Chlorendate	103	98	98
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3&4-08/29/93	#4-08/29/93
CCl4	<0.02	<0.02	
TCA	<0.02	<0.02	
Benzene	<0.02	<0.02	<0.02
TCE	<0.02	<0.02	
Toluene	<0.02	<0.02	<0.02
PCE	<0.02	<0.02	
Ethylbenzene	<0.02	<0.02	<0.02
Xylenes	<0.04	<0.04	<0.04
Gasoline	<2 J	<2 J	<2
Spike level			
BFB	102	126	96

Compiled by SJM 10-5-95

ICF ID	LON-LF07-S05	LON-LF07-S05	LON-LF07-S06
F&BI Number	910 ms	910 msd	912
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			95
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4			<50
Lube Oil			5900
Diesel	82	88	270 J
Spike Level	500	500	
Unknown Semi-volatile			
Pentacosane	139	140	90
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221			<0.1
PCB 1232			<0.1
PCB 1016			<0.1
PCB 1242			<0.1
PCB 1248			<0.1
PCB 1254	92	94	<0.1
PCB 1260			<0.1
Spike Level	10	10	
Dibutyl Chlorendate	140	140	123
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#3&4-08/31/93	#3-08/28/93, #4-08/29/93
CCl4			<0.02
TCA			<0.02
Benzene		89	<0.02
TCE			<0.02
Toluene		82	<0.02
PCE			<0.02
Ethylbenzene		86	<0.02
Xylenes		89	<0.04
Gasoline			<2 J
Spike level		1000	
BFB		95	82

Compiled by SAM 10-5-95

ICF ID	LON-LF07-S06	LON-LF07-S06	LON-LF07-S06
F&BI Number	912 dup	912 ms	912 msd
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50		
Lube Oil	8100		
Diesel	310	150	116
Spike Level		500	500
Unknown Semi-volatile			
Pentacosane	133	141	128
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221	<0.1		
PCB 1232	<0.1		
PCB 1016	<0.1		
PCB 1242	<0.1		
PCB 1248	<0.1		
PCB 1254	<0.1	102	115
PCB 1260	<0.1		
Spike Level		10	10
Dibutyl Chlorendate	134	140	129
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			#3-08/28/93, #4-08/29/93
CCl4			
TCA			
Benzene			108
TCE			
Toluene			102
PCE			
Ethylbenzene			96
Xylenes			95
Gasoline			
Spike level			
BFB			112

ICF ID	LON-LF07-S07	LON-LF07-S08	LON-LFO7-2S08
F&BI Number	996	994	1778
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	9/5/93
% Dry Weight	85	95	18
Sequence Date	#6-08/28/93	#6-08/28/93	#5-09/06/93
Leaded Gas			
JP-4	<60	<50	<300
Lube Oil	120	<100	<600
Diesel	<60	<50	<300
Spike Level			
Unknown Semi-volatile			
Pentacosane	96	99	110
Sequence Date	#6-08/28/93	#6-08/28/93	
PCB 1221	<0.1	<0.1	
PCB 1232	<0.1	<0.1	
PCB 1016	<0.1	<0.1	
PCB 1242	<0.1	<0.1	
PCB 1248	<0.1	<0.1	
PCB 1254	<0.1	<0.1	
PCB 1260	<0.1	<0.1	
Spike Level			
Dibutyl Chlorendate	101	99	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	
CCl4	<0.02	<0.02	
TCA	<0.02	<0.02	
Benzene	<0.02	<0.02	
TCE	<0.02	<0.02	
Toluene	<0.02	<0.02	
PCE	<0.02	<0.02	
Ethylbenzene	<0.02	<0.02	
Xylenes	<0.04	<0.04	
Gasoline	<2 J	<2 J	
Spike level			
BFB	75	108	

compiled by SGM 10-5-95

ICF ID	LON-LF07-2S09	LON-LF07-SW01	LON-LF07-SW01
F&BI Number	1779	1088	1090
Sample Type	soil	water	water
Date Received	9/5/93	8/27/93	8/27/93
% Dry Weight	64		
Sequence Date	#5-09/06/93	#5-08/30/93	
Leaded Gas			
JP-4	<70	<200	
Lube Oil	<140	<2000	
Diesel	<70	~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane	120	49 outside recovery limits	
Sequence Date		#5-08/30/1993	
PCB 1221		<2 J	
PCB 1232		<2	
PCB 1016		<2	
PCB 1242		<2	
PCB 1248		<2	
PCB 1254		<2	
PCB 1260		<2	
Spike Level			
Dibutyl Chlorendate		49 outside recovery limits	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			#1&2-08/28/93
CCl4			<1
TCA			<1
Benzene			<1
TCE			<1
Toluene			<2 possible carryover J
PCE			<1
Ethylbenzene			<10 possible carryover J
Xylenes			<12 possible carryover J
Gasoline			<50
Spike level			
BFB			118

Compiled by SAM 10-5-95

ICF ID	LON-LF07-SW02	LON-LF07-SW02
F&BI Number	988	990
Sample Type	water	water
Date Received	8/27/93	8/27/93
% Dry Weight		
Sequence Date	#5-08/28/93	
Leaded Gas		
JP-4	<200	
Lube Oil	<2000	
Diesel	~~<200~~ <1000	
Spike Level		
Unknown Semi-volatile		
Pentacosane	111	
Sequence Date	#5-08/28/93	
PCB 1221	<2	
PCB 1232	<2	
PCB 1016	<2	
PCB 1242	<2	
PCB 1248	<2	
PCB 1254	<2	
PCB 1260	<2	
Spike Level		
Dibutyl Chlorendate	111	
Sequence Date		
alpha-BHC		
beta-BHC		
gamma-BHC		
delta-BHC		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
DDE		
Dieldrin		
Endrin		
Endosulfan II		
DDD		
Endrin Aldehyde		
DDT		
Endosulfan Sulfate		
Endrin Ketone		
Methoxy Chlor		
Chlordane		
Dibutyl Chlorendate		
Spike Level		
Vol Sequence		#3-08/28/93, #4-08/29/93
CCl4		<1
TCA		<1
Benzene		<1
TCE		<1
Toluene		<1
PCE		<1
Ethylbenzene		<1
Xylenes		<2
Gasoline		<100 J
Spike level		
BFB		83

Compiled by SGM 10-5-93

ANALYTICAL DATA SHEETS FOR THE GARAGE (SS09)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
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FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-1
Client Sample ID :LON SS09 S05
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70215
Report Completed :10/21/93
Collected :08/27/93 @ 10:30 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, S.W., ROBERT T., AND JERRY M. B = THIS FLAG IS USED WHEN THE ANALYTE IS FOUND IN THE ASSOCIATED BLANK AS WELL AS IN THE SAMPLE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromobenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
cis-1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
trans1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.050	U	mg/Kg	EPA 8260		08/30	09/13	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1979

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-1
Client Sample ID :LON SS09 S05
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Isopropylbenzene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p-Isopropyltoluene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Methylene Chloride	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Napthalene	0.173		mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichlorofluoromethane	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	0.098		mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	0.227		mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.050	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.084		mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.107		mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethyl)ether	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Chlorophenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,3-Dichlorobenzene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,4-Dichlorobenzene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzyl Alcohol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2-Dichlorobenzene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylphenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroisopropyl)e	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Methylphenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
n-Nitroso-di-n-Propylam	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachloroethane	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Nitrobenzene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Isophorone	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Nitrophenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dimethylphenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzoic Acid	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethoxy)Meth	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dichlorophenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2,4-Trichlorobenzene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Naphthalene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloroaniline	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorobutadiene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloro-3-Methylphenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylnaphthalene	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorocyclopentadie	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4,6-Trichlorophenol	7.20	U	mg/Kg	EPA 8270	09/10	10/14	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-1
Client Sample ID :LON SS09 S05
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2,4,5-Trichlorophenol	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
2-Chloronaphthalene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
2-Nitroaniline	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Dimethylphthalate	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Acenaphthylene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
2,6-Dinitrotoluene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
3-Nitroaniline	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Acenaphthene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
2,4-Dinitrophenol	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Nitrophenol	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Dibenzofuran	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
2,4-Dinitrotoluene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Diethylphthalate	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Chlorophenyl-Phenylet	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Fluorene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Nitroaniline	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
4,6-Dinitro-2-Methylphe	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
n-Nitrosodiphenylamine	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Bromophenyl-Phenyleth	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Hexachlorobenzene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Pentachlorophenol	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Phenanthrene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Anthracene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
di-n-Butylphthalate	11.9	B	mg/Kg	EPA 8270		09/10 10/14	GV
Fluoranthene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Pyrene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Butylbenzylphthalate	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
3,3-Dichlorobenzidine	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(a)Anthracene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Chrysene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
bis(2-Ethylhexyl)Phthal	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
di-n-Octylphthalate	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(b)Fluoranthene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(k)Fluoranthene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(a)Pyrene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Indeno(1,2,3-cd)Pyrene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Dibenz(a,h)Anthracene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(g,h,i)Perylene	7.20	U	mg/Kg	EPA 8270		09/10 10/14	GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	2900		mg/Kg	EPA 6010		08/31 09/02	DLG
Antimony	93	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Arsenic	93	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Barium	86		mg/Kg	EPA 6010		08/31 09/02	DLG
Beryllium	46	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Cadmium	4.6	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Calcium	130000		mg/Kg	EPA 6010		08/31 09/02	DLG
Chromium	4.6	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Cobalt	9.3	U	mg/Kg	EPA 6010		08/31 09/02	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-1
Client Sample ID :LON SS09 S05
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Copper	12		mg/Kg	EPA 6010	08/31 09/06	DLG
Iron	15000		mg/Kg	EPA 6010	08/31 09/02	DLG
Lead	9.3	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Magnesium	72000		mg/Kg	EPA 6010	08/31 09/02	DLG
Manganese	200		mg/Kg	EPA 6010	08/31 09/02	DLG
Molybdenum	4.6	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Nickel	7.0		mg/Kg	EPA 6010	08/31 09/02	DLG
Potassium	640		mg/Kg	EPA 6010	08/31 09/06	DLG
Selenium	93	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Silver	4.6	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Sodium	310		mg/Kg	EPA 6010	08/31 09/06	DLG
Thallium	0.47	U	mg/Kg	EPA 7841	08/30 09/01	BMW
Vanadium	26		mg/Kg	EPA 6010	08/31 09/02	DLG
Zinc	19		mg/Kg	EPA 6010	08/31 09/02	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Kemlab Ref.# :93.4626-7
Client Sample ID :LON-SS09-2S04
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 13:10 hrs
Received :09/07/93 @ 11:00 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Houstead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G.

Analysis/Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.025	U	mg/Kg	EPA 8260	(J) -A.1	09/08	09/30	KWM
Bromobenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromochloromethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromodichloromethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromoform	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromomethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
n-Butylbenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
sec-Butylbenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
tert-Butylbenzne	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Carbon Tetrachloride	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chlorobenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroform	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloromethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2-Chlorotoluene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
4-Chlorotoluene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromochloromethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
12Dibromo3Chloropropane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dibromoethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromomethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichlorobenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichlorobenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,4-Dichlorobenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dichlorodifluoromethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloroethane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
cis-1,2-Dichloroethene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
trans1,2-Dichloroethene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloropropane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichloropropane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2,2-Dichloropropane	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloropropene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Ethylbenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Hexachlorobutadiene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Isopropylbenzene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM
p-Isopropyltoluene	0.025	U	mg/Kg	EPA 8260		09/08	09/30	KWM

3-10-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-7
Client Sample ID :LON-SS09-2S04
Matrix :SOIL

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.025	U	mg/Kg	EPA 8260(J)-A.1	09/08	09/30	KWM
Napthalene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
n-Propylbenzene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Styrene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1112-Tetrachloroethane	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1122-Tetrachloroethane	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Tetrachloroethene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Toluene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,3-Trichlorobenzene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,4-Trichlorobenzene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,1,1-Trichloroethane	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,1,2-Trichloroethane	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Trichloroethene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Trichlorofluoromethane	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,3-Trichloropropane	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,4-Trimethylbenzene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,3,5-Trimethylbenzene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Vinyl Chloride	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
p+m-Xylene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM
o-Xylene	0.025	U	mg/Kg	EPA 8260	09/08	09/30	KWM

3-10-94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4626-8
Client Sample ID :LON-SS09-2S06
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 13:20 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromochloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromodichloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromoform	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromomethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
n-Butylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
sec-Butylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
tert-Butylbenzne	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Carbon Tetrachloride	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroform	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2-Chlorotoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
4-Chlorotoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromochloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
12Dibromo3Chloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dibromoethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromomethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,4-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dichlorodifluoromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
cis-1,2-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
transi,2-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2,2-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloropropene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Ethylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Hexachlorobutadiene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Isopropylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
p-Isopropyltoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-8
Client Sample ID :LON-SS09-2S06
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Napthalene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
n-Propylbenzene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Styrene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1112-Tetrachloroethane	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1122-Tetrachloroethane	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Tetrachloroethene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Toluene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,3-Trichlorobenzene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,4-Trichlorobenzene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,1,1-Trichloroethane	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,1,2-Trichloroethane	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Trichloroethene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Trichlorofluoromethane	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,3-Trichloropropane	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,4-Trimethylbenzene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,3,5-Trimethylbenzene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Vinyl Chloride	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
p+m-Xylene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM
o-Xylene	0.022	U	mg/Kg	EPA 8260	09/08	09/30	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-9
Client Sample ID :LON-SS09-2S06 SPIKE
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 13:20 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Honstead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. FOR SPIKE AND SPIKE DUP RECOVERIES, SEE QC SUMMARY.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.221		mg/Kg	EPA 8260		09/08	09/30	KWM
Bromobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromochloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromodichloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromoform	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromomethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
n-Butylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
sec-Butylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
tert-Butylbenzne	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Carbon Tetrachloride	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chlorobenzene	0.215		mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroform	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2-Chlorotoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
4-Chlorotoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromochloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
12Dibromo3Chloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dibromoethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromomethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,4-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dichlorodifluoromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethene	0.043		mg/Kg	EPA 8260		09/08	09/30	KWM
cis-1,2-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
trans1,2-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2,2-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloropropene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Ethylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Hexachlorobutadiene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Isopropylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-9
Client Sample ID :LON-SS09-2S06 SPIKE
Matrix :SOIL

p-Isopropyltoluene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Methylene Chloride	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Napthalene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
n-Propylbenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Styrene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1112-Tetrachloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1122-Tetrachloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Tetrachloroethene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Toluene	0.224		mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,3-Trichlorobenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,4-Trichlorobenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,1,1-Trichloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,1,2-Trichloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Trichloroethene	0.199		mg/Kg	EPA 8260	09/08 09/30	KWM
Trichlorofluoromethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,3-Trichloropropane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,4-Trimethylbenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,3,5-Trimethylbenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Vinyl Chloride	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
p+m-Xylene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
o-Xylene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-10
Client Sample ID :LON-SS09-2S06 SPIKE DUPLICATE
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 13:20 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN, C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. FOR SPIKE AND SPIKE DUP RECOVERIES, SEE QC SUMMARY.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.219		mg/Kg	EPA 8260		09/08	09/30	KWM
Bromobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromochloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromodichloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromoform	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromomethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
n-Butylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
sec-Butylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
tert-Butylbenzne	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Carbon Tetrachloride	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chlorobenzene	0.223		mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroform	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2-Chlorotoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
4-Chlorotoluene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromochloromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
12Dibromo3Chloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dibromoethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromomethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,4-Dichlorobenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dichlorodifluoromethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloroethane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethene	0.043		mg/Kg	EPA 8260		09/08	09/30	KWM
cis-1,2-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
trans1,2-Dichloroethene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2,2-Dichloropropane	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloropropene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Ethylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Hexachlorobutadiene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Isopropylbenzene	0.022	U	mg/Kg	EPA 8260		09/08	09/30	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-10
Client Sample ID :LON-SS09-2S06 SPIKE DUPLICATE
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

p-Isopropyltoluene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Methylene Chloride	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Napthalene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
n-Propylbenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Styrene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1112-Tetrachloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1122-Tetrachloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Tetrachloroethene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Toluene	0.236		mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,3-Trichlorobenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,4-Trichlorobenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,1,1-Trichloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,1,2-Trichloroethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Trichloroethene	0.201		mg/Kg	EPA 8260	09/08 09/30	KWM
Trichlorofluoromethane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,3-Trichloropropane	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,2,4-Trimethylbenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
1,3,5-Trimethylbenzene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
Vinyl Chloride	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
p+m-Xylene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM
o-Xylene	0.022	U	mg/Kg	EPA 8260	09/08 09/30	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-11
Client Sample ID :LON-SS09-2S07
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 13:30 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromobenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromochloromethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromodichloromethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromoform	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromomethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
n-Butylbenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
sec-Butylbenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
tert-Butylbenzne	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Carbon Tetrachloride	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chlorobenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroform	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloromethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2-Chlorotoluene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
4-Chlorotoluene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromochloromethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
12Dibromo3Chloropropane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dibromoethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromomethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichlorobenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichlorobenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,4-Dichlorobenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dichlorodifluoromethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloroethane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
cis-1,2-Dichloroethene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
trans1,2-Dichloroethene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloropropane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichloropropane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2,2-Dichloropropane	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloropropene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Ethylbenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Hexachlorobutadiene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Isopropylbenzene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM
p-Isopropyltoluene	0.400	U	mg/Kg	EPA 8260		09/08	09/30	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-11
Client Sample ID :LON-SS09-2S07
Matrix :SOIL

Methylene Chloride	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Napthalene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
n-Propylbenzene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Styrene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1112-Tetrachloroethane	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1122-Tetrachloroethane	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Tetrachloroethene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Toluene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,3-Trichlorobenzene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,4-Trichlorobenzene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,1,1-Trichloroethane	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,1,2-Trichloroethane	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Trichloroethene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Trichlorofluoromethane	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,3-Trichloropropane	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,2,4-Trimethylbenzene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
1,3,5-Trimethylbenzene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
Vinyl Chloride	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
p+m-Xylene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM
o-Xylene	0.400	U	mg/Kg	EPA 8260	09/08	09/30	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-2
Client Sample ID :LON SS09 SD01
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70215
Report Completed :10/21/93
Collected :08/27/93 @ 09:30 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, S.W., ROBERT T., AND JERRY M. B = THIS FLAG IS USED WHEN THE ANALYTE IS FOUND IN THE ASSOCIATED BLANK AS WELL AS IN THE SAMPLE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
cis-1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
trans1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM

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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-2
Client Sample ID :LON SS09 SD01
Matrix :SOIL

Isopropylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p-Isopropyltoluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Methylene Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Napthalene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichlorofluoromethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.021		mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.024		mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethyl)ether	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Chlorophenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,3-Dichlorobenzene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,4-Dichlorobenzene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzyl Alcohol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2-Dichlorobenzene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylphenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroisopropyl)e	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Methylphenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
n-Nitroso-di-n-Propylam	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachloroethane	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Nitrobenzene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Isophorone	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Nitrophenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dimethylphenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzoic Acid	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethoxy)Meth	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dichlorophenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2,4-Trichlorobenzene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Naphthalene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloroaniline	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorobutadiene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloro-3-Methylphenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylnaphthalene	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorocyclopentadie	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4,6-Trichlorophenol	3.30	U	mg/Kg	EPA 8270	09/10	10/14	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-2
Client Sample ID :LON SS09 SD01
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2,4,5-Trichlorophenol	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
2-Chloronaphthalene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
2-Nitroaniline	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Dimethylphthalate	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Acenaphthylene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
2,6-Dinitrotoluene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
3-Nitroaniline	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Acenaphthene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
2,4-Dinitrophenol	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Nitrophenol	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Dibenzofuran	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
2,4-Dinitrotoluene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Diethylphthalate	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Chlorophenyl-Phenylet	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Fluorene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Nitroaniline	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
4,6-Dinitro-2-Methylphe	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
n-Nitrosodiphenylamine	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
4-Bromophenyl-Phenyleth	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Hexachlorobenzene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Pentachlorophenol	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Phenanthrene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Anthracene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
di-n-Butylphthalate	15.3	B	mg/Kg	EPA 8270		09/10 10/14	GV
Fluoranthene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Pyrene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Butylbenzylphthalate	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
3,3-Dichlorobenzidine	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(a)Anthracene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Chrysene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
bis(2-Ethylhexyl)Phthal	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
di-n-Octylphthalate	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(b)Fluoranthene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(k)Fluoranthene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(a)Pyrene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Indeno(1,2,3-cd)Pyrene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Dibenz(a,h)Anthracene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Benzo(g,h,i)Perylene	3.30	U	mg/Kg	EPA 8270		09/10 10/14	GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	2100		mg/Kg	EPA 6010		08/31 09/02	DLG
Antimony	49	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Arsenic	49	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Barium	50		mg/Kg	EPA 6010		08/31 09/02	DLG
Beryllium	25	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Cadmium	2.5	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Calcium	39000		mg/Kg	EPA 6010		08/31 09/02	DLG
Chromium	2.5	U	mg/Kg	EPA 6010		08/31 09/02	DLG
Cobalt	4.9	U	mg/Kg	EPA 6010		08/31 09/02	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
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REPORT of ANALYSIS

Chemlab Ref.# :93.4427-2
Client Sample ID :LON SS09 SD01
Matrix :SOIL

Copper	5.4		mg/Kg	EPA 6010	08/31 09/06	DLG
Iron	9500		mg/Kg	EPA 6010	08/31 09/02	DLG
Lead	4.9	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Magnesium	22000		mg/Kg	EPA 6010	08/31 09/02	DLG
Manganese	91		mg/Kg	EPA 6010	08/31 09/02	DLG
Molybdenum	2.5	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Nickel	4.4		mg/Kg	EPA 6010	08/31 09/02	DLG
Potassium	330		mg/Kg	EPA 6010	08/31 09/06	DLG
Selenium	49	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Silver	2.5	U	mg/Kg	EPA 6010	08/31 09/02	DLG
Sodium	220		mg/Kg	EPA 6010	08/31 09/06	DLG
Thallium	0.25	U	mg/Kg	EPA 7841	08/30 09/01	KAW
Vanadium	14		mg/Kg	EPA 6010	08/31 09/02	DLG
Zinc	14		mg/Kg	EPA 6010	08/31 09/02	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-3
Client Sample ID :LON SS09 SD03
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70215
Report Completed :10/21/93
Collected :08/27/93 @ 09:30 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Hamstead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, S.W., ROBERT T., AND JERRY M. B = THIS FLAG IS USED WHEN THE ANALYTE IS FOUND IN THE ASSOCIATED BLANK AS WELL AS IN THE SAMPLE.

Qualifier / Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.020	U	mg/Kg	EPA 8260	(J)-A.1	08/30	09/13	KWM
Bromobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromoform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Bromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
n-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
sec-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
tert-Butylbenzne	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloroform	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Chloromethane	0.020	U	mg/Kg	EPA 8260	,D.1	08/30	09/13	KWM
2-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
4-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
12Dibromo3Chloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dibromoethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dibromomethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,4-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Dichlorodifluoromethane	0.020	U	mg/Kg	EPA 8260	, D.1	08/30	09/13	KWM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8260	, D.1	08/30	09/13	KWM
cis-1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
transl,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,3-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
2,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
1,1-Dichloropropene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Ethylbenzene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM
Hexachlorobutadiene	0.020	U	mg/Kg	EPA 8260		08/30	09/13	KWM

cod 2/28/94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968
5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-3
Client Sample ID :LON SS09 SD03
Matrix :SOIL

Qualifier Comments

Isopropylbenzene	0.020	U	mg/Kg	EPA 8260 (J)-A.1	08/30	09/13	KWM
p-Isopropyltoluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Methylene Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Napthalene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
n-Propylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Styrene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1112-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Toluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Trichloroethene	0.020	U	mg/Kg	EPA 8260 ,D.1	08/30	09/13	KWM
Trichlorofluoromethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,3-Trichloropropane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,2,4-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
1,3,5-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWM
p+m-Xylene	0.037		mg/Kg	EPA 8260	08/30	09/13	KWM
o-Xylene	0.032		mg/Kg	EPA 8260	08/30	09/13	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethyl)ether	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Chlorophenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,3-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,4-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzyl Alcohol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroisopropyl)e	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
n-Nitroso-di-n-Propylam	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachloroethane	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Nitrobenzene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Isophorone	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Nitrophenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dimethylphenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzoic Acid	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethoxy)Meth	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dichlorophenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2,4-Trichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Naphthalene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloroaniline	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorobutadiene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloro-3-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylnaphthalene	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorocyclopentadie	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4,6-Trichlorophenol	0.220	U	mg/Kg	EPA 8270	09/10	10/14	GV

2-28-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
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REPORT of ANALYSIS

Chemlab Ref.# :93.4427-3
Client Sample ID :LON SS09 SD03
Matrix :SOIL

Qualifiers/Comments

2,4,5-Trichlorophenol	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
2-Chloronaphthalene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
2-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Dimethylphthalate	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Acenaphthylene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
2,6-Dinitrotoluene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
3-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Acenaphthene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
2,4-Dinitrophenol	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
4-Nitrophenol	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Dibenzofuran	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
2,4-Dinitrotoluene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Diethylphthalate	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
4-Chlorophenyl-Phenylet	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Fluorene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
4-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
4,6-Dinitro-2-Methylphe	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
n-Nitrosodiphenylamine	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
4-Bromophenyl-Phenyleth	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Hexachlorobenzene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Pentachlorophenol	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Phenanthrene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Anthracene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
di-n-Butylphthalate	2.13	B	mg/Kg	EPA 8270	(u) - E.1	09/10	10/14 GV
Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Pyrene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Butylbenzylphthalate	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
3,3-Dichlorobenzidine	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Benzo(a)Anthracene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Chrysene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
bis(2-Ethylhexyl)Phthal	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
di-n-Octylphthalate	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Benzo(b)Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Benzo(k)Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Benzo(a)Pyrene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Indeno(1,2,3-cd)Pyrene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Dibenz(a,h)Anthracene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Benzo(g,h,i)Perylene	0.220	U	mg/Kg	EPA 8270		09/10	10/14 GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	1800	J	mg/Kg	J.1 EPA 6010		08/31	09/02 DLG
Antimony	54	U	mg/Kg	EPA 6010		08/31	09/02 DLG
Arsenic	54	U	mg/Kg	EPA 6010		08/31	09/02 DLG
Barium	64	J	mg/Kg	J.1 EPA 6010		08/31	09/02 DLG
Beryllium	27	U	mg/Kg	EPA 6010		08/31	09/02 DLG
Cadmium	2.7	U	mg/Kg	EPA 6010		08/31	09/02 DLG
Calcium	63000	J	mg/Kg	J.1 EPA 6010		08/31	09/02 DLG
Chromium	2.7	U	mg/Kg	EPA 6010		08/31	09/02 DLG
Cobalt	5.4	U	mg/Kg	EPA 6010		08/31	09/02 DLG

original changes by D.L 2/16/94

CG 3-9-94

Compiled: SMF 11.16.94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

5633 B ST
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-3
Client Sample ID :LON SS09 SD03
Matrix :SOIL

		Qualifiers	Comment				
Copper	6.3		mg/Kg	EPA 6010	08/31	09/06	DLG
Iron	8800		mg/Kg	EPA 6010	08/31	09/02	DLG
Lead	5.4	U	mg/Kg	EPA 6010	08/31	09/02	DLG
Magnesium	37000	J	mg/Kg J.1	EPA 6010	08/31	09/02	DLG
Manganese	110	J	mg/Kg J.1	EPA 6010	08/31	09/02	DLG
Molybdenum	2.7	U	mg/Kg	EPA 6010	08/31	09/02	DLG
Nickel	4.0		mg/Kg	EPA 6010	08/31	09/06	DLG
Potassium	380		mg/Kg	EPA 6010	08/31	09/02	DLG
Selenium	54	U	mg/Kg	EPA 6010	08/31	09/02	DLG
Silver	2.7	U J	mg/Kg B.1	EPA 6010	08/31	09/02	DLG
Sodium	200		mg/Kg	EPA 6010	08/31	09/06	DLG
Thallium	0.26	U	mg/Kg	EPA 7841	08/30	09/01	KAW
Vanadium	15		mg/Kg	EPA 6010	08/31	09/02	DLG
Zinc	11		mg/Kg	EPA 6010	08/31	09/02	DLG

All chgs n.c 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyze
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-4
Client Sample ID :LON SS09 SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70215
Report Completed :10/21/93
Collected :08/27/93 @ 09:15 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, S.W., ROBERT T., AND JERRY M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0015		mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
transi,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4427-4
Client Sample ID :LON SS09 SW01
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0048		mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0021		mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0017		mg/L	EPA 8260	09/03	09/03	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.050	U	mg/L	EPA 8270	09/03	09/27	
bis(2-Chloroethyl)ether	0.050	U	mg/L	EPA 8270	09/03	09/27	
2-Chlorophenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
1,3-Dichlorobenzene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
1,4-Dichlorobenzene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Benzyl Alcohol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
1,2-Dichlorobenzene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylphenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroisopropyl)e	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
4-Methylphenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
n-Nitroso-di-n-Propylam	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachloroethane	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Nitrobenzene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Isophorone	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2-Nitrophenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dimethylphenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Benzoic Acid	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethoxy)Meth	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dichlorophenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
1,2,4-Trichlorobenzene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Naphthalene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloroaniline	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorobutadiene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloro-3-Methylphenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylnaphthalene	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorocyclopentadie	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,6-Trichlorophenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,5-Trichlorophenol	0.050	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chloronaphthalene	0.050	U	mg/L	EPA 8270	09/03	09/27	

COMMERCIAL TESTING & ENGINEERING CO.
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SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4427-4
Client Sample ID :LON SS09 SW01
Matrix :WATER

2-Nitroaniline	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Dimethylphthalate	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthylene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
2,6-Dinitrotoluene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
3-Nitroaniline	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrophenol	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitrophenol	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenzofuran	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrotoluene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Diethylphthalate	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
4-Chlorophenyl-Phenylet	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Fluorene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitroaniline	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
4,6-Dinitro-2-Methylphe	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
n-Nitrosodiphenylamine	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
4-Bromophenyl-Phenyleth	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Hexachlorobenzene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Pentachlorophenol	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Phenanthrene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Anthracene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Butylphthalate	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Fluoranthene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Pyrene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Butylbenzylphthalate	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
3,3-Dichlorobenzidine	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Anthracene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Chrysene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
bis(2-Ethylhexyl)Phthal	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Octylphthalate	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(b)Fluoranthene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(k)Fluoranthene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Pyrene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Indeno(1,2,3-cd)Pyrene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenz(a,h)Anthracene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(g,h,i)Perylene	0.050	U	mg/L	EPA 8270		09/03 09/27	GV
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.29		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	48		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.4		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-4
Client Sample ID :LON SS09 SW01
Matrix :WATER

Qualified Comment

Magnesium	46		mg/L	EPA 6010		09/07	09/10	DLG
Manganese	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Potassium	11		mg/L	EPA 6010		09/07	09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Silver	0.050	U J	mg/L B.1	EPA 6010		09/07	09/10	DLG
Sodium	150	J	mg/L J.1	EPA 6010		09/07	09/10	DLG
Thallium	0.0050	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Dissolved Metals Analys	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/11	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/11	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/11	09/14	DFL
Barium	0.27		mg/L	EPA 6010		09/11	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Calcium	47		mg/L	EPA 6010		09/11	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/11	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Iron	0.59		mg/L	EPA 6010		09/11	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/11	09/14	DFL
Magnesium	46		mg/L	EPA 6010		09/11	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Potassium	11		mg/L	EPA 6010		09/11	09/14	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/11	09/14	DFL
Silver	0.050	U J	mg/L B 1,J.1	EPA 6010		09/11	09/14	DFL
Sodium	150	J	mg/L J.1	EPA 6010		09/11	09/14	DLG
Thallium	0.0050	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL
Zinc	0.050	U	mg/L	EPA 6010		09/11	09/14	DFL

all charges s.c 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4427-5
Client Sample ID :LON SS09 SW02
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70215
Report Completed :10/21/93
Collected :08/27/93 @ 09:45 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, S.W., ROBERT T., AND JERRY M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
ert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
arbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
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REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4427-5
Client Sample ID :LON SS09 SW02
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.011	U	mg/L	EPA 8270	09/03	09/27	[redacted]
bis(2-Chloroethyl)ether	0.011	U	mg/L	EPA 8270	09/03	09/27	[redacted]
2-Chlorophenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
1,3-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
1,4-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Benzyl Alcohol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
1,2-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylphenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroisopropyl)e	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
4-Methylphenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
n-Nitroso-di-n-Propylam	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachloroethane	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Nitrobenzene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Isophorone	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2-Nitrophenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dimethylphenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Benzoic Acid	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethoxy)Meth	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dichlorophenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
1,2,4-Trichlorobenzene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Naphthalene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloroaniline	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorobutadiene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloro-3-Methylphenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylnaphthalene	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorocyclopentadie	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,6-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,5-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chloronaphthalene	0.011	U	mg/L	EPA 8270	09/03	09/27	[redacted]

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
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REPORT of ANALYSIS

Chemlab Ref.# :93.4427-5
Client Sample ID :LON SS09 SW02
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Dimethylphthalate	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthylene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
2,6-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
3-Nitroaniline	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrophenol	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitrophenol	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenzofuran	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Diethylphthalate	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
4-Chlorophenyl-Phenylet	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Fluorene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitroaniline	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
4,6-Dinitro-2-Methylphe	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
n-Nitrosodiphenylamine	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
4-Bromophenyl-Phenyleth	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Hexachlorobenzene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Pentachlorophenol	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Phenanthrene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Anthracene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Butylphthalate	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Fluoranthene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Pyrene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Butylbenzylphthalate	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
3,3-Dichlorobenzidine	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Anthracene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Chrysene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
bis(2-Ethylhexyl)Phthal	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Octylphthalate	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(b)Fluoranthene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(k)Fluoranthene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Pyrene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Indeno(1,2,3-cd)Pyrene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenz(a,h)Anthracene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(g,h,i)Perylene	0.011	U	mg/L	EPA 8270		09/03 09/27	GV
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.25		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	46		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.2		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1928

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4427-5
Client Sample ID :LON SS09 SW02
Matrix :WATER

Magnesium	44		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	9.3		mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	140		mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.0050	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.24		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	45		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	
Iron	0.64		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Magnesium	44		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	9.6		mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	140		mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.0050	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.
UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

Compiled by sqm 10-5-95

ICF ID	LON-SS09-S01	LON-SS09-S02	LON-SS09-S03
F&BI Number	998	1000	1004
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	96	97	90
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<50	<50	<60
Lube Oil	3100	4000	10000
Diesel	4100 J	12000 oil J	16000 oil J
Spike Level			
Unknown Semi-volatile			
Pentacosane	140	150	200 outside recovery rang
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
PCB 1221	<0.1	<0.1	<0.1
PCB 1232	<0.1	<0.1	<0.1
PCB 1016	<0.1	<0.1	<0.1
PCB 1242	<0.1	<0.1	<0.1
PCB 1248	<0.1	<0.1	<0.1
PCB 1254	<0.1	<0.1	<0.1
PCB 1260	<0.1	<0.1	<0.1
Spike Level			
Dibutyl Chlorendate	140	111	108
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/31/93	#3&4-08/31/93	#3&4-08/31/93
CCl4	0.05 J	<0.02	<0.02
TCA	<0.02	<0.02	<0.02
Benzene	0.28 J	0.1 J	<0.1
TCE	0.5 J	<0.02	<0.02
Toluene	0.74	0.4 J	0.08 J
PCE	7.8 J	11 J	18 J
Ethylbenzene	6	1 J	0.9
Xylenes	15 J	11 J	30 J
Gasoline	170 J	240 diesel J	~~90~~ diesel outside calibration r J
Spike level			
BFB	120	160 outside recovery limits	190 outside recovery limits

ICF ID	LON-SS09-S05	LON-SS09-S06	LON-SS09-2S04
F&BI Number	1006	1008	1756
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	9/5/93
% Dry Weight	87	49	20
Sequence Date	#6-08/29/93	#6-08/29/93	#5-09/06/93
Leaded Gas			
JP-4	<60	<100	<250
Lube Oil	<110	190	<500
Diesel	~~70 oil~~ <60 J	<100	<250
Spike Level			
Unknown Semi-volatile			
Pentacosane	90	88	110
Sequence Date	#6-08/29/93	#6-08/29/93	
PCB 1221	<0.1	~~<0.02~~ <0.1	
PCB 1232	<0.1	~~<0.02~~	
PCB 1016	<0.1	~~<0.02~~	
PCB 1242	<0.1	~~<0.02~~	
PCB 1248	<0.1	~~<0.02~~	
PCB 1254	<0.1	~~<0.02~~	
PCB 1260	<0.1	~~<0.02~~	
Spike Level			
Dibutyl Chlorendate	90	88	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#3&4-08/31/93	#1&2-09/07/93
CCl4	<0.02	~~<0.02~~ <0.04	<0.5
TCA	<0.02	~~<0.02~~	<0.5
Benzene	<0.02	~~<0.02~~	<0.1
TCE	<0.02	~~<0.02~~	<0.5
Toluene	<0.02	~~<0.02~~	<0.1
PCE	<0.02	~~<0.02~~	<0.5
Ethylbenzene	<0.02	~~<0.02~~	<0.1
Xylenes	<0.04	~~<0.2~~ <0.4	<0.2
Gasoline	<2 J	12 diesel J	<5 J
Spike level			
BFB	115	115	99

Compiled by SAM 10-5-95

ICF ID	LON-SS09-2S06	LON-SS09-2S07	LON-SS09-SD01
F&BI Number	1758	1760	1022
Sample Type	soil	soil	soil
Date Received	9/5/93	9/5/93	8/27/93
% Dry Weight	90	20	85
Sequence Date	#5-09/06/93	#5-09/06/93	
Leaded Gas			
JP-4	<60	<250	
Lube Oil	<120	<500	
Diesel	<60	<250	
Spike Level			
Unknown Semi-volatile			
Pentacosane	112	120	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-09/07/93	#1&2-09/07/93	#1&2-08/28/93
CCl4	<0.2	<0.5	<0.02
TCA	<0.2	<0.5	<0.02
Benzene	<0.02	<0.1	<0.02
TCE	<0.2	<0.5	<0.02
Toluene	<0.02	<0.1	<0.02
PCE	<0.2	<0.5	<0.02
Ethylbenzene	<0.02	<0.1	<0.02
Xylenes	<0.04	<0.2	<0.2
Gasoline	<1 J	<5 J	<2 J
Spike level			
BFB	94	103	112

compiled by SAM 10-5-95

ICF ID	LON-SS09-SD02	LON-SS09-SW01	LON-SS09-SW01
F&BI Number	1034	1010	1012
Sample Type	soil	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	79		
Sequence Date	#6-08/29/93	#5-08/30/93	
Leaded Gas			
JP-4	<60	<200	
Lube Oil	<130	<2000	
Diesel	~~90 oil~~ <90	~~<200~~ <1000 J	
Spike Level			
Unknown Semi-volatile			
Pentacosane	90	40 outside recovery limits	
Sequence Date	#6-08/29/93	#5-08/30/1993	
PCB 1221	<0.1	<2 J	
PCB 1232	<0.1	<2	
PCB 1016	<0.1	<2	
PCB 1242	<0.1	<2	
PCB 1248	<0.1	<2	
PCB 1254	<0.1	<2	
PCB 1260	<0.1	<2	
Spike Level			
Dibutyl Chlorendate	90	40 outside recovery limits	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31/93		#1&2-08/28/93
CCl4	<0.02		<1
TCA	<0.02		<1
Benzene	<0.02		2 J
TCE	<0.02		<1
Toluene	<0.02		6
PCE	<0.02		<1
Ethylbenzene	<0.02		<1
Xylenes	<0.04		6 J
Gasoline	<2 J		<50J
Spike level			
BFB	101		106

Compiled by SMM 10-05-95

Compiled by SAM 10-5-95

ICF ID	LON-SS09-SW02	LON-SS09-SW02
F&BI Number	1016	1018
Sample Type	water	water
Date Received	8/27/93	8/27/93
% Dry Weight		
Sequence Date	#5-08/30/93	
Leaded Gas		
JP-4	<200	
Lube Oil	<2000	
Diesel	~~<200~~ <1000 J	
Spike Level		
Unknown Semi-volatile		
Pentacosane	39 outside recovery limits	
Sequence Date	#5-08/30/1993	
PCB 1221	<2 J	
PCB 1232	<2	
PCB 1016	<2	
PCB 1242	<2	
PCB 1248	<2	
PCB 1254	<2	
PCB 1260	<2	
Spike Level		
Dibutyl Chlorendate	39 outside recovery limits	
Sequence Date		
alpha-BHC		
beta-BHC		
gamma-BHC		
delta-BHC		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
DDE		
Dieldrin		
Endrin		
Endosulfan II		
DDD		
Endrin Aldehyde		
DDT		
Endosulfan Sulfate		
Endrin Ketone		
Methoxy Chlor		
Chlordane		
Dibutyl Chlorendate		
Spike Level		
Vol Sequence		#1&2-08/28/93
CCl4		<1
TCA		<1
Benzene		2 J
TCE		<1
Toluene		<1
PCE		<1
Ethylbenzene		<1
Xylenes		<2
Gasoline		<50 J
Spike level		
BFB		95

ANALYTICAL DATA SHEETS FOR THE DIESEL TANK (WEST OF HANGAR) (ST10)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4426-1
Client Sample ID :LON ST10 SD03
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70213
Report Completed :11/16/93
Collected :08/27/93 @ 11:31 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z. VOC CONTAINER BROKEN ON ARRIVAL TO LAB.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Bromobenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Bromochloromethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Bromodichloromethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Bromoform	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Bromomethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
n-Butylbenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
sec-Butylbenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
tert-Butylbenzne	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Carbon Tetrachloride	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Chlorobenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Chloroethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Chloroform	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Chloromethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
2-Chlorotoluene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
4-Chlorotoluene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Dibromochloromethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
12Dibromo3Chloropropane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,2-Dibromoethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Dibromomethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,2-Dichlorobenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,3-Dichlorobenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,4-Dichlorobenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Dichlorodifluoromethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,1-Dichloroethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,2-Dichloroethane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,1-Dichloroethene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
cis-1,2-Dichloroethene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
trans1,2-Dichloroethene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,2-Dichloropropane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,3-Dichloropropane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
2,2-Dichloropropane	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
1,1-Dichloropropene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Ethylbenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Hexachlorobutadiene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM
Isopropylbenzene	0.250	U	mg/Kg	EPA 8260		08/30	09/06	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4426-1
Client Sample ID :LON ST10 SD03
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

p-Isopropyltoluene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Methylene Chloride	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Napthalene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
n-Propylbenzene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Styrene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1112-Tetrachloroethane	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1122-Tetrachloroethane	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Tetrachloroethene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Toluene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,2,3-Trichlorobenzene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,2,4-Trichlorobenzene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,1,1-Trichloroethane	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,1,2-Trichloroethane	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Trichloroethene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Trichlorofluoromethane	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,2,3-Trichloropropane	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,2,4-Trimethylbenzene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
1,3,5-Trimethylbenzene	0.284		mg/Kg	EPA 8260	08/30 09/06	KWM
Vinyl Chloride	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
p+m-Xylene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
o-Xylene	0.250	U	mg/Kg	EPA 8260	08/30 09/06	KWM
Semivolatile Organics				EPA 8270		
Phenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
bis(2-Chloroethyl)ether	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2-Chlorophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
1,3-Dichlorobenzene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
1,4-Dichlorobenzene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzyl Alcohol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
1,2-Dichlorobenzene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2-Methylphenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
bis(2-Chloroisopropyl)e	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Methylphenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
n-Nitroso-di-n-Propylam	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Hexachloroethane	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Nitrobenzene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Isophorone	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2-Nitrophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,4-Dimethylphenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzoic Acid	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
bis(2-Chloroethoxy)Meth	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,4-Dichlorophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
1,2,4-Trichlorobenzene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Naphthalene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Chloroaniline	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Hexachlorobutadiene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Chloro-3-Methylphenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2-Methylnaphthalene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Hexachlorocyclopentadie	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,4,6-Trichlorophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,4,5-Trichlorophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV

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ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS ACL

Chemlab Ref.# :93.4426-1
Client Sample ID :LON ST10 SD03
Matrix :SOIL

2-Chloronaphthalene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2-Nitroaniline	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Dimethylphthalate	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Acenaphthylene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,6-Dinitrotoluene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
3-Nitroaniline	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Acenaphthene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,4-Dinitrophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Nitrophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Dibenzofuran	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
2,4-Dinitrotoluene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Diethylphthalate	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Chlorophenyl-Phenylet	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Fluorene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Nitroaniline	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4,6-Dinitro-2-Methylphe	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
n-Nitrosodiphenylamine	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
4-Bromophenyl-Phenyleth	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Hexachlorobenzene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Pentachlorophenol	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Phenanthrene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Anthracene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
di-n-Butylphthalate	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Fluoranthene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Pyrene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Butylbenzylphthalate	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
3,3-Dichlorobenzidine	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzo(a)Anthracene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Chrysene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
bis(2-Ethylhexyl)Phthal	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
di-n-Octylphthalate	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzo(b)Fluoranthene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzo(k)Fluoranthene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzo(a)Pyrene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Indeno(1,2,3-cd)Pyrene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Dibenz(a,h)Anthracene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV
Benzo(g,h,i)Perylene	0.250	U	mg/Kg	EPA 8270	09/10 10/14	GV

* See Special Instructions Above
* See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Lab Ref.# :93.4626-12
Client Sample ID :LON-ST10-2SD09
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 14:30 hrs
Received :09/07/93 @ 11:00 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G.

Qualifier/Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.030	U	mg/Kg	EPA 8260	(A) - A.1	09/08	09/30	KWM
Bromobenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromochloromethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromodichloromethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromoform	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Bromomethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
n-Butylbenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
sec-Butylbenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
tert-Butylbenzne	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Carbon Tetrachloride	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chlorobenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloroform	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Chloromethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
4-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromochloromethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
12Dibromo3Chloropropane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dibromoethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dibromomethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,4-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Dichlorodifluoromethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloroethane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloroethene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
cis-1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
trans1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,3-Dichloropropane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
2,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
1,1-Dichloropropene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Ethylbenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Hexachlorobutadiene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
Isopropylbenzene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM
p-Isopropyltoluene	0.030	U	mg/Kg	EPA 8260		09/08	09/30	KWM

3.10.94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-12
Client Sample ID :LON-ST10-2SD09
Matrix :SOIL

Qualifier Comments

Methylene Chloride	0.030	U	mg/Kg	EPA 8260	(J)-4.1	09/08 09/30	KWM
Napthalene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
n-Propylbenzene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
Styrene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1112-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1122-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
Tetrachloroethene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
Toluene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,2,3-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,2,4-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,1,1-Trichloroethane	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,1,2-Trichloroethane	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
Trichloroethene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
Trichlorofluoromethane	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,2,3-Trichloropropane	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,2,4-Trimethylbenzene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
1,3,5-Trimethylbenzene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
Vinyl Chloride	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
p+m-Xylene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM
o-Xylene	0.030	U	mg/Kg	EPA 8260		09/08 09/30	KWM

DP
3-10-94

See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
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COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-2
Client Sample ID :LON ST10 SW02
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70213
Report Completed :11/16/93
Collected :08/27/93 @ 12:00 hr
Received :08/29/93 @ 12:45 hr
Technical Director:STEPHEN C. EDE
Released By : Stephen C Ede

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Ini
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dichloroethane	0.0020		mg/L	EPA 8260		09/03	09/03	KWI
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWI

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS DCE

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-2
Client Sample ID :LON ST10 SW02
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWI
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethyl)ether	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chlorophenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
1,3-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
1,4-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Benzyl Alcohol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
1,2-Dichlorobenzene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylphenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroisopropyl)e	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
4-Methylphenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
n-Nitroso-di-n-Propylam	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachloroethane	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Nitrobenzene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Isophorone	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2-Nitrophenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dimethylphenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Benzoic Acid	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethoxy)Meth	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dichlorophenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
1,2,4-Trichlorobenzene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Naphthalene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloroaniline	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorobutadiene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloro-3-Methylphenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylnaphthalene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorocyclopentadie	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,6-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,5-Trichlorophenol	0.010	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chloronaphthalene	0.010	U	mg/L	EPA 8270	09/03	09/27	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STR
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-2
Client Sample ID :LON ST10 SW02
Matrix :WATER

2-Nitroaniline	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Dimethylphthalate	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Acenaphthylene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
2,6-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
3-Nitroaniline	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Acenaphthene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
2,4-Dinitrophenol	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
4-Nitrophenol	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Dibenzofuran	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
2,4-Dinitrotoluene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Diethylphthalate	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
4-Chlorophenyl-Phenylet	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Fluorene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
4-Nitroaniline	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
4,6-Dinitro-2-Methylphe	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
n-Nitrosodiphenylamine	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
4-Bromophenyl-Phenyleth	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Hexachlorobenzene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Pentachlorophenol	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Phenanthrene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Anthracene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
di-n-Butylphthalate	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Fluoranthene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Pyrene	0.010	U	mg/L	EPA 8270		09/03	09/27	[redacted]
Butylbenzylphthalate	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
3,3-Dichlorobenzidine	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Benzo(a)Anthracene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Chrysene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
bis(2-Ethylhexyl)Phthal	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
di-n-Octylphthalate	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Benzo(b)Fluoranthene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Benzo(k)Fluoranthene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Benzo(a)Pyrene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Indeno(1,2,3-cd)Pyrene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Dibenz(a,h)Anthracene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
Benzo(g,h,i)Perylene	0.010	U	mg/L	EPA 8270		09/03	09/27	GV
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	33.8-36.5		mg/L	EPA 9060			09/10	CMR
...TOC Concentration	34.8		mg/L	EPA 9060			09/10	CMR
Residue, Non-Filterable	16		mg/L	EPA 160.2		09/02	09/02	TAV
Residue,Filterable(TDS)	1300		mg/L	EPA 160.1	500	09/08	09/10	RJK

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-ST10-S01	LON-ST10-S01	LON-ST10-S01
F&BI Number	1050	1050 dup	1050 ms
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	97		
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<50	<50	
Lube Oil	<100	<100	
Diesel	<50	<50	80
Spike Level			
Unknown Semi-volatile			
Pentacosane	82	85	102
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31
CCl4	<0.02	<0.02	38 outside recovery limits
TCA	<0.02	<0.02	83
Benzene	<0.02	<0.02	88
TCE	<0.02	<0.02	84
Toluene	<0.02	<0.02	87
PCE	<0.02	<0.02	81
Ethylbenzene	<0.02	<0.02	77
Xylenes	0.2 J	<0.04	74
Gasoline	<2 J	<2	
Spike level			1
BFB	100	81	170 outside recovery limit

Compiled by SJM 10-5-95

ICF ID	LON-ST10-S01	LON-ST10-2SD02	LON-ST10-2S03
F&BI Number	1050 msd	1767	1772
Sample Type	soil	soil	soil
Date Received	8/27/93	9/5/93	9/5/93
% Dry Weight		91	96
Sequence Date	#6-08/29/93	#5-09/06/93	#5-09/06/93
Leaded Gas			
JP-4		<60	<60
Lube Oil		<120	<120
Diesel	86	<60	~~<60~~ <50
Spike Level			
Unknown Semi-volatile			
Pentacosane	101	110	110
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31/93		
CCl4	47 outside limits		
TCA	87		
Benzene	104		
TCE	104		
Toluene	121		
PCE	119		
Ethylbenzene	113		
Xylenes	109		
Gasoline			
Spike level	1		
BFB	113		

Compiled by AM 9-5-95

ICF ID	LON-ST10-2S03	LON-ST10-2S03	LON-ST10-2S03
F&BI Number	1772 dup	1772 ms	1772 msd
Sample Type	soil	soil	soil
Date Received	9/5/93	9/5/93	9/5/93
% Dry Weight			
Sequence Date	#5-09/06/93	#5-09/06/93	#5-09/06/93
Leaded Gas			
JP-4	<60		
Lube Oil	<120		
Diesel	<60	84	91
Spike Level		500	500
Unknown Semi-volatile			
Pentacosane	68	130	150
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			
CCl4			
TCA			
Benzene			
TCE			
Toluene			
PCE			
Ethylbenzene			
Xylenes			
Gasoline			
Spike level			
BFB			

ICF ID	LON-ST10-2S05	LON-ST10-SD01	LON-ST10-SD02
F&BI Number	1771	1030	1024
Sample Type	soil	soil	soil
Date Received	9/5/93	8/27/93	8/27/93
% Dry Weight	35	49	65
Sequence Date	#5-09/06/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<150	<100	<80
Lube Oil	<300	<200	<150
Diesel	<150	390 J	~~210~~ 250J
Spike Level			
Unknown Semi-volatile			
Pentacosane	110	95	90
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#3&4-08/31/93	#3&4-08/31/93
CCl4		~~<0.02~~ <0.04	~~<0.02~~ <0.5 J
TCA		~~<0.02~~ <0.04	~~<0.02~~
Benzene		0.1 J	~~<0.02~~
TCE		~~<0.02~~ <0.04	~~<0.02~~
Toluene		<0.2	~~<0.02~~
PCE		~~<0.02~~ <0.04	~~<0.02~~
Ethylbenzene		<0.2	~~<0.2~~
Xylenes		<0.4	~~<0.4~~
Gasoline		12 diesel J	80 diesel above curve limit J
Spike level			
BFB		99	145

compiled by SAM 10-5-95

ICF ID	LON-ST10-SD03	LON-ST10-SD04	LON-ST10-SD05
F&BI Number	1028	1048	1046
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	81	80	91
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<60	<60	<50
Lube Oil	<120	<130	<110
Diesel	650 J	~~80~~ oil <90	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	96	92	83
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31
CCl4	<0.02	<0.02	<0.02
TCA	<0.02	<0.02	<0.02
Benzene	0.1 J	<0.2 J	<0.02
TCE	<0.02	<0.02	<0.02
Toluene	<0.2	<0.2 J	<0.02
PCE	<0.02	<0.02	<0.02
Ethylbenzene	<0.2	<0.2 J	<0.02
Xylenes	<0.4	<0.4 J	0.1 J
Gasoline	12 J	180 J	<2 J
Spike level			
BFB	99	200 outside recovery limits	85

Compiled by SAM 10-5-95

ICF ID	LON-ST10-SD06	LON-ST10-SD07	LON-ST10-2SD08
F&BI Number	1052	1026	1768
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	9/5/93
% Dry Weight	88	44	77
Sequence Date	#6-08/29/93	#6-08/29/93	#5-09/06/93
Leaded Gas			
JP-4	<60	<110	<70
Lube Oil	<110	<230	<140
Diesel	<60	900 J	<70
Spike Level			
Unknown Semi-volatile			
Pentacosane	84	109	110
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31/93	
CCl4	<0.02	~~<0.02~~ <0.04	
TCA	<0.02	~~<0.02~~ <0.04	
Benzene	<0.02	~~<0.2~~ <0.4	
TCE	<0.02	~~<0.02~~ <0.04	
Toluene	<0.02	~~<0.02~~ <0.4	
PCE	<0.02	~~<0.02~~ <0.04	
Ethylbenzene	<0.02	~~<0.2~~ <0.4	
Xylenes	0.1 J	~~<0.4~~ <0.8	
Gasoline	<2 J	130 diesel J	
Spike level			
BFB	107	140	

Compiled by SJM 10-5-95

ICF ID	LON-ST10-2SD09	LON-ST10-SW01	LON-ST10-SW01
F&BI Number	1770	1054	1056
Sample Type	soil	water	water
Date Received	9/5/93	8/27/93	8/27/93
% Dry Weight	81		
Sequence Date	#5-09/06/93	#5-08/30/93	
Leaded Gas			
JP-4	<70	<200	
Lube Oil	<140	<2000	
Diesel	~~<70~~ <140	~~<200~~ <1000 J	
Spike Level			
Unknown Semi-volatile			
Pentacosane	120	37 outside recovery limits	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-09/07/93		#1&2-08/28/93
CCl4	<0.2		<1
TCA	<0.2		<1
Benzene	<0.02		<7 J
TCE	<0.2		<1
Toluene	<0.02		<3 J
PCE	<0.2		<1
Ethylbenzene	<0.02		<3 J
Xylenes	<0.04		<9 J
Gasoline	<1 J		<50 J
Spike level			
BFB	97		114

Compiled SJM 10-5-95

Compiled by SAM 10-5-95

ICF ID	LON-ST10-SW02	LON-ST10-SW02
F&BI Number	1058	1060
Sample Type	water	water
Date Received	8/27/93	8/27/93
% Dry Weight		
Sequence Date	#5-08/30/93	
Leaded Gas		
JP-4	<200	
Lube Oil	<2000	
Diesel	~~<200~~ <1000 J	
Spike Level		
Unknown Semi-volatile		
Pentacosane	40 outside recovery limits	
Sequence Date		
PCB 1221		
PCB 1232		
PCB 1016		
PCB 1242		
PCB 1248		
PCB 1254		
PCB 1260		
Spike Level		
Dibutyl Chlorendate		
Sequence Date		
alpha-BHC		
beta-BHC		
gamma-BHC		
delta-BHC		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
DDE		
Dieldrin		
Endrin		
Endosulfan II		
DDD		
Endrin Aldehyde		
DDT		
Endosulfan Sulfate		
Endrin Ketone		
Methoxy Chlor		
Chlordane		
Dibutyl Chlorendate		
Spike Level		
Vol Sequence		#1&2-08/28/93
CCl4		<1
TCA		<1
Benzene		<1
TCE		<1
Toluene		<1
PCE		<1
Ethylbenzene		<1
Xylenes		4 J
Gasoline		<50 J
Spike level		
BFB		110

ANALYTICAL DATA SHEETS FOR THE INACTIVE LANDFILL (LF11)/ VEHICLE STORAGE AREA (SS14)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE AK 99518
TEL: (907) 562-2343
FAX (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-5
Client Sample ID :LON-LF11-S03
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 15:15 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z. LID CRACKED ON VOA CONTAINER. B = THIS FLAG IS USED WHEN THE ANALYTE IS FOUND IN THE ASSOCIATED BLANK AS WELL AS IN THE SAMPLE.

Qualifiers/Comments

Parameter	Results	QC Qual	Units	Method	Reportable Limits	Anal Date	Init
Volatile Organics				EPA 8260			
Benzene	0.020	U	mg/Kg	EPA 8260 (J) - A.1		08/30 09/13	KWM
Bromobenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Bromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Bromoform	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Bromomethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
n-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
sec-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
tert-Butylbenzne	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Chlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Chloroethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Chloroform	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Chloromethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
2-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
4-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
12Dibromo3Chloropropane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,2-Dibromoethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Dibromomethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,2-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,3-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,4-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Dichlorodifluoromethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
cis-1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
trans1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,3-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
2,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
1,1-Dichloropropene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Ethylbenzene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM
Hexachlorobutadiene	0.020	U	mg/Kg	EPA 8260		08/30 09/13	KWM

6-1-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-5
Client Sample ID :LON-LF11-S03
Matrix :SOIL

Qualifiers/Comments

Isopropylbenzene	0.020	U	mg/Kg	EPA 8260 (J)-A.1	08/30	09/13	KWI
p-Isopropyltoluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Methylene Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Napthalene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
n-Propylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Styrene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1112-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Tetrachloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Toluene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,2,3-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,2,4-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Trichloroethene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Trichlorofluoromethane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,2,3-Trichloropropane	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,2,4-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
1,3,5-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Vinyl Chloride	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
p+m-Xylene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
o-Xylene	0.020	U	mg/Kg	EPA 8260	08/30	09/13	KWI
Semivolatile Organics				EPA 8270			
Phenol	0.220	U	mg/Kg	EPA 8270 (J)-A.1	09/13	10/21	GV
bis(2-Chloroethyl)ether	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2-Chlorophenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
1,3-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
1,4-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Benzyl Alcohol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
1,2-Dichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
bis(2-Chloroisopropyl)e	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
4-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
n-Nitroso-di-n-Propylam	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Hexachloroethane	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Nitrobenzene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Isophorone	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2-Nitrophenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2,4-Dimethylphenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Benzoic Acid	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
bis(2-Chloroethoxy)Meth	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2,4-Dichlorophenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
1,2,4-Trichlorobenzene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Naphthalene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
4-Chloroaniline	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Hexachlorobutadiene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
4-Chloro-3-Methylphenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2-Methylnaphthalene	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
Hexachlorocyclopentadie	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV
2,4,6-Trichlorophenol	0.220	U	mg/Kg	EPA 8270	09/13	10/21	GV

CD & 3.15.94
6-1-94

Compiled: SMF
11.16.94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-5
Client Sample ID :LON-LF11-S03
Matrix :SOIL

Qualifier Comment

Qualifier Comments

2,4,5-Trichlorophenol	0.220	U	mg/Kg	EPA 8270	(J) A.1	09/13 10/21	GV
2-Chloronaphthalene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
2-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Dimethylphthalate	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Acenaphthylene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
2,6-Dinitrotoluene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
3-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Acenaphthene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
2,4-Dinitrophenol	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
4-Nitrophenol	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Dibenzofuran	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
2,4-Dinitrotoluene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Diethylphthalate	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
4-Chlorophenyl-Phenylet	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Fluorene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
4-Nitroaniline	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
4,6-Dinitro-2-Methylphe	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
n-Nitrosodiphenylamine	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
4-Bromophenyl-Phenyleth	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Hexachlorobenzene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Pentachlorophenol	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Phenanthrene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Anthracene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Di-n-Butylphthalate	2.82	B	mg/Kg	EPA 8270	(U)-E.1 (J) A.1	09/13 10/21	GV
Fluoranthene	0.220	U	mg/Kg	EPA 8270	(J)-A.1	09/13 10/21	GV
Pyrene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Butylbenzylphthalate	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
3,3-Dichlorobenzidine	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Benzo(a)Anthracene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Chrysene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
bis(2-Ethylhexyl)Phthal	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
di-n-Octylphthalate	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Benzo(b)Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Benzo(k)Fluoranthene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Benzo(a)Pyrene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Indeno(1,2,3-cd)Pyrene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Dibenz(a,h)Anthracene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Benzo(g,h,i)Perylene	0.220	U	mg/Kg	EPA 8270		09/13 10/21	GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	4300		mg/Kg	EPA 6010		09/02 09/14	DFL
Antimony	53	U	J mg/Kg J.2	EPA 6010		09/02 09/14	DFL
Arsenic	53	U	mg/Kg	EPA 6010		09/02 09/14	DFL
Barium	110		mg/Kg	EPA 6010		09/02 09/14	DFL
Beryllium	27	U	mg/Kg	EPA 6010		09/02 09/14	DFL
Cadmium	2.7	U	mg/Kg	EPA 6010		09/02 09/14	DFL
Calcium	50000		mg/Kg	EPA 6010		09/02 09/14	DFL
Chromium	9.0		J mg/Kg A.1	EPA 6010		09/02 09/14	DFL
Cobalt	5.3	U	mg/Kg	EPA 6010		09/02 09/14	DFL

original changes by:
S.L. 2/15/94

3-15-94

Compiled:
SMT
11.16.94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-5
Client Sample ID :LON-LF11-S03
Matrix :SOIL

		Qualifier		Comment			
Copper	4.7		mg/Kg		EPA 6010	09/02 09/14	DFL
Iron	12000		mg/Kg		EPA 6010	09/02 09/14	DFL
Lead	5.3	U	mg/Kg		EPA 6010	09/02 09/14	DFL
Magnesium	29000		mg/Kg		EPA 6010	09/02 09/14	DFL
Manganese	130		mg/Kg		EPA 6010	09/02 09/14	DFL
Molybdenum	2.7	U	mg/Kg		EPA 6010	09/02 09/14	DFL
Nickel	6.9		mg/Kg		EPA 6010	09/02 09/14	DFL
Potassium	410	J	mg/Kg	J.2	EPA 6010	09/02 09/14	DFL
Selenium	5.3	U	mg/Kg		EPA 6010	09/02 09/14	DFL
Silver	2.7	U J	mg/Kg	B.1	EPA 6010	09/02 09/14	DFL
Sodium	320	J	mg/Kg	J.2	EPA 6010	09/02 09/14	DFL
Thallium	0.26	U	mg/Kg		EPA 7841	08/31 09/01	KAW
Vanadium	23		mg/Kg		EPA 6010	09/02 09/14	DFL
Zinc	14		mg/Kg		EPA 6010	09/02 09/14	DFL

All clays J.C 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.

ENVIRONMENTAL LABORATORY SERVICES

SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4428-1
Client Sample ID :LON LF11 SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70217
Report Completed :09/29/93
Collected :08/26/93 @ 14:00 hr:
Received :08/29/93 @ 12:45 hr:
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER J.J., AND S.S.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4428-1
Client Sample ID :LON LF11 SW01
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Semivolatile Organics				EPA 8270		
Phenol	0.020	U	mg/L	EPA 8270	09/02 09/25	
bis(2-Chloroethyl)ether	0.020	U	mg/L	EPA 8270	09/02 09/25	
2-Chlorophenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
1,3-Dichlorobenzene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
1,4-Dichlorobenzene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzyl Alcohol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
1,2-Dichlorobenzene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Methylphenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
bis(2-Chloroisopropyl)e	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Methylphenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
n-Nitroso-di-n-Propylam	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachloroethane	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Nitrobenzene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Isophorone	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Nitrophenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4-Dimethylphenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzoic Acid	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
bis(2-Chloroethoxy)Meth	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4-Dichlorophenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
1,2,4-Trichlorobenzene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Naphthalene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Chloroaniline	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachlorobutadiene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Chloro-3-Methylphenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Methylnaphthalene	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachlorocyclopentadie	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4,6-Trichlorophenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4,5-Trichlorophenol	0.020	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Chloronaphthalene	0.020	U	mg/L	EPA 8270	09/02 09/25	

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4428-1
Client Sample ID :LON LF11 SW01
Matrix :WATER

2-Nitroaniline	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Dimethylphthalate	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthylene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
2,6-Dinitrotoluene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
3-Nitroaniline	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrophenol	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitrophenol	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenzofuran	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrotoluene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Diethylphthalate	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Chlorophenyl-Phenylet	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluorene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitroaniline	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
4,6-Dinitro-2-Methylphe	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
n-Nitrosodiphenylamine	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Bromophenyl-Phenyleth	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Hexachlorobenzene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Pentachlorophenol	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Phenanthrene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Anthracene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Butylphthalate	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluoranthene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Pyrene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Butylbenzylphthalate	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
3,3-Dichlorobenzidine	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Anthracene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Chrysene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
bis(2-Ethylhexyl)Phthal	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Octylphthalate	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(b)Fluoranthene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(k)Fluoranthene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Pyrene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Indeno(1,2,3-cd)Pyrene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenz(a,h)Anthracene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(g,h,i)Perylene	0.020	U	mg/L	EPA 8270		09/02 09/25	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.35		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	97		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	1.5		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4428-1
Client Sample ID :LON LF11 SW01
Matrix :WATER

Magnesium	41		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.22		mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	5.7		mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010 (J)-J.1		09/07 09/10	DLG
Sodium	63		mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.35		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	97		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	
Iron	0.42		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Magnesium	40		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.20		mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	64		mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	27.4-28.5		mg/L	EPA 9060		09/08	CMR
...TOC Concentration	28.1		mg/L	EPA 9060		09/08	CMR
Residue, Non-Filterable	5		mg/L	EPA 160.2		09/02 09/02	GPP
Residue,Filterable(TDS)	768		mg/L	EPA 160.1	500	09/10	RJK

5/24/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL. (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

[redacted]lab Ref.# :93.4428-1
Client Sample ID :LON LF11 SW01
Matrix :WATER

		Qualifier					Comment
Magnesium	41		mg/L	EPA 6010		09/07 09/10	DLG
Manganese	0.22		mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	5.7		mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	63	J	mg/L J.1	EPA 6010		09/07 09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.35		mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	97		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
[redacted]ron	0.42		mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Magnesium	40	J	mg/L J.1	EPA 6010		09/07 09/10	DLG
Manganese	0.20		mg/L	EPA 6010		09/07 09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07 09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Sodium	64		mg/L	EPA 6010		09/07 09/10	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/06 09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	27.4-28.5		mg/L	EPA 9060		09/08	CMR
...TOC Concentration	28.1		mg/L	EPA 9060		09/08	CMR
Residue, Non-Filterable	5		mg/L	EPA 160.2		09/02 09/02	GPP
Residue,Filterable(TDS)	768		mg/L	EPA 160.1	500	09/10	RJK

All dups s.c 1/16/94

* See Special Instructions Above
[redacted] See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-LF11-S01	LON-LF11-S01	LON-LF11-S01
F&BI Number	946	946 dup	946 ms
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	95		
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<50	
Lube Oil	<100	<100	
Diesel	<50	<50	92
Spike Level			500
Unknown Semi-volatile			
Pentacosane	91	106	108
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221	<0.1	<0.1	
PCB 1232	<0.1	<0.1	
PCB 1016	<0.1	<0.1	
PCB 1242	<0.1	<0.1	
PCB 1248	<0.1	<0.1	
PCB 1254	<0.1	<0.1	99
PCB 1260	<0.1	<0.1	
Spike Level			10
Dibutyl Chlorendate	91	106	109
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93		
CCl4	<0.02		
TCA	<0.02		
Benzene	<0.02		
TCE	<0.02		
Toluene	<0.02		
PCE	<0.02		
Ethylbenzene	<0.02		
Xylenes	<0.04		
Gasoline	<2 J		
Spike level			
BFB	73		

Compiled by SAM 10-5-95

ICF ID	LON-LF11-S01	LON-LF11-S02	LON-LF11-S03
F&BI Number	946 msd	948	950
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight		91	88
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4		<50	<50
Lube Oil		<100	<110
Diesel	93	~~<90~~ <50	~~<50~~ <60
Spike Level	500		
Unknown Semi-volatile			
Pentacosane	110	104	94
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221		<0.1	<0.1
PCB 1232		<0.1	<0.1
PCB 1016		<0.1	<0.1
PCB 1242		<0.1	<0.1
PCB 1248		<0.1	<0.1
PCB 1254	98	<0.1	<0.1
PCB 1260		<0.1	<0.1
Spike Level	10		
Dibutyl Chlorendate	110	104	94
Sequence Date			#6-08/28/93
alpha-BHC			<0.01 J
beta-BHC			<0.01
gamma-BHC			<0.01
delta-BHC			<0.01
Heptachlor			<0.01
Aldrin			<0.01
Heptachlor Epoxide			<0.01
Endosulfan I			<0.01
DDE			<0.01
Dieldrin			<0.01
Endrin			<0.01
Endosulfan II			<0.01
DDD			<0.01
Endrin Aldehyde			<0.01
DDT			<0.01
Endosulfan Sulfate			<0.01
Endrin Ketone			<0.01
Methoxy Chlor			~~<0.1~~ <0.5 J
Chlordane			<0.5 J
Dibutyl Chlorendate			94
Spike Level			
Vol Sequence		#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4		<0.02	<0.02
TCA		<0.02	<0.02
Benzene		<0.02	<0.02
TCE		<0.02	<0.02
Toluene		<0.02	<0.02
PCE		<0.02	<0.02
Ethylbenzene		<0.02	<0.02
Xylenes		<0.04	<0.04
Gasoline		<2 J	<2 J
Spike level			
BFB		87	88

compiled by SM 10-5-95

ICF ID	LON-LF11-S04	LON-LF11-S05	LON-LF11-SD01
F&BI Number	952	954	956
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	88	85	86
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
Leaded Gas			
JP-4	<50	<60	<60
Lube Oil	<100	<120	<120
Diesel	~~<50~~ <60	<60	<60
Spike Level			
Unknown Semi-volatile			
Pentacosane	105	92	93
Sequence Date	#6-08/28/93	#6-08/28/93	#6-08/28/93
PCB 1221	<0.1	<0.1	<0.1
PCB 1232	<0.1	<0.1	<0.1
PCB 1016	<0.1	<0.1	<0.1
PCB 1242	<0.1	<0.1	<0.1
PCB 1248	<0.1	<0.1	<0.1
PCB 1254	<0.1	<0.1	<0.1
PCB 1260	<0.1	<0.1	<0.1
Spike Level			
Dibutyl Chlorendate	105	92	93
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93
CCl4	<0.02	<0.02	<0.02
TCA	<0.02	<0.02	<0.02
Benzene	<0.4 J	<0.02	<0.02
TCE	<0.02	<0.02	<0.02
Toluene	<0.4 J	<0.02	<0.02
PCE	<0.02	<0.02	<0.02
Ethylbenzene	<0.4 J	<0.02	<0.02
Xylenes	<0.8 J	<0.04	<0.04
Gasoline	~~<2~~ <10 J	<2 J	<2 J
Spike level			
BFB	101	119	113

compiled by SAM 10-5-95

ICF ID	LON-LF11-SD02	LON-LF11-SD03	LON-LF11-SW01
F&BI Number	958	960	892
Sample Type	soil	soil	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	84	80	
Sequence Date	#6-08/28/93	#6-08/28/93	#5-08/28/93
Leaded Gas			
JP-4	<60	<60	<200
Lube Oil	<120	<120	<2000
Diesel	<60	<60	~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	93	93	50
Sequence Date	#6-08/28/93	#6-08/28/93	#5-08/28/93
PCB 1221	<0.1	<0.1	<2 J
PCB 1232	<0.1	<0.1	<2
PCB 1016	<0.1	<0.1	<2
PCB 1242	<0.1	<0.1	<2
PCB 1248	<0.1	<0.1	<2
PCB 1254	<0.1	<0.1	<2
PCB 1260	<0.1	<0.1	<2
Spike Level			
Dibutyl Chlorendate	93	93	36
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93	#3-08/28/93, #4-08/29/93	
CCl4	<0.02	<0.02	
TCA	<0.02	<0.02	
Benzene	<0.08	<0.02	
TCE	<0.02	<0.02	
Toluene	<0.02	<0.02	
PCE	<0.02	<0.02	
Ethylbenzene	0.2	<0.02	
Xylenes	1.2	<0.04	
Gasoline	8 J	<2 J	
Spike level			
BFB	103	115	

compiled by SAM 10-5-95

ICF ID	LON-LF11-SW01	LON-LF11-SW02	LON-LF11-SW02
F&BI Number	894	896	898
Sample Type	water	water	water
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date		#5-08/28/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		60	
Sequence Date		#5-08/28/93	
PCB 1221		<2	
PCB 1232		<2	
PCB 1016		<2	
PCB 1242		<2	
PCB 1248		<2	
PCB 1254		<2	
PCB 1260		<2	
Spike Level			
Dibutyl Chlorendate		58	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3-08/28/93, #4-08/29/93		#3-08/28/93, #4-08/29/93
CCl4	<1		<1
TCA	<1		<1
Benzene	<1		<1
TCE	<1		<1
Toluene	<1		<1
PCE	<1		<1
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	<100 J		<100 J
Spike level			
BFB	74		97

compiled by SAM 10-5-95

ICF ID	LON-LF11-SW03	LON-LF11-SW03
F&BI Number	902	904
Sample Type	water	water
Date Received	8/27/93	8/27/93
% Dry Weight		
Sequence Date	#5-08/28/93	
Leaded Gas		
JP-4	<200	
Lube Oil	<2000	
Diesel	~~<200~~ <1000	
Spike Level		
Unknown Semi-volatile		
Pentacosane	60	
Sequence Date	#5-08/28/93	
PCB 1221	<2	
PCB 1232	<2	
PCB 1016	<2	
PCB 1242	<2	
PCB 1248	<2	
PCB 1254	<2	
PCB 1260	<2	
Spike Level		
Dibutyl Chlorendate	61	
Sequence Date		
alpha-BHC		
beta-BHC		
gamma-BHC		
delta-BHC		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
DDE		
Dieldrin		
Endrin		
Endosulfan II		
DDD		
Endrin Aldehyde		
DDT		
Endosulfan Sulfate		
Endrin Ketone		
Methoxy Chlor		
Chlordane		
Dibutyl Chlorendate		
Spike Level		
Vol Sequence		#3-08/28/93, #4-08/29/93
CCl4		<1
TCA		<1
Benzene		4
TCE		<1
Toluene		17
PCE		<1
Ethylbenzene		<1
Xylenes		7 J
Gasoline		200 J
Spike level		
BFB		95

Compiled by GM 10-5-95

ANALYTICAL DATA SHEETS FOR THE MODULE TRAIN (SS12)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-1
Client Sample ID :LON-SS12-S03
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 17:20 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By :Stephen C. Ede

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromobenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromochloromethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromoform	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Bromomethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
n-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
sec-Butylbenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
tert-Butylbenzne	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chlorobenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chloroethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chloroform	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Chloromethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
2-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
4-Chlorotoluene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
12Dibromo3Chloropropane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dibromoethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Dibromomethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,3-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,4-Dichlorobenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Dichlorodifluoromethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
cis-1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
trans1,2-Dichloroethene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,3-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
2,2-Dichloropropane	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
1,1-Dichloropropene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Ethylbenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Hexachlorobutadiene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
Isopropylbenzene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM
p-Isopropyltoluene	0.020	U	mg/Kg	EPA 8260		08/26	09/14	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-1
Client Sample ID :LON-SS12-S03
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Napthalene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
n-Propylbenzene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Styrene	0.075		mg/Kg	EPA 8260	08/26 09/14	KWM
1112-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Toluene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,2,3-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,2,4-Trichlorobenzene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Trichloroethene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Trichlorofluoromethane	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,2,3-Trichloropropane	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,2,4-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
1,3,5-Trimethylbenzene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
p+m-Xylene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
o-Xylene	0.020	U	mg/Kg	EPA 8260	08/26 09/14	KWM
Semivolatile Organics				EPA 8270		
Phenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	
bis(2-Chloroethyl)ether	4.00	U	mg/Kg	EPA 8270	09/07 10/07	
2-Chlorophenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
1,3-Dichlorobenzene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
1,4-Dichlorobenzene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Benzyl Alcohol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
1,2-Dichlorobenzene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2-Methylphenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
bis(2-Chloroisopropyl)e	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
4-Methylphenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
n-Nitroso-di-n-Propylam	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Hexachloroethane	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Nitrobenzene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Isophorone	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2-Nitrophenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2,4-Dimethylphenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Benzoic Acid	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
bis(2-Chloroethoxy)Meth	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2,4-Dichlorophenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
1,2,4-Trichlorobenzene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Naphthalene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
4-Chloroaniline	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Hexachlorobutadiene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
4-Chloro-3-Methylphenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2-Methylnaphthalene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
Hexachlorocyclopentadie	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2,4,6-Trichlorophenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2,4,5-Trichlorophenol	4.00	U	mg/Kg	EPA 8270	09/07 10/07	GV
2-Chloronaphthalene	4.00	U	mg/Kg	EPA 8270	09/07 10/07	

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-1
Client Sample ID :LON-SS12-S03
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Dimethylphthalate	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Acenaphthylene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
2,6-Dinitrotoluene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
3-Nitroaniline	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Acenaphthene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
2,4-Dinitrophenol	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
4-Nitrophenol	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Dibenzofuran	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
2,4-Dinitrotoluene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Diethylphthalate	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
4-Chlorophenyl-Phenylet	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Fluorene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
4-Nitroaniline	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
4,6-Dinitro-2-Methylphe	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
n-Nitrosodiphenylamine	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
4-Bromophenyl-Phenyleth	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Hexachlorobenzene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Pentachlorophenol	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Phenanthrene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Anthracene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
di-n-Butylphthalate	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Fluoranthene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Pyrene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Butylbenzylphthalate	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
3,3-Dichlorobenzidine	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Benzo(a)Anthracene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Chrysene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
bis(2-Ethylhexyl)Phthal	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
di-n-Octylphthalate	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Benzo(b)Fluoranthene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Benzo(k)Fluoranthene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Benzo(a)Pyrene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Indeno(1,2,3-cd)Pyrene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Dibenz(a,h)Anthracene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV
Benzo(g,h,i)Perylene	4.00	U	mg/Kg	EPA 8270	09/07	10/07	GV

* See Special Instructions Above
See Sample Remarks Above
= Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4355-2
Client Sample ID :LON-SS12-SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70111
Report Completed :10/13/93
Collected :08/24/93 @ 17:00 hrs
Received :08/26/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND JERRY M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/08	09/08	[redacted]
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	[redacted]
Chloroethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloroethane	0.0031		mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/08	09/08	[redacted]

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS SCC

Chemlab Ref.# :93.4355-2
Client Sample ID :LON-SS12-SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Toluene	0.0016		mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroethyl)ether	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Chlorophenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
1,3-Dichlorobenzene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
1,4-Dichlorobenzene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzyl Alcohol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
1,2-Dichlorobenzene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Methylphenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroisopropyl)e	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Methylphenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
n-Nitroso-di-n-Propylam	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachloroethane	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Nitrobenzene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Isophorone	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Nitrophenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dimethylphenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Benzoic Acid	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
bis(2-Chloroethoxy)Meth	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4-Dichlorophenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
1,2,4-Trichlorobenzene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Naphthalene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Chloroaniline	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachlorobutadiene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
4-Chloro-3-Methylphenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Methylnaphthalene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
Hexachlorocyclopentadie	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4,6-Trichlorophenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2,4,5-Trichlorophenol	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT
2-Chloronaphthalene	0.011	U	mg/L	EPA 8270	08/30	09/06	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS #2

5633 B STRE
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4355-2
Client Sample ID :LON-SS12-SW01
Matrix :WATER

2-Nitroaniline	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Dimethylphthalate	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Acenaphthylene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
2,6-Dinitrotoluene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
3-Nitroaniline	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Acenaphthene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
2,4-Dinitrophenol	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
4-Nitrophenol	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Dibenzofuran	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
2,4-Dinitrotoluene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Diethylphthalate	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
4-Chlorophenyl-Phenylet	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Fluorene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
4-Nitroaniline	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
4,6-Dinitro-2-Methylphe	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
n-Nitrosodiphenylamine	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
4-Bromophenyl-Phenyleth	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Hexachlorobenzene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Pentachlorophenol	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Phenanthrene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Anthracene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
di-n-Butylphthalate	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Fluoranthene	0.011	U	mg/L	EPA 8270		08/30 09/06	
Pyrene	0.011	U	mg/L	EPA 8270		08/30 09/06	
Butylbenzylphthalate	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
3,3-Dichlorobenzidine	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Benzo(a)Anthracene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Chrysene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
bis(2-Ethylhexyl)Phthal	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
di-n-Octylphthalate	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Benzo(b)Fluoranthene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Benzo(k)Fluoranthene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Benzo(a)Pyrene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Indeno(1,2,3-cd)Pyrene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Dibenz(a,h)Anthracene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
Benzo(g,h,i)Perylene	0.011	U	mg/L	EPA 8270		08/30 09/06	MTT
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	42.5-44.8		mg/L	EPA 9060		09/07	CMR
...TOC Concentration	43.7		mg/L	EPA 9060		09/07	CMR
Residue, Non-Filterable	64		mg/L	EPA 160.2		08/30 08/31	GPP
Residue,Filterable(TDS)	615		mg/L	EPA 160.1	500	09/01 09/02	RJK

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-SS12-S01	LON-SS12-S02	LON-SS12-S03
F&BI Number	502	506	504
Sample Type	soil	soil	soil
Date Received	8/25/93	8/25/93	8/25/93
% Dry Weight	96	95	91
Sequence Date	#5-08/25/93	#5-08/25/93	#5-08/25/93
Leaded Gas			
JP-4	<50	<50	<50
Lube Oil	<100	<100	560
Diesel	<50	<50	<50
Spike Level			
Unknown Semi-volatile			
Pentacosane	112	116	151
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/25/93	#1&2-08/25/93	#1&2-08/25/93
CCl4	<0.02	<0.02	<0.02
TCA	<0.02	<0.02	<0.02
Benzene	<0.02	<0.02	<0.02
TCE	<0.02	<0.02	<0.02
Toluene	<0.02	<0.02	<0.02
PCE	<0.02	<0.02	<0.02
Ethylbenzene	<0.02	<0.02	<0.02
Xylenes	<0.04	<0.04	<0.04
Gasoline	<2 J	<2 J	<2 J
Spike level			
BFB	86	83	90

Compiled by SQM 10-05-95

ICF ID	LON-SS12-2S04	LON-SS12-SD01	LON-SS12-2SD02
F&BI Number	1762	516	1763
Sample Type	soil	soil	soil
Date Received	9/5/93	8/25/93	9/5/93
% Dry Weight	23	88	73
Sequence Date	#5-09/06/93	#5-08/25/93	#5-09/06/93
Leaded Gas			
JP-4	<250	<60	<70
Lube Oil	<500	<120	<140
Diesel	<250	<60	<70
Spike Level			
Unknown Semi-volatile			
Pentacosane	120	113	110
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#1&2-08/25/93	
CCl4		<0.02	
TCA		<0.02	
Benzene		<0.02	
TCE		<0.02	
Toluene		<0.02	
PCE		<0.02	
Ethylbenzene		<0.02	
Xylenes		<0.04	
Gasoline		<2 J	
Spike level			
BFB		83	

Compiled by SAM 10-5-95

ICF ID	LON-~~SS12~~-SW01 (5504)	LON-SS12-SW01	LON-SS12-2SW02
F&BI Number	512	514	1761
Sample Type	water	water	water
Date Received	8/25/93	8/25/93	9/5/93
% Dry Weight			
Sequence Date		#5-08/27/93	#6-09/09/93
Leaded Gas			
JP-4		<1000	<1000
Lube Oil		<2000	<2000
Diesel		<1000	<1000
Spike Level			
Unknown Semi-volatile			
Pentacosane		106	88
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/25/93		#
CCl4			
TCA			
Benzene	230		
TCE			
Toluene	580		
PCE			
Ethylbenzene	13 J		
Xylenes	200 J		
Gasoline	3000 J		
Spike level			
BFB	85		

Copied by SAM 10-05-95

ANALYTICAL DATA SHEETS FOR THE HANGAR PAD AREA (SS13)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4429-1
Client Sample ID :LON SS13 SD01
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70219
Report Completed :10/20/93
Collected :08/27/93 @ 13:40 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. B = THIS FLAG IS USED WHEN THE ANALYTE IS FOUND IN THE ASSOCIATED BLANK AS WELL AS IN THE SAMPLE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Bromobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Bromochloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Bromodichloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Bromoform	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Bromomethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
n-Butylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
sec-Butylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
tert-Butylbenzne	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Carbon Tetrachloride	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Chlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Chloroethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Chloroform	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Chloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
2-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
4-Chlorotoluene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Dibromochloromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
12Dibromo3Chloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,2-Dibromoethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Dibromomethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,2-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,3-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,4-Dichlorobenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Dichlorodifluoromethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,1-Dichloroethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,2-Dichloroethane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,1-Dichloroethene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
cis-1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
trans1,2-Dichloroethene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,3-Dichloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
2,2-Dichloropropane	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
1,1-Dichloropropene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Ethylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Hexachlorobutadiene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM
Isopropylbenzene	0.030	U	mg/Kg	EPA 8260		08/30	09/09	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4429-1
Client Sample ID :LON SS13 SD01
Matrix :SOIL

p-Isopropyltoluene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Methylene Chloride	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Napthalene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
n-Propylbenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Styrene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1112-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1122-Tetrachloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Tetrachloroethene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Toluene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,2,3-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,2,4-Trichlorobenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,1,1-Trichloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,1,2-Trichloroethane	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Trichloroethene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Trichlorofluoromethane	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,2,3-Trichloropropane	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,2,4-Trimethylbenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
1,3,5-Trimethylbenzene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Vinyl Chloride	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
p+m-Xylene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
o-Xylene	0.030	U	mg/Kg	EPA 8260	08/30	09/09	KWM
Semivolatile Organics				EPA 8270			
Phenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	
bis(2-Chloroethyl)ether	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Chlorophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,3-Dichlorobenzene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,4-Dichlorobenzene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzyl Alcohol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2-Dichlorobenzene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylphenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroisopropyl)e	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Methylphenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
n-Nitroso-di-n-Propylam	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachloroethane	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Nitrobenzene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Isophorone	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Nitrophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dimethylphenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzoic Acid	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Chloroethoxy)Meth	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dichlorophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
1,2,4-Trichlorobenzene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Naphthalene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloroaniline	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorobutadiene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chloro-3-Methylphenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Methylnaphthalene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorocyclopentadie	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4,6-Trichlorophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4,5-Trichlorophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4429-1
Client Sample ID :LON SS13 SD01
Matrix :SOIL

Analysis / Comments

2-Chloronaphthalene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2-Nitroaniline	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Dimethylphthalate	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Acenaphthylene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,6-Dinitrotoluene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
3-Nitroaniline	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Acenaphthene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dinitrophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Nitrophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Dibenzofuran	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
2,4-Dinitrotoluene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Diethylphthalate	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Chlorophenyl-Phenylet	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Fluorene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Nitroaniline	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4,6-Dinitro-2-Methylphe	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
n-Nitrosodiphenylamine	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
4-Bromophenyl-Phenyleth	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Hexachlorobenzene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Pentachlorophenol	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Phenanthrene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Anthracene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
di-n-Butylphthalate	6.27	B	mg/Kg	EPA 8270(u)-E.I	09/10	10/14	GV
Fluoranthene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Pyrene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Butylbenzylphthalate	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
3,3-Dichlorobenzidine	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzo(a)Anthracene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Chrysene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
bis(2-Ethylhexyl)Phthal	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
di-n-Octylphthalate	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzo(b)Fluoranthene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzo(k)Fluoranthene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzo(a)Pyrene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Indeno(1,2,3-cd)Pyrene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Dibenz(a,h)Anthracene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
Benzo(g,h,i)Perylene	2.70	U	mg/Kg	EPA 8270	09/10	10/14	GV
TOC, Soil	19600		mg/Kg	PSEP Ref Lab			

CDB
2-25-94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4429-2
Client Sample ID :LON SS13 SW01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70219
Report Completed :10/20/93
Collected :08/27/93 @ 13:35 hrs.
Received :08/29/93 @ 12:45 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

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5633 B STREET
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FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4429-2
Client Sample ID :LON SS13 SW01
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Semivolatile Organics				EPA 8270			
henol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethyl)ether	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chlorophenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
1,3-Dichlorobenzene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
1,4-Dichlorobenzene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Benzyl Alcohol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
1,2-Dichlorobenzene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylphenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroisopropyl)e	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
4-Methylphenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
n-Nitroso-di-n-Propylam	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachloroethane	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Nitrobenzene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Isophorone	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2-Nitrophenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dimethylphenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Benzoic Acid	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethoxy)Meth	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dichlorophenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
1,2,4-Trichlorobenzene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Naphthalene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloroaniline	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorobutadiene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloro-3-Methylphenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylnaphthalene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorocyclopentadie	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,6-Trichlorophenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,5-Trichlorophenol	0.022	U	mg/L	EPA 8270	09/03	09/27	GV
-Chloronaphthalene	0.022	U	mg/L	EPA 8270	09/03	09/27	GV

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REPORT of ANALYSIS

Chemlab Ref.# :93.4429-2
Client Sample ID :LON SS13 SW01
Matrix :WATER

2-Nitroaniline	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Dimethylphthalate	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthylene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
2,6-Dinitrotoluene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
3-Nitroaniline	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrophenol	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitrophenol	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenzofuran	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrotoluene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Diethylphthalate	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
4-Chlorophenyl-Phenylet	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Fluorene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitroaniline	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
4,6-Dinitro-2-Methylphe	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
n-Nitrosodiphenylamine	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
4-Bromophenyl-Phenyleth	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Hexachlorobenzene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Pentachlorophenol	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Phenanthrene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Anthracene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Butylphthalate	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Fluoranthene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Pyrene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Butylbenzylphthalate	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
3,3-Dichlorobenzidine	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Anthracene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Chrysene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
bis(2-Ethylhexyl)Phthal	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Octylphthalate	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(b)Fluoranthene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(k)Fluoranthene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Pyrene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Indeno(1,2,3-cd)Pyrene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenz(a,h)Anthracene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(g,h,i)Perylene	0.022	U	mg/L	EPA 8270		09/03 09/27	GV
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	33.5-36.5		mg/L	EPA 9060		09/10	CMR
...TOC Concentration	34.6		mg/L	EPA 9060		09/10	CMR
Residue, Non-Filterable	8.5		mg/L	EPA 160.2		09/02 09/02	GPP
Residue,Filterable(TDS)	846		mg/L	EPA 160.1	500	09/10	RJK

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-SS13-S01	LON-SS13-SD01	LON-SS13-SD02
F&BI Number	1106	1104	1108
Sample Type	soil	soil	soil
Date Received	8/27/93	8/27/93	8/27/93
% Dry Weight	92	52	83
Sequence Date	#6-08/29/93	#6-08/29/93	#6-08/29/93
Leaded Gas			
JP-4	<50	<100	<60
Lube Oil	<110	<190	220
Diesel	<50	~~150 oil~~ <100	~~120~~ 190J
Spike Level			
Unknown Semi-volatile			
Pentacosane	85	97	140
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31	2-08/28/93, #3&4-08/31/93	#
CCl4	<0.02	~~<0.02~~ <0.04	<0.02
TCA	<0.02	~~<0.02~~	<0.02
Benzene	<0.02	~~<0.02~~	<0.2
TCE	<0.02	~~<0.02~~	<0.02
Toluene	<0.02	~~<0.02~~	<0.2
PCE	<0.02	~~<0.02~~	<0.02
Ethylbenzene	<0.02	~~<0.02~~	<0.2
Xylenes	<0.04	~~<0.04~~ <0.08	<0.4
Gasoline	<2J	~~<2~~ <4J	40 diesel J
Spike level			
BFB	103	105	180 outside recovery limits

Compiled by SJM 10-5-95

ICF ID	LON-SS13-SD03	LON-SS13-2SD04	LON-SS13-2SD05
F&BI Number	1102	1764	1765
Sample Type	soil	soil	soil
Date Received	8/27/93	9/5/93	9/5/93
% Dry Weight	88	63	66
Sequence Date	#6-08/29/93	#5-09/06/93	#5-09/06/93
Leaded Gas			
JP-4	<60	<100	<100
Lube Oil	<110	<200	<200
Diesel	~~100~~ <60	~~<100~~ <80	~~<100~~ <80
Spike Level			
Unknown Semi-volatile			
Pentacosane	94	110	120
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	2-08/28/93, #3&4-08/31/93		
CCl4	<0.02		
TCA	<0.02		
Benzene	<0.02		
TCE	<0.02		
Toluene	<0.02		
PCE	<0.02		
Ethylbenzene	<0.02		
Xylenes	<0.04		
Gasoline	<2 J		
Spike level			
BFB	85		

Compiled by SJM 10-5-95

ICF ID	LON-SS13-2SD06	LON-SS13-SW01	LON-SS13-SW01
F&BI Number	1766	1110	1112
Sample Type	soil	water	water
Date Received	9/5/93	8/29/93	8/29/93
% Dry Weight	89		
Sequence Date	#5-09/06/93	#5-08/30/93	
Leaded Gas			
JP-4	<60	<200	
Lube Oil	<120	<2000	
Diesel	<60	~~<200~~ <1000 J	
Spike Level			
Unknown Semi-volatile			
Pentacosane	110	41 outside recovery limits	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence			#1&2-08/28/93
CCl4			<1
TCA			<1
Benzene			<1
TCE			<1
Toluene			<1
PCE			<1
Ethylbenzene			<1
Xylenes			<2
Gasoline			<50 J
Spike level			
BFB			113

Compiled by SAM 10-5-95

ICF ID	LON-SS13-SW02	LON-SS13-SW02	LON-~~SS13-SW03~~ SS07-SD05
F&BI Number	1114	1116	1020
Sample Type	water	water	soil
Date Received	8/29/93	8/29/93	8/27/93
% Dry Weight			100
Sequence Date	#5-08/30/93		#6-08/29/93
Leaded Gas			
JP-4	<200		<50
Lube Oil	<2000		260
Diesel	~~<200~~ <1000		90 oil J
Spike Level			
Unknown Semi-volatile			
Pentacosane	65		108
Sequence Date			#6-08/29/93
PCB 1221			<0.1
PCB 1232			<0.1
PCB 1016			<0.1
PCB 1242			<0.1
PCB 1248			<0.1
PCB 1254			<0.1
PCB 1260			<0.1
Spike Level			
Dibutyl Chlorendate			108
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#1&2-08/28/93	#1&2-08/28/93
CCl4		<1	<0.02
TCA		<1	<0.02
Benzene		<1	<0.02
TCE		<1	<0.02
Toluene		<1	<0.02
PCE		<1	<0.02
Ethylbenzene		2	<0.02
Xylenes		4 J	<0.2
Gasoline		<50 J	6 diesel J
Spike level			
BFB		125	117

Compiled SAM by 10-5-95

ICF ID	LON-SS13-SW03	LON-SS13-SW03
F&BI Number	1118	1120
Sample Type	water	water
Date Received	8/29/93	8/29/93
% Dry Weight		
Sequence Date	#5-08/30/93	
Leaded Gas		
JP-4	<200	
Lube Oil	<2000	
Diesel	~~<200~~ <2000J	
Spike Level		
Unknown Semi-volatile		
Pentacosane	50 outside recovery limits	
Sequence Date		
PCB 1221		
PCB 1232		
PCB 1016		
PCB 1242		
PCB 1248		
PCB 1254		
PCB 1260		
Spike Level		
Dibutyl Chlorendate		
Sequence Date		
alpha-BHC		
beta-BHC		
gamma-BHC		
delta-BHC		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
DDE		
Dieldrin		
Endrin		
Endosulfan II		
DDD		
Endrin Aldehyde		
DDT		
Endosulfan Sulfate		
Endrin Ketone		
Methoxy Chlor		
Chlordane		
Dibutyl Chlorendate		
Spike Level		
Vol Sequence		#1&2-08/28/93
CCl4		<1
TCA		<1
Benzene		<1
TCE		<1
Toluene		3
PCE		<1
Ethylbenzene		<1
Xylenes		18 J
Gasoline		<50 J
Spike level		
BFB		117

Compiled by SAM 10-5-95

ANALYTICAL DATA SHEETS FOR BACKGROUND (BKGD)

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-3
Client Sample ID :LON-BKGD-S01
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70353
Report Completed :10/12/93
Collected :08/25/93 @ 18:00 hrs.
Received :08/31/93 @ 15:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, J.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromobenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromochloromethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromodichloromethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromoform	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromomethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
n-Butylbenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
sec-Butylbenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
tert-Butylbenzne	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Carbon Tetrachloride	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chlorobenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroform	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloromethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2-Chlorotoluene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
4-Chlorotoluene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromochloromethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
12Dibromo3Chloropropane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dibromoethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromomethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichlorobenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichlorobenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,4-Dichlorobenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dichlorodifluoromethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloroethane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
cis-1,2-Dichloroethene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
transi,2-Dichloroethene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloropropane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichloropropane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2,2-Dichloropropane	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloropropene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Ethylbenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Hexachlorobutadiene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Isopropylbenzene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM
p-Isopropyltoluene	0.300	U	mg/Kg	EPA 8260		09/01	09/04	SGM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4506-3
Client Sample ID :LON-BKGD-S01
Matrix :SOIL

Methylene Chloride	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Napthalene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
n-Propylbenzene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Styrene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1112-Tetrachloroethane	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1122-Tetrachloroethane	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Tetrachloroethene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Toluene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,3-Trichlorobenzene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,4-Trichlorobenzene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,1,1-Trichloroethane	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,1,2-Trichloroethane	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Trichloroethene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Trichlorofluoromethane	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,3-Trichloropropane	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,4-Trimethylbenzene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,3,5-Trimethylbenzene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Vinyl Chloride	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
p+m-Xylene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
o-Xylene	0.300	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Semivolatile Organics				EPA 8270		
Phenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
bis(2-Chloroethyl)ether	20.0	U	mg/Kg	EPA 8270	09/08 10/06	
2-Chlorophenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	
1,3-Dichlorobenzene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
1,4-Dichlorobenzene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Benzyl Alcohol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
1,2-Dichlorobenzene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2-Methylphenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
bis(2-Chloroisopropyl)e	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
4-Methylphenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
n-Nitroso-di-n-Propylam	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Hexachloroethane	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Nitrobenzene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Isophorone	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2-Nitrophenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2,4-Dimethylphenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Benzoic Acid	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
bis(2-Chloroethoxy)Meth	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2,4-Dichlorophenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
1,2,4-Trichlorobenzene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Naphthalene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
4-Chloroaniline	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Hexachlorobutadiene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
4-Chloro-3-Methylphenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2-Methylnaphthalene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
Hexachlorocyclopentadie	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2,4,6-Trichlorophenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2,4,5-Trichlorophenol	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV
2-Chloronaphthalene	20.0	U	mg/Kg	EPA 8270	09/08 10/06	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-3
Client Sample ID :LON-BKGD-S01
Matrix :SOIL

		Qualifier	Comment				
2-Nitroaniline	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Dimethylphthalate	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Acenaphthylene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
2,6-Dinitrotoluene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
3-Nitroaniline	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Acenaphthene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
2,4-Dinitrophenol	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Nitrophenol	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Dibenzofuran	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
2,4-Dinitrotoluene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Diethylphthalate	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Chlorophenyl-Phenylet	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Fluorene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Nitroaniline	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4,6-Dinitro-2-Methylphe	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
n-Nitrosodiphenylamine	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Bromophenyl-Phenyleth	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Hexachlorobenzene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Pentachlorophenol	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Phenanthrene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Anthracene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
di-n-Butylphthalate	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Fluoranthene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Pyrene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Butylbenzylphthalate	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
3,3-Dichlorobenzidine	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(a)Anthracene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Chrysene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
bis(2-Ethylhexyl)Phthal	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
di-n-Octylphthalate	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(b)Fluoranthene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(k)Fluoranthene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(a)Pyrene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Indeno(1,2,3-cd)Pyrene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Dibenz(a,h)Anthracene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(g,h,i)Perylene	20.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	3600		mg/Kg	EPA 6010		09/09 09/23	DFL
Antimony	84	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Arsenic	8.4	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Barium	165		mg/Kg	EPA 6010		09/09 09/23	JBH
Beryllium	4.2	U	mg/Kg	EPA 6010		09/09 09/23	JBH
Cadmium	4.2	U J	mg/Kg J.2	EPA 6010		09/09 09/23	JBH
Calcium	9900		mg/Kg	EPA 6010		09/09 09/23	JBH
Chromium	7.5		mg/Kg	EPA 6010		09/09 09/23	JBH
Cobalt	8.4	U	mg/Kg	EPA 6010		09/09 09/23	JBH
Copper	11		mg/Kg	EPA 6010		09/09 09/23	JBH
Iron	10800		mg/Kg	EPA 6010		09/09 09/23	JBH

All clear S.L 2/12/94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-3
Client Sample ID :LON-BKGD-S01
Matrix :SOIL

		Qualifier			Comment			
Lead	8.4	U	mg/Kg	EPA 6010		09/09	09/23	JBH
Magnesium	1300		mg/Kg	EPA 6010		09/09	09/23	JBH
Manganese	51		mg/Kg	EPA 6010		09/09	09/23	JBH
Molybdenum	4.2	U	mg/Kg	EPA 6010		09/09	09/23	JBH
Nickel	24		mg/Kg	EPA 6010		09/09	09/23	JBH
Potassium	420	U J	mg/Kg	EPA 6010		09/09	09/24	DFL
Selenium	84	U J	mg/Kg	EPA 6010		09/09	09/23	DFL
Silver	42	U R	mg/Kg	EPA 6010	B,I,J,1	09/09	09/23	DFL
Sodium	410		mg/Kg	EPA 6010		09/09	09/24	DFL
Thallium	0.44	U	mg/Kg	EPA 7841		09/09	09/10	KAW
Vanadium	17		mg/Kg	EPA 6010		09/09	09/23	DFL
Zinc	20		mg/Kg	EPA 6010		09/09	09/23	DFL
TOC, Soil	355000		mg/Kg	PSEP Ref Lab			09/30	

All chgs s.c 2/22/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-6
Client Sample ID :LON-BKGD-SD01
Matrix :SOIL

5633 B S
ANCHORAGE, AK
TEL: (907) 56
FAX: (907) 56

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 15:00
Received :08/31/93 @ 15:10
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date
Volatile Organics							
Benzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Bromobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Bromochloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Bromodichloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Bromoform	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Bromomethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
n-Butylbenzene	0.218		mg/Kg	EPA 8260		09/01	09/04
sec-Butylbenzene	0.136		mg/Kg	EPA 8260		09/01	09/04
tert-Butylbenzne	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Carbon Tetrachloride	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Chlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Chloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Chloroform	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Chloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
2-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
4-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Dibromochloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
12Dibromo3Chloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,2-Dibromoethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Dibromomethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,2-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,3-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,4-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Dichlorodifluoromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,1-Dichloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,2-Dichloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,1-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
cis-1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
trans1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,3-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
2,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04
1,1-Dichloropropene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Ethylbenzene	0.362		mg/Kg	EPA 8260		09/01	09/04
Hexachlorobutadiene	0.050	U	mg/Kg	EPA 8260		09/01	09/04
Isopropylbenzene	0.171		mg/Kg	EPA 8260		09/01	09/04
p-Isopropyltoluene	0.107		mg/Kg	EPA 8260		09/01	09/04

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1959

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-6
Client Sample ID :LON-BKGD-SD01
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Lead	22		mg/Kg	EPA 6010	09/09 09/23	DFL
Magnesium	7300		mg/Kg	EPA 6010	09/09 09/23	DFL
Manganese	210		mg/Kg	EPA 6010	09/09 09/23	DFL
Molybdenum	2.5	U	mg/Kg	EPA 6010	09/09 09/23	DFL
Nickel	46		mg/Kg	EPA 6010	09/09 09/23	DFL
Potassium	1800		mg/Kg	EPA 6010	09/09 09/23	DFL
Selenium	49	U	mg/Kg	EPA 6010	09/09 09/24	DFL
Silver	25	U	mg/Kg	EPA 6010	09/09 09/23	DFL
Sodium	370		mg/Kg	EPA 6010	09/09 09/24	DFL
Thallium	0.20	U	mg/Kg	EPA 7841	09/09 09/10	KAW
Vanadium	59		mg/Kg	EPA 6010	09/09 09/23	DFL
Zinc	95		mg/Kg	EPA 6010	09/09 09/23	DFL
TOC, Soil	99600		mg/Kg	PSEP Ref Lab		

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.
UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.

ENVIRONMENTAL LABORATORY SERVICES

SINCE 1909

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-7
Client Sample ID :LON-BKGD-SD01 DUPLICATE
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 15:00 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Sample Preparation	---			EPA 3050 Digest				
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	23000		mg/Kg	EPA 6010		09/09	09/23	DFL
Antimony	48	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Arsenic	4.8	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Barium	370		mg/Kg	EPA 6010		09/09	09/23	DFL
Beryllium	24	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Cadmium	24	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Calcium	4700		mg/Kg	EPA 6010		09/09	09/23	DFL
Chromium	45		mg/Kg	EPA 6010		09/09	09/23	DFL
Cobalt	12		mg/Kg	EPA 6010		09/09	09/23	DFL
Copper	45		mg/Kg	EPA 6010		09/09	09/23	DFL
Iron	31000		mg/Kg	EPA 6010		09/09	09/23	DFL
Lead	21		mg/Kg	EPA 6010		09/09	09/23	DFL
Magnesium	7300		mg/Kg	EPA 6010		09/09	09/23	DFL
Manganese	210		mg/Kg	EPA 6010		09/09	09/23	DFL
Molybdenum	2.4	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Nickel	45		mg/Kg	EPA 6010		09/09	09/23	DFL
Potassium	1600		mg/Kg	EPA 6010		09/09	09/24	DFL
Selenium	48	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Silver	24	U	mg/Kg	EPA 6010		09/09	09/23	DFL
Sodium	350		mg/Kg	EPA 6010		09/09	09/24	DFL
Thallium	0.20	U	mg/Kg	EPA 7841		09/09	09/10	KAW
Vanadium	0.56		mg/Kg	EPA 6010		09/09	09/23	DFL
Zinc	93		mg/Kg	EPA 6010		09/09	09/23	DFL

* See Special Instructions Above
** See Sample Remarks Above
= Undetected, Reported value is the practical quantification limit.
= Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-8
Client Sample ID :LON-BKGD-SD01 SPIKE
Matrix :SOIL

5633 B ST
ANCHORAGE, AK
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 15:00 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Vonstein

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G. FOR SPIKING LEVELS AND PERCENT RECOVERIES, SEE QA/QC PACKAGE. J = INDICATES AN ANALYTE WHOSE CONCENTRATION IS ESTMATED BECAUSE THE ANALYTE'S CONCENTRATION IS DETECTED BELOW THE CALIBRATION RANGE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	1.04		mg/Kg	EPA 8260		09/01	09/04	SGM
Bromobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromochloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromodichloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromoform	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromomethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
n-Butylbenzene	0.222		mg/Kg	EPA 8260		09/01	09/04	SGM
sec-Butylbenzene	0.145		mg/Kg	EPA 8260		09/01	09/04	[redacted]
tert-Butylbenzne	0.050	U	mg/Kg	EPA 8260		09/01	09/04	[redacted]
Carbon Tetrachloride	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chlorobenzene	1.01		mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroform	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
4-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromochloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
12Dibromo3Chloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dibromoethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromomethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,4-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dichlorodifluoromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethene	0.671		mg/Kg	EPA 8260		09/01	09/04	SGM
cis-1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
trans1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloropropene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Ethylbenzene	0.374		mg/Kg	EPA 8260		09/01	09/04	SGM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1903

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-8
Client Sample ID :LON-BKGD-SD01 SPIKE
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Hexachlorobutadiene	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Isopropylbenzene	0.178		mg/Kg	EPA 8260	09/01 09/04	SGM
p-Isopropyltoluene	0.106		mg/Kg	EPA 8260	09/01 09/04	SGM
Methylene Chloride	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Napthalene	0.227		mg/Kg	EPA 8260	09/01 09/04	SGM
n-Propylbenzene	0.321		mg/Kg	EPA 8260	09/01 09/04	SGM
Styrene	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1112-Tetrachloroethane	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1122-Tetrachloroethane	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Tetrachloroethene	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Toluene	1.10		mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,3-Trichlorobenzene	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,4-Trichlorobenzene	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,1,1-Trichloroethane	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,1,2-Trichloroethane	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
Trichloroethene	0.890		mg/Kg	EPA 8260	09/01 09/04	SGM
Trichlorofluoromethane	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,3-Trichloropropane	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
1,2,4-Trimethylbenzene	0.992		mg/Kg	EPA 8260	09/01 09/04	SGM
1,3,5-Trimethylbenzene	0.418		mg/Kg	EPA 8260	09/01 09/04	SGM
Vinyl Chloride	0.050	U	mg/Kg	EPA 8260	09/01 09/04	SGM
p+m-Xylene	1.61		mg/Kg	EPA 8260	09/01 09/04	SGM
o-Xylene	0.733		mg/Kg	EPA 8260	09/01 09/04	SGM
Semivolatile Organics				EPA 8270		
Phenol	1.99	J	mg/Kg	EPA 8270	09/08 10/07	GV
bis(2-Chloroethyl)ether	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
2-Chlorophenol	1.62	J	mg/Kg	EPA 8270	09/08 10/07	GV
1,3-Dichlorobenzene	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
1,4-Dichlorobenzene	1.32	J	mg/Kg	EPA 8270	09/08 10/07	GV
Benzyl Alcohol	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
1,2-Dichlorobenzene	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
2-Methylphenol	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
bis(2-Chloroisopropyl)e	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
4-Methylphenol	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
n-Nitroso-di-n-Propylam	2.78	J	mg/Kg	EPA 8270	09/08 10/07	GV
Hexachloroethane	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Nitrobenzene	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Isophorone	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
2-Nitrophenol	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
2,4-Dimethylphenol	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Benzoic Acid	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
bis(2-Chloroethoxy)Meth	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
2,4-Dichlorophenol	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
1,2,4-Trichlorobenzene	1.79	J	mg/Kg	EPA 8270	09/08 10/07	GV
Naphthalene	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
4-Chloroaniline	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Hexachlorobutadiene	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
4-Chloro-3-Methylphenol	2.10	J	mg/Kg	EPA 8270	09/08 10/07	GV
2-Methylnaphthalene	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Hexachlorocyclopentadie	5.00	U	mg/Kg	EPA 8270	09/08 10/07	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1934

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-8
Client Sample ID :LON-BKGD-SD01 SPIKE
Matrix :SOIL

5633 B ST
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

2,4,6-Trichlorophenol	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
2,4,5-Trichlorophenol	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
2-Chloronaphthalene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
2-Nitroaniline	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Dimethylphthalate	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Acenaphthylene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
2,6-Dinitrotoluene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
3-Nitroaniline	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Acenaphthene	2.31	J	mg/Kg	EPA 8270		09/08 10/07	GV
2,4-Dinitrophenol	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
4-Nitrophenol	1.60	J	mg/Kg	EPA 8270		09/08 10/07	GV
Dibenzofuran	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
2,4-Dinitrotoluene	1.73	J	mg/Kg	EPA 8270		09/08 10/07	GV
Diethylphthalate	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
4-Chlorophenyl-Phenylet	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Fluorene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
4-Nitroaniline	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
4,6-Dinitro-2-Methylphe	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
n-Nitrosodiphenylamine	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
4-Bromophenyl-Phenyleth	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Hexachlorobenzene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Pentachlorophenol	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Phenanthrene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Anthracene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	[redacted]
di-n-Butylphthalate	3.54	J	mg/Kg	EPA 8270		09/08 10/07	[redacted]
Fluoranthene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Pyrene	2.46	J	mg/Kg	EPA 8270		09/08 10/07	GV
Butylbenzylphthalate	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
3,3-Dichlorobenzidine	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Benzo(a)Anthracene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Chrysene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
bis(2-Ethylhexyl)Phthal	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
di-n-Octylphthalate	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Benzo(b)Fluoranthene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Benzo(k)Fluoranthene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Benzo(a)Pyrene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Indeno(1,2,3-cd)Pyrene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Dibenz(a,h)Anthracene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Benzo(g,h,i)Perylene	5.00	U	mg/Kg	EPA 8270		09/08 10/07	GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	23000		mg/Kg	EPA 6010		09/09 09/23	DFL
Antimony	48	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Arsenic	89		mg/Kg	EPA 6010		09/09 09/23	DFL
Barium	460		mg/Kg	EPA 6010		09/09 09/23	DFL
Beryllium	42		mg/Kg	EPA 6010		09/09 09/23	DFL
Cadmium	53		mg/Kg	EPA 6010		09/09 09/23	DFL
Calcium	5800		mg/Kg	EPA 6010		09/09 09/23	DFL
Chromium	136		mg/Kg	EPA 6010		09/09 09/23	DFL

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1939

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-8
Client Sample ID :LON-BKGD-SD01 SPIKE
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Cobalt	96		mg/Kg	EPA 6010	09/09 09/23	DFL
Copper	140		mg/Kg	EPA 6010	09/09 09/23	DFL
Iron	32000		mg/Kg	EPA 6010	09/09 09/23	DFL
Lead	100		mg/Kg	EPA 6010	09/09 09/23	DFL
Magnesium	8400		mg/Kg	EPA 6010	09/09 09/23	DFL
Manganese	300		mg/Kg	EPA 6010	09/09 09/23	DFL
Molybdenum	78		mg/Kg	EPA 6010	09/09 09/23	DFL
Nickel	130		mg/Kg	EPA 6010	09/09 09/23	DFL
Potassium	2700		mg/Kg	EPA 6010	09/09 09/24	DFL
Selenium	132		mg/Kg	EPA 6010	09/09 09/23	DFL
Silver	24	U	mg/Kg	EPA 6010	09/09 09/23	DFL
Sodium	1300		mg/Kg	EPA 6010	09/09 09/24	DFL
Thallium	1.8		mg/Kg	EPA 7841	09/09 09/10	KAW
Vanadium	138		mg/Kg	EPA 6010	09/09 09/23	DFL
Zinc	180		mg/Kg	EPA 6010	09/09 09/23	DFL

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-9
Client Sample ID :LON-BKGD-SD01 SPIKE DUPLICATE
Matrix :SOIL

5633 B ST
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 15:00 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G. J = INDICATES AN ANALYTE WHOSE CONCENTRATION IS ESTIMATED BECAUSE THE ANALYTE'S CONCENTRATION IS DETECTED BELOW THE CALIBRATION RANGE. FOR SPIKING LEVELS AND PERCENT RECOVERIES, SEE QA/QC PACKAGE.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	1.14		mg/Kg	EPA 8260		09/01	09/04	SGM
Bromobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromochloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromodichloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromoform	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Bromomethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
n-Butylbenzene	0.236		mg/Kg	EPA 8260		09/01	09/04	[redacted]
sec-Butylbenzene	0.141		mg/Kg	EPA 8260		09/01	09/04	[redacted]
tert-Butylbenzne	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Carbon Tetrachloride	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chlorobenzene	1.10		mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloroform	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Chloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
4-Chlorotoluene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromochloromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
12Dibromo3Chloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dibromoethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dibromomethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,4-Dichlorobenzene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Dichlorodifluoromethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloroethane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloroethene	0.723		mg/Kg	EPA 8260		09/01	09/04	SGM
cis-1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
trans1,2-Dichloroethene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,3-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
2,2-Dichloropropane	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
1,1-Dichloropropene	0.050	U	mg/Kg	EPA 8260		09/01	09/04	SGM
Ethylbenzene	0.389		mg/Kg	EPA 8260		09/01	09/04	SGM

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-9
Client Sample ID :LON-BKGD-SD01 SPIKE DUPLICATE
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Hexachlorobutadiene	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Isopropylbenzene	0.186		mg/Kg	EPA 8260	09/01	09/04	SGM
p-Isopropyltoluene	0.119		mg/Kg	EPA 8260	09/01	09/04	SGM
Methylene Chloride	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Napthalene	0.215		mg/Kg	EPA 8260	09/01	09/04	SGM
n-Propylbenzene	0.322		mg/Kg	EPA 8260	09/01	09/04	SGM
Styrene	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1112-Tetrachloroethane	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1122-Tetrachloroethane	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Tetrachloroethene	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Toluene	1.22		mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,3-Trichlorobenzene	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,4-Trichlorobenzene	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,1,1-Trichloroethane	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,1,2-Trichloroethane	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
Trichloroethene	0.984		mg/Kg	EPA 8260	09/01	09/04	SGM
Trichlorofluoromethane	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,3-Trichloropropane	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
1,2,4-Trimethylbenzene	0.996		mg/Kg	EPA 8260	09/01	09/04	SGM
1,3,5-Trimethylbenzene	0.415		mg/Kg	EPA 8260	09/01	09/04	SGM
Vinyl Chloride	0.050	U	mg/Kg	EPA 8260	09/01	09/04	SGM
p+m-Xylene	1.63		mg/Kg	EPA 8260	09/01	09/04	SGM
o-Xylene	0.743		mg/Kg	EPA 8260	09/01	09/04	SGM
Semivolatile Organics				EPA 8270			
Phenol	0.522	J	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Chloroethyl)ether	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Chlorophenol	0.455	J	mg/Kg	EPA 8270	09/08	10/07	GV
1,3-Dichlorobenzene	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,4-Dichlorobenzene	0.374	J	mg/Kg	EPA 8270	09/08	10/07	GV
Benzyl Alcohol	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,2-Dichlorobenzene	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Methylphenol	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Chloroisopropyl)e	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Methylphenol	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
n-Nitroso-di-n-Propylam	0.682	J	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachloroethane	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Nitrobenzene	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Isophorone	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2-Nitrophenol	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4-Dimethylphenol	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Benzoic Acid	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
bis(2-Chloroethoxy)Meth	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
2,4-Dichlorophenol	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
1,2,4-Trichlorobenzene	0.485	J	mg/Kg	EPA 8270	09/08	10/07	GV
Naphthalene	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Chloroaniline	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachlorobutadiene	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
4-Chloro-3-Methylphenol	0.569	J	mg/Kg	EPA 8270	09/08	10/07	GV
2-Methylnaphthalene	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV
Hexachlorocyclopentadie	4.00	U	mg/Kg	EPA 8270	09/08	10/07	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1929

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-9
Client Sample ID :LON-BKGD-SD01 SPIKE DUPLICATE
Matrix :SOIL

5633 B STR
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

2,4,6-Trichlorophenol	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
2,4,5-Trichlorophenol	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
2-Chloronaphthalene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
2-Nitroaniline	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Dimethylphthalate	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Acenaphthylene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
2,6-Dinitrotoluene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
3-Nitroaniline	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Acenaphthene	0.609	J	mg/Kg	EPA 8270	09/08 10/07	G
2,4-Dinitrophenol	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
4-Nitrophenol	0.064	J	mg/Kg	EPA 8270	09/08 10/07	G
Dibenzofuran	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
2,4-Dinitrotoluene	0.527	J	mg/Kg	EPA 8270	09/08 10/07	G
Diethylphthalate	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
4-Chlorophenyl-Phenylet	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Fluorene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
4-Nitroaniline	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
4,6-Dinitro-2-Methylphe	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
n-Nitrosodiphenylamine	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
4-Bromophenyl-Phenyleth	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Hexachlorobenzene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Pentachlorophenol	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Phenanthrene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Anthracene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
di-n-Butylphthalate	0.862	J	mg/Kg	EPA 8270	09/08 10/07	G
Fluoranthene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	G
Pyrene	0.684	J	mg/Kg	EPA 8270	09/08 10/07	GV
Butylbenzylphthalate	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
3,3-Dichlorobenzidine	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Benzo(a)Anthracene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Chrysene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
bis(2-Ethylhexyl)Phthal	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
di-n-Octylphthalate	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Benzo(b)Fluoranthene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Benzo(k)Fluoranthene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Benzo(a)Pyrene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Indeno(1,2,3-cd)Pyrene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Dibenz(a,h)Anthracene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV
Benzo(g,h,i)Perylene	4.00	U	mg/Kg	EPA 8270	09/08 10/07	GV

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-4
Client Sample ID :LON-BKGD-SD02
Matrix :SOIL

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70353
Report Completed :10/12/93
Collected :08/25/93 @ 16:35 hrs.
Received :08/31/93 @ 15:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, J.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Bromobenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Bromochloromethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Bromodichloromethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Bromoform	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Bromomethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
n-Butylbenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
sec-Butylbenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
tert-Butylbenzne	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Carbon Tetrachloride	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Chlorobenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Chloroethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Chloroform	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Chloromethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
2-Chlorotoluene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
4-Chlorotoluene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Dibromochloromethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
12Dibromo3Chloropropane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,2-Dibromoethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Dibromomethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,2-Dichlorobenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,3-Dichlorobenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,4-Dichlorobenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Dichlorodifluoromethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,1-Dichloroethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,2-Dichloroethane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,1-Dichloroethene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
cis-1,2-Dichloroethene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
transl,2-Dichloroethene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,2-Dichloropropane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,3-Dichloropropane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
2,2-Dichloropropane	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
1,1-Dichloropropene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Ethylbenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Hexachlorobutadiene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
Isopropylbenzene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM
p-Isopropyltoluene	0.500	U	mg/Kg	EPA 8260		09/03	09/04	SGM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-4
Client Sample ID :LON-BKGD-SD02
Matrix :SOIL

Methylene Chloride	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Napthalene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
n-Propylbenzene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Styrene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1112-Tetrachloroethane	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1122-Tetrachloroethane	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Tetrachloroethene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Toluene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,2,3-Trichlorobenzene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,2,4-Trichlorobenzene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,1,1-Trichloroethane	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,1,2-Trichloroethane	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Trichloroethene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Trichlorofluoromethane	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,2,3-Trichloropropane	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,2,4-Trimethylbenzene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
1,3,5-Trimethylbenzene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Vinyl Chloride	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
p+m-Xylene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
o-Xylene	0.500	U	mg/Kg	EPA 8260	09/03	09/04	SGM
Semivolatile Organics				EPA 8270			
Phenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
bis(2-Chloroethyl)ether	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2-Chlorophenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
1,3-Dichlorobenzene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
1,4-Dichlorobenzene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Benzyl Alcohol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
1,2-Dichlorobenzene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2-Methylphenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
bis(2-Chloroisopropyl)e	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
4-Methylphenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
n-Nitroso-di-n-Propylam	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Hexachloroethane	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Nitrobenzene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Isophorone	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2-Nitrophenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2,4-Dimethylphenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Benzoic Acid	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
bis(2-Chloroethoxy)Meth	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2,4-Dichlorophenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
1,2,4-Trichlorobenzene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Naphthalene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
4-Chloroaniline	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Hexachlorobutadiene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
4-Chloro-3-Methylphenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2-Methylnaphthalene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
Hexachlorocyclopentadie	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2,4,6-Trichlorophenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2,4,5-Trichlorophenol	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV
2-Chloronaphthalene	30.0	U	mg/Kg	EPA 8270	09/08	10/06	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-4
Client Sample ID :LON-BKGD-SD02
Matrix :SOIL

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Qualifier Comment

2-Nitroaniline	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Dimethylphthalate	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Acenaphthylene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
2,6-Dinitrotoluene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
3-Nitroaniline	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Acenaphthene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
2,4-Dinitrophenol	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Nitrophenol	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Dibenzofuran	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
2,4-Dinitrotoluene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Diethylphthalate	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Chlorophenyl-Phenylet	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Fluorene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Nitroaniline	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4,6-Dinitro-2-Methylphe	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
n-Nitrosodiphenylamine	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
4-Bromophenyl-Phenyleth	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Hexachlorobenzene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Pentachlorophenol	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Phenanthrene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Anthracene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
di-n-Butylphthalate	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Fluoranthene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Pyrene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Butylbenzylphthalate	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
3,3-Dichlorobenzidine	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(a)Anthracene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Chrysene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
bis(2-Ethylhexyl)Phthal	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
di-n-Octylphthalate	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(b)Fluoranthene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(k)Fluoranthene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(a)Pyrene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Indeno(1,2,3-cd)Pyrene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Dibenz(a,h)Anthracene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Benzo(g,h,i)Perylene	30.0	U	mg/Kg	EPA 8270		09/08 10/06	GV
Sample Preparation	---			EPA 3050 Digest			
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	5050		mg/Kg	EPA 6010		09/09 09/23	DFL
Antimony	130	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Arsenic	13	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Barium	284		mg/Kg	EPA 6010		09/09 09/23	DFL
Beryllium	6.4	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Cadmium	6.4	U J	mg/Kg J.2	EPA 6010		09/09 09/23	DFL
Calcium	20300		mg/Kg	EPA 6010		09/09 09/23	DFL
Chromium	8.5		mg/Kg	EPA 6010		09/09 09/23	DFL
Cobalt	13	U	mg/Kg	EPA 6010		09/09 09/23	DFL
Copper	24		mg/Kg	EPA 6010		09/09 09/23	DFL
Iron	14600		mg/Kg	EPA 6010		09/09 09/23	DFL

BM chap S.C 2/22/94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-4
Client Sample ID :LON-BKGD-SD02
Matrix :SOIL

Quantifier Correct

Lead	13	U	mg/Kg	EPA 6010	09/09 09/23	DFL
Magnesium	3200		mg/Kg	EPA 6010	09/09 09/23	DFL
Manganese	50		mg/Kg	EPA 6010	09/09 09/23	DFL
Molybdenum	6.4	U	mg/Kg	EPA 6010	09/09 09/23	DFL
Nickel	30		mg/Kg	EPA 6010	09/09 09/23	DFL
Potassium	640	U	mg/Kg	EPA 6010	09/09 09/24	DFL
Selenium	130	U	mg/Kg	EPA 6010	09/09 09/23	DFL
Silver	64	U	mg/Kg B.I,J.(	EPA 6010	09/09 09/23	DFL
Sodium	680		mg/Kg	EPA 6010	09/09 09/24	DFL
Thallium	0.68	U	mg/Kg	EPA 7841	09/09 09/10	KAW
Vanadium	17		mg/Kg	EPA 6010	09/09 09/23	DFL
Zinc	9.4		mg/Kg	EPA 6010	09/09 09/23	DFL
TOC, Soil	473000		mg/Kg	PSEP Ref Lab	09/30	

All chgs J.C 2/22/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

SINCE 1938

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-1
Client Sample ID :LON-BKGD-SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 14:25 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G. 8270 HOLDING TIME EXCEEDED, SAMPLE NOT ANALYZED AS PER CLIENT.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0079		mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4504-1
Client Sample ID :LON-BKGD-SW01
Matrix :WATER

p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Methylene Chloride	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Napthalene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Styrene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Toluene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260		09/03 09/03	MCM
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Barium	0.065		mg/L	EPA 6010		09/10 09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Calcium	35		mg/L	EPA 6010		09/10 09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Iron	0.61		mg/L	EPA 6010		09/10 09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Magnesium	22		mg/L	EPA 6010		09/10 09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Potassium	5.0	U	mg/L	EPA 6010		09/10 09/21	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Silver	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Sodium	70		mg/L	EPA 6010		09/10 09/21	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/09 09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Zinc	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Dissolved Metals Analys	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-1
Client Sample ID :LON-BKGD-SW01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Antimony	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Barium	0.060		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Calcium	34		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Iron	0.21		mg/L	EPA 6010		09/10	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Magnesium	22		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Potassium	5.0		mg/L	EPA 6010		09/10	09/21	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Silver	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Sodium	70		mg/L	EPA 6010		09/10	09/21	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Zinc	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	28.2-29.3		mg/L	EPA 9060			09/13	CMR
...TOC Concentration	28.7		mg/L	EPA 9060			09/13	CMR
Residue, Non-Filterable	12		mg/L	EPA 160.2		09/02	09/02	GPP
Residue,Filterable(TDS)	424		mg/L	EPA 160.1	500	09/16	09/17	RJK

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.

ENVIRONMENTAL LABORATORY SERVICES

SINCE 1909

5633 B STR
ANCHORAGE, AK 995
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-2
Client Sample ID :LON-BKGD-SW01 DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 14:25 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Barium	0.065		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Calcium	35		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10	09/14	[redacted]
Copper	0.050	U	mg/L	EPA 6010		09/10	09/14	[redacted]
Iron	0.60		mg/L	EPA 6010		09/10	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Magnesium	23		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Potassium	5.0	U	mg/L	EPA 6010		09/10	09/21	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Silver	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Sodium	70		mg/L	EPA 6010		09/10	09/21	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Zinc	0.56		mg/L	EPA 6010		09/10	09/14	DFL
Dissolved Metals Analys	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Barium	0.061		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Calcium	35		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-2
Client Sample ID :LON-BKGD-SW01 DUPLICATE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Iron	0.21		mg/L	EPA 6010		09/10	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Magnesium	22		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Potassium	5.0	U	mg/L	EPA 6010		09/10	09/14	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/21	DFL
Silver	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Sodium	70		mg/L	EPA 6010		09/10	09/14	DFL
Thallium	0.0050	U	mg/L	EPA 6010		09/10	09/21	DFL
Vanadium	0.050	U	mg/L	EPA 7841		09/09	09/10	KAW
Zinc	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	28.2-29.3		mg/L	EPA 9060			09/13	CMR
...TOC Concentration	28.8		mg/L	EPA 9060			09/13	CMR

==========

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1909

REPORT of ANALYSIS

5633 B ST
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4504-3
Client Sample ID :LON-BKGD-SW01 SPIKE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 14:25 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director: STEPHEN C. EDE
Released By : C. Hrenchuk

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, Z.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.87		mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.83		mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.93		mg/L	EPA 6010		09/10	09/14	DFL
Barium	1.0		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.37		mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.48		mg/L	EPA 6010		09/10	09/14	DFL
Calcium	44		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.96		mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.94		mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.89		mg/L	EPA 6010		09/10	09/14	DFL
Iron	1.6		mg/L	EPA 6010		09/10	09/14	DFL
Lead	0.93		mg/L	EPA 6010		09/10	09/14	DFL
Magnesium	31		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.98		mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.96		mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.95		mg/L	EPA 6010		09/10	09/14	DFL
Potassium	7.5		mg/L	EPA 6010		09/10	09/21	DFL
Selenium	0.86		mg/L	EPA 6010		09/10	09/14	DFL
Silver	0.15		mg/L	EPA 6010		09/10	09/14	DFL
Sodium	80		mg/L	EPA 6010		09/10	09/21	DFL
Thallium	0.018		mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.90		mg/L	EPA 6010		09/10	09/14	DFL
Zinc	0.92		mg/L	EPA 6010		09/10	09/14	DFL
Dissolved Metals Analys	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.90		mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.85		mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.93		mg/L	EPA 6010		09/10	09/14	DFL
Barium	1.0		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.37		mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.47		mg/L	EPA 6010		09/10	09/14	DFL
Calcium	44		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.95		mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.94		mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.91		mg/L	EPA 6010		09/10	09/14	DFL

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-3
Client Sample ID :LON-BKGD-SW01 SPIKE
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Iron	1.2	mg/L	EPA 6010		09/10 09/14	DFL
Lead	0.92	mg/L	EPA 6010		09/10 09/14	DFL
Magnesium	31	mg/L	EPA 6010		09/10 09/14	DFL
Manganese	0.95	mg/L	EPA 6010		09/10 09/14	DFL
Molybdenum	0.97	mg/L	EPA 6010		09/10 09/14	DFL
Nickel	0.95	mg/L	EPA 6010		09/10 09/14	DFL
Potassium	9.5	mg/L	EPA 6010		09/10 09/21	DFL
Selenium	0.87	mg/L	EPA 6010		09/10 09/14	DFL
Silver	0.15	mg/L	EPA 6010		09/10 09/14	DFL
Sodium	80	mg/L	EPA 6010		09/10 09/21	DFL
Thallium	0.018	mg/L	EPA 7841		09/09 09/10	KAW
Vanadium	0.89	mg/L	EPA 6010		09/10 09/14	DFL
Zinc	0.92	mg/L	EPA 6010		09/10 09/14	DFL
TOC, Nonpurgable			EPA 9060	n/a		
...TOC Range	43.2-45.4	mg/L	EPA 9060		09/13	CMR
...TOC Concentration	44.1	mg/L	EPA 9060		09/13	CMR

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4506-2
Client Sample ID :LON-BKGD-SW02
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
WSID :UA

WORK Order :70353
Report Completed :10/12/93
Collected :08/25/93 @ 16:20 hrs.
Received :08/31/93 @ 15:10 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, J.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	[redacted]
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	[redacted]
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0049		mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Lab Ref.# :93.4506-2
Client Sample ID :LON-BKGD-SW02
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Toluene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	MCM
Semivolatile Organics				EPA 8270		
Phenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
bis(2-Chloroethyl)ether	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2-Chlorophenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
1,3-Dichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
1,4-Dichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Benzyl Alcohol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
1,2-Dichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2-Methylphenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
bis(2-Chloroisopropyl)e	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
4-Methylphenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
n-Nitroso-di-n-Propylam	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Hexachloroethane	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Nitrobenzene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Isophorone	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2-Nitrophenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2,4-Dimethylphenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Benzoic Acid	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
bis(2-Chloroethoxy)Meth	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2,4-Dichlorophenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
1,2,4-Trichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Naphthalene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
4-Chloroaniline	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Hexachlorobutadiene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
4-Chloro-3-Methylphenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2-Methylnaphthalene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
Hexachlorocyclopentadie	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2,4,6-Trichlorophenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2,4,5-Trichlorophenol	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT
2-Chloronaphthalene	0.0102	U	mg/L	EPA 8270	09/01 09/04	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-2
Client Sample ID :LON-BKGD-SW02
Matrix :WATER

Qualifiers/Comments

5633 B STRE
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Dimethylphthalate	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Acenaphthylene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
2,6-Dinitrotoluene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
3-Nitroaniline	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Acenaphthene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
2,4-Dinitrophenol	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
4-Nitrophenol	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Dibenzofuran	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
2,4-Dinitrotoluene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Diethylphthalate	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
4-Chlorophenyl-Phenylet	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Fluorene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
4-Nitroaniline	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
4,6-Dinitro-2-Methylphe	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
n-Nitrosodiphenylamine	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
4-Bromophenyl-Phenyleth	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Hexachlorobenzene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Pentachlorophenol	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Phenanthrene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Anthracene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
di-n-Butylphthalate	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Fluoranthene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Pyrene	0.0102	U	mg/L	EPA 8270		09/01 09/04	[redacted]
Butylbenzylphthalate	0.0102	U	mg/L	EPA 8270		09/01 09/04	[redacted]
3,3-Dichlorobenzidine	0.0102	U	mg/L	EPA 8270	(J) -D.1	09/01 09/04	MTT
Benzo(a)Anthracene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Chrysene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
bis(2-Ethylhexyl)Phthal	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
di-n-Octylphthalate	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Benzo(b)Fluoranthene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Benzo(k)Fluoranthene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Benzo(a)Pyrene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Indeno(1,2,3-cd)Pyrene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Dibenz(a,h)Anthracene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Benzo(g,h,i)Perylene	0.0102	U	mg/L	EPA 8270		09/01 09/04	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Barium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Calcium	19		mg/L	EPA 6010		09/10 09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10 09/14	DFL
Iron	0.47		mg/L	EPA 6010		09/10 09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10 09/14	DFL

3-9-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-2
Client Sample ID :LON-BKGD-SW02
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

		Qualifier		Comment				
Magnesium	11		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Potassium	5.0	U	mg/L	EPA 6010		09/10	09/21	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Silver	0.050	U J	mg/L B1	EPA 6010		09/10	09/14	DFL
Sodium	35		mg/L	EPA 6010		09/10	09/21	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Zinc	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Dissolved Metals Analys	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Barium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Calcium	19		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Iron	0.33		mg/L	EPA 6010		09/10	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Magnesium	11		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Potassium	5.0	U	mg/L	EPA 6010		09/10	09/21	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Silver	0.050	U JR	mg/L B1 J	EPA 6010		09/10	09/14	DFL
Sodium	35		mg/L	EPA 6010		09/10	09/21	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Zinc	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	24.8-25.7		mg/L	EPA 9060			09/14	CMR
...TOC Concentration	25.2		mg/L	EPA 9060			09/14	CMR
Residue, Non-Filterable	9		mg/L	EPA 160.2		09/02	09/02	GPP
Residue,Filterable(TDS)	253		mg/L	EPA 160.1	500	09/16	09/17	RJK

All changes s.c 2/22/94

* See Special Instructions Above
** See Sample Remarks Above
B = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.

ENVIRONMENTAL LABORATORY SERVICES

SINCE 1938

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-5
Client Sample ID :LON-BKGD-SW03
Matrix :WATER

5333 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70357
Report Completed :11/03/93
Collected :08/25/93 @ 14:25 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, E.M., AND PETER M.G. 8270:/SAMPLE CALLS 0.0105 PPM ANILINE. THIS IS BELOW DETECTION LIMIT OF 0.0111.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0057		mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-5
Client Sample ID :LON-BKGD-SW03
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Semivolatile Organics				EPA 8270			
Phenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroethyl)ether	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Chlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,3-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,4-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzyl Alcohol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,2-Dichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Methylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroisopropyl)e	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Methylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
n-Nitroso-di-n-Propylam	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachloroethane	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Nitrobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Isophorone	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Nitrophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dimethylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzoic Acid	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroethoxy)Meth	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dichlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
1,2,4-Trichlorobenzene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Naphthalene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chloroaniline	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorobutadiene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chloro-3-Methylphenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Methylnaphthalene	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorocyclopentadie	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4,6-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4,5-Trichlorophenol	0.011	U	mg/L	EPA 8270	09/01	09/04	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

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Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
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2-Chloronaphthalene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Dimethylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Acenaphthylene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2,6-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
3-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Acenaphthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2,4-Dinitrophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Nitrophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Dibenzofuran	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
2,4-Dinitrotoluene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Diethylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Chlorophenyl-Phenylet	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Fluorene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Nitroaniline	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4,6-Dinitro-2-Methylphe	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
n-Nitrosodiphenylamine	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
4-Bromophenyl-Phenyleth	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Hexachlorobenzene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Pentachlorophenol	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Phenanthrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
di-n-Butylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Butylbenzylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
3,3-Dichlorobenzidine	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(a)Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Chrysene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
bis(2-Ethylhexyl)Phthal	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
di-n-Octylphthalate	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(b)Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(k)Fluoranthene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(a)Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Indeno(1,2,3-cd)Pyrene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Dibenz(a,h)Anthracene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Benzo(g,h,i)Perylene	0.011	U	mg/L	EPA 8270		09/01	09/04	MTT
Total Metals Analysis	---			-				
ICP Screen, ICF				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Barium	0.062		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Calcium	34		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Iron	0.58		mg/L	EPA 6010		09/10	09/14	DFL

COMMERCIAL TESTING & ENGINEERING CO.

ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4504-5
Client Sample ID :LON-BKGD-SW03
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
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Lead	0.10	U	mg/L	EPA 6010		09/10	09/14	DF
Magnesium	22		mg/L	EPA 6010		09/10	09/14	DF
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DF
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DF
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DF
Potassium	5.0	U	mg/L	EPA 6010		09/10	09/21	DF
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/14	DF
Silver	0.050	U	mg/L	EPA 6010		09/10	09/14	DF
Sodium	68		mg/L	EPA 6010		09/10	09/21	DF
Thallium	0.0050	U	mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10	09/14	DF
Zinc	0.050	U	mg/L	EPA 6010		09/10	09/14	DF
Dissolved Metals Analys	---			-				
ICP Screen, ICP				EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Barium	0.060		mg/L	EPA 6010		09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Calcium	34		mg/L	EPA 6010		09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Iron	0.19		mg/L	EPA 6010		09/10	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Magnesium	21		mg/L	EPA 6010		09/10	09/14	DFL
Manganese	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Molybdenum	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Nickel	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Potassium	5.0	U	mg/L	EPA 6010		09/10	09/21	DFL
Selenium	0.10	U	mg/L	EPA 6010		09/10	09/14	DFL
Silver	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Sodium	68		mg/L	EPA 6010		09/10	09/21	DFL
Thallium	0.0050	U	mg/L	EPA 7841		09/09	09/10	KAW
Vanadium	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
Zinc	0.050	U	mg/L	EPA 6010		09/10	09/14	DFL
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	26.2-26.8		mg/L	EPA 9060			09/13	CMR
...TOC Concentration	26.5		mg/L	EPA 9060			09/13	CMR
Residue, Non-Filterable	5		mg/L	EPA 160.2		09/02	09/02	GPP
Residue,Filterable(TDS)	422		mg/L	EPA 160.1	500	09/16	09/17	RJK

* See Special Instructions Above
See Sample Remarks Above
= Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

ICF ID	LON-BKGD-S01	LON-BKGD-SD01	LON-BKGD-SD02
F&BI Number	699	734	700
Sample Type	soil	soil	soil
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight	26	57	15
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
Leaded Gas			
JP-4	<190	<90	<330
Lube Oil	<380	<180	<670
Diesel	<190	150 J	<330
Spike Level			
Unknown Semi-volatile	840 biological	60 biological	
Pentacosane	128	103	127
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
PCB 1221	~~<0.1~~ <0.4	<0.1	~~<0.1~~ <0.7
PCB 1232	~~<0.1~~	<0.1	~~<0.1~~
PCB 1016	~~<0.1~~	<0.1	~~<0.1~~
PCB 1242	~~<0.1~~	<0.1	~~<0.1~~
PCB 1248	~~<0.1~~	<0.1	~~<0.1~~
PCB 1254	~~<0.1~~	<0.1	~~<0.1~~
PCB 1260	~~<0.1~~	<0.1	~~<0.1~~
Spike Level			
Dibutyl Chlorendate	128	103	127
Sequence Date	#6-08/26/93	#6-08/26/93	#6-08/26/93
alpha-BHC	~~<0.01~~ <0.04 J	~~<0.01~~ <0.02 J	~~<0.01~~ <0.07 J
beta-BHC	~~<0.01~~	~~<0.01~~	<0.01
gamma-BHC	~~<0.01~~	~~<0.01~~	<0.01
delta-BHC	~~<0.01~~	~~<0.01~~	<0.01
Heptachlor	~~<0.01~~	~~<0.01~~	<0.01
Aldrin	~~<0.01~~	~~<0.01~~	<0.01
Heptachlor Epoxide	~~<0.01~~	~~<0.01~~	<0.01
Endosulfan I	~~<0.01~~	~~<0.01~~	<0.01
DDE	~~<0.01~~	~~<0.01~~	<0.01
Dieldrin	~~<0.01~~	~~<0.01~~	<0.01
Endrin	~~<0.01~~	~~<0.01~~	<0.01
Endosulfan II	~~<0.01~~	~~<0.01~~	<0.01
DDD	~~<0.01~~	~~<0.01~~	<0.01
Endrin Aldehyde	~~<0.01~~	~~<0.01~~	<0.01
DDT	~~<0.01~~	~~<0.01~~	<0.01
Endosulfan Sulfate	~~<0.01~~	~~<0.01~~	<0.01
Endrin Ketone	~~<0.01~~	~~<0.01~~	<0.01
Methoxy Chlor	~~<0.1~~ <0.5 J	~~<0.1~~ <0.5 J	~~<0.1~~ <0.5 J
Chlordane	<0.5 J	<0.5 J	<0.5 J
Dibutyl Chlorendate	115	103	125
Spike Level			
Vol Sequence	#1&2-08/28/93	#1&2-08/28/93	#1&2-08/28/93
CCl4	<0.2	<0.04	<0.3
TCA	<0.2	<0.04	<0.3
Benzene	<0.2	<0.04	<0.3
TCE	<0.2	<0.04	<0.3
Toluene	<0.2	0.2	<0.3
PCE	<0.2	<0.04	<0.3
Ethylbenzene	<0.2	0.5	<0.3
Xylenes	<0.4	2 J	<0.6
Gasoline	<20 J	27 J	<30 J
Spike level			
BFB	86	92	76

Compiled by sfm 10-5-95

ICF ID	LON-ST10-2SD03	LON-BKGD-SW01	LON-BKGD-SW01
F&BI Number	1773	706	707
Sample Type	soil	water	water
Date Received	9/5/93	8/26/93	8/26/93
% Dry Weight	17		
Sequence Date	#5-09/06/93		#5-08/27/93
Leaded Gas			
JP-4	<300		<200
Lube Oil	<600		<2000
Diesel	<300		~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	120		96
Sequence Date			#5-08/27/93
PCB 1221			<2
PCB 1232			<2
PCB 1016			<2
PCB 1242			<2
PCB 1248			<2
PCB 1254			<2
PCB 1260			<2
Spike Level			
Dibutyl Chlorendate			96
Sequence Date			#5-08/27/93
alpha-BHC			~~<2~~ <0.2 J
beta-BHC			<2
gamma-BHC			<2
delta-BHC			<2
Heptachlor			<2
Aldrin			<2
Heptachlor Epoxide			<2
Endosulfan I			<2
DDE			<2
Dieldrin			<2
Endrin			<2
Endosulfan II			<2
DDD			<2
Endrin Aldehyde			<2
DDT			<2
Endosulfan Sulfate			<2
Endrin Ketone			<2
Methoxy Chlor			~~<20~~ <10 J
Chlordane			~~<50~~ <10 J
Dibutyl Chlorendate			96
Spike Level			
Vol Sequence		#3&4-08/25/93	
CCl4		<1	
TCA		<1	
Benzene		<1	
TCE		<1	
Toluene		<1	
PCE		<1	
Ethylbenzene		<1	
Xylenes		<2	
Gasoline		~~<50~~ 100 J	
Spike level			
BFB		111	

Compiled by SAM 10-5-95

ICF ID	LON-BKGD-SW02	LON-BKGD-SW02	LON-BKGD-SW03
F&BI Number	666	672	688
Sample Type	water	water	water
Date Received	8/26/93	8/26/93	8/26/93
% Dry Weight			
Sequence Date	#5-08/27/93		#5-08/27/93
Leaded Gas			
JP-4	<200		<200
Lube Oil	<2000		<2000
Diesel	~~<200~~ <1000		~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	87		80
Sequence Date	#5-08/27/93		#5-08/27/93
PCB 1221	<2		<2
PCB 1232	<2		<2
PCB 1016	<2		<2
PCB 1242	<2		<2
PCB 1248	<2		<2
PCB 1254	<2		<2
PCB 1260	<2		<2
Spike Level			
Dibutyl Chlorendate	87		80
Sequence Date	#5-08/27/93		#5-08/27/93
alpha-BHC	<2 <0.2 J		~~<2~~ <0.2J
beta-BHC	<2		~~<2~~
gamma-BHC	<2		~~<2~~
delta-BHC	<2		~~<2~~
Heptachlor	<2		~~<2~~
Aldrin	<2		~~<2~~
Heptachlor Epoxide	<2		~~<2~~
Endosulfan I	<2		~~<2~~
DDE	<2		~~<2~~
Dieldrin	<2		~~<2~~
Endrin	<2		~~<2~~
Endosulfan II	<2		~~<2~~
DDD	<2		~~<2~~
Endrin Aldehyde	<2		~~<2~~
DDT	<2		~~<2~~
Endosulfan Sulfate	<2		~~<2~~
Endrin Ketone	<2		~~<2~~
Methoxy Chlor	~~<20~~ <10 J		~~<20~~ <10 J
Chlordane	~~<50~~ <10 J		~~<50~~ <10 J
Dibutyl Chlorendate	87		80
Spike Level			
Vol Sequence		#3&4-08/25/93	
CCl4		<1	
TCA		<1	
Benzene		<1	
TCE		<1	
Toluene		<1	
PCE		<1	
Ethylbenzene		<1	
Xylenes		<2	
Gasoline		~~<50~~ <100 J	
Spike level			
BFB		113	

compiled by SAM 10-5-93

ICF ID	LON-BKGD-SW03
F&BI Number	690
Sample Type	water
Date Received	8/26/93
% Dry Weight	
Sequence Date	
Leaded Gas	
JP-4	
Lube Oil	
Diesel	
Spike Level	
Unknown Semi-volatile	
Pentacosane	
Sequence Date	
PCB 1221	
PCB 1232	
PCB 1016	
PCB 1242	
PCB 1248	
PCB 1254	
PCB 1260	
Spike Level	
Dibutyl Chlorendate	
Sequence Date	
alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
Heptachlor	
Aldrin	
Heptachlor Epoxide	
Endosulfan I	
DDE	
Dieldrin	
Endrin	
Endosulfan II	
DDD	
Endrin Aldehyde	
DDT	
Endosulfan Sulfate	
Endrin Ketone	
Methoxy Chlor	
Chlordane	
Dibutyl Chlorendate	
Spike Level	
Vol Sequence	#3&4-08/25/93
CCl4	<1
TCA	<1
Benzene	<1
TCE	<1
Toluene	<1
PCE	<1
Ethylbenzene	<1
Xylenes	<2
Gasoline	~~<50~~ <100 J
Spike level	
BFB	118

Compiled by SAM 10-5-95

ANALYTICAL DATA SHEETS FOR QA/QC

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-1
Client Sample ID :LON-EB-01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 18:00 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichloroethane	0.0039		mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1904

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-1
Client Sample ID :LON-EB-01
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Toluene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Semivolatile Organics				EPA 8270		
Phenol	0.029	U	mg/L	EPA 8270	08/31 09/10	
bis(2-Chloroethyl)ether	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2-Chlorophenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
1,3-Dichlorobenzene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
1,4-Dichlorobenzene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Benzyl Alcohol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
1,2-Dichlorobenzene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2-Methylphenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
bis(2-Chloroisopropyl)e	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
4-Methylphenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
n-Nitroso-di-n-Propylam	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Hexachloroethane	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Nitrobenzene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Isophorone	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2-Nitrophenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2,4-Dimethylphenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Benzoic Acid	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
bis(2-Chloroethoxy)Meth	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2,4-Dichlorophenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
1,2,4-Trichlorobenzene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Naphthalene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
4-Chloroaniline	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Hexachlorobutadiene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
4-Chloro-3-Methylphenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2-Methylnaphthalene	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
Hexachlorocyclopentadie	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2,4,6-Trichlorophenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2,4,5-Trichlorophenol	0.029	U	mg/L	EPA 8270	08/31 09/10	MTT
2-Chloronaphthalene	0.029	U	mg/L	EPA 8270	08/31 09/10	

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4357-1
Client Sample ID :LON-EB-01
Matrix :WATER

2-Nitroaniline	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Dimethylphthalate	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Acenaphthylene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
2,6-Dinitrotoluene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
3-Nitroaniline	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Acenaphthene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
2,4-Dinitrophenol	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Nitrophenol	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Dibenzofuran	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
2,4-Dinitrotoluene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Diethylphthalate	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Chlorophenyl-Phenylet	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Fluorene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Nitroaniline	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
4,6-Dinitro-2-Methylphe	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
n-Nitrosodiphenylamine	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Bromophenyl-Phenyleth	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Hexachlorobenzene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Pentachlorophenol	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Phenanthrene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Anthracene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
di-n-Butylphthalate	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Fluoranthene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Pyrene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Butylbenzylphthalate	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
3,3-Dichlorobenzidine	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(a)Anthracene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Chrysene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
bis(2-Ethylhexyl)Phthal	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
di-n-Octylphthalate	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(b)Fluoranthene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(k)Fluoranthene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(a)Pyrene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Indeno(1,2,3-cd)Pyrene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Dibenz(a,h)Anthracene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(g,h,i)Perylene	0.029	U	mg/L	EPA 8270		08/31 09/10	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Barium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Calcium	0.27		mg/L	EPA 6010		09/02 09/06	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Copper	0.050	U	mg/L	EPA 6010		09/02 09/06	DLG
Iron	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG
Lead	0.10	U	mg/L	EPA 6010		09/02 09/06	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-1
Client Sample ID :LON-EB-01
Matrix :WATER

Qualifier Comment

Magnesium	0.20	U		mg/L		EPA 6010		09/02	09/06 DLG
Manganese	0.050	U		mg/L		EPA 6010		09/02	09/06 DLG
Molybdenum	0.050	U		mg/L		EPA 6010		09/02	09/06 DLG
Nickel	0.050	U		mg/L		EPA 6010		09/02	09/06 DLG
Potassium	5.0	U		mg/L		EPA 6010		09/02	09/06 DLG
Selenium	0.10	U		mg/L		EPA 6010		09/02	09/06 DLG
Silver	0.050	U	J	mg/L	B.1,J.1	EPA 6010		09/02	09/06 DLG
Sodium	0.37		J	mg/L	B.1	EPA 6010		09/02	09/06 DLG
Thallium	0.005	U		mg/L		EPA 7841		09/03	09/08 BMW
Vanadium	0.050	U		mg/L		EPA 6010		09/02	09/06 DLG
Zinc	0.050	U		mg/L		EPA 6010		09/15	09/17 DFL
TOC, Nonpurgable						EPA 9060	n/a		
...TOC Range	5.0-5.0	U		mg/L		EPA 9060			09/07 CMR
...TOC Concentration	5.0	U		mg/L		EPA 9060			09/07 CMR

All chgs s.c 2/24/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1928

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-3
Client Sample ID :LON-EB-01 DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 18:00 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Total Metals Analysis ICP Screen, ICF	---			- EPA	n/a			
Aluminum	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Barium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Calcium	0.25		mg/L	EPA 6010		09/02	09/06	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Copper	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Iron	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Lead	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Magnesium	0.20	U	mg/L	EPA 6010		09/02	09/06	DLG
Manganese	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/02	09/06	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/02	09/06	DLG
Silver	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Sodium	0.37		mg/L	EPA 6010		09/02	09/06	DLG
Thallium	0.005	U	mg/L	EPA 7841		09/03	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/02	09/06	DLG
Zinc	---		mg/L	EPA 6010				

* See Special Instructions Above
See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
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5633 B STR
ANCHORAGE, AK 995
TEL: (907) 562-2343
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REPORT of ANALYSIS

Chemlab Ref.# :93.4357-2
Client Sample ID :LON-EB-01 SPIKE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 18:00 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA. FOR 8260 SPIKE, SEE WO# 93.4356-3.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Semivolatile Organics				EPA 8270				
Phenol	0.080		mg/L	EPA 8270		08/31	09/10	MTT
bis(2-Chloroethyl)ether	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2-Chlorophenol	0.142		mg/L	EPA 8270		08/31	09/10	MTT
1,3-Dichlorobenzene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
1,4-Dichlorobenzene	0.102		mg/L	EPA 8270		08/31	09/10	MTT
Benzyl Alcohol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
1,2-Dichlorobenzene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2-Methylphenol	0.040	U	mg/L	EPA 8270		08/31	09/10	
bis(2-Chloroisopropyl)e	0.040	U	mg/L	EPA 8270		08/31	09/10	
4-Methylphenol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
n-Nitroso-di-n-Propylam	0.156		mg/L	EPA 8270		08/31	09/10	MTT
Hexachloroethane	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Nitrobenzene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Isophorone	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2-Nitrophenol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2,4-Dimethylphenol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Benzoic Acid	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
bis(2-Chloroethoxy)Meth	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2,4-Dichlorophenol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
1,2,4-Trichlorobenzene	0.125		mg/L	EPA 8270		08/31	09/10	MTT
Naphthalene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
4-Chloroaniline	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Hexachlorobutadiene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
4-Chloro-3-Methylphenol	0.159		mg/L	EPA 8270		08/31	09/10	MTT
2-Methylnaphthalene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Hexachlorocyclopentadie	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2,4,6-Trichlorophenol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2,4,5-Trichlorophenol	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2-Chloronaphthalene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2-Nitroaniline	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Dimethylphthalate	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Acenaphthylene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
2,6-Dinitrotoluene	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
3-Nitroaniline	0.040	U	mg/L	EPA 8270		08/31	09/10	MTT
Acenaphthene	0.157		mg/L	EPA 8270		08/31	09/10	MTT
2,4-Dinitrophenol	0.040	U	mg/L	EPA 8270		08/31	09/10	

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REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
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FAX: (907) 561-5301

Chemlab Ref.# :93.4357-2
Client Sample ID :LON-EB-01 SPIKE
Matrix :WATER

4-Nitrophenol	0.057		mg/L	EPA 8270		08/31 09/10	MTT
Dibenzofuran	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
2,4-Dinitrotoluene	0.175		mg/L	EPA 8270		08/31 09/10	MTT
Diethylphthalate	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Chlorophenyl-Phenylet	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Fluorene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Nitroaniline	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
4,6-Dinitro-2-Methylphe	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
n-Nitrosodiphenylamine	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
4-Bromophenyl-Phenyleth	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Hexachlorobenzene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Pentachlorophenol	0.127		mg/L	EPA 8270		08/31 09/10	MTT
Phenanthrene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Anthracene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
di-n-Butylphthalate	0.122		mg/L	EPA 8270		08/31 09/10	MTT
Fluoranthene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Pyrene	0.187		mg/L	EPA 8270		08/31 09/10	MTT
Butylbenzylphthalate	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
3,3-Dichlorobenzidine	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(a)Anthracene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Chrysene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
bis(2-Ethylhexyl)Phthal	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
di-n-Octylphthalate	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(b)Fluoranthene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(k)Fluoranthene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(a)Pyrene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Indeno(1,2,3-cd)Pyrene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Dibenz(a,h)Anthracene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Benzo(g,h,i)Perylene	0.040	U	mg/L	EPA 8270		08/31 09/10	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	1.08		mg/L	EPA 6010		09/02 09/06	DLG
Antimony	0.88		mg/L	EPA 6010		09/02 09/06	DLG
Arsenic	0.90		mg/L	EPA 6010		09/02 09/06	DLG
Barium	1.00		mg/L	EPA 6010		09/02 09/06	DLG
Beryllium	0.39		mg/L	EPA 6010		09/02 09/06	DLG
Cadmium	0.47		mg/L	EPA 6010		09/02 09/06	DLG
Calcium	9.34		mg/L	EPA 6010		09/02 09/06	DLG
Chromium	0.97		mg/L	EPA 6010		09/02 09/06	DLG
Cobalt	0.94		mg/L	EPA 6010		09/02 09/06	DLG
Copper	1.01		mg/L	EPA 6010		09/02 09/06	DLG
Iron	0.95		mg/L	EPA 6010		09/02 09/06	DLG
Lead	0.91		mg/L	EPA 6010		09/02 09/06	DLG
Magnesium	9.4		mg/L	EPA 6010		09/02 09/06	DLG
Manganese	0.99		mg/L	EPA 6010		09/02 09/06	DLG
Molybdenum	0.98		mg/L	EPA 6010		09/02 09/06	DLG
Nickel	0.95		mg/L	EPA 6010		09/02 09/06	DLG
Potassium	9.0		mg/L	EPA 6010		09/02 09/06	DLG
Selenium	0.87		mg/L	EPA 6010		09/02 09/06	DLG
Silver	0.14		mg/L	EPA 6010		09/02 09/06	DLG

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REPORT of ANALYSIS

5633 B ST
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4357-2
Client Sample ID :LON-EB-01 SPIKE
Matrix :WATER

Sodium	9.45	mg/L	EPA 6010	09/02 09/06	DLG
Thallium	0.018	mg/L	EPA 7841	09/03 09/08	BMW
Vanadium	0.94	mg/L	EPA 6010	09/02 09/06	DLG
Zinc	---	mg/L	EPA 6010		

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

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NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1904

5633 B STREET
ANCHORAGE, AK 99518
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REPORT of ANALYSIS

Chemlab Ref.# :93.4357-9
Client Sample ID :LON-EB-01 SPIKE DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 18:00 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA. FOR 8260 SPIKE/DUPLICATE, SEE WO# 93.4356-5.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Semivolatile Organics				EPA 8270				
Phenol	0.120		mg/Kg	EPA 8270		08/31	09/10	MTT
bis(2-Chloroethyl)ether	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2-Chlorophenol	0.156		mg/Kg	EPA 8270		08/31	09/10	MTT
1,3-Dichlorobenzene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
1,4-Dichlorobenzene	0.105		mg/Kg	EPA 8270		08/31	09/10	MTT
Benzyl Alcohol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
1,2-Dichlorobenzene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2-Methylphenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
bis(2-Chloroisopropyl)e	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
4-Methylphenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
n-Nitroso-di-n-Propylam	0.158		mg/Kg	EPA 8270		08/31	09/10	MTT
Hexachloroethane	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Nitrobenzene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Isophorone	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2-Nitrophenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2,4-Dimethylphenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Benzoic Acid	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
bis(2-Chloroethoxy)Meth	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2,4-Dichlorophenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
1,2,4-Trichlorobenzene	0.132		mg/Kg	EPA 8270		08/31	09/10	MTT
Naphthalene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
4-Chloroaniline	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Hexachlorobutadiene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
4-Chloro-3-Methylphenol	0.183		mg/Kg	EPA 8270		08/31	09/10	MTT
2-Methylnaphthalene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Hexachlorocyclopentadie	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2,4,6-Trichlorophenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2,4,5-Trichlorophenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2-Chloronaphthalene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2-Nitroaniline	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Dimethylphthalate	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Acenaphthylene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
2,6-Dinitrotoluene	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
3-Nitroaniline	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT
Acenaphthene	0.167		mg/Kg	EPA 8270		08/31	09/10	MTT
2,4-Dinitrophenol	0.035	U	mg/Kg	EPA 8270		08/31	09/10	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-9
Client Sample ID :LON-EB-01 SPIKE DUPLICATE
Matrix :WATER

5633 B STRE
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX (907) 561-5301

4-Nitrophenol	0.124		mg/Kg	EPA 8270	08/31 09/10	MTT
Dibenzofuran	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
2,4-Dinitrotoluene	0.177		mg/Kg	EPA 8270	08/31 09/10	MTT
Diethylphthalate	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
4-Chlorophenyl-Phenylet	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Fluorene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
4-Nitroaniline	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
4,6-Dinitro-2-Methylphe	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
n-Nitrosodiphenylamine	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
4-Bromophenyl-Phenyleth	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Hexachlorobenzene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Pentachlorophenol	0.176		mg/Kg	EPA 8270	08/31 09/10	MTT
Phenanthrene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Anthracene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
di-n-Butylphthalate	0.147		mg/Kg	EPA 8270	08/31 09/10	MTT
Fluoranthene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Pyrene	0.184		mg/Kg	EPA 8270	08/31 09/10	MTT
Butylbenzylphthalate	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
3,3-Dichlorobenzidine	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Benzo(a)Anthracene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Chrysene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
bis(2-Ethylhexyl)Phthal	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
di-n-Octylphthalate	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Benzo(b)Fluoranthene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Benzo(k)Fluoranthene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Benzo(a)Pyrene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Indeno(1,2,3-cd)Pyrene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Dibenz(a,h)Anthracene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT
Benzo(g,h,i)Perylene	0.035	U	mg/Kg	EPA 8270	08/31 09/10	MTT

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Lemlab Ref.# :93.4506-1
Client Sample ID :LON-EB-02
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70353
Report Completed :10/12/93
Collected :08/25/93 @ 15:30 hrs.
Received :08/31/93 @ 15:10 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Honeycutt

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA, J.M., AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-1
Client Sample ID :LON-EB-02
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	MCM
Semivolatile Organics				EPA 8270			
Phenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroethyl)ether	0.0102	U	mg/L	EPA 8270	09/01	09/04	
2-Chlorophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	
1,3-Dichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
1,4-Dichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzyl Alcohol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
1,2-Dichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Methylphenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroisopropyl)e	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Methylphenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
n-Nitroso-di-n-Propylam	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachloroethane	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Nitrobenzene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Isophorone	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Nitrophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dimethylphenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzoic Acid	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Chloroethoxy)Meth	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dichlorophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
1,2,4-Trichlorobenzene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Naphthalene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chloroaniline	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorobutadiene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chloro-3-Methylphenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Methylnaphthalene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorocyclopentadie	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4,6-Trichlorophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4,5-Trichlorophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2-Chloronaphthalene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

Chemlab Ref.# :93.4506-1
Client Sample ID :LON-EB-02
Matrix :WATER

Qualifiers/Comments

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Dimethylphthalate	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Acenaphthylene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,6-Dinitrotoluene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
3-Nitroaniline	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Acenaphthene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dinitrophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Nitrophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Dibenzofuran	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
2,4-Dinitrotoluene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Diethylphthalate	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Chlorophenyl-Phenylet	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Fluorene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Nitroaniline	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4,6-Dinitro-2-Methylphe	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
n-Nitrosodiphenylamine	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
4-Bromophenyl-Phenyleth	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Hexachlorobenzene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Pentachlorophenol	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Phenanthrene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Anthracene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
di-n-Butylphthalate	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Fluoranthene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Pyrene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Butylbenzylphthalate	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
3,3-Dichlorobenzidine	0.0102	U	mg/L	EPA 8270 (J)-D.1	09/01	09/04	MTT
Benzo(a)Anthracene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Chrysene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
bis(2-Ethylhexyl)Phthal	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
di-n-Octylphthalate	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzo(b)Fluoranthene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzo(k)Fluoranthene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzo(a)Pyrene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Indeno(1,2,3-cd)Pyrene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Dibenz(a,h)Anthracene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Benzo(g,h,i)Perylene	0.0102	U	mg/L	EPA 8270	09/01	09/04	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA n/a			
Aluminum	0.10	U	mg/L	EPA 6010	09/10	09/14	DFL
Antimony	0.10	U	mg/L	EPA 6010	09/10	09/14	DFL
Arsenic	0.10	U	mg/L	EPA 6010	09/10	09/14	DFL
Barium	0.050	U	mg/L	EPA 6010	09/10	09/14	DFL
Beryllium	0.050	U	mg/L	EPA 6010	09/10	09/14	DFL
Cadmium	0.050	U	mg/L	EPA 6010	09/10	09/14	DFL
Calcium	0.20	U	mg/L	EPA 6010	09/10	09/14	DFL
Chromium	0.050	U	mg/L	EPA 6010	09/10	09/14	DFL
Cobalt	0.10	U	mg/L	EPA 6010	09/10	09/14	DFL
Copper	0.050	U	mg/L	EPA 6010	09/10	09/14	DFL
Iron	0.10	U	mg/L	EPA 6010	09/10	09/14	DFL
Lead	0.10	U	mg/L	EPA 6010	09/10	09/14	DFL

CB 3-9-94

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

5633 B STR
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4506-1
Client Sample ID :LON-EB-02
Matrix :WATER

		Qualifier		Comment				
Magnesium	0.20	U	mg/L		EPA 6010		09/10 09/14	DFL
Manganese	0.050	U	mg/L		EPA 6010		09/10 09/14	DFL
Molybdenum	0.050	U	mg/L		EPA 6010		09/10 09/14	DFL
Nickel	0.050	U	mg/L		EPA 6010		09/10 09/14	DFL
Potassium	5.0	U	mg/L		EPA 6010		09/10 09/21	DFL
Selenium	0.10	U	mg/L		EPA 6010		09/10 09/14	DFL
Silver	0.050	U J	mg/L	B.1	EPA 6010		09/10 09/14	DFL
Sodium	0.25	U	mg/L		EPA 6010		09/10 09/21	DFL
Thallium	0.0050	U	mg/L		EPA 7841		09/09 09/10	KAW
Vanadium	0.050	U	mg/L		EPA 6010		09/10 09/14	DFL
Zinc	0.050	U	mg/L		EPA 6010		09/10 09/14	DFL
TOC, Nonpurgable					EPA 9060	n/a		
...TOC Range	5.0	U	mg/L		EPA 9060		09/14	CMR
...TOC Concentration	5.0	U	mg/L		EPA 9060		09/14	CMR

All charges n.c 2/22/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-9
Client Sample ID :LON-EB-03
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 18:00 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0013		mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-9
Client Sample ID :LON-EB-03
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03 09/03	KWM
Semivolatile Organics				EPA 8270		
Phenol	0.012	U	mg/L	EPA 8270	09/02 09/25	
bis(2-Chloroethyl)ether	0.012	U	mg/L	EPA 8270	09/02 09/25	
2-Chlorophenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
1,3-Dichlorobenzene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
1,4-Dichlorobenzene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzyl Alcohol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
1,2-Dichlorobenzene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Methylphenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
bis(2-Chloroisopropyl)e	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Methylphenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
n-Nitroso-di-n-Propylam	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachloroethane	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Nitrobenzene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Isophorone	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Nitrophenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4-Dimethylphenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Benzoic Acid	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
bis(2-Chloroethoxy)Meth	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4-Dichlorophenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
1,2,4-Trichlorobenzene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Naphthalene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Chloroaniline	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachlorobutadiene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
4-Chloro-3-Methylphenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Methylnaphthalene	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
Hexachlorocyclopentadie	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4,6-Trichlorophenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2,4,5-Trichlorophenol	0.012	U	mg/L	EPA 8270	09/02 09/25	MTT
2-Chloronaphthalene	0.012	U	mg/L	EPA 8270	09/02 09/25	

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-9
Client Sample ID :LON-EB-03
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

2-Nitroaniline	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Dimethylphthalate	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthylene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
2,6-Dinitrotoluene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
3-Nitroaniline	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Acenaphthene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrophenol	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitrophenol	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenzofuran	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
2,4-Dinitrotoluene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Diethylphthalate	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Chlorophenyl-Phenylet	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluorene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Nitroaniline	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
4,6-Dinitro-2-Methylphe	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
n-Nitrosodiphenylamine	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
4-Bromophenyl-Phenyleth	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Hexachlorobenzene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Pentachlorophenol	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Phenanthrene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Anthracene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Butylphthalate	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Fluoranthene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Pyrene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Butylbenzylphthalate	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
3,3-Dichlorobenzidine	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Anthracene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Chrysene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
bis(2-Ethylhexyl)Phthal	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
di-n-Octylphthalate	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(b)Fluoranthene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(k)Fluoranthene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(a)Pyrene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Indeno(1,2,3-cd)Pyrene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Dibenz(a,h)Anthracene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Benzo(g,h,i)Perylene	0.012	U	mg/L	EPA 8270		09/02 09/25	MTT
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Barium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Calcium	0.25		mg/L	EPA 6010		09/07 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/07 09/10	DLG
Iron	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/07 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-9
Client Sample ID :LON-EB-03
Matrix :WATER

		Qualifier		Method		Date		Analyst
Magnesium	0.20	U	mg/L	EPA 6010		09/07	09/10	DLG
Manganese	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Molybdenum	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Nickel	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Potassium	5.0	U	mg/L	EPA 6010		09/07	09/10	DLG
Selenium	0.10	U	mg/L	EPA 6010		09/07	09/10	DLG
Silver	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Sodium	0.42	J	mg/L	EPA 6010		09/07	09/10	DLG
Thallium	0.0050	U	mg/L	EPA 7841		09/06	09/08	BMW
Vanadium	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
Zinc	0.050	U	mg/L	EPA 6010		09/07	09/10	DLG
TOC, Nonpurgable				EPA 9060	n/a			
...TOC Range	5.0	U	mg/L	EPA 9060			09/08	CMR
...TOC Concentration	5.0	U	mg/L	EPA 9060			09/08	CMR

All chgs 2.- 2/16/94

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-4
Client Sample ID :LON EB 04
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70213
Report Completed :11/16/93
Collected :08/27/93 @ 15:00 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1968

REPORT of ANALYSIS DCE

5633 B ST
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-4
Client Sample ID :LON EB 04
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Semivolatile Organics				EPA 8270			
Phenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethyl)ether	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chlorophenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
1,3-Dichlorobenzene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
1,4-Dichlorobenzene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Benzyl Alcohol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
1,2-Dichlorobenzene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylphenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroisopropyl)e	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
4-Methylphenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
n-Nitroso-di-n-Propylam	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachloroethane	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Nitrobenzene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Isophorone	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2-Nitrophenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dimethylphenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Benzoic Acid	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
bis(2-Chloroethoxy)Meth	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2,4-Dichlorophenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
1,2,4-Trichlorobenzene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Naphthalene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloroaniline	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorobutadiene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
4-Chloro-3-Methylphenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2-Methylnaphthalene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
Hexachlorocyclopentadie	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,6-Trichlorophenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2,4,5-Trichlorophenol	0.026	U	mg/L	EPA 8270	09/03	09/27	GV
2-Chloronaphthalene	0.026	U	mg/L	EPA 8270	09/03	09/27	GV

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1958

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref:# :93.4426-4
Client Sample ID :LON EB 04
Matrix :WATER

2-Nitroaniline	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Dimethylphthalate	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthylene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
2,6-Dinitrotoluene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
3-Nitroaniline	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Acenaphthene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrophenol	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitrophenol	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenzofuran	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
2,4-Dinitrotoluene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Diethylphthalate	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
4-Chlorophenyl-Phenylet	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Fluorene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
4-Nitroaniline	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
4,6-Dinitro-2-Methylphe	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
n-Nitrosodiphenylamine	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
4-Bromophenyl-Phenyleth	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Hexachlorobenzene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Pentachlorophenol	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Phenanthrene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Anthracene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Butylphthalate	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Fluoranthene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Pyrene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Butylbenzylphthalate	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
3,3-Dichlorobenzidine	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Anthracene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Chrysene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
bis(2-Ethylhexyl)Phthal	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
di-n-Octylphthalate	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(b)Fluoranthene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(k)Fluoranthene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(a)Pyrene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Indeno(1,2,3-cd)Pyrene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Dibenz(a,h)Anthracene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Benzo(g,h,i)Perylene	0.026	U	mg/L	EPA 8270		09/03 09/27	GV
Total Metals Analysis	---			-			
ICP Screen, ICF				EPA	n/a		
Aluminum	0.10	U	mg/L	EPA 6010		09/01 09/10	DLG
Antimony	0.10	U	mg/L	EPA 6010		09/01 09/10	DLG
Arsenic	0.10	U	mg/L	EPA 6010		09/01 09/10	DLG
Barium	0.050	U	mg/L	EPA 6010		09/01 09/10	DLG
Beryllium	0.050	U	mg/L	EPA 6010		09/01 09/10	DLG
Cadmium	0.050	U	mg/L	EPA 6010		09/01 09/10	DLG
Calcium	0.20	U	mg/L	EPA 6010		09/01 09/10	DLG
Chromium	0.050	U	mg/L	EPA 6010		09/01 09/10	DLG
Cobalt	0.10	U	mg/L	EPA 6010		09/01 09/10	DLG
Copper	0.050	U	mg/L	EPA 6010		09/01 09/10	DLG
Iron	0.12		mg/L	EPA 6010		09/01 09/10	DLG
Lead	0.10	U	mg/L	EPA 6010		09/01 09/10	DLG

COMMERCIAL TESTING & ENGINEERING CO.
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REPORT of ANALYSIS #6

5633 B STRE
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-4
Client Sample ID :LON EB 04
Matrix :WATER

Magnesium	0.20	U	mg/L	EPA 6010		09/01 09/10	DLC
Manganese	0.050	U	mg/L	EPA 6010		09/01 09/10	DLC
Molybdenum	0.050	U	mg/L	EPA 6010		09/01 09/10	DLC
Nickel	0.050	U	mg/L	EPA 6010		09/01 09/10	DLC
Potassium	5.0	U	mg/L	EPA 6010		09/01 09/10	DLC
Selenium	0.10	U	mg/L	EPA 6010		09/01 09/10	DLC
Silver	0.050	U	mg/L	EPA 6010		09/01 09/10	DLC
Sodium	0.25	U	mg/L	EPA 6010		09/01 09/10	DLC
Thallium	0.0050	U	mg/L	EPA 7841		09/06 09/08	BMH
Vanadium	0.050	U	mg/L	EPA 6010		09/07 09/10	DLC
Zinc	0.050	U	mg/L	EPA 6010		09/07 09/10	DLC
TOC, Nonpurgable				EPA 9060	n/a		
...TOC Range	5.0-5.0	U	mg/L	EPA 9060		09/10	CMR
...TOC Concentration	5.0	U	mg/L	EPA 9060		09/10	CMR

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-6
Client Sample ID :LON-EB-05
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/04/93 @ 17:15 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Hydrocarbons EPH	0.200	U	mg/L	3510/3550/8100M		09/08	09/10	DRS
Hydrocarbons VPH	0.020	U	mg/L	EPA 5030/8015M		09/10	09/10	WLS
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
transl,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/08	09/08	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-6
Client Sample ID :LON-EB-05
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/08	09/08	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
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LT = Less Than
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ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-13
Client Sample ID :LON-EB-08
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 15:30 hrs
Received :09/07/93 @ 11:00 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. EPH PATTERN IS NOT CONSISTENT WITH MIDDLE DISTILLATE FUEL.

Qualifiers/Comments

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Hydrocarbons EPH	0.289		mg/L	3510/3550/8100M(J)-J.1		09/08	09/09	DRS
Hydrocarbons VPH	0.020	U	mg/L	EPA 5030/8015M		09/10	09/10	WLS
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
transi,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/09	09/09	KWM

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COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-13
Client Sample ID :LON-EB-08
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Ethylbenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Methylene Chloride	0.0039		mg/L	EPA 8260	09/09 09/09	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/09 09/09	KWM

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* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
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REPORT of ANALYSIS

Chemlab Ref.# :93.4626-14
Client Sample ID :LON-EB-08 SPIKE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 15:30 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. SEE QA/QC PACKAGE FOR SAMPLE AND SPIKE AMOUNTS. FOR 8260 SPIKE AND SPIKE DUP, SEE WO# 93.4355-4,5.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Hydrocarbons EPH	10.9		mg/L	3510/3550/8100M		09/08	09/09	DRS
Hydrocarbons VPH	0.495		mg/L	EPA 5030/8015M		09/10	09/10	WLS

* See Special Instructions Above
** See Sample Remarks Above
= Undetected, Reported value is the practical quantification limit.
= Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4626-15
Client Sample ID :LON-EB-08 SPIKE DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70635
Report Completed :10/07/93
Collected :09/05/93 @ 15:30 hrs.
Received :09/07/93 @ 11:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND PETER M.G. SEE QA/QC PACKAGE FOR SAMPLE AND SPIKE AMOUNTS. FOR 8260 SPIKE AND SPIKE DUP, SEE WO# 93.4355-4,5.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Hydrocarbons EPH	11.6		mg/L	3510/3550/8100M		09/08	09/09	DRS
Hydrocarbons VPH	0.504		mg/L	EPA 5030/8015M		09/10	09/10	WLS

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4357-8
Client Sample ID :LON-TB-01
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70127
Report Completed :10/15/93
Collected :08/24/93 @ 10:00 hrs.
Received :08/26/93 @ 12:00 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M. AND M. LEMMA.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromoform	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloroform	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/02	09/02	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4357-8
Client Sample ID :LON-TB-01
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Napthalene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Styrene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Toluene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/02 09/02	MCM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-3
Client Sample ID :LON-TB-02
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70355
Report Completed :09/29/93
Collected :08/25/93 @ 11:00 hrs
Received :08/31/93 @ 15:10 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: M. LEMMA AND Z.M.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
ert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4505-3
Client Sample ID :LON-TB-02
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-8
Client Sample ID :LON-TB-03
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70211
Report Completed :10/27/93
Collected :08/26/93 @ 13:00 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By : C. Homestead

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1938

REPORT of ANALYSIS

Chemlab Ref.# :93.4425-8
Client Sample ID :LON-TB-03
Matrix :WATER

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KW

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5533 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4426-3
Client Sample ID :LON TB 04
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :RAY MORRIS
Project Name :DEW LINE
Project# :LONELY
PWSID :UA

WORK Order :70213
Report Completed :11/16/93
Collected :08/27/93 @ 10:00 hrs
Received :08/29/93 @ 12:45 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: JERRY M., PETER M.J., M. LEMMA, AND P.Z.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromoform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Bromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
tert-Butylbenzne	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloroform	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Chloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
4-Chlorotoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromochloromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
12Dibromo3Chloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dibromoethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dibromomethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloroethane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
cis-1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
trans1,2-Dichloroethene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 8260		09/03	09/03	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4426-3
Client Sample ID :LON TB 04
Matrix :WATER

Methylene Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Napthalene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Styrene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Tetrachloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Toluene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,1-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichloroethene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Trichlorofluoromethane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
p+m-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM
o-Xylene	0.0010	U	mg/L	EPA 8260	09/03	09/03	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4696-2
Client Sample ID :LON-W01 LONELY/WAINWRIGHT
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :SHERI K ACE
Project Name :DEW LINE RI/FS
Project# :41096-412-01
PWSID :UA

WORK Order :70737
Report Completed :10/21/93
Collected :09/08/93 @ 18:00 hrs
Received :09/09/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By : Stephen C. Ede

Sample Remarks: SAMPLE COLLECTED BY: R TAUFFE AND R.C.C. LIGHT BROWN FOAMY LIQUID. 8270: FOR EXTRACTION BATCH ASSOCIATED WITH THIS SAMPLE, A POSSIBLE ERROR DURING EXTRACTION PROCESS RESULTED IN NO RECOVERIES FOR PHENOLIC SURROGATE AND SPIKE COMPOUNDS.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organics				EPA 8260				
Benzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Bromobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Bromochloromethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Bromodichloromethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Bromoform	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Bromomethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
n-Butylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
sec-Butylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
tert-Butylbenzne	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Carbon Tetrachloride	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Chlorobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Chloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Chloroform	2.81	D	mg/L	EPA 8260		09/22	09/22	MCM
Chloromethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
2-Chlorotoluene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
4-Chlorotoluene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Dibromochloromethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
12Dibromo3Chloropropane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2-Dibromoethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Dibromomethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2-Dichlorobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,3-Dichlorobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,4-Dichlorobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Dichlorodifluoromethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,1-Dichloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2-Dichloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,1-Dichloroethene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
cis-1,2-Dichloroethene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
trans1,2-Dichloroethene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2-Dichloropropane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,3-Dichloropropane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
2,2-Dichloropropane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,1-Dichloropropene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Ethylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM

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REPORT of ANALYSIS

5633 B STREET
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FAX: (907) 561-5301

Chemlab Ref.# :93.4696-2
Client Sample ID :LON-W01 LONELY/WAINWRIGHT
Matrix :WATER

Hexachlorobutadiene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Isopropylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
p-Isopropyltoluene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Methylene Chloride	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Napthalene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
n-Propylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Styrene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1112-Tetrachloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1122-Tetrachloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Tetrachloroethene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Toluene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2,3-Trichlorobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2,4-Trichlorobenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,1,1-Trichloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,1,2-Trichloroethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Trichloroethene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Trichlorofluoromethane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2,3-Trichloropropane	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,2,4-Trimethylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
1,3,5-Trimethylbenzene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Vinyl Chloride	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
p+m-Xylene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
o-Xylene	0.100	U	mg/L	EPA 8260		09/22	09/22	MCM
Toxicity Characteristic				EPA 1311				
Characterization, Full	---							
Aqueous Phase, Total	100		% Vol					
.....Water Content	100		% Vol	Karl Fischer			09/20	DHT
.....Glycol Content	---		% Vol	G.C.				
.....Alcohol Content	---		% Vol	G.C.				
Oil Phase, Total	---		% Vol					
Solid Phase, Total	---		% Vol					

Arsenic	0.050	U	mg/L	EPA 7060/7061	5.0	09/16	09/20	BMW
Barium	0.50	U	mg/L	EPA 7080/6010	100.0	09/16	09/17	DLG
Benzene	0.100	U	mg/L	EPA 8020/8240	0.5	09/22	09/22	MCM
Cadmium	0.50	U	mg/L	EPA 7131/6010	1.0	09/16	09/17	DLG
Carbon Tetrachloride	0.100	U	mg/L	EPA 8010/8240	0.5	09/22	09/22	MCM
Chlordane	0.001	U	mg/L	EPA 8080/8270	0.03	09/11	09/12	NRC
Chlorobenzene	0.100	U	mg/L	EPA 8010/8240	100	09/22	09/22	MCM
Chloroform	2.81		mg/L	EPA 8010/8240	6.0	09/22	09/22	MCM
Chromium	0.50	U	mg/L	EPA 6010/7191	5.0	09/16	09/17	DLG
o-Cresol	---		mg/L	EPA 8040/8270	200			
m-Cresol	---		mg/L	EPA 8040/8270	200			
p-Cresol	---		mg/L	EPA 8040/8270	200			
2,4-D	0.006	U	mg/L	EPA 8150	10.0	09/11	09/18	NRC
1,4-Dichlorobenzene	0.100	U	mg/L	EPA 8010/8240	7.5	09/22	09/22	MCM
1,2-Dichloroethane	0.100	U	mg/L	EPA 8080/8240	0.5	09/22	09/22	MCM
1,1-Dichloroethylene	0.100	U	mg/L	EPA 8010/8240	0.7	09/22	09/22	MCM
2,4-Dinitrotoluene	0.011	U	mg/L	EPA 8270	0.13	09/11	10/15	GV
Endrin	0.0005	U	mg/L	EPA 8080	0.02	09/11	09/12	[illegible]

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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4696-2
Client Sample ID :LON-W01 LONELY/WAINWRIGHT
Matrix :WATER

Heptachlor	0.0005	U	mg/L	EPA 8080	0.008	09/11 09/12	NRC
Hexachlorobenzene	0.011	U	mg/L	EPA 8270	0.13	09/11 10/15	GV
Hexachloro-1,3-Butadien	0.011	U	mg/L	EPA 8270	0.5	09/11 10/15	GV
Hexachloroethane	0.011	U	mg/L	EPA 8270	3.0	09/11 10/15	GV
Lead	1.0	U	mg/L	EPA 7421/6010	5.0	09/15 09/17	DLG
Lindane	0.0005	U	mg/L	EPA 8080	0.4	09/11 09/12	NRC
Mercury	0.02	U	mg/L	EPA 7470	0.2	10/01 10/01	MCE
Methoxychlor	0.0005	U	mg/L	EPA 8080	10.0	09/11 09/12	NRC
Methyl Ethyl Ketone	1.00	U	mg/L	EPA 8015/8240	200.0	09/22 09/22	MCM
Nitrobenzene	0.011	U	mg/L	EPA 8270	2.0	09/11 10/15	GV
Pentachlorophenol	---		mg/L	EPA 8270	100.0		
Pyridine	0.011	U	mg/L	EPA 8270	5.0	09/11 10/15	GV
Selenium	0.050	U	mg/L	EPA 7740/7741	1.0	09/16 09/20	BMW
Silver	1.0	U	mg/L	EPA 7760/6010	5.0	09/15 09/16	TJV
Tetracnloroethylene	0.100	U	mg/L	EPA 8010/8240	0.7	09/22 09/22	MCM
Toxapnene	0.001	U	mg/L	EPA 8080	0.5	09/11 09/12	NRC
Trichloroethylene	0.100	U	mg/L	EPA 8010/8240	0.5	09/22 09/22	MCM
2,4,5-Trichlorophenol	---		mg/L	EPA 8270	400		
2,4,6-Trichlorophenol	---		mg/L	EPA 8270	2.0		
2,4,5-TP(Silvex)	0.0006	U	mg/L	EPA 8150	1.0	09/11 09/18	NRC
Vinyl Chloride	0.100	U	mg/L	EPA 8010/8240	0.2	09/22 09/22	MCM

Ignitability, Setaflash	GT 200		deg F	EPA 1020	140 min	09/16	DHT
pH, Corrosivity	10.3			EPA 9040	2.0 - 12.5	09/16	BJS
Reactivity	NONREACT			EPA SW846,7.3.2	non react	09/16	BJS
PCBs in Water	0.001	U	mg/L	EPA 8080		09/11 09/12	NRC
------Aroclor	---						

* See Special Instructions Above
See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
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LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
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5633 B ST
ANCHORAGE, AK 99
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4696-3
Client Sample ID :LON-W01 DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :SHERI K ACE
Project Name :DEW LINE RI/FS
Project# :41096-412-01
PWSID :UA

WORK Order :70737
Report Completed :10/21/93
Collected :09/08/93 @ 18:00 hrs.
Received :09/09/93 @ 12:00 hrs.
Technical Director: STEPHEN C. EDE
Released By : Steph C. Ede

Sample Remarks: SAMPLE COLLECTED BY: R TAUFFE AND R.C.C.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
TCLP Metals				40CFR268				
Arsenic	0.050	U	mg/L	EPA 7060/7061	5.0	09/15	09/20	BMW
Barium	0.50	U	mg/L	EPA 7080/6010	100.0	09/15	09/17	DLG
Cadmium	0.50	U	mg/L	EPA 7131/6010	1.0	09/15	09/17	DLG
Chromium	0.50	U	mg/L	EPA 7191/6010	5.0	09/15	09/17	DLG
Lead	1.0	U	mg/L	EPA 7421/6010	5.0	09/15	09/17	DLG
Mercury	---		mg/L	EPA 7470	0.2			
Selenium	0.050	U	mg/L	EPA 7740/7741	1.0	09/15	09/20	BMW
Silver	1.0	U	mg/L	EPA 7760/6010	5.0	09/15	09/16	TJV

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

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COMMERCIAL TESTING & ENGINEERING CO.
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REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4696-4
Client Sample ID :LON-W01 SPIKE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :SHERI K ACE
Project Name :DEW LINE RI/FS
Project# :41096-412-01
PWSID :UA

WORK Order :70737
Report Completed :10/21/93
Collected :09/08/93 @ 18:00 hrs
Received :09/09/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By : Stephen C. Ede

Sample Remarks: SAMPLE COLLECTED BY: R TAUFFE AND R.C.C. SEE QC SUMMARY SHEETS FOR SPIKE RECOVERIES AND R.P.D. VALUES. 8270: FOR EXTRACTION BATCH ASSOCIATED WITH THIS. 8240: SPIKE AND SPIKE DUP WERE RUN ON SAMPLE 93.4727-9 FOR THIS BATCH OF RUNS.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Toxicity Characteristic				EPA 1311				
Characterization, Full	---							
Aqueous Phase, Total	---		% Vol					
.....Water Content	---		% Vol	Karl Fischer				
.....Glycol Content	---		% Vol	G.C.				
.....Alcohol Content	---		% Vol	G.C.				
Oil Phase, Total	---		% Vol					
Solid Phase, Total	---		% Vol					

Arsenic	1.91		mg/L	EPA 7060/7061	5.0	09/15	09/20	BMW
Barium	3.1		mg/L	EPA 7080/6010	100.0	09/15	09/17	DLG
Benzene	---		mg/L	EPA 8020/8240	0.5			
Cadmium	3.3		mg/L	EPA 7131/6010	1.0	09/15	09/17	DLG
Carbon Tetrachloride	---		mg/L	EPA 8010/8240	0.5			
Chlordane	0.001	U	mg/L	EPA 8080/8270	0.03	09/11	09/12	NRC
Chlorobenzene	---		mg/L	EPA 8010/8240	100			
Chloroform	---		mg/L	EPA 8010/8240	6.0			
Chromium	1.2		mg/L	EPA 6010/7191	5.0	09/15	09/17	DLG
o-Cresol	---		mg/L	EPA 8040/8270	200			
m-Cresol	---		mg/L	EPA 8040/8270	200			
p-Cresol	---		mg/L	EPA 8040/8270	200			
2,4-D	0.00337		mg/L	EPA 8150	10.0	09/11	09/18	NRC
1,4-Dichlorobenzene	---		mg/L	EPA 8010/8240	7.5			
1,2-Dichloroethane	---		mg/L	EPA 8080/8240	0.5			
1,1-Dichloroethylene	---		mg/L	EPA 8010/8240	0.7			
2,4-Dinitrotoluene	0.065		mg/L	EPA 8270	0.13	09/11	10/16	GV
Endrin	0.00752		mg/L	EPA 8080	0.02	09/11	09/12	NRC
Heptachlor	0.00660		mg/L	EPA 8080	0.008	09/11	09/12	NRC
Hexachlorobenzene	0.011	U	mg/L	EPA 8270	0.13	09/11	10/16	GV
Hexachloro-1,3-Butadien	0.011	U	mg/L	EPA 8270	0.5	09/11	10/16	GV
Hexachloroethane	0.011	U	mg/L	EPA 8270	3.0	09/11	10/16	GV
Lead	1.3		mg/L	EPA 7421/6010	5.0	09/15	09/17	DLG
Lindane	0.00724		mg/L	EPA 8080	0.4	09/11	09/12	NRC
Mercury	---		mg/L	EPA 7470	0.2			
Methoxychlor	0.00688		mg/L	EPA 8080	10.0	09/11	09/12	NRC

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REPORT of ANALYSIS

5633 B ST
ANCHORAGE, AK
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4696-4
Client Sample ID :LON-W01 SPIKE
Matrix :WATER

Methyl Ethyl Ketone	---		mg/L	EPA 8015/8240	200.0			
Nitrobenzene	0.011	U	mg/L	EPA 8270	2.0	09/11	10/16	GV
Pentachlorophenol	---		mg/L	EPA 8270	100.0			
Pyridine	0.011	U	mg/L	EPA 8270	5.0	09/11	10/16	GV
Selenium	2.05		mg/L	EPA 7740/7741	1.0	09/15	09/20	BMW
Silver	8.9		mg/L	EPA 7760/6010	5.0	09/15	09/16	TJV
Tetrachloroethylene	---		mg/L	EPA 8010/8240	0.7			
Toxaphene	0.001	U	mg/L	EPA 8080	0.5	09/11	09/12	NRC
Trichloroethylene	---		mg/L	EPA 8010/8240	0.5			
2,4,5-Trichlorophenol	---		mg/L	EPA 8270	400			
2,4,6-Trichlorophenol	---		mg/L	EPA 8270	2.0			
2,4,5-TP(Silvex)	0.00185		mg/L	EPA 8150	1.0	09/11	09/18	NRC
Vinyl Chloride	---		mg/L	EPA 8010/8240	0.2			

Ignitability, Setaflash	---		deg F	EPA 1020	140 min			
pH, Corrosivity	---			EPA 9040	2.0 - 12.5			
Reactivity	---			EPA SW846,7.3.2	non react			
PCBs in Water	0.001	U	mg/L	EPA 8080		09/11	09/12	NRC
------Aroclor	---							

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

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ENVIRONMENTAL LABORATORY SERVICES
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5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.4696-5
Client Sample ID :LON-W01 SPIKE DUPLICATE
Matrix :WATER

Client Name :ICF KAISER ENGINEERING
Ordered By :SHERI K ACE
Project Name :DEW LINE RI/FS
Project# :41096-412-01
PWSID :UA

WORK Order :70737
Report Completed :10/21/93
Collected :09/08/93 @ 18:00 hrs
Received :09/09/93 @ 12:00 hrs
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: R TAUFFE AND RCC. SEE QC SUMMARY SHEETS FOR SPIKE DUPLICATE RECOVERIES AND R.P.D VALUES. 8270: SAMPLE LOST DURING EXTRACTION PROCESS. THE SPIKE AND SPIKE DUPLICATE FOR THIS BATCH OF SAMPLES RUN IN SAMPLE 93.4727-9.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Toxicity Characteristic				EPA 1311				
Characterization, Full	---							
Aqueous Phase, Total	---		% Vol					
.....Water Content	---		% Vol	Karl Fischer				
.....Glycol Content	---		% Vol	G.C.				
.....Alcohol Content	---		% Vol	G.C.				
Oil Phase, Total	---		% Vol					
Solid Phase, Total	---		% Vol					

Benzene	---		mg/L	EPA 8020/8240	0.5			
Carbon Tetrachloride	---		mg/L	EPA 8010/8240	0.5			
Chlordane	0.001	U	mg/L	EPA 8080/8270	0.03	09/11	09/12	NRC
Chlorobenzene	---		mg/L	EPA 8010/8240	100			
Chloroform	---		mg/L	EPA 8010/8240	6.0			
o-Cresol	---		mg/L	EPA 8040/8270	200			
m-Cresol	---		mg/L	EPA 8040/8270	200			
p-Cresol	---		mg/L	EPA 8040/8270	200			
2,4-D	0.00238		mg/L	EPA 8150	10.0	09/11	09/18	NRC
1,4-Dichlorobenzene	---		mg/L	EPA 8010/8240	7.5			
1,2-Dichloroethane	---		mg/L	EPA 8080/8240	0.5			
1,1-Dichloroethylene	---		mg/L	EPA 8010/8240	0.7			
2,4-Dinitrotoluene	---		mg/L	EPA 8270	0.13			
Endrin	0.00783		mg/L	EPA 8080	0.02	09/11	09/12	NRC
Heptachlor	0.00677		mg/L	EPA 8080	0.008	09/11	09/12	NRC
Hexachlorobenzene	---		mg/L	EPA 8270	0.13			
Hexachloro-1,3-Butadien	---		mg/L	EPA 8270	0.5			
Hexachloroethane	---		mg/L	EPA 8270	3.0			
Lindane	0.00775		mg/L	EPA 8080	0.4	09/11	09/12	NRC
Methoxychlor	0.00693		mg/L	EPA 8080	10.0	09/11	09/12	NRC
Methyl Ethyl Ketone	---		mg/L	EPA 8015/8240	200.0			
Nitrobenzene	---		mg/L	EPA 8270	2.0			
Pentachlorophenol	---		mg/L	EPA 8270	100.0			
Pyridine	---		mg/L	EPA 8270	5.0			
Tetrachloroethylene	---		mg/L	EPA 8010/8240	0.7			
Toxaphene	0.001	U	mg/L	EPA 8080	0.5	09/11	09/12	NRC

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B St
ANCHORAGE, AK
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.4696-5
Client Sample ID :LON-W01 SPIKE DUPLICATE
Matrix :WATER

Trichloroethylene	---		mg/L	EPA 8010/8240	0.5		
2,4,5-Trichlorophenol	---		mg/L	EPA 8270	400		
2,4,6-Trichlorophenol	---		mg/L	EPA 8270	2.0		
2,4,5-TP(Silvex)	0.00099		mg/L	EPA 8150	1.0	09/11 09/18	NRC
Vinyl Chloride	---		mg/L	EPA 8010/8240	0.2		

Ignitability, Setaflash	---		deg F	EPA 1020	140 min		
pH, Corrosivity	---			EPA 9040	2.0 - 12.5		
Reactivity	---			EPA SW846,7.3.2	non react		
PCBs in Water	0.001	U	mg/L	EPA 8080		09/11 09/12	NRC
------Aroclor	---						

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

Compiled by SAM 10-5-95

ICF ID	LON-AB-01	LON-AB-02
F&BI Number	906	1094
Sample Type	water	water
Date Received	8/27/93	8/27/93
% Dry Weight		
Sequence Date		
Leaded Gas		
JP-4		
Lube Oil		
Diesel		
Spike Level		
Unknown Semi-volatile		
Pentacosane		
Sequence Date		
PCB 1221		
PCB 1232		
PCB 1016		
PCB 1242		
PCB 1248		
PCB 1254		
PCB 1260		
Spike Level		
Dibutyl Chlorendate		
Sequence Date		
alpha-BHC		
beta-BHC		
gamma-BHC		
delta-BHC		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Endosulfan I		
DDE		
Dieldrin		
Endrin		
Endosulfan II		
DDD		
Endrin Aldehyde		
DDT		
Endosulfan Sulfate		
Endrin Ketone		
Methoxy Chlor		
Chlordane		
Dibutyl Chlorendate		
Spike Level		
Vol Sequence	#3-08/28/93, #4-08/29/93	#1&2-08/28/93
CCl4	<1	<1
TCA	<1	<1
Benzene	<1	<1
TCE	<1	<1
Toluene	<1	<1
PCE	<1	<1
Ethylbenzene	<1	<1
Xylenes	<2	<2
Gasoline	<100 J	<50 J
Spike level		
BFB	79	119

ICF ID	LON-EB-01	LON-EB-01	LON-EB-02
F&BI Number	530	534	694
Sample Type	water	water	water
Date Received	8/25/93	8/25/93	8/26/93
% Dry Weight			
Sequence Date		#5-08/27/93	#5-08/27/93
Leaded Gas			
JP-4		<1000	<200
Lube Oil		<2000	<2000
Diesel		<1000	~~<200~~ <1000
Spike Level			
Unknown Semi-volatile			
Pentacosane		108	90
Sequence Date		#5-08/27/93	#5-08/27/93
PCB 1221		<2.0	<2
PCB 1232		<2.0	<2
PCB 1016		<2.0	<2
PCB 1242		<2.0	<2
PCB 1248		<2.0	<2
PCB 1254		<2.0	<2
PCB 1260		<2.0	<2
Spike Level			
Dibutyl Chlorendate		108	90
Sequence Date			#5-08/27/93
alpha-BHC			~~<2~~ <0.2J
beta-BHC			~~<2~~
gamma-BHC			~~<2~~
delta-BHC			~~<2~~
Heptachlor			~~<2~~
Aldrin			~~<2~~
Heptachlor Epoxide			~~<2~~
Endosulfan I			~~<2~~
DDE			~~<2~~
Dieldrin			~~<2~~
Endrin			~~<2~~
Endosulfan II			~~<2~~
DDD			~~<2~~
Endrin Aldehyde			~~<2~~
DDT			~~<2~~
Endosulfan Sulfate			~~<2~~
Endrin Ketone			~~<2~~
Methoxy Chlor			~~<20~~ <10
Chlordane			~~<50~~ <10
Dibutyl Chlorendate			90
Spike Level			
Vol Sequence	#3&4-08/25/93		
CCl4	<1		
TCA	<1		
Benzene	<1		
TCE	<1		
Toluene	<1		
PCE	<1		
Ethylbenzene	<1		
Xylenes	<2		
Gasoline	~~<50~~ 100J		
Spike level			
BFB	86		

compiled by SGM 10-5-95

ICF ID	LON-EB-02	LON-EB-03	LON-EB-03
F&BI Number	696	942	944
Sample Type	water	water	water
Date Received	8/26/93	8/27/93	8/27/93
% Dry Weight			
Sequence Date		#5-08/28/93	
Leaded Gas			
JP-4		<200	
Lube Oil		<2000	
Diesel		~~<200~~ <1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		60	
Sequence Date		#5-08/28/93	
PCB 1221		<2	
PCB 1232		<2	
PCB 1016		<2	
PCB 1242		<2	
PCB 1248		<2	
PCB 1254		<2	
PCB 1260		<2	
Spike Level			
Dibutyl Chlorendate		60	
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/25/93		#3-08/28/93, #4-08/29/93
CCl4	<1		<1
TCA	<1		<1
Benzene	<1		<1
TCE	<1		<1
Toluene	<1		<1
PCE	<1		<1
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	~~<50~~ 100 J		<100 J
Spike level			
BFB	116		85

compiled 4M 10-5-95

ICF ID	LON-EB-04	LON-EB-04	LON-EB-05
F&BI Number	1098	1100	1796
Sample Type	water	water	water
Date Received	8/27/93	8/29/93	9/4/93
% Dry Weight			
Sequence Date	#5-08/30/93		#6-09/09/93
Leaded Gas			
JP-4	<200		<1000
Lube Oil	<2000		<2000
Diesel	~~<200~~ <1000J		<1000
Spike Level			
Unknown Semi-volatile			
Pentacosane	65		80
Sequence Date	#5-08/30/1993		
PCB 1221	<2		
PCB 1232	<2		
PCB 1016	<2		
PCB 1242	<2		
PCB 1248	<2		
PCB 1254	<2		
PCB 1260	<2		
Spike Level			
Dibutyl Chlorendate	65		
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence		#1&2-08/28/93	
CCl4		<1	
TCA		<1	
Benzene		<2 J	
TCE		<1	
Toluene		<2 J	
PCE		<1	
Ethylbenzene		<2 J	
Xylenes		<2 J	
Gasoline		<50 J	
Spike level			
BFB		116	

compiled by SAM 10-5-95

ICF ID	LON-EB-05	LON-EB-08	LON-EB-08
F&BI Number	1798	1774	1776
Sample Type	water	water	water
Date Received	9/4/93	9/5/93	9/5/93
% Dry Weight			
Sequence Date		#6-09/09/93	
Leaded Gas			
JP-4		<1000	
Lube Oil		<2000	
Diesel		<1000	
Spike Level			
Unknown Semi-volatile			
Pentacosane		150	
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-09/07/93		#1&2-09/07/93
CCl4	<1		<10
TCA	<1		<10
Benzene	<1		<1
TCE	<1		<10
Toluene	<1		<1
PCE	<1		<10
Ethylbenzene	<1		<1
Xylenes	<2		<2
Gasoline	<50 J		<50 J
Spike level			
BFB	102		76

Compiled by SAM 10-5-93

ICF ID	LON-TB-01 ("LON-EB-01" on vial)	LON-TB-02	LON-TB-03
F&BI Number	528	684	916
Sample Type	water	water	water
Date Received	8/25/93	8/26/93	8/27/93
% Dry Weight			
Sequence Date			
Leaded Gas			
JP-4			
Lube Oil			
Diesel			
Spike Level			
Unknown Semi-volatile			
Pentacosane			
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#3&4-08/25/93	#3&4-08/25/93	#3-08/28/93, #4-08/29/93
CCl4	<1		<1
TCA	<1		<1
Benzene	<1	<1	<1
TCE	<1		<1
Toluene	<1	<1	<1
PCE	<1		<1
Ethylbenzene	<1	<1	<1
Xylenes	<2	<2	<2
Gasoline	~~<50~~ 100J	~~<50~~ 100J	<100J
Spike level			
BFB	93	104	81

(compiled by LAM 10-5-95)

ICF ID	LON-TB-04	LON GAR-TB	LON-W01
F&BI Number	1092	526	1906
Sample Type	water	water	water
Date Received	8/27/93	8/25/93	9/9/93
% Dry Weight			
Sequence Date			#6-09/09/93
Leaded Gas			
JP-4			<1000
Lube Oil			<2000
Diesel			<1000
Spike Level			
Unknown Semi-volatile			
Pentacosane			120
Sequence Date			
PCB 1221			
PCB 1232			
PCB 1016			
PCB 1242			
PCB 1248			
PCB 1254			
PCB 1260			
Spike Level			
Dibutyl Chlorendate			
Sequence Date			
alpha-BHC			
beta-BHC			
gamma-BHC			
delta-BHC			
Heptachlor			
Aldrin			
Heptachlor Epoxide			
Endosulfan I			
DDE			
Dieldrin			
Endrin			
Endosulfan II			
DDD			
Endrin Aldehyde			
DDT			
Endosulfan Sulfate			
Endrin Ketone			
Methoxy Chlor			
Chlordane			
Dibutyl Chlorendate			
Spike Level			
Vol Sequence	#1&2-08/28/93	#3&4-08/25/93	
CCl4	<1	<1	
TCA	<1	<1	
Benzene	<6 J	<1	
TCE	<1	<1	
Toluene	<4 J	<1	
PCE	<1	<1	
Ethylbenzene	<3 J	<1	
Xylenes	<3 J	<2	
Gasoline	<50 J	~~<50~~ 100 J	
Spike level			
BFB	112	91	

Compiled by SJM 10-5-95

APPENDIX G

DATA VALIDATION SUMMARIES

ICF KAISER ENGINEERS

ICF KAISER ENGINEERS, INC.
1800 HARRISON STREET
P.O. BOX 23210
OAKLAND, CALIFORNIA 94612-3430
510/419-6000 FAX 510/419-5355

DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Cynthia E. Schlag, ICF Kaiser Engineers, Inc.
ANALYSIS: Total and Dissolved Metals by USEPA Method 6010
Total and Dissolved Thallium by USEPA Method 7841
MATRIX: Water
DATE: May 18, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received one (1) water sample for total and dissolved metals and thallium analyses by USEPA Methods 6010 and 7841 on August 24, 1993. The sample was digested on September 2, 1993 and was analyzed for total and dissolved metals by inductively coupled plasma atomic emission spectroscopy (ICP) and for total and dissolved thallium by atomic absorption furnace technique (GFAA) on September 6, 8, and 17, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.
LON-SS04-SW01	93.4355-03
LON-SS04-SW01 (F)	93.4355-03

Sample number LON-SS04-SW01 (F) was designated as a field-filtered sample and analyzed for dissolved metals and thallium.

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis," October 1989, USEPA Method 6010, USEPA Method 7841, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 All initial calibration QC criteria were met for project sample analyses and the results are considered acceptable.

C. Continuing Calibrations:

C.1 A percent recovery of 112% was found for potassium in the continuing verification sample (CVS), above the advisory QC limits of 90-110%. It is the opinion of the reviewer that the above noted deviation does not have an adverse effect on data quality.

C.2 All other continuing calibration QC criteria were met for project sample analyses and the results are considered acceptable.

D. Laboratory Blank Analyses:

D.1 No target analytes were detected in the laboratory and calibration blanks (initial and continuing calibration blanks) above the Practical Quantitation Limit (PQL) and the results are considered acceptable.

E. Field Blanks:

E.1 No field blank analysis is included with the project documentation.

F. Field Duplicate Analysis:

F.1 No field duplicate analyses are included with the project documentation.

G. Laboratory Replicate Analysis:

G.1 Sample number LON-SS04-SW01 was utilized for the laboratory replicate analysis. A Relative Percent Difference (RPD) of 27% was reported for aluminum in the laboratory replicate analysis, exceeding the advisory QC limit of $\leq$25%. Therefore, the detected result for aluminum in the above noted sample is considered as an estimate (J) and usable for limited purposes only (see modified sample data sheet).

G.2 All other QC criteria were met for the laboratory replicate analysis and the results are considered acceptable.

H. ICP Interference Check Sample (ICS) Analyses:

H.1 A percent recovery of 79% was reported for calcium in the ICS analyses performed on September 6, 1993, below the advisory QC limits of 80-120%. It is the opinion of the reviewer that the above noted deviation does not have an adverse effect on data quality.

I. Laboratory Control Sample (LCS) Analyses:

I.1 All LCS analyses associated with project samples met applicable QC criteria and the results are considered acceptable.

J. Matrix Spike (MS) Analysis:

J.1 The MS recoveries for the following analytes in the associated samples were outside the advisory QC limits of 75-125%:

MS Sample ID	Analyte	% Recovery	Bias
LON-SS04-SW01	Silver	64	Low
LON-SS04-SW01 (F)	Silver	63	Low
LON-SS04-SW01	Calcium	159	High
LON-SSO4-SW01	Magnesium	66	Low
LON-SS04-SW01	Thallium	68	Low

Due to the above noted deviations in MS recoveries, the following results and sample quantitation limits for the above noted analytes are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets):

- The quantitation limit for silver in sample numbers LON-SS04-SW01 and LON-SS04-SW01 (F) may be false negatives.
- The quantitation limit for thallium in sample number LON-SS04-SW01 (F) may be a false negative.
- The detected result for calcium in sample number LON-SS04-SW01 may be biased high.
- The detected result for magnesium in sample number LON-SS04-SW01 may be biased low.

J.2 Due to above noted deviations in MS recoveries, post-digestion spike recovery analyses were performed on September 6, 1993. The recovery results for all post-digestion spike analyses met applicable QC criteria.

J.3 All other applicable QC criteria were met for the MS analyses and the results are considered acceptable.

K. Quantitation:

K.1 No problems were observed with analyte quantitation in project sample analyses.

L. Conclusion:

L.1 Due to deficiencies in matrix spike and laboratory replicate analyses, select data are considered estimated and usable for limited purposes only.

L.2 All other data are considered valid and usable for all purposes.

ICF KAISER ENGINEERS

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OAKLAND, CALIFORNIA 94612-3430
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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Sharon Lin, ICF Kaiser Engineers, Inc.
ANALYSIS: Total and Dissolved Metals by USEPA Method 6010 & Total and Dissolved Thallium by USEPA Method 7841
MATRIX: Water
DATE: May 27, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received three (3) water samples for total and dissolved metals analyses by USEPA Methods 6010 and 7841 on August 26 and 29, 1993. The samples were digested on September 2 through 15, 1993 and were analyzed for total and dissolved metals by inductively coupled plasma atomic emission spectroscopy (ICP) and for total and dissolved thallium by atomic absorption furnace technique (GFAA) on September 6 through 17, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.
LON-EB-01	4357-1
LON-LF11-SW01	4428-1
LON-LF11-SW01 (F)	4428-1
LON-LF07-SW02	4428-2
LON-LF07-SW02 (F)	4428-2

Sample number LON-EB-01 was designated as an "equipment blank."

Sample numbers LON-LF11-SW01 (F) and LON-LF07-SW02 (F) were designated as field-filtered samples and analyzed for dissolved metals and thallium.

Sample number LON-EB-01 was re-digested on September 15, 1993 and was re-analyzed for zinc by ICP due to laboratory method blank contamination problems experienced during sample digestion on September 2, 1993.

Sample number LON-LF07-SW02 was misprinted on the sample data sheets provided by the laboratory and this should be noted.

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis," October 1989, USEPA Method 6010, USEPA Method 7841, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 Percent recoveries for silver and sodium in the initial calibration performed on September 6, 1993 were 88% and 86%, respectively, below the advisory QC limits of 90-110%. Therefore, the quantitation limit for silver and the detected result for sodium in sample number LON-EB-01 are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets).

B.2 Initial calibration QC criteria were met for all other project sample analyses and the results are considered acceptable.

C. Continuing Calibrations:

C.1 Continuing calibration QC criteria were met for project sample analyses and the results are considered acceptable.

D. Laboratory Blank Analyses:

D.1 No target analytes were detected in the method blanks above the Practical Quantitation Limit (PQL) and the results are considered acceptable.

E. Field Blanks:

E.1 Calcium and sodium were detected in equipment blank LON-EB-02 at concentrations of 0.27 and 0.37 mg/L, respectively. However, the reported analytical results for calcium and sodium in the associated samples exceeded the equipment blank results by a factor of greater than ten (10), therefore, no data are qualified.

F. Field Duplicate Analysis:

F.1 There were no field duplicate analyses included in the project documentation.

G. Laboratory Replicate Analysis:

G.1 A QC limit for precision of ≤25%, as measured by the Relative Percent Difference (RPD) between water samples values, was specified for laboratory replicate comparability.

Sample number LON-EB-01 was utilized for the laboratory replicate analyses.

G.2 There were no laboratory replicate analyses performed associated with sample numbers LON-LF11-SW01 and LON-LF07-SW02.

H. ICP Interference Check Sample (ICS) Analyses:

H.1 All applicable QC criteria were met for the ICS analyses and the results are considered acceptable.

I. Laboratory Control Sample (LCS) Analyses:

I.1 All LCS analyses associated with project samples met applicable QC criteria and the results are considered acceptable.

J. Matrix Spike (MS) Analysis:

J.1 Sample number LON-EB-01 was utilized for matrix spike analyses. The recovery for silver in LON-EB-01 MS was 68%, below the advisory QC criteria of 75-125%. Therefore, the quantitation limit for silver in all associated samples are considered estimates (J) and usable for limited purposes only (see modified sample data sheet). The non-detected results for silver may be a false negatives.

The laboratory inappropriately used an equipment blank for MS/MSD analyses. Therefore, the accuracy and precision for the project samples based on a project sample matrix cannot adequately be determined.

J.2 All other applicable QC criteria were met for the MS analyses and the results are considered acceptable.

K. Quantitation:

K.1 No problems were observed with analyte quantitation in project sample analyses.

L. Conclusion:

L.1 Due to the above noted deficiencies in initial calibration and matrix spike analyses, select data are considered estimates and usable for limited purposes.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Cynthia E. Schlag, ICF Kaiser Engineers, Inc.
ANALYSIS: Volatile Petroleum Hydrocarbons by USEPA Method 8015M
MATRIX: Water and Soil
DATE: May 18, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received two (2) water and two (2) soil samples for Volatile Petroleum Hydrocarbons (VPH) analysis by USEPA Method 8015M on September 4 and 5, 1993. The samples were analyzed for VPH by gas chromatography with flame ionization detection (GC/FID) on September 9, and 10, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-2S19-3	93.4626-01	Soil
LON-SS05-2SD09	93.4626-02	Soil
LON-EB-05	93.4626-06	Water
LON-EB-08	93.4626-13	Water

The following QC sample designations were included in project documentation: sample numbers LON-EB-05 and LON-EB-08 were designated as "equipment blanks."

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan for USEPA Method 8015M. According to the laboratory, all soil samples were extracted in methanol before analysis as required by State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results for project soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared according to the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:
A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:
B.1 All QC criteria for the initial calibration were met and the results are considered acceptable.

C. Continuing Calibrations:
C.1 All QC criteria for the continuing calibration were met and the results are considered acceptable.

D. Laboratory Blanks:
D.1 The target analyte was not detected in the method blanks at a concentration above the Practical Quantitation Limit (PQL) and the results are considered acceptable.

E. Field Blanks:
E.1 The target analyte was not detected in the field blanks at a concentration above the PQL and the results are considered acceptable.

F. Laboratory Control Sample Analysis:
F.1 The laboratory control sample QC criteria were met for all "blank spike" analyses and the results are considered acceptable.

G. Field Duplicate Analysis:
G.1 No field duplicate analysis is included in the project documentation.

H. Surrogate Recoveries:
H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:
I.1 The matrix spike (MS) and matrix spike duplicate (MSD) analyses associated with these samples met all applicable QC criteria and the results are considered acceptable.

J. Internal Standards:
J.1 Internal standard areas for all sample analyses were within specified QC criteria and the results are considered acceptable.

K. Quantitation and Identification:
K.1 No problems were observed with sample quantitation and identification in project sample analysis.

L. Conclusion:
L.1 All data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No.41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Cynthia Schlag, ICF Kaiser Engineers
ANALYSIS: Volatile Organic Compounds by USEPA Method 8260
MATRIX: Water and Soil
DATE: June 1, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (Anchorage, AK) received twelve (12) soils and eighteen (18) water samples for volatile organic compounds (VOC) analyses by USEPA Method 8260 on August 24, 25, 26, 27, and September 4, 5, 1993. The samples were analyzed for VOCs by gas chromatography/mass spectrometry (GC/MS) on September 2, 3, 5, 8, 9, 13, 14, and 30, 1993.

The ICF site identification numbers and corresponding Commercial Testing & Engineering Co. sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS12-SW01	93.4355-02	Water
LON-SS04-SW01	93.4355-03	Water
LON-EB-01	93.4357-01	Water
LON-SS03-S01	93.4357-04	Soil
LON-SS03-SW01	93.4357-07	Water
LON-TB-01	93.4357-08	Water
LON-ST02-SW01	93.4423-01	Water
LON-SS01-S15	93.4425-04	Soil
LON-LF11-S03	93.4425-05	Soil
LON-ST02-S02	93.4425-06	Soil
LON-LF07-S03	93.4425-07	Soil
LON-TB-03	93.4425-08	Water
LON-EB-03	93.4425-09	Water
LON-SS09-SD03	93.4427-03	Soil
LON-SS09-SW01	93.4427-04	Water
LON-LF11-SW01	93.4428-01	Water
LON-LF07-SW02	93.4428-02	Water
LON-SS13-SD01	93.4429-01	Soil
LON-SS05-SD07	93.4504-10	Soil
LON-SS05-SW07	93.4505-01	Water

LON-SS05-SW08	93.4505-02	Water
LON-TB-02	93.4505-03	Water
LON-EB-02	93.4506-01	Water
LON-BKGD-SW02	93.4506-02	Water
LON-BKGD-S01	93.4506-03	Soil
LON-BKGD-SD02	93.4506-04	Soil
LON-EB-05	93.4626-06	Water
LON-SS09-2S04	93.4626-07	Soil
LON-ST10-2SD09	93.4626-12	Soil
LON-EB-08	93.4626-13	Water

The following QC sample designations were included in project documentation: sample numbers LON-TB-01, LON-TB-02, and LON-TB-03 were designated as "trip blanks;" sample numbers LON-EB-01, LON-EB-02, LON-EB-03, LON-EB-05, and LON-EB-08 were designated as "equipment blanks;" and sample numbers LON-SS05-SW07 and LON-SS05-SW08 were designated as a "field duplicate pair."

Soil sample results and quantitation limits were reported by the laboratory with an adjustment for moisture content.

Laboratory reports for matrix spike (MS) and matrix spike duplicate (MSD) analyses associated with some project samples were not included with the data package. Therefore, the corresponding ICF sample numbers could not be determined and the laboratory sample numbers were referenced in comment K.1 instead.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan for USEPA Method 8260. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA SW-846 Method 8260, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Sample numbers LON-SS09-2S04, LON-ST10-2SD09, LON-SS09-SD03, LON-SS01-S15, LON-LF11-S03, LON-ST02-S02, and LON-LF07-S03 exceeded technical holding time criteria of 14 days as follows:

Sample No.	Collection Date	Analysis Date	Days Exceeded
LON-SS09-2S04	09/05/93	09/30/93	11
LON-ST10-2SD09	09/05/93	09/30/93	11
LON-SS09-SD03	08/27/93	09/13/93	2
LON-SS01-S15	08/26/93	09/14/93	5
LON-LF11-S03	08/26/93	09/13/93	4
LON-ST02-S02	08/26/93	09/13/93	4
LON-LF07-S03	08/26/93	09/13/93	4

The quantitation limits and results for the above noted samples are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets). Where results are nondetected, false negatives may exist.

A.2 Technical holding time QC criteria were met for all other project sample analyses.

B. GC/MS Instrument Performance Check:

B.1 All QC criteria for the bromofluorobenzene (BFB) tunes were met and the results are considered acceptable.

C. Initial Calibration:

C.1 All QC criteria for the initial calibration were met and the results are considered acceptable.

D. Continuing Calibration:

D.1 Percent differences (%Ds) in the continuing calibrations performed on September 13, 1993 exceeded the $\leq +25\%$ QC validation criteria for several analytes. The detected results and quantitation limits for the analytes listed in Table A are considered estimated (J) and usable for limited purposes only (see modified sample data sheets and Table A).

E. Laboratory Blanks:

E.1 No target analytes were detected in the method blanks at concentrations above the Practical Quantitation Limits (PQLs) and the results are considered acceptable.

F. Surrogate Recoveries:

F.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

G. Field Blanks:

G.1 1,2-Dichloroethane was detected in sample number LON-EB-01 at a concentration of 0.0039 mg/L and sample number LON-EB-03 at a concentration of 0.0013 mg/L. Due to equipment blank contamination, the result reported for 1,2-dichloroethane in sample number LON-SS03-SW01 is considered nondetected (U) (see modified sample data sheets).

G.2 No other target analytes were detected in the field blanks at concentrations above the PQLs and the results are considered acceptable.

H. Laboratory Control Sample Analysis:

H.1 Laboratory control sample QC criteria were met for all "blank spike" analyses and the results are considered acceptable.

I. Laboratory Replicate Analysis:

I.1 No laboratory replicate analysis was included with the project documentation.

J. Field Duplicate Analysis:

J.1 A QC limit of $\leq$20%, as measured by the Relative Percent Difference (RPD) between sample values, was specified for field duplicate comparability.

Sample numbers LON-SS05-SW07 and LON-SS05-SW08 were utilized for the field duplicate analysis. A RPD value of 100% was reported for chloromethane, which exceeds the QC criteria. Therefore, the results reported for chloromethane in sample numbers LON-SS05-SW07 and LON-SS05-SW08 are considered estimated (J) and usable for limited purposes only (see modified sample data sheets).

K. Matrix Spike/Matrix Spike Duplicate Analysis:

K.1 The recoveries of 1,1-dichloroethene in the MS and MSD analyses of the following samples did not meet the laboratory established QC limits as noted below:

Sample No.	% Recovery	QC Limits
LON-SS03-S01 MS	63	80-120%
LON-SS03-S01 MSD	67	80-120%
LON-BKGD-SD01 MS	63	80-120%
LON-BKDG-SD01 MSD	67	80-120%
93.4354-07 MS	15	80-120%
93.4354-08 MSD	16	80-120%
93.4301-08 MS	16	80-120%
93.4301-09 MSD	16	80-120%
LON-SS09-2S04 MS	19	80-120%
LON-SS09-2S04 MSD	19	80-120%

According to USEPA data validation guidelines, organic data are not qualified based on MS/MSD QC outliers alone. It is the opinion of the reviewer that the low recoveries in these samples are due to sample matrix interferences and the exact affect on the quality of the data is not known.

K.2 All other MS and MSD analyses met applicable QC criteria and the results are considered acceptable.

L. Internal Standards:

L.1 Internal standard areas for all sample analyses were within specified QC criteria and the results are considered acceptable.

M. Quantitation and Identification:

M.1 No problems were observed with analyte quantitation and identification in project sample analyses.

N. Conclusion:

N.1 Due to field blank contamination, select data are considered non-detected.

N.2 Due to deficiencies in the continuing calibrations, field duplicate analyses and exceeded technical holding times, select data are considered estimated and usable for limited purposes only.

N.3 All other data are considered valid and usable for all purposes.

TABLE A
CALIBRATIONS OUTSIDE %D CRITERIA

Date	Compound	%D	Samples
Continuing Calibration - September 13, 1993	dichlorofluoromethane chloromethane 1,1-dichloroethene trichloroethene	30.6 27.8 34.2 26.1	LON-SS09-SD03

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Cynthia Schlag, ICF Kaiser Engineers
ANALYSIS: Semivolatile Organic Compounds by USEPA Method 8270
MATRIX: Soil and Water
DATE: June 3, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (Anchorage, AK) received ten (10) soil samples and thirteen (13) water samples for semivolatile organic compound (SVOC) analyses by USEPA Method 8270 on August 24, 25, 26, and 27, 1993. The water samples were extracted on August 30, 31, and September 1, 2, 3, 1993 and analyzed for SVOCs by gas chromatography/mass spectrometry (GC/MS) on September 5, 7, 10, 25, and 27, 1993. The soil samples were extracted on September 7, 8, 9, 10, and 13, 1993 and analyzed for SVOCs by GC/MS on October 6, 7, 8, and 15, 1993.

The ICF site identification numbers and corresponding Commercial Testing & Engineering Co. sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS12-SW01	93.4355-02	Water
LON-SS04-SW01	93.4355-03	Water
LON-EB-01	93.4357-01	Water
LON-SS03-S01	93.4357-04	Soil
LON-SS03-SW01	93.4357-07	Water
LON-ST02-SW01	93.4423-01	Water
LON-SS01-S15	93.4425-04	Soil
LON-LF11-S03	93.4425-05	Soil
LON-ST02-S02	93.4425-06	Soil
LON-LF07-S03	93.4425-07	Soil
LON-EB-03	93.4425-09	Water
LON-SS09-SD03	93.4427-03	Soil
LON-SS09-SW01	93.4427-04	Water
LON-LF11-SW01	93.4428-01	Water
LON-LF07-SW02	93.4428-02	Water
LON-SS13-SD01	93.4429-01	Soil
LON-SS05-SD07	93.4504-10	Soil

LON-SS05-SW07	93.4505-01	Water
LON-SS05-SW08	93.4505-02	Water
LON-EB-02	93.4506-01	Water
LON-BKGD-SW02	93.4506-02	Water
LON-BKGD-S01	93.4506-03	Soil
LON-BKGD-SD02	93.4506-04	Soil

The following QC sample designations were included in project documentation: sample numbers LON-EB-01, LON-EB-02, and LON-EB-03 were designated as "equipment blanks;" sample numbers LON-SS05-SW07 and LON-SS05-SW08 were designated as a "field duplicate pair."

According to the laboratory, sample number LON-LF07-SW02 was not analyzed due to sample loss during extraction.

Soil sample results and quantitation limits were reported by the laboratory with an adjustment for moisture content.

Laboratory reports for matrix spike (MS) and matrix spike duplicate (MSD) analyses associated with some project samples were not included with the data package. Therefore, the corresponding ICF sample numbers could not be determined and the laboratory sample numbers were referenced in comments F.2 and K.1 instead.

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA SW-846 Method 8270, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Sample number LON-LF11-S03 exceeded the technical extraction holding time of 14 days by 5 days. Therefore, the above noted sample is considered estimated (J) and usable for limited purposes only (see modified sample data sheets).

A.2 All other technical holding time QC criteria were met for the project sample analyses.

B. GC/MS Instrument Performance Check:

B.1 All QC criteria for the decafluorotriphenylphosphine (DFTPP) tunes were met and the results are considered acceptable.

C. Initial Calibration:

C.1 All QC criteria for the initial calibration were met and the results are considered acceptable.

D. Continuing Calibration:

D.1 Percent differences (%Ds) in the continuing calibrations exceeded the $\leq \pm 25\%$ QC validation criteria for several analytes in the continuing calibrations performed on September 3, 4, 5, 6, 10, and October 7, 1993. The detected results and quantitation limits for the analytes listed on Table A are considered estimated (J) and usable for limited purposes only (see modified sample data sheets and Table A).

E. Laboratory Blanks:

E.1 The following target analytes were detected in the method blanks listed at concentrations above the Practical Quantitation Limit (PQL):

Date extracted	Analyte	Concentration
09/02/93	bis(2-ethylhexyl)phthalate	0.021 mg/Kg
09/07/93	benzyl alcohol	0.459 mg/Kg
09/07/93	di-n-butylphthalate	0.282 mg/Kg
09/07/93	bis(2-ethylhexyl)phthalate	0.231 mg/Kg
09/09/93	di-n-butylphthalate	0.310 mg/Kg
09/10/93	di-n-butylphthalate	1.610 mg/Kg
09/13/93	di-n-butylphthalate	0.878 mg/Kg

Due to method blank contamination, the following analytes are considered nondetected (U) (see modified sample data sheets).

- di-n-butylphthalate in sample numbers LON-SS09-SD03, LON-SS13-SD01, LON-ST02-S02, LON-LF07-S03, LON-LF11-S03 and LON-SS03-S01
- benzyl alcohol in sample number LON-SS03-S01
- bis(2-ethylhexyl)phthalate in sample nubmer LON-SS03-S01

E.2 No other target analytes were detected in the method blanks at concentrations above the PQL and the results are considered acceptable.

F. Surrogate Recoveries:

F.1 All surrogate recoveries for sample number 93.4424-03 MSD, LON-BKGD-SD01 MSD, and the laboratory control spike sample extracted on 09/08/93 were below the 10% QC validation criteria. No associated samples were affected, therefore no data are qualified.

F.2 The following percent surrogate recoveries, listed below, for sample numbers LON-LF11-SW01, LON-SS13-SD01, 93.4358-02 MS and method blank 09/02/93 were outside the method QC limits:

Sample No.	Analyte	Recovery	QC criteria
blank 09/02/93	nitrobenzene-d5	34%	35-114%
blank 09/02/93	2-fluorobiphenyl	34%	43-116%
LON-LF11-SW01	nitrobenzene-d5	117%	35-114%
LON-SS13-SD01	phenol-d6	114%	24-113%
LON-SS13-SD01	2-fluorobiphenyl	120%	30-115%
93.4358-02 MS	2-fluorophenol	19%	21-110%
93.4358-02 MS	2-fluorobiphenyl	37%	43-116%
93.4514-04 MSD	2,4,6-tribromophenol	118%	30-115%

Sample data associated with the QC samples noted above were not affected and therefore, no data are qualified. The nondetected results in sample numbers LON-LF11-SW01 and LON-SS13-SD01 were not qualified based on Data Validation Guidelines.

F.3 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

G. Field Blanks:

G.1 No target analytes were detected in the field blanks at concentrations above the PQL and the results are considered acceptable.

H. Laboratory Control Sample Analysis:

H.1 All spiked recoveries for the laboratory control spike sample extracted on 09/08/93 were below the 10% QC validation criteria due to possible poor extraction efficiency. According to USEPA guidelines, organic data are not qualified based poor recoveries alone. The affect on the quality of the data is not known.

H.2 Laboratory control sample QC criteria were met for all other "blank spike" analyses and the results are considered acceptable.

I. Laboratory Replicate Analysis:

I.1 No laboratory replicate analysis is included with the project documentation.

J. Field Duplicate Analysis:

J.1 A QC limit of $\leq$20%, as measured by the Relative Percent Difference (RPD) between sample values, was specified for water field duplicate comparability.

Sample numbers LON-SS05-SW07 and LON-SS05-SW08 were utilized for the field duplicate analysis. The results of the field duplicate analysis met all applicable QC criteria and the results are considered acceptable.

TABLE A
CALIBRATIONS OUTSIDE %D CRITERIA

Date	Compound	%D	Samples
Continuing Calibration - September 3, 1993	pentachlorophenol	33.0	blank(soil) LON-SS01-S15 LON-ST02-S02 LON-LF07-S03
Continuing Calibration - September 4, 1993	3,3'-dichlorobenzidine indeno(1,2,3-cd)pyrene	36.2 37.5	blank(aq)
Continuing Calibration - September 5, 1993	3,3'-dichlorobenzidine	26.2	LON-SS05-SW07 LON-SS05-SW08 LON-EB-02 LON-BKGD-SW02
Continuing Calibration - September 6, 1993	3,3'-dichlorobenzidine di-n-butylphthalate benzo(k)fluoranthene dibenz(a,h)anthracene	29.9 31.6 28.6 26.5	blank(soil)
Continuing Calibration - September 6, 1993	hexachlorocyclopentadiene 3,3'-dichlorobenzidine	26.7 29.4	blank(aq)
Continuing Calibration - September 10, 1993	hexachlorocyclopentadiene	36.3	blank(aq) LON-EB-01 LON-SS03-SW01
Continuing Calibration - October 7, 1993	hexachlorocyclopentadiene	30.3	blank(soil)

K. Matrix Spike/Matrix Spike Duplicate Analysis:

K.1 All spike recoveries for QC sample numbers LON-BKGD-SD01 MSD and 93.4424-03 MSD were below the 10%. According the USEPA guidelines, organic data are not qualified based on poor MS/MSD recoveries alone. The affect on the quality of the data is not known.

K.2 The MS/MSD recoveries in sample numbers LON-SS03-S01, 93.4424-02 MS, 93,4397-02 MS, 93.4397-10 MSD, 93.4358-02 MS, and 93.4358-03 MSD did not meet the QC criteria as noted below.

Sample No.	Compound	Recovery	QC Limits
LON-SS03-S01 MS	1,2,4-trichlorobenzene	31%	44-142%
LON-SS03-S01 MS	acenaphthalene	39%	47-145%
LON-SS03-S01 MS	pyrene	47%	52-115%
LON-SS03-S01 MSD	1,2,4-trichlorobenzene	38%	44-142%
93.4424-02 MS	phenol	95%	26-90 %
93.4424-02 MS	4-chloro-3-methylphenol	105%	26-103%
93.4424-02 MS	4-nitrophenol	121%	11-114%
93.4424-02 MS	2,4-dinitrotoluene	103%	28-89 %
93.4424-02 MS	pentachlorophenol	121%	17-109%
93.4424-02 MS	di-n-butylphthalate	248%	1 -118%
93.4358-02 MS	1,2,4-trichlorobenzene	39%	44-142%
93.4358-02 MS	acenaphthalene	45%	47-145%
93.4358-02 MS	pentachlorophenol	12%	14-176%
93.4358-03 MSD	pentachlorophenol	11%	14-176%
93.4397-02 MS	pentachlorophenol	14%	17-109%
93.4397-10 MSD	di-n-butylphthalate	134%	1 -118%

According to USEPA guidelines, organic data are not qualified based on MS/MSD recoveries alone. It is the opinion of the reviewer that the recoveries in these samples are due to sample matrix interferences and the affect on the quality of the data is not known.

K.3 All other MS and MSD analyses met the QC criteria and are considered acceptable.

L. Internal Standards:

L.1 Due to a low internal standard (IS) areas in sample number LON-SS03-SW01, the quantitation limits for the associated analytes are considered estimated (J) (see modified sample data sheets).

Listed below are the sample numbers, internal standards, IS area, and the QC limits.

Sample No.	Internal Standard	IS Area	QC Limits
LON-SS03-SW01	acenaphthene-d10	2940374	2995124-11980496
LON-SS03-SW01	phenanthrene-d10	4594636	4929212-19716848
LON-SS03-SW01	chrysene-d12	3679996	3686527-14746108

Where the results are nondetected, false negatives may exist.

L.2 Internal standard areas for all other analyses met applicable QC criteria and the results are considered acceptable.

M. Quantitation and Identification:

M.1 No problems were observed with analyte quantitation and identification in project sample analyses.

N. Conclusion:

N.1 Due to the above noted deficiencies in continuing calibration performance, internal standard response, and an exceeded technical holding time, select data are considered as estimates and usable for limited purposes only.

N.2 Due to the above noted laboratory blank contamination, select data are considered non-detected.

N.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Sharon Lin, ICF Kaiser Engineers, Inc.
ANALYSIS: Total and Dissolved Metals by USEPA Method 6010 & Total and Dissolved Thallium by USEPA Method 7841
MATRIX: Soil & Water
DATE: May 27, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received two (2) soil samples and two (2) water samples for total and dissolved metals analyses by USEPA Methods 6010 and 7841 on August 31, 1993. The samples were digested on September 9 and 10, 1993 and were analyzed for total and dissolved metals by inductively coupled plasma atomic emission spectroscopy (ICP) and for total and dissolved thallium by atomic absorption furnace technique (GFAA) on September 10 through 14, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-02	4506-1	Water
LON-BKGD-SW02	4506-2	Water
LON-BKGD-SW02 (F)	4506-2	Water
LON-BKGD-S01	4506-3	Soil
LON-BKGD-SD02	4506-4	Soil

Sample number LON-EB-02 was designated as an "equipment blank."

Sample number LON-BKGD-SW02 (F) was designated as a field-filtered sample and analyzed for dissolved metals and thallium.

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis," October 1989, USEPA Method 6010, USEPA Method 7841, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 Percent recoveries for silver in the initial calibration performed on September 14 and 23, 1993 were 75% and 87%, respectively, below the advisory QC limits of 90-110%. Therefore, the quantitation limits for silver in all project samples are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets).

B.2 Initial calibration QC criteria were met for all other project sample analyses and the results are considered acceptable.

C. Continuing Calibrations:

C.1 Continuing calibration QC criteria were met for project sample analyses and the results are considered acceptable.

D. Laboratory Blank Analyses:

D.1 No target analytes were detected in the method blanks above the Practical Quantitation Limit (PQL) and the results are considered acceptable.

E. Field Blanks:

E.1 No target analytes were detected above the PQLs in equipment blank LON-EB-02 and the results are considered acceptable.

F. Field Duplicate Analysis:

F.1 There were no field duplicate analyses included in the project documentation.

G. Laboratory Replicate Analysis:

G.1 There were no laboratory replicate analysis performed for project samples.

H. ICP Interference Check Sample (ICS) Analyses:

H.1 All applicable QC criteria were met for the ICS analyses and the results are considered acceptable.

I. Laboratory Control Sample (LCS) Analyses:

I.1 All LCS analyses associated with project samples met applicable QC criteria and the results are considered acceptable.

J. Matrix Spike (MS) Analysis:

J.1 The recovery for silver in MS sample associated with project sample numbers LON-BKGD-S01 and LON-BKGD-SD02 was 0%, significantly below the advisory QC criteria of 75-125%. Therefore, the quantitation limits for silver in the above noted samples are considered rejected (R) and unusable for any purpose (see modified sample data sheets).

J.2 The MS recovery for cadmium was 68% in the MS sample associated with sample numbers LON-BKGD-S01 and LON-BKGD-SD02, below the advisory QC criteria of 75-125%. Therefore, the quantitation limits for cadmium in the above noted samples are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets).

The non-detected results for cadmium and selenium in the above noted samples may be false negatives.

J.3 The MS recovery for silver is 73%, marginally below the advisory QC limits. It is the opinion of the reviewer that the above noted deviation does not have an adverse effect on data quality.

J.4 Due to the above noted deviations in MS recoveries (J.1-J.3), post-digestion spike recovery analyses were performed on September 14 and 23, 1993. The recovery results for all post-digestion spike analyses met applicable QC criteria.

J.5 All other applicable QC criteria were met for the MS analyses and the results are considered acceptable.

K. Quantitation:

K.1 No problems were observed with analyte quantitation in project sample analyses.

L. Conclusion:

L.1 Due to the above noted deficiencies in matrix spike analyses, select data are considered rejected and unusable for any purpose.

L.2 Due to the above noted deficiencies in initial calibration performances and matrix spike analyses, select data are considered estimates and usable for limited purposes.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Sharon Lin, ICF Kaiser Engineers, Inc.
ANALYSIS: Total & Dissolved Metals by USEPA Method 6010 & Total & Dissolved Thallium by USEPA Method 7841
MATRIX: Soil & Water
DATE: May 27, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received four (4) water samples and one (1) soil sample for total and dissolved metals and thallium analyses by USEPA Methods 6010 and 7841 on August 26 and 27, 1993. The samples were digested on August 30 through September 11, 1993 and were analyzed for total and dissolved metals by inductively coupled plasma atomic emission spectroscopy (ICP) and for thallium by atomic absorption furnace technique (GFAA) on September 1 through September 14, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW01	4423-1	Water
LON-ST02-SW01 (F)	4423-1	Water
LON-SS09-SD03	4427-3	Soil
LON-SS09-SW01	4427-4	Water
LON-SS09-SW01 (F)	4427-4	Water
LON-LF11-SW01	4428-1	Water
LON-LF11-SW01 (F)	4428-1	Water
LON-LF07-SW02	4428-2	Water
LON-LF07-SW02 (F)	4428-2	Water

Sample numbers LON-ST02-SW01 (F), LON-SS09-SW01 (F), LON-LF11-SW01 (F) and LON-LF07-SW02 (F) were designated as field-filtered samples and analyzed for dissolved metals and thallium on September 8, 10 and 14, 1993.

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis." October 1989, USEPA Method 6010, USEPA Method 7841, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 Percent recoveries for silver in the initial calibration performed on September 2 and 14, 1993 were outside the advisory QC limits of 90-110%:

Associated Sample	% Recovery
LON-SS09-SW01	75
LON-SS09-SD03	87

Due to the above noted deviations in initial calibration verification (ICV) standard, the quantitation limits for silver in the above noted samples are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets).

B.2 All other initial calibration QC criteria were met for project sample analyses and the results are considered acceptable.

C. Continuing Calibrations:

C.1 All continuing calibration QC criteria were met for project sample analyses and the results are considered acceptable.

D. Laboratory Blank Analyses:

D.1 Zinc was detected in the method blank associated with sample number LON-SS09-SW01, LON-LF11-SW01, LON-LF11-SW01 (F), LON-LF07-SW02, LON-LF07-SW02 (F), LON-ST02-SW01 and LON-ST02-SW01 (F) at a concentration of 1.6 mg/L. It is the opinion of the reviewer that the above noted contamination has no adverse effect on data quality.

D.2 No other target analytes were detected in the laboratory blanks above the Practical Quantitation Limit (PQL) and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Sharon Lin, ICF Kaiser Engineers, Inc.
ANALYSIS: Total Metals by USEPA Method 6010 & Thallium by USEPA Method 7841
MATRIX: Soil & Water
DATE: May 27, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received three (3) soil samples and one (1) water sample for total metals and thallium analyses by USEPA Methods 6010 and 7841 on August 29, 1993. The samples were digested on August 30 through September 7, 1993 and were analyzed for total metals by inductively coupled plasma atomic emission spectroscopy (ICP) and for thallium by atomic absorption furnace technique (GFAA) on September 1 through September 14, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-S03	4425-5	Soil
LON-ST02-S02	4425-6	Soil
LON-LF07-S03	4425-7	Soil
LON-EB-03	4425-9	Water

Sample number LON-EB-03 was designated as an "equipment blank."

The analytical results with qualifications are presented on modified sample data sheets included in the report appendix. Definitions of data qualifiers are provided in Table 1B. This report was prepared according to the USEPA draft document "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis," October 1989, USEPA Method 6010, USEPA Method 7841, and the Project Sampling and Analysis Plan.

II. VALIDITY and COMMENTS:

A. Technical Holding Times:

A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 Percent recoveries for silver associated with the following samples were outside the advisory QC limits of 90-110%:

Associated Sample	% Recovery
LON-LF11-S03	75
LON-LF07-S03	87

Due to the above noted deviations in initial calibration verification (ICV) standard, the quantitation limits for silver in the above noted samples are considered estimates (J) and usable for limited purposes only (see modified sample data sheets).

B.2 All other initial calibration QC criteria were met for project sample analyses and the results are considered acceptable.

C. Continuing Calibrations:

C.1 A percent recovery of 112% was found for selenium associated with sample number LON-ST02-S02, falling outside the advisory QC limits of 90-110%. It is the opinion of the reviewer that the above noted deviation has no adverse effect on data quality.

C.2 All other continuing calibration QC criteria were met for project sample analyses and the results are considered acceptable.

D. Laboratory Blank Analyses:

D.1 Target analytes calcium and iron were detected in the method blank associated with sample number LON-LF11-S03 at concentrations of 0.28 and 0.11 mg/L, respectively. However, the reported analytical results for calcium and iron in the above associated sample exceeded the laboratory blank results by a factor of greater than ten (10), therefore, data are not qualified.

D.2 Target analyte zinc was detected in the method blank associated with sample number LON-EB-03 at a concentration of 1.6 mg/L. It is the reviewer's opinion that the above noted laboratory blank contamination has no adverse effect on data quality.

D.3 No other target analytes were detected in the laboratory and calibration blanks (initial and continuing calibration blanks) above the Practical Quantitation Limit (PQL) and the results are considered acceptable.

E. Field Blanks:

E.1 Calcium and sodium were detected in equipment blank LON-EB-03 at concentrations of 0.25 and 0.42 mg/L, respectively. However, the reported analytical results for calcium and sodium in the associated sample exceeded the equipment blank results by a factor of greater than ten (10), therefore, no data are not qualified.

E.2 No other target analytes were detected above the PQL in the above noted equipment blank and the results are considered acceptable.

F. Field Duplicate Analysis:

F.1 There were no field duplicate analyses included in the project documentation.

G. Laboratory Replicate Analysis:

G.1 Sample number LON-LF11-S03 was utilized for laboratory replicate analysis. A Relative Percent Difference (RPD) of 61% was reported for chromium in the laboratory replicate analysis, exceeding the advisory QC limit of $\leq$50%. Therefore, the detected result for chromium in the above noted sample is considered an estimate (J) and usable for limited purposes only (see modified sample data sheet).

G.2 All other QC criteria were met for the above laboratory replicate analysis and the results are considered acceptable.

G.3 There were no other laboratory replicate analysis performed for the project samples.

H. ICP Interference Check Sample (ICS) Analyses:

H.1 All applicable QC criteria were met for the ICS analyses and the results are considered acceptable.

I. Laboratory Control Sample (LCS) Analyses:

I.1 All LCS analyses associated with project samples met applicable QC criteria and the results are considered acceptable.

J. Matrix Spike (MS) Analysis:

J.1 The MS recovery for silver associated with sample numbers LON-ST02-S02 and LON-LF07-S03 was 0%. Therefore, the quantitation limits for silver in the above noted samples are considered rejected (R) and unusable for any purpose (see modified sample data sheets).

J.2 The MS recoveries for the following sample analytes were outside the advisory QC limits of 75-125%:

Associated Sample	Analyte	% Recovery	Bias
LON-LF11-S03	Potassium	54	Low
LON-LF11-S03	Sodium	57	Low
LON-LF11-S03	Antimony	71	Low
LON-EB-03	Sodium	211	High
LON-ST02-S02	Calcium	171	High
LON-LF07-S03	Calcium	171	High
LON-ST02-S02	Magnesium	160	High
LON-LF07-S03	Magnesium	160	High

Due to the above noted deviations in MS recoveries, all detected results and sample quantitation limits for the above noted analytes are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets).

The non-detected result for antimony in sample number LON-LF11-S03 may be a false negative.

The detected results for potassium and sodium in sample number LON-LF11-S03 may be biased low.

The detected result for sodium in sample number LON-EB-03 may be biased high.

The detected results for calcium and magnesium sample numbers LON-ST02-S02 and LON-LF07-S03 may be biased high.

J.3 The MS recoveries for aluminum and iron in the above noted MS analyses were outside the advisory QC limits. However, the sample concentration exceeded the spike concentration by a factor of four or more for the above noted target analytes. Therefore, data are not qualified on the basis of the deviations in MS recoveries.

J.4 Due to above noted deviations in MS recoveries (see J.1-J.3), post-digestion spike recovery analyses were performed on September 2 through 14, 1993. The recovery results for all post-digestion spike analyses met applicable QC criteria.

J.5 All other applicable QC criteria were met for the MS analyses and the results are considered acceptable.

K. Quantitation:

K.1 No problems were observed with analyte quantitation in project sample analyses.

L. Conclusion:

L.1 Due to above noted deficiencies in matrix spike analyses, select data are considered rejected and unusable for any purpose.

L.2 Due to above noted deficiencies in initial calibration, laboratory replicate analysis and matrix spike analyses, select data are considered estimates and usable for limited purposes.

L.3 All other data are considered valid and usable for all purposes.

E. Field Blanks:

E.1 There were no field blanks analyses included in the project documentation.

F. Field Duplicate Analysis:

F.1 There were no field duplicate analyses included in the project documentation.

G. Laboratory Replicate Analysis:

G.1 Sample number LON-ST02-SW01 was utilized for laboratory replicate analysis. All QC criteria were met for the laboratory replicate analyses and the results are considered acceptable.

G.2 There were no other laboratory replicate analysis performed for the project samples.

H. ICP Interference Check Sample (ICS) Analyses:

H.1 All applicable QC criteria were met for the ICS analyses and the results are considered acceptable.

I. Laboratory Control Sample (LCS) Analyses:

I.1 All LCS analyses associated with project samples met applicable QC criteria and the results are considered acceptable.

J. Matrix Spike (MS) Analysis:

J.1 The MS recoveries associated with the following target analytes were outside the advisory QC limits of 75-125%:

Associated Sample	Analyte	% Recovery	Bias
LON-SS09-SD03	Aluminum	341	High
LON-SS09-SD03	Barium	69	Low
LON-SS09-SD03	Calcium	171	High
LON-SS09-SD03	Magnesium	160	High
LON-LF11-SW01 (F)	Magnesium	72	Low
LON-ST02-SW01 (F)	Magnesium	72	Low
LON-LF07-SW02 (F)	Magnesium	72	Low
LON-SS09-SD03	Manganese	162	High
LON-LF11-SW01	Sodium	211	High
LON-LF07-SW02	Sodium	211	High
LON-ST02-SW01	Sodium	211	High
LON-SS09-SW01 (F)	Sodium	71	Low
LON-SS09-SW01	Sodium	221	High
LON-SS09-SW01 (F)	Silver	65	Low

Due to the above noted deviations in MS recoveries, the detected results and sample quantitation limit for the above noted analytes are considered as estimates (J) and usable for limited purposes only (see modified sample data sheets).

The non-detected result for silver in sample number LON-SS09-SW01 (F) may be a false negative.

The detected results for magnesium in sample numbers LON-LF11-SW01(F), LON-LF07-SW02 (F), LON-ST02-SW01 (F), barium in sample number LON-SS09-SD03 and sodium in sample number LON-SS09-SW01 (F) may be biased low.

The detected results for sodium in sample numbers LON-LF11-SW01, LON-LF07-SW02, LON-ST02-SW01 and LON-SS09-SW01 may be biased high.

The detected results for aluminum, calcium, magnesium and manganese in sample number LON-SS09-SD03 may be biased high.

J.2 Due to above noted deviations in MS recoveries, post-digestion spike recovery analyses were performed on September 2, 10 and 14, 1993. The recovery results for all post-digestion spike analyses met applicable QC criteria.

J.3 All other applicable QC criteria were met for the MS analyses and the results are considered acceptable.

K. Quantitation:

K.1 No problems were observed with analyte quantitation in project sample analyses.

L. Conclusion:

L.1 Due to above noted deficiencies in initial calibration and matrix spike analyses, select data are considered estimates and usable for limited purposes.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples and 4 soil samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 416) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 26 and August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW01	707	Water
LON-BKGD-SW03	688	Water
LON-EB-02	694	Water
LON-BKGD-S01	699	Soil
LON-BKGD-SD02	700	Soil
LON-SS05-SD03	702	Soil
LON-SS05-SD08	704	Soil

The following sample designations were included in project documentation: sample numbers LON-BKGD-SWO1 and LON-BKGD-SW03 were designated as field duplicate samples, and sample number LON-EB-02 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for project water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). The correct practical quantitation limits (PQLs) when employing the lowest usable calibration point (50 ppm) should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.2% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 31.2% exceeds the recommended QC criteria of 20.0%. Therefore, the detected results for diesel in all the water samples are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory attempted to perform a 6 point initial calibration curve on GC Instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. A %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was established with only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Diesel was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analyses:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field duplicate comparability.

G.2 Sample numbers LON-BKGD-SWO1 and LON-BKGD-SW03 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Sample LON-SS05-S01 which is not part of this project sample set, but is from the Point Lonely site, was analyzed as the soil MS/MSD for chain of custody 416.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample number LON-SS05-SD03 at a concentration of 600 ppm.

K.2 Diesel was detected in sample number LON-SS05-SD08 at a concentration of 90 ppm. It is the opinion of the reviewer that the diesel is mixed with an unknown hydrocarbon, therefore, the result is qualified "J" as estimated and usable for limited purposes.

K.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 The laboratory reported incorrect PQLs (200 ppb) for diesel in all project water samples. The lowest calibration standard that was usable was the 50 ppm, therefore, the PQLs should have been reported as 1000 ppb. The PQLs have been corrected on the data summary form by the reviewer.

K.5 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample number LON-SS05-SD03 at a concentration of 600 ppm.

L.2 Sample number LON-SS05-SD08 contained diesel at a concentration of 90 ppm. The result was estimated by the reviewer. Due to hydrocarbon contamination present in the sample along with the diesel, the result was qualified "J" as estimated and usable for limited purposes.

L.3 The PQLs for the three water samples have been changed to 1000 ppb on the data summary form by the reviewer.

L.4 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY/ DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Pesticides by USEPA Method 8080
MATRIX: Water and Soil
DATE: April 20, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples and 2 soil samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 416) for pesticide analysis by the pesticide organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for pesticides by USEPA Method 8080 on August 26, 1993.

The ICF site identification number and corresponding FBI laboratory sample identification number is listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW03	688	Water
LON-EB-02	694	Water
LON-BKGD-S01	699	Soil
LON-BKGD-SD02	700	Soil
LON-BKGD-SW01	707	Water

The following sample designations were included in project documentation: sample numbers LON-BKGD-SWO1 and LON-BKGD-SW03 were designated as field duplicates, and sample number LON-EB-02 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.01 ppm to 1.0 ppm. The percent relative standard deviations (%RSDs) were calculated for all compounds using calibration factors determined from the initial calibration using the EC detector. The %RSD for the following target analyte exceeded the recommended QC criteria of 20.0%

Compound	%RSD
beta-BHC	22%

Methoxychlor was spiked in at concentrations too low to be detected by the EC detector until the 0.5 ppm initial calibration standard. Therefore, all detected results for this analyte are qualified "R" as rejected and unusable, and the practical quantitation limit (PQL) was raised accordingly for the water samples.

Due to the large percent RSD in the analyte listed above, the detected results for this compound is qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.01 ppm to 1.0 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using calibration factors determined from the initial calibration using the ECD detector. The %RSDs for the following target analytes exceeded the recommended QC criteria of 20.0%

Compound	%RSD
Endosulfan II	37.9%
Endrin Aldehyde	30.6%
DDT/Endosulfan Sulfate	32.0%
Endrin Ketone	32.6%

Due to the large percent RSDs, the detected results for these compounds are qualified "J" as estimated and are usable for limited purposes.

Methoxychlor was spiked in at concentrations too low to be detected by the ECD detector until the 0.5 ppm initial calibration standard. Therefore, all detected results

for this analyte are qualified "R" as rejected and unusable, and the PQL was raised accordingly for the soil samples.

C. Continuing Calibration:

C.1 Chlordane and methoxychlor percent recoveries could not be calculated due to low sensitivity and interference problems. All detected results for these compounds in the soil samples are qualified "R" as rejected.

All QC criteria for the pesticides were met except for the following analytes.

Compound	%R	QC Criteria
Endosulfan I	139%	75-125
Endrin/4,4'-DDD	153%	75-125

The results for the above two analytes were outside the QC criteria, therefore all detected results and the PQLs for the two analytes listed above, associated with the soil samples are qualified "J" as estimated and usable for limited purposes.

C.2 No continuing calibrations were analyzed during the sequence with the exception of the column degradation solution containing Endrin and DDT. The stability of the instrument, GC column, and detector were monitored using the Endrin and DDT column degradation solution and the Aroclor 1254 continuing calibration solution. These two solutions were used to check area consistency and surrogate area stability. It is the opinion of the reviewer, that since no pesticide continuing calibration solutions were analyzed, this is the only criteria that can be used to monitor system performance.

Due to the absence of pesticide continuing calibrations, the PQLs for the target analytes in the project method blank and water samples are qualified "J" as estimated and usable for limited purposes.

D. Laboratory Blanks:

D.1 The laboratory did not report the pesticide results for the method blank associated with this sample set. Reviewing the method blank raw data, the validator reported that target analytes were not detected in the method blank at a concentration above the PQL for the target analytes, and the results are considered acceptable.

E. Instrument Blanks:

E.1 Target analytes were not detected in the instrument blank at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-02 was submitted as an equipment blank for this project sample set.

F.2 Pesticide target analytes were not detected in the equipment blank at a concentration above the PQL for the target analytes, and the results are considered acceptable.

G. Field Duplicate Analyses:

G.1 A QC limit for precision of ≤50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field duplicate comparability.

G.2 Sample numbers LON-BKGD-SWO1 and LON-BKGD-SW03 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 No matrix spike and matrix spike duplicate analyses were performed for the pesticide fraction.

J. System Performance:

J.1 The laboratory set up the GC analytical run time on the primary GC column to elute all pesticide analytes within 9 minutes, causing co-elution of numerous pesticides and making identification difficult. A slower temperature program and/or slower carrier gas flow rate would increase resolution for many of the pesticide analytes.

J.2 The Endrin and 4,4'-DDT breakdown met QC criteria and the results are considered acceptable.

J.3 No other problems with system performance were observed for all other project sample analyses.

K. Quantitation and Identification:

K.1 Due to the absence of pesticide continuing calibrations, all PQLs for the target analytes in the project method blanks and the samples are qualified "J" as estimated and usable for limited purposes.

K.2 Due to sensitivity problems with methoxychlor in the initial calibration, the PQL was raised by the reviewer to 0.5 ppm for the soil samples, and 10 ppb for the water samples.

K.3 The laboratory did not report the pesticide results for the method blanks associated with this sample set. The reviewer, by looking at the raw data from the method blanks reported that no target analytes were not detected at a concentration above the PQL for the target analytes, and the results are considered acceptable.

K.4 The PQLs for the target analytes reported by the laboratory of 2 ppb for the water samples are incorrect. The PQLs for these analytes have been corrected to 0.2 ppb on the summary data form by the reviewer.

K.5 The PQLs for the target analytes reported by the laboratory of 0.01 ppb for the soil samples are incorrect due to incorrect percent moisture calculation. The

PQLs for these analytes have been corrected on the summary data form by the reviewer.

K.6 No other problems with compound quantitation and identification were observed.

L. Conclusion:

L.1 No target analytes were detected in the method blanks or the samples at a concentration above the PQLs for the target analytes.

L.2 Due to the absence of a pesticide continuing calibration, all PQLs for the target analytes in the method blanks and samples are qualified "J" as estimated and usable for limited purposes.

L.3 Due to low sensitivity and hydrocarbon interference detected in the initial calibration, the PQL for methoxychlor in the method blank and samples was raised to <0.5 ppm for the soil samples and <10 ppb for the water samples.

L.4 The PQLs for the target analytes in the water samples and soil samples have been corrected on the summary data forms by the reviewer.

Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-02 was submitted as an equipment blank for this project sample set.

F.2 PCBs were not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analyses:

G.1 A QC limit for precision of $\leq 50\%$, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field duplicate

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY/ DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Water and Soil
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples and 2 soil samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 416) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW03	688	Water
LON-EB-02	694	Water
LON-BKGD-S01	699	Soil
LON-BKGD-SD02	700	Soil
LON-BKGD-SW01	707	Water

The following sample designations were included in project documentation: sample numbers LON-BKGD-SWO1 and LON-BKGD-SW03 were designated as field duplicate samples, and sample number LON-EB-02 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional

comparability.

G.2 Sample numbers LON-BKGD-SWO1 and LON-BKGD-SW03 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike and matrix spike duplicate analyses. All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

I.2 No matrix spike/matrix spike duplicate analyses was performed for the soil project samples.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project samples.

K.2 The laboratory reported incorrect PQLs for sample numbers LON-BKGD-S01 and LON-BKGD-SD02 due to the percent dry weight values. The PQLs have been corrected on the data summary forms by the reviewer.

K.3 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the samples, and the results are considered acceptable.

L.2 The PQLs of the PCBs for sample numbers LON-BKGD-S01 and LON-BKGD-SD02 were corrected on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 4 soil and 3 water samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0416). Two of the soil samples and the three water samples required analysis for the halogenated volatile organic compounds (HVOCs) and the BTEX compounds, and two of the soil samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 27 and August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW01	706	Water
LON-BKGD-SW03	690	Water
LON-EB-02	696	Water
LON-BKGD-S01	699	Soil
LON-BKGD-SD02	700	Soil
LON-SS05-SD03	702	Soil
LON-SS05-SD08	704	Soil

The following QC sample designations were included in project documentation: sample numbers LON-BKGD-SW01 and LON-BKGD-SW03 were designated as field duplicates and

sample number LON-EB-02 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

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DATA VALIDATION REPORT

PROGRAM: Dewline/Point Lonely RI/FS (ICF Project No. 41096-412-02)
LABORATORY: Commercial Testing & Engineering Co. (Anchorage, AK)
REVIEWER: Cynthia E. Schlag, ICF Kaiser Engineers, Inc.
ANALYSIS: Extractable Petroleum Hydrocarbons by USEPA Method 8100M
MATRIX: Water and Soil
DATE: May 18, 1994

I. INTRODUCTION:

Commercial Testing & Engineering Co. (CT&E) (Anchorage, AK) received two (2) water and two (2) soil samples for Extractable Petroleum Hydrocarbons (EPH) analysis by USEPA Method 8100M on September 4 and 5, 1993. The samples were extracted on Septmber 8 and 14, 1993 and analyzed for EPH by gas chromatography with flame ionization detection (GC/FID) on September 9, 10, 15 and 16, 1993.

The ICF site identification numbers and corresponding CT&E laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-2S19-3	93.4626-01	Soil
LON-SS05-2SD09	93.4626-02	Soil
LON-EB-05	93.4626-06	Water
LON-EB-08	93.4626-13	Water

The following QC sample designations were included in project documentation: sample numbers LON-EB-05 and LON-EB-08 were designated as "equipment blanks."

The analytical results for project soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared according to the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8100 and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 Technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 All QC criteria for the initial calibration were met and the results are considered acceptable.

C. Continuing Calibrations:

C.1 All QC criteria for continuing calibration were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 The target analyte was not detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable

E. Field Blanks:

E.1 The target analyte was detected in sample number LON-EB-08 at a concentration of 0.289 mg/L. Therefore, the detected results for sample numbers LON-SS05-2S19-3 and LON-SS05-2SD09 are considered estimated (J) and usable for limited purposes only (see modified sample data sheets).

E.2 All other field blanks met QC criteria and the results are considered acceptable.

F. Laboratory Control Sample Analysis:

F.1 The laboratory control sample QC criteria were met for all "blank spike" analyses and the results are considered acceptable.

G. Field Duplicate Analysis:

G.1 No field duplicate analysis is included in the project documentation.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The matrix spike (MS) and matrix spike duplicate (MSD) analyses met all QC criteria and the results are considered acceptable.

J. Quantitation and Identification:

J.1 The chromatographic pattern of sample numbers LON-SS05-2S19-3, LON-SS05-2SD09, and LON-EB-08 were not consistent with the chomatographic pattern of middle distillate fuel (diesel fuel). It is the opinion of the reviewer that the peaks are due to higher molecular weight hydrocarbons. Therefore, the detected results for EPH in these samples are considered estimated (J) and are usable for limited purposes (see modified sample data sheets).

J.2 No other problems were observed with sample quantitation and identification.

K. Conclusion:

K.1 Due to the inconsistency of the chromatographic pattern with the diesel fuel standard and field blank contamination, select data are considered as estimated and usable for limited purposes.

K.2 All other data are considered valid and usable for all purposes.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-02 was designated as an equipment blank.

F.2 No target analytes were detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field duplicate comparability.

G.2 Samples LON-BKGD-SW01 and LON-BKGD-SW03 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01, which was associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound

identification confirmation.

J.2 It is the opinion of the reviewer that the reported detected results in sample number LON-SS05-SD03 are the result of carryover from a previous sample. Therefore, the PQLs for BTEX in this sample have been raised to the reported detected results by the reviewer and are qualified "J" as estimated and usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to carryover from a previous sample, the PQLs for BTEX in sample number LON-SS05-SD03 have been raised to the reported detected results and are qualified "J" as estimated and usable for limited purposes.

L.2 There were no target analytes detected at a concentration above the PQLs in any of the project samples.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: April 5, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 4 soil and 3 water samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0416). All of the samples required analysis for the Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 27 and August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW01	706	Water
LON-BKGD-SW03	690	Water
LON-EB-02	696	Water
LON-BKGD-S01	699	Soil
LON-BKGD-SD02	700	Soil
LON-SS05-SD03	702	Soil
LON-SS05-SD08	704	Soil

The following QC sample designations were included in project documentation: sample numbers LON-BKGD-SW01 and LON-BKGD-SW03 were designated as field duplicates and sample number LON-EB-02 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the

instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-02 was designated as an equipment blank.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field duplicate comparability.

G.2 Samples LON-BKGD-SW01 and LON-BKGD-SW03 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 It is the opinion of the reviewer that the reported detected result for gasoline in sample number LON-SS05-SD03 is the result of carryover from a previous sample. Therefore, the PQL for gasoline in this sample has been raised to the reported detected result and qualified "J" as estimated and is usable for limited purposes.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory reported a PQL of 50 ppb for gasoline in the water samples associated with this project sample set. Since the low point in the initial calibration on system 3-4 was 100 ppb, the PQL has been raised to 100 ppb for the three water samples.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 The PQL for gasoline in the water samples has been raised to 100 ppb since the low point in the initial calibration is 100 ppb.

L.3 Due to carryover from a previous sample, the PQL for gasoline in sample number LON-SS05-SD03 has been raised by the reviewer and has been qualified "J" as estimated and is usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 water sample and 8 soil samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 419) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 25, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS12-S01	502	Soil
LON-SS12-S03	504	Soil
LON-SS12-S02	506	Soil
LON-SS12-SW01	514	Water
LON-SS12-SD01	516	Soil
LON-SS04-S01	518	Soil
LON-SS04-SD01	520	Soil
LON-SS04-SD02	522	Soil
LON-SS04-S02	524	Soil

Sample number LON-SS04-3W01 was marked on the chain-of-custody for TPH analyses, even though the comments stated VOA only. The laboratory did not perform TPH analysis on this sample.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

It should be noted that all quantitation limits reported by the laboratory for project water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). The correct practical quantitation limits (PQLs) when employing the lowest usable calibration point (50 ppm) should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.2% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 31.2% exceeds the recommended QC criteria of 20.0%. Therefore, the detected results for diesel in all the water samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate analyses associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported diesel in sample number LON-SS04-S01 at a concentration of 2000 ppm. It is the opinion of the reviewer that diesel was not present in the sample because the sample chromatogram did not support the diesel pattern, but did show hydrocarbon contamination. Therefore, the reported result was changed to the appropriate PQL on the data summary form by the reviewer.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Sample number LON-SS04-3W01 was marked on the chain-of-custody for TPH analyses, even though the comments on the chain of custody stated VOA only. The laboratory did not perform TPH analysis on this sample.

L.2 Due to hydrocarbon contamination, the diesel result of 2000 ppm detected in sample number LON-SS04-S01 was changed to the appropriate PQL level by the reviewer on the data summary form.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 12, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 8 soil samples and 4 water samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 0419). Two of the water samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 25 and August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS12-S01	502	Soil
LON-SS12-S03	504	Soil
LON-SS12-S02	506	Soil
LON-SS04-SW01	508	Water
LON-SS12-SW01	512	Water
LON-SS12-SD01	516	Soil
LON-SS04-S01	518	Soil
LON-SS04-SD01	520	Soil
LON-SS04-SD02	522	Soil
LON-SS04-S02	524	Soil
LON-TB-01	528	Water
LON-GAR-TB	526	Water

The laboratory indicated that the sample which was labeled on the chain of custody form as sample number LON-TB-01 was labeled on the container as sample number LON-EB-01. The following QC sample designations were included in project documentation: sample number LON-EB-01 was designated as an equipment blank and sample number LON-GAR-TB was designated as a trip blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a five point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for

all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
ethylbenzene	23.2 %
m & p-xylene	22.6 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

B.3 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-01 was designated as an equipment blank and sample number LON-GAR-TB was designated as a trip blank.

F.2 No target analytes were detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

F.3 No target analytes were detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS04-S02 was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 Discrepancies exist between the results reported by the laboratory and the results recalculated by the reviewer for some of the analytes in sample number LON-SS04-SD01. The recalculated results have been included on the data summary form.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large % RSDs for some of the analytes in the initial calibrations, the detected results for these analytes are qualified "J" as estimated and are usable for limited purposes.

L.2 Discrepancies exist between the results reported by the laboratory and the results recalculated by the reviewer for some of the analytes in sample number LON-SS04-SD01. The corrected results have been inserted on the data summary forms.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: April 6, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 8 soil samples and 4 water samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 0419). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 25 and August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS12-S01	502	Soil
LON-SS12-S03	504	Soil
LON-SS12-S02	506	Soil
LON-SS04-SW01	508	Water
LON-SS12-SW01	512	Water
LON-SS12-SD01	516	Soil
LON-SS04-S01	518	Soil
LON-SS04-SD01	520	Soil
LON-SS04-SD02	522	Soil
LON-SS04-S02	524	Soil
LON-TB-01	528	Water
LON-GAR-TB	526	Water

The laboratory indicated that the sample which was labeled on the chain of custody form as sample number LON-TB-01 was labeled as sample number LON-EB-01 on the container. The following QC sample designations were included in project documentation: sample number LON-EB-01 was designated as an equipment blank and sample number LON-GAR-TB was designated as a trip blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline

fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-01 was designated as an equipment blank and sample number LON-GAR-TB was designated as a trip blank.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

F.3 Gasoline was not detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

K.2 The low calibration standard in the initial calibration on system 3-4 was 100 ppb, therefore the reported PQL for gasoline in the samples analyzed on system 3-4 have been adjusted by the reviewer.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Since the low calibration standard in the initial calibration on system 3-4 was 100 ppb, the PQL for gasoline in the samples analyzed on system 3-4 have been adjusted accordingly.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 7 soil samples and 3 water samples from the Point Lonely site on August 24, 1993 (referenced chain of custody record No. 418) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-01	534	Water
LON-SS03-S01	536	Soil
LON-SS03-S02	538	Soil
LON-SS03-S03	540	Soil
LON-SS03-S04	542	Soil
LON-SS03-S05	544	Soil
LON-SS03-SD01	546	Soil
LON-SS03-SD02	548	Soil
LON-SS03-SW01	549	Water
LON-SS03-SW02	550	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS03-S04 and LON-SS03-S05 were designated as field replicates, and sample number LON-EB-01 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 It is the opinion of the reviewer that carryover from a previous sample was present in sample number LON-SS05-S01, therefore the PQLs in this sample have been raised by the reviewer and are qualified "J" as estimated and usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 The PQLs in sample number LON-SS05-SD02 have been adjusted by the reviewer for the moisture content of the sample.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large %RSDs for benzene and xylene in the initial calibration, the detected results for these two compounds in some of the project samples are qualified "J" as estimated and are usable for limited purposes.

L.2 Due to carryover in sample number LON-SS05-S01, the PQLs have been adjusted and are qualified "J" as estimated and are usable for limited purposes.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: April 5, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 14 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0417). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-S01	708	Soil
LON-SS05-S02-03	710	Soil
LON-SS05-SD01	712	Soil
LON-SS05-S03	714	Soil
LON-SS05-SD02	716	Soil
LON-SS05-S04-03	718	Soil
LON-SS05-S05	720	Soil
LON-SS05-S07	722	Soil
LON-SS05-SD07	724	Soil
LON-SS05-SD04	726	Soil
LON-SS05-S06-01	728	Soil
LON-SS05-S08-01	730	Soil
LON-SS05-S18-2.5	732	Soil
LON-BKGD-SD01	734	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS05-SD07 and LON-SS05-SD08, which is from chain of custody record no. 0416, were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

It should be noted that all quantitation limits reported by the laboratory for project water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). The correct practical quantitation limits (PQLs) when employing the lowest usable calibration point (50 ppm) should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.2% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 31.2% exceeds the recommended QC criteria of 20.0%. Therefore, the detected results for diesel in all the water samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB01 was designated as an equipment blank.

F.2 Diesel was not detected at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 A QC limit for precision of ≤50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS03-S04 and LON-SS03-S05 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the water matrix spike and matrix spike duplicate analyses.

I.2 All of the matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported diesel in sample LON-SS03-S01 at a concentration of 50 ppm. Since the chromatogram did not support any diesel pattern, it is the opinion of the reviewer that the laboratory inadvertently omitted to insert the "<" before the 50 ppm. The PQL has been corrected on the data summary form by the reviewer.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported incorrect PQLs for sample numbers LON-SS03-S03 and LON-SS03-SD01. The PQLs have been corrected on the data summary forms by the reviewer.

K.4 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in the project water and soil samples at a concentration above the PQL and the results are considered acceptable.

L.2 As discussed above, The PQLs of three soil samples were corrected on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 water sample from the Point Lonely site on August 24, 1993 (referenced chain of custody record No. 418) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 26, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-01	534	Water

The following set of QC sample designations were included in project documentation: sample number LON-EB-01 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blank at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-01 was submitted as an equipment blank.

F.2 PCBs were not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in sample number LON-EB-01.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in sample number LON-EB-01, and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 7 soil samples and 3 water samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 0418). One of the water samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 25 and August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-01	530	Water
LON-SS03-S01	536	Soil
LON-SS03-S02	538	Soil
LON-SS03-S03	540	Soil
LON-SS03-S04	542	Soil
LON-SS03-S05	544	Soil
LON-SS03-SD01	546	Soil
LON-SS03-SD02	548	Soil
LON-SS03-SW01	552	Water
LON-SS03-SW02	554	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS03-S04 and LON-SS03-S05 were designated as field replicates and sample number LON-EB-01 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

B.3 The laboratory analyzed a five point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
ethylbenzene	23.2 %
m & p-xylene	22.6 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-01 was designated as an equipment blank.

F.2 No target analytes were detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-SS03-S04 and LON-SS03-S05 were utilized for field replicate analysis. The results of the field replicate analyses, except for the moisture content of the samples, met all applicable QC criteria and the results are considered

acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS04-S02, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 There were no target analytes detected at a concentration above the PQLs in any of the project samples.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: April 6, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 7 soil samples and 3 water samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 0418). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline USEPA Method 8015M (modified) (GC/FID) on August 25 and August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-01	530	Water
LON-SS03-S01	536	Soil
LON-SS03-S02	538	Soil
LON-SS03-S03	540	Soil
LON-SS03-S04	542	Soil
LON-SS03-S05	544	Soil
LON-SS03-SD01	546	Soil
LON-SS03-SD02	548	Soil
LON-SS03-SW01	552	Water
LON-SS03-SW02	554	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS03-S04 and LON-SS03-S05 were designated as field replicates and sample number LON-EB-01 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the

instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-01 was designated as an equipment blank.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-SS03-S04 and LON-SS03-S05 were utilized for field replicate analyses. The results of the field replicate analyses, except for the moisture content, met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory reported a PQL of 50 ppb for gasoline in the samples associated with this project sample set which were analyzed on system 3-4. Since the low point in the initial calibration on system 3-4 was 100 ppb, the PQL has been raised to 100 ppb for the three water samples.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Since the low calibration standard in the initial calibration on system 3-4 was 100 ppb, the PQL for the samples analyzed on this system has been adjusted accordingly.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil
DATE: March 10, 1994

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 14 soil samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 417) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 26, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-S01	708	Soil
LON-SS05-S02-03	710	Soil
LON-SS05-SD01	712	Soil
LON-SS05-S03	714	Soil
LON-SS05-SD02	716	Soil
LON-SS05-S04-03	718	Soil
LON-SS05-S05	720	Soil
LON-SS05-S07	722	Soil
LON-SS05-SD07	724	Soil
LON-SS05-SD04	726	Soil
LON-SS05-S06-01	728	Soil
LON-SS05-S08-01	730	Soil
LON-SS05-S18-2.5	732	Soil
LON-BKGD-SD01	734	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS05-SD07 and LON-SS05-S08-01 were designated as field replicate samples.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory attempted to perform a 6 point initial calibration curve on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was established with only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent

Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS05-SD07 and LON-SS05-S08-01 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample numbers LON-SS05-S18-2.5 and LON-SS05-SD04 at a concentration of 1300 ppm in each sample.

K.2 The laboratory reported diesel in sample LON-BKGD-SD01 at a concentration of 150 ppm. It is the opinion of the reviewer that the diesel was contaminated with hydrocarbons. Therefore, the reported result was qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported a mixture of diesel and oil at a concentration between 50 ppm and 120 ppm in eight of the samples. It is the opinion of the reviewer that this is unknown hydrocarbon contamination, therefore, the results have been adjusted to the correct PQL levels on the data summary form by the reviewer.

K.4 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.5 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected at a concentration of 1300 ppm in both sample numbers LON-SS05-S18-2.5 and LON-SS05-SD04-03.

L.2 Sample number LON-BKGD-SD01 contained diesel at a concentration of 150 ppm. The result was qualified "J" as estimated and usable for limited purposes by the reviewer due to hydrocarbon contamination present in the sample.

L.3 The laboratory reported a mixture of diesel and oil in eight of the soil

samples. It is the opinion of the reviewer that since it was impossible to distinguish a diesel pattern, the oil and diesel results have been changed to the correct PQLs on the data summary form by the reviewer.

L.4 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY/ DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Pesticides by USEPA Method 8080
MATRIX: Soil
DATE: April 20, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 soil sample from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 417) for pesticide analysis by the pesticide organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for pesticides by USEPA Method 8080 on August 26, 1993.

The ICF site identification number and corresponding FBI laboratory sample identification number is listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SD01	734	Soil

The analytical results for the soil sample were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample

analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.01 ppm to 1.0 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using calibration factors determined from the initial calibration using the ECD detector. The %RSDs for the following target analytes exceeded the recommended QC criteria of 20.0%

Compound	%RSD
Endosulfan II	37.9%
Endrin Aldehyde	30.6%
DDT/Endosulfan Sulfate	32.0%
Endrin Ketone	32.6%

Due to the large percent RSDs, the detected results for these compounds are qualified "J" as estimated and are usable for limited purposes.

Methoxychlor was spiked in at concentrations too low to be detected by the EC detector until the 0.5 ppm initial calibration standard. Therefore, all detected results for this analyte are qualified "R" as rejected and unusable, and the practical quantitation limit (PQL) was raised accordingly for the soil sample.

C. Continuing Calibration:

C.1 No continuing calibrations were analyzed during the sequence with the exception of the column degradation solution containing Endrin and DDT. The stability of the instrument, GC column, and detector were monitored using the Endrin and DDT column degradation solution and the Aroclor 1254 continuing calibration solution. These two solutions were used to check area consistency and surrogate area stability. It is the opinion of the reviewer, that since no pesticide continuing calibration solutions were analyzed, this is the only criteria that can be used to monitor system performance.

Due to the absence of pesticide continuing calibrations, the PQLs for the target analytes in the project method blank and soil sample are qualified "J" as estimated and usable for limited purposes.

D. Laboratory Blanks:

D.1 The laboratory did not report the pesticide results for the method blank associated with this sample set. Reviewing the method blank raw data, the validator reported that target analytes were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Target analytes were not detected in the instrument blank at a concentration

above the PQL for the target analytes, and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analyses with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for analyses with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 No matrix spike and matrix spike duplicate analyses were performed for the pesticide fraction.

J. System Performance:

J.1 The laboratory set up the GC analytical run time on the primary GC column to elute all pesticide analytes within 9 minutes, causing co-elution of numerous pesticides and making identification difficult. A slower temperature program and/or slower carrier gas flow rate would increase resolution for many of the pesticide analytes.

J.2 The Endrin and 4,4'-DDT breakdown met QC criteria and the results are considered acceptable.

J.3 No other problems with system performance were observed for all other project sample analyses.

K. Quantitation and Identification:

K.1 Due to the absence of pesticide continuing calibrations, all PQLs for the target analytes in the project method blank and the sample are qualified "J" as estimated and usable for limited purposes.

K.2 Due to sensitivity problems with methoxychlor in the initial calibration, the PQL for methoxychlor was raised by the reviewer to 0.5 ppm for the soil sample.

K.3 The laboratory did not report the pesticide results for the method blank associated with this sample set. The reviewer, by looking at the raw data from the method blank reported that no target analytes were not detected at a concentration above the PQL for the target analytes, and the results are considered acceptable.

K.4 The laboratory reported incorrect PQLs of 0.01 ppm for the target analytes in the soil sample due to incorrect percent moisture calculation. The PQLs have been corrected to 0.02 ppm on the data summary form by the reviewer.

K.5 No other problems with compound quantitation and identification were observed.

L. Conclusion:

L.1 No target analytes were detected in the method blank or the project soil sample at a concentration above the PQLs for the target analytes.

L.2 Due to the absence of a pesticide continuing calibration, all PQLs for the target analytes in the method blank and sample are qualified "J" as estimated and usable for limited purposes.

L.3 Due to low sensitivity and hydrocarbon interference detected in the initial calibration, the PQL for methoxychlor in the method blank and sample was raised to <0.5 ppm for the soil sample.

L.4 The PQLs for the target analytes in the sample have been corrected on the summary data form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Soil
DATE: April 20, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 soil sample from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 417) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 26, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SD01	734	Soil

The analytical results were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blank at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the PCB fraction. It is not known what effect this will have on the quality of the data.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project samples.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in the project soil sample and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 14 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0417). One of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-S01	708	Soil
LON-SS05-S02-03	710	Soil
LON-SS05-SD01	712	Soil
LON-SS05-S03	714	Soil
LON-SS05-SD02	716	Soil
LON-SS05-S04-03	718	Soil
LON-SS05-S05	720	Soil
LON-SS05-S07	722	Soil
LON-SS05-SD07	724	Soil
LON-SS05-SD04	726	Soil
LON-SS05-S06-01	728	Soil
LON-SS05-S08-01	730	Soil

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-S18-2.5	732	Soil
LON-BKGD-SD01	734	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS05-SD07 and LON-SS05-SD08, which is from chain of custody record no. 0416, were designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low

concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set designated in the project documentation.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field duplicate comparability.

G.2 Samples LON-BKGD-SW01 and LON-BKGD-SW03, which are associated with chain of custody record 0416, were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01 was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-05, which is associated with a different project sample set, was designated as an equipment blank.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-SS05-SD07 and LON-SS05-SD08 (chain of custody record #0416) were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 It is the opinion of the reviewer that carryover contamination from a previous sample was present in sample number LON-SS05-S01. Therefore, the PQL for gasoline in this sample was raised and is qualified "J" as estimated and is usable for limited purposes.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory incorrectly adjusted the PQL for gasoline in sample number LON-SS05-SD02 for moisture content. The PQL has been properly adjusted by the reviewer.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to carryover contamination from a previous sample, the PQL for gasoline in sample number LON-SS05-S01 has been adjusted by the reviewer and is qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 13 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 443) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-SD03	1028	Soil
LON-ST10-SD01	1030	Soil
LON-ST02-S03	1032	Soil
LON-SS09-SD02	1034	Soil
LON-ST02-S04	1036	Soil
LON-ST02-S05	1038	Soil
LON-ST02-S06	1040	Soil
LON-ST02-S07	1042	Soil
LON-ST02-S08	1044	Soil
LON-ST10-SD05	1046	Soil
LON-ST10-SD04	1048	Soil
LON-ST10-S01	1050	Soil
LON-ST10-SD06	1052	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a 3 point initial calibration on GC instrument ICF6 on August 29, 1993. The range of the initial calibration was from 100 ppm to 10,000 ppm. Due to the sensitivity present at the 100 ppm initial calibration standard, the practical quantitation limit (PQL) of 50 ppm does not need to be raised to the low point of this initial calibration (100 ppm). All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 9.04 was calculated using calibration factors determined from the initial calibration, and is within the recommended QC limit of 20.0%. However, since this is only a three point initial calibration curve, the detected results of the associated samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample number LON-ST10-SD03 at a concentration of 650 ppm, sample number LON-ST10-SD01 at a concentration of 390 ppm, sample number LON-ST02-S08 at a concentration of 130 ppm, and sample number LON-ST02-S07 at a concentration of 160 ppm.

K.2 The laboratory reported diesel with oil contamination in sample numbers LON-SS09-D02 at a concentration of 90 ppm and LON-ST10-SD04 at a concentration of 90 ppm. It is the opinion of the reviewer that diesel was not present in the samples because the sample chromatograms did not support the diesel pattern, but did show hydrocarbon contamination. Therefore, the reported results were changed to the appropriate PQLs on the data summary page by the reviewer.

K.3 Because the laboratory only performed a three point initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample number LON-ST10-SD03 at a concentration of 650 ppm, sample number LON-ST10-SD01 at a concentration of 390 ppm, sample number LON-ST02-S08 at a concentration of 130 ppm, and sample number LON-ST02-S07 at a concentration of 160 ppm.

L.2 Because only three points were used to establish the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Soil
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 7 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 443) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-S03	1032	Soil
LON-SS09-SD02	1034	Soil
LON-ST02-S04	1036	Soil
LON-ST02-S05	1038	Soil
LON-ST02-S06	1040	Soil
LON-ST02-S07	1042	Soil
LON-ST02-S08	1044	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for analysis with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project samples.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project soil samples, and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 17, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 13 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0443). Seven of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-SD03	1028	Soil
LON-ST10-SD01	1030	Soil
LON-ST02-S03	1032	Soil
LON-SS09-SD02	1034	Soil
LON-ST02-S04	1036	Soil
LON-ST02-S05	1038	Soil
LON-ST02-S06	1040	Soil
LON-ST02-S07	1042	Soil
LON-ST02-S08	1044	Soil
LON-ST10-SD05	1046	Soil
LON-ST10-SD04	1048	Soil
LON-ST10-S01	1050	Soil
LON-ST10-SD06	1052	Soil

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

B.3 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recovery in sample number LON-ST10-SD04 exceeded the QC acceptance limits, probably due to interference from late eluting hydrocarbons. It is the opinion of the reviewer that this will not have an adverse effect on the quality of the data.

H.2 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-ST10-S01 was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 It is the opinion of the reviewer that carryover contamination from a previous sample was present in the analysis of sample number LON-ST10-SD04. The PQLs for the BTEX compounds have been raised by the laboratory and they are qualified "J" as estimated and are usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 The laboratory did not adjust the PQLs for the moisture content in project sample numbers LON-ST10-SD01, LON-ST02-S03, and LON-ST02-S04. The PQLs have been adjusted for the moisture content on the data summary forms by the reviewer.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to carryover contamination in sample number LON-ST10-SD04, the PQLs have been raised by the reviewer on the data summary form.

L.2 The PQLs in some of the project samples have been adjusted for the soil moisture content on the data summary forms by the reviewer.

L.3 Due to the large % RSDs for some of the target analytes in the initial calibrations, the detected results for these analytes in some of the project samples are qualified "J" as estimated and are usable for limited purposes.

L.4 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 13 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0443). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for gasoline by USEPA Method 8015M (modified) (GC/FID) on August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-SD03	1028	Soil
LON-ST10-SD01	1030	Soil
LON-ST02-S03	1032	Soil
LON-SS09-SD02	1034	Soil
LON-ST02-S04	1036	Soil
LON-ST02-S05	1038	Soil
LON-ST02-S06	1040	Soil
LON-ST02-S07	1042	Soil
LON-ST02-S08	1044	Soil
LON-ST10-SD05	1046	Soil
LON-ST10-SD04	1048	Soil
LON-ST10-S01	1050	Soil
LON-ST10-SD06	1052	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the

instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recovery in sample number LON-ST10-SD04 exceeded the QC acceptance criteria, probably due to interference from late eluting hydrocarbons present in the sample. It is the opinion of the reviewer that this will not have an adverse effect on the quality of the data.

H.2 The surrogate QC recovery criteria were met for all other project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 It is the opinion of the reviewer that carryover contamination from a previous analysis was present in sample number LON-ST10-SD04. Therefore, the detected amount of gasoline has been changed to the PQL by the reviewer and is qualified "J" as estimated and is usable for limited purposes.

J.2 The laboratory reported detected results for diesel fuel in sample numbers LON-ST10-SD01 and LON-ST02-S03. It is the opinion of the reviewer that the chromatographic pattern confirms the presence of late eluting hydrocarbons and the detected result is qualified "J" as estimated and usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory did not adjust the PQL for gasoline in sample numbers LON-ST02-S03 and LON-ST02-S04 for the moisture content of the samples. The PQL for gasoline in these samples has been adjusted for the moisture content by the reviewer on the data summary forms.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to carryover contamination in sample number LON-ST10-SD04, the PQL for gasoline in this sample has been raised to the detected result reported by the laboratory.

L.3 The PQL for gasoline in sample numbers LON-ST02-S03 and LON-ST02-S04 have been adjusted by the reviewer for the moisture content in the samples.

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DATA VALIDATION REPORT

PROGRAM: LONELY POINT / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water
DATE: March 10, 1994

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received six water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 444) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-SW01	1054	Water
LON-ST10-SW02	1058	Water
LON-ST02-SW02	1062	Water
LON-ST02-SW03	1068	Water
LON-ST02-SW04	1072	Water
LON-ST02-SW05	1077	Water

The following QC sample designations were included in project documentation: sample numbers LON-ST02-SW02 and LON-ST02-SW05 were designated as field duplicates

The quantitation limits reported by the laboratory for the water samples (1000 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 6 point initial calibration on GC instrument ICF5 on 8/28/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 41.6% was calculated using calibration factors determined from the initial 5 point calibration. The RSD of 41.6% exceeds the recommended QC criteria of 20.0%, primarily due to the interference in the 50 ppm calibration standard which produced an artificially high calibration factor. A %RSD of 9.8 was obtained using a range of 200 ppm to 10,000 ppm. Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Duplicate Analyses:

G.1 A QC limit for precision of $\leq$20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-ST02-SW02 and LON-ST02-SW05 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable

QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate recoveries were outside the QC criteria in the following samples:

ICF Site No.	Surr. Recovery
LON-ST10-SW01	37%
LON-ST10-SW02	40%
LON-ST02-SW02	50%
LON-ST02-SW03	39%
LON-ST02-SW04	29%

All PQLs in the above samples are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported incorrect PQLs for all of the samples. The PQLs have been corrected on the data summary forms by the reviewer.

K.2 Due to the large percent RSD in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in any of the project water samples at a concentration above the PQL and the results are considered acceptable.

L.2 Surrogate recoveries were outside the acceptable QC criteria in all the sample except for sample number LON-ST02-SW05. The PQLs in the above samples are qualified "J" as estimated and usable for limited purposes.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 4 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 444) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW02	1062	Water
LON-ST02-SW03	1068	Water
LON-ST02-SW04	1072	Water
LON-ST02-SW05	1078	Water

The following QC sample designations were included in project documentation: sample numbers LON-ST02-SW02 and LON-ST02-SW05 were designated as field duplicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Duplicate Analyses:

G.1 A QC limit for precision of $\leq$20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

G.2 Sample numbers LON-ST02-SW02 and LON-ST02-SW05 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate recoveries for sample number LON-ST02-SW02 was 50%, sample number LON-ST02-SW03 was 30%, and sample number LON-ST02-SW04 was 29%, which were outside the applicable QC criteria of 50%-150%. Therefore, all PQLs of the PCBs are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used as the matrix spike/matrix spike duplicate for the project water samples.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project water samples.

K.2 Due to the large percent RSD in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project water samples, and the results are considered acceptable.

L.2 The surrogate recoveries for sample number LON-ST02-SW02 was 50%, sample number LON-ST02-SW03 was 30%, and sample number LON-ST02-SW04 was 29%, which were outside the applicable QC criteria of 50%-150%. Therefore, all PQLs for the PCBs are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water
DATE: March 17, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 6 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0444). Four of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-SW01	1056	Water
LON-ST10-SW02	1060	Water
LON-ST02-SW02	1064	Water
LON-ST02-SW03	1070	Water
LON-ST02-SW04	1074	Water
LON-ST02-SW05	1080	Water

The following QC sample designations were included in project documentation: sample numbers LON-ST02-SW02 and LON-ST02-SW05 were designated as field duplicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of ≤ 20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

G.2 Sample numbers LON-ST10-SW02 and LON-ST10-SW05 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 It is the opinion of the reviewer that carryover contamination from previous analyses was present in sample numbers LON-ST10-SW01 and LON-ST10-SW02. Therefore, the PQLs for the BTEX compounds in these samples have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to carryover contamination in sample numbers LON-ST10-SW01 and LON-ST10-SW02, the PQLs for the BTEX compounds have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely/DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 6 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0444). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-SW01	1056	Water
LON-ST10-SW02	1060	Water
LON-ST02-SW02	1064	Water
LON-ST02-SW03	1070	Water
LON-ST02-SW04	1074	Water
LON-ST02-SW05	1080	Water

The following QC sample designations were included in project documentation: sample numbers LON-ST02-SW02 and LON-ST02-SW05 were designated as field duplicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of $\leq$ 20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

G.2 Sample numbers LON-ST10-SW02 and LON-ST10-SW05 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 445) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW06	1082	Water
LON-LF07-SW01	1088	Water
LON-EB-04	1098	Water

The following QC sample designations were included in project documentation: sample number LON-EB-04 was designated as an equipment blank.

The quantitation limits reported by the laboratory for the water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.2% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 31.2% exceeds the recommended QC criteria of 20.0%. Therefore, the detected results for diesel in all the water samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-04 was designated as an equipment blank.

F.2 Diesel was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 There were no field replicate analyses associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recoveries for sample number LON-ST02-SW06 and LON-LF07-SW01 were 43% and 49%, respectively. Since these two recoveries are outside the acceptable criteria of 50%-150%, the PQLs of both samples are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike and matrix spike duplicate analyses.

I.2 All QC criteria for the matrix spike/matrix spike duplicate were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Due to the large percent RSDs in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.2 The laboratory reported incorrect PQLs (200 ppb) of diesel in all project samples. The lowest calibration standard that was usable was the 50 ppm, therefore, the PQLs should have been reported as 1000 ppb. The PQLs have been adjusted by the validator in the data summary forms submitted by the laboratory.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in the project water samples at a concentration above the PQL.

L.2 The PQLs of all the water samples were adjusted to 1000 ppb on the data summary form by the reviewer.

L.3 The surrogate recoveries for sample numbers LON-ST02-SW06 and LON-LF07-SW01 were 43% and 49%, respectively. Since these two recoveries are outside the acceptable criteria of 50%-150%, the PQLs of both samples are qualified "J" as estimated and usable for limited purposes.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike and matrix spike duplicate analyses.

I.2 All QC criteria for the matrix spike/matrix spike duplicate were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Due to the large percent RSDs in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.2 The laboratory reported incorrect PQLs (200 ppb) of diesel in all project samples. The lowest calibration standard that was usable was the 50 ppm, therefore, the PQLs should have been reported as 1000 ppb. The PQLs have been adjusted by the validator in the data summary forms submitted by the laboratory.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in the project water samples at a concentration above the PQL.

L.2 The PQLs of all the water samples were adjusted to 1000 ppb on the data summary form by the reviewer.

L.3 The surrogate recoveries for sample numbers LON-ST02-SW06 and LON-LF07-SW01 were 43% and 49%, respectively. Since these two recoveries are outside the acceptable criteria of 50%-150%, the PQLs of both samples are qualified "J" as estimated and usable for limited purposes.

L.4 Due to the large percent RSDs in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 445) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW06	1082	Water
LON-LF07-SW01	1088	Water
LON-EB-04	1098	Water

The following QC sample designations were included in project documentation: sample number LON-EB-04 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample

analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-04 was designated as an equipment blank. PCBs were not detected in the field blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for analysis with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recoveries for sample number LON-ST02-SW06 was 43%, and sample number LON-LF07-SW01 was 49%, which were outside the applicable QC criteria of 50%-150%. Therefore, the PQLs of the PCBs are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike/matrix spike duplicate analyses.

I.2 All QC criteria for the matrix spike/matrix spike duplicate were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project water samples.

K.2 Due to the large percent RSD in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project water samples.

L.2 The surrogate recoveries for sample number LON-ST02-SW06 was 43%, and sample number LON-LF07-SW01 was 49%, which were outside the applicable QC criteria of 50%-150%. Therefore, the PQLs of the PCBs in these two samples are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water
DATE: March 19, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 5 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0445). All of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW06	1084	Water
LON-LF07-SW01	1090	Water
LON-TB-04	1092	Water
LON-AB-02	1094	Water
LON-EB-04	1100	Water

The following QC sample designations were included in project documentation: sample number LON-TB-04 was designated as a trip blank, sample number LON-AB-02 was designated as an ambient condition blank, and sample number LON-EB-04 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-04 was designated as an equipment blank, sample number LON-AB-02 was designated as an ambient condition blank, and sample number LON-TB-04 was designated as a trip blank in the project documentation.

F.2 Benzene, toluene, and ethylbenzene were detected in the equipment blank at concentrations of 2 ppb, probably due to carryover contamination from a previous analysis. The PQLs for these analytes have been raised by the reviewer to the reported detected amounts.

F.3 No target analytes were detected in the ambient condition blank at a concentration above the PQL and the results are considered acceptable.

F.4 The BTEX compounds were detected in the trip blank at a concentration above the PQLs, probably due to carryover contamination from a previous analysis. The PQLs for the BTEX compounds have been raised by the reviewer to the reported detected amounts of these analytes.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01, which was associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 It is the opinion of the reviewer that carryover contamination from a previous analysis was present in project sample numbers LON-LF07-SW01, LON-TB-04, and LON-EB-04. Therefore, the PQLs in these samples have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 The detected amounts of toluene and xylene in sample number LON-ST02-SW06 were outside the calibration range of the instrument and the laboratory did not perform a diluted analysis on the sample. Therefore, the detected amounts of these analytes are qualified "J" as estimated and are usable for limited purposes.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large % RSDs for benzene and xylene in the initial calibration, the detected amount of these analytes in sample number LON-ST02-SW06 are qualified "J" as estimated and are usable for limited purposes.

L.2 Due to carryover contamination in some of the project samples, the PQLs have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water
DATE: March 19, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 5 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0445). All of the samples required analysis for Gasoine by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for gasoline by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW06	1084	Water
LON-LF07-SW01	1090	Water
LON-TB-04	1092	Water
LON-AB-02	1094	Water
LON-EB-04	1100	Water

The following QC sample designations were included in project documentation: sample number LON-TB-04 was designated as a trip blank, sample number LON-AB-02 was designated as an ambient condition blank, and sample number LON-EB-04 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the

Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-04 was designated as an equipment blank, sample number LON-AB-02 was designated as an ambient condition blank, and sample number LON-TB-04 was designated as a trip blank in the project documentation.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

F.3 Gasoline was not detected in the ambient condition blank at a concentration above the PQL and the results are considered acceptable.

F.4 Gasoline was not detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 4 soil samples and 3 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 446) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS13-SD03	1102	Soil
LON-SS13-SD01	1104	Soil
LON-SS13-S01	1106	Soil
LON-SS13-SD02	1108	Soil
LON-SS13-SW01	1110	Water
LON-SS13-SW02	1114	Water
LON-SS13-SW03	1118	Water

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the water samples (1000 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher

than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a 3 point initial calibration on GC instrument ICF6 on August 29, 1993. The range of the initial calibration was from 100 ppm to 10,000 ppm. Due to the sensitivity present at the 100 ppm initial calibration standard, the practical quantitation limit (PQL) of 50 ppm does not need to be raised to the low point of this initial calibration (100 ppm). All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 9.04 was calculated using calibration factors determined from the initial calibration, and is within the recommended QC limit of 20.0%. However, since only three points were used to establish the initial calibration curve, the detected results of the associated samples are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory analyzed a 6 point initial calibration on GC instrument ICF5 on 8/28/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 41.6% was calculated using calibration factors determined from the initial 5 point calibration. The RSD of 41.6% exceeds the recommended QC criteria of 20.0%, primarily due to the interference in the 50 ppm calibration standard which produced an artificially high calibration factor. A %RSD of 9.8 was obtained using a range of 200 ppm to 10,000 ppm. Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recovery was 41% in sample number LON-SS13-SW01 and 50% in sample number LON-SS13-SW03, which is outside the QAPP required QC limits of 50%-150% recovery. The detected results in this sample are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample LON-SS13-SD02 at a concentration of 190 ppm.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 Because the laboratory only performed a three point initial calibration, the detected results for diesel in the water project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 The laboratory reported incorrect PQLs for all the water samples. The PQLs have been corrected on the data summary forms by the reviewer.

K.5 The laboratory reported diesel with oil contamination in sample numbers LON-SS13-SD03 and LON-SS13-SD01 at 100 ppm and 150 ppm respectively. It is the opinion of the reviewer that diesel was not present in the samples because the

sample chromatogram did not support the diesel pattern, but did show hydrocarbon contamination. Therefore, the reported results were changed to the appropriate PQL on the data summary form by the reviewer.

K.6 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample LON-SS13-SD02 at a concentrations of 190 ppm.

L.2 Because only three points were used to establish the initial calibration curve, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.4 The PQLs for all the water sample have been changed to 1000 ppb on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 30, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 3 water samples and 4 soil samples from the Point Lonely site on August 29, 1993 (referenced chain of custody record No. 0446). All of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for the BTEX compounds by USEPA Method 8020 on August 28 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS13-SD03	1102	Soil
LON-SS13-SD01	1104	Soil
LON-SS13-S01	1106	Soil
LON-SS13-SD02	1108	Soil
LON-SS13-SW01	1112	Water
LON-SS13-SW02	1116	Water
LON-SS13-SW03	1120	Water

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recovery for sample number LON-SS13-SD02 exceeded the QC acceptance criteria, possibly due to interference from late eluting hydrocarbons which the laboratory has identified as diesel fuel. It is the opinion of the reviewer that this will not have an adverse effect on the quality of the data.

H.2 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 The laboratory did not adjust the PQLs for the BTEX compounds for moisture content in sample number LON-SS13-SD01. The PQLs for these compounds in this sample have been adjusted by the reviewer on the data summary form.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to late eluting hydrocarbons in sample number LON-SS13-SD02, the surrogate recovery exceeded the QC acceptance criteria. It is the opinion of the reviewer that this will not have an adverse effect on the quality of the data.

L.2 Due to large % RSDs for some of the BTEX compounds in the initial calibrations, the detected results for these analytes in some of the project samples have been qualified "J" as estimated and are usable for limited purposes.

L.3 The PQLs for the BTEX compounds in sample number LON-SS13-SD01 have been properly adjusted by the reviewer for the moisture content in the sample.

L.4 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 30, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 3 water samples and 4 soil samples from the Point Lonely site on August 29, 1993 (referenced chain of custody record No. 0446). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 28 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS13-SD03	1102	Soil
LON-SS13-SD01	1104	Soil
LON-SS13-S01	1106	Soil
LON-SS13-SD02	1108	Soil
LON-SS13-SW01	1112	Water
LON-SS13-SW02	1116	Water
LON-SS13-SW03	1120	Water

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 The PQL for gasoline in sample number LON-SS13-SD01 has been properly adjusted for the moisture content of the sample by the reviewer on the data summary form.

L.3 Due to the presence of late eluting hydrocarbons in sample number LON-SS13-SD02, the detected result has been qualified "J" as estimated and is usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 13 soil samples from the Point Lonely site on September 4, 1993 (referenced chain of custody record No. 483) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on September 9, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-2S16-1	1780	Soil
LON-SS01-2S17-1	1781	Soil
LON-SS01-2S18-1	1782	Soil
LON-SS01-2S19	1783	Soil
LON-SS01-2S20	1784	Soil
LON-SS01-2S21-1.5	1786	Soil
LON-SS05-2S19-3	1787	Soil
LON-SS05-2SD09	1788	Soil
LON-SS05-2SD10	1789	Soil
LON-SS05-2SD11	1790	Soil
LON-SS05-2SD12	1791	Soil
LON-SS05-2SD13	1792	Soil
LON-SS05-2SD14	1793	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recovery in sample number LON-SS13-SD02 exceeded the QC acceptance criteria, possibly due to interference from late eluting hydrocarbons which the laboratory has identified as diesel fuel. It is the opinion of the reviewer that this will not have an adverse effect on the quality of the data.

H.2 The surrogate QC recovery criteria were met for all other project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory did not adjust the PQL for gasoline for moisture content in sample number LON-SS13-SD01. The PQL for gasoline in this sample has been properly adjusted for moisture content on the data summary form by the reviewer.

K.2 The laboratory reported a detected result in sample number LON-SS13-SD02 and identified it as diesel fuel. It is the opinion of the reviewer that the chromatographic pattern confirms the presence of late eluting hydrocarbons, therefore, the detected result has been qualified "J" as estimated and is usable for limited purposes.

K.3 No other problems were observed with compound quantitation and identification.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF6 on 9/2/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 28.0% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 28.0% exceeds the recommended QC criteria of 20.0% Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples associated with this initial calibration are qualified "J" as estimated and usable for limited purposes. Note that if height instead of area responses are used to calculate calibration factors, the initial calibration %RSD criteria are acceptable. Also note that if the low point of the calibration curve is disregarded, the %RSD of the 5 point curve becomes 12.8%, which is acceptable.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported diesel in sample numbers LON-SS01-2S19, LON-SS05-2SD13, and LON-SS05-2SD14 at concentrations of 7500 ppm, 140 ppm and 310 ppm, respectively. It is the opinion of the reviewer that the correct diesel concentrations in sample numbers LON-SS01-2S19, LON-SS05-2SD13 and LON-SS05-2SD14 should be 6600 ppm, 80 ppm, and 220 ppm respectively.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported incorrect PQLs for sample numbers LON-SS01-2S21-1.5, LON-SS05-2S19-3 and LON-SS05-2SD12. The PQLs have been corrected on the data summary forms by the reviewer.

K.4 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected sample numbers LON-SS01-2S19, LON-SS05-2SD13 and LON-SS05-2SD14 at concentrations of 6600 ppm, 80 ppm, and 220 ppm, respectively.

L.2 The PQLs for sample numbers LON-SS01-2S21-1.5, LON-SS05-2S19-3 and LON-SS05-2SD12 were adjusted on the data summary form by the reviewer.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 13 soil samples from the Point Lonely site on September 4, 1993 (referenced chain of custody record No. 0483). One of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the sample for the BTEX compounds by USEPA Method 8020 on September 7, 1993.

The ICF site identification number and corresponding FBI laboratory sample identification number for the sample requiring BTEX analysis are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-2S21-1.5	1786	Soil

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil sample were reported with an adjustment for moisture content.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number BUL-AOC11-2S06, which is associated with a different

project sample set from a different DEW Line site, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 There were no target analytes detected at a concentration above the PQLs in the project sample.

L.2 All data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 13 soil samples from the Point Lonely site on September 4, 1993 (referenced chain of custody record No. 0483). One of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the sample for Gasoline by USEPA Method 8015M (modified) (GC/FID) on September 7, 1993.

The ICF site identification number and corresponding FBI laboratory sample identification number for the sample requiring gasoline analysis are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-2S21-1.5	1786	Soil

The analytical results for the soil sample was reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as

required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for the project sample and the result is considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the PQL for gasoline in the project sample and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 7 soil samples and 1 water sample from the Point Lonely site on September 4, 1993 (referenced chain of custody record No. 482) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on September 8, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS04-2SD03	1795	Soil
LON-EB-05	1796	Water
LON-ST02-2S09-1.5	1800	Soil
LON-ST02-2S10-1	1802	Soil
LON-ST02-2S11-1	1804	Soil
LON-SS03-2S06	1806	Soil
LON-SS03-2S07	1808	Soil

Sample LON-SS04-2S03 was listed on the chain-of-custody, but was not reported by the laboratory.

The following sample designations were included in project documentation: sample numbers LON-2SS03-2S06 and LON-SS03-2S07 were designated as field replicates, and sample number LON-EB-08 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF6 on 9/2/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 28.0% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 28.0% exceeds the recommended QC criteria of 20.0% Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples associated with this initial calibration are qualified "J" as estimated and usable for limited purposes. Note that if height instead of area responses are used to calculate calibration factors, the initial calibration %RSD criteria are acceptable. Also note that if the low point of the calibration curve is disregarded, the %RSD of the 5 point curve becomes 12.8%, which is acceptable.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-05 was designated as an equipment blank.

F.2 Diesel was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 A QC limit for precision of ≤50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS03-2S06 and LON-SS03-2S07 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Sample BUL-0T04-2S06, which is not part of this project sample set, was analyzed as the soil matrix spike/matrix spike duplicate for chain of custody 570.

I.2 All of the matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported diesel in sample number LON-2T02-2S06 and LON-2T02-2S07 at concentrations of 40,000 ppm and 45,000 ppm, respectively. The reviewer calculated the results to be 15,200 ppm and 13,700 ppm, respectively. The results have been corrected on the data summary forms by the reviewer.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported incorrect PQLs for sample numbers LON-2T02-2S10-1 and LON-2T02-2S11-1. The PQLs have been corrected on the data summary forms by the reviewer.

K.4 The laboratory incorrectly reported sample numbers LON-SS03-2S06 and LON-SS03-2S07 as LON-2T02-2S06 and LON-2T02-2S07, respectively, on the data summary form. They have been corrected by the reviewer.

K.5 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample numbers LON-2T02-2S06 at a concentration of 15,200 ppm and in LON-2T02-2S07 at a concentration of 13,700 ppm.

L.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.3 The PQLs for sample numbers LON-2T02-2S10-1 and LON-2T02-2S11-1 were corrected on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 1 water sample and 7 soil samples from the Point Lonely site on September 4, 1993 (referenced chain of custody record No. 0482). The water sample required analysis for the halogenated volatile organic compounds (HVOCs), and the water and five of the soil samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on September 7, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-05	1798	Water
LON-ST02-2S09-1.5	1800	Soil
LON-ST02-2S10-01	1802	Soil
LON-ST02-2S11-01	1804	Soil
LON-SS03-2S06	1806	Soil
LON-SS03-2S07	1808	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS03-2S06 and LON-SS03-2S07 were designated as field replicates and sample number LON-EB-05 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is

saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-05 was designated as an equipment blank in the project documentation.

F.2 No target analytes were detected in the equipment blank at a concentration above the PQLs and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS03-2S06 and LON-SS03-2S07 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number BUL-AOC11-2S06, which is associated with a different project sample set from a different site, was used for the soil matrix spike/matrix spike duplicate analyses, and method blank water was used for the water matrix spike/matrix spike duplicate analyses.

I.2 All of the soil matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

I.3 All of the water matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 The laboratory raised the PQLs in sample number LON-ST02-2S11-1 because of possible carryover contamination from a previous analysis. It is the opinion of the reviewer that carryover contamination was present in this sample, therefore, the PQLs are qualified "J" as estimated and are usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to possible carryover contamination in sample number LON-ST02-2S11-1, the PQLs for the target analytes were raised by the laboratory and the PQLs are qualified "J" as estimated and are usable for limited purposes.

L.2 Due to the large % RSDs for some of the target analytes in the initial calibration, the detected results for these analytes in some of the project samples are qualified "J" as estimated and are usable for limited purposes.

L.3 The laboratory mislabeled some of the project samples on the data summary forms. The correct sample numbers have been entered on the data summary forms by the reviewer.

L.4 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 1 water sample and 7 soil samples from the Point Lonely site on September 4, 1993 (referenced chain of custody record No. 0482). The water sample and five of the soil samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on September 7, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-05	1798	Water
LON-ST02-2S09-1.5	1800	Soil
LON-ST02-2S10-01	1802	Soil
LON-ST02-2S11-01	1804	Soil
LON-SS03-2S06	1806	Soil
LON-SS03-2S07	1808	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS03-2S06 and LON-SS03-2S07 were designated as field replicates and sample number LON-EB-05 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-05 was designated as an equipment blank in the project documentation.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-SS03-2S06 and LON-SS03-2S07 were utilized for field replicate analysis. The laboratory reported detected results in both of the samples and indicated that the detected results are due to diesel fuel. It is the opinion of the reviewer that the detected results are due to late eluting hydrocarbons and gasoline is not present in the samples. Since there is no gasoline present in the samples, the results of the field replicate analyses are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 The laboratory reported a detected result for gasoline in sample number LON-ST02-2S09-1.5 and indicated that the detected result is due to carryover contamination. It is the opinion of the reviewer that the detected result is due to carryover, therefore, the PQL for gasoline has been raised by the reviewer and is qualified "J" as estimated and usable for limited purposes.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory reported detected results in sample numbers LON-ST02-2S11-1, LON-SS02-2S06, and LON-SS02-2S07, and indicated that the detected results are due to the presence of diesel fuel. It is the opinion of the reviewer that late eluting hydrocarbons are present in these samples and the detected results for gasoline are qualified "J" as estimated and are usable for limited purposes.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to the presence of late eluting hydrocarbons in some of the project samples, the detected results for gasoline are qualified "J" as estimated and are usable for limited purposes.

L.3 Due to carryover contamination in sample number LON-ST02-2S09-1.5, the PQL for gasoline in this sample has been raised by the reviewer and is qualified "J" as estimated and is usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 water sample from the Point Lonely site on September 8, 1993 (referenced chain of custody record No. 588) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on September 10, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-W01	1906	Water

The quantitation limits reported by the laboratory for the water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample

analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF6 on 9/2/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 28.0% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 28.0% exceeds the recommended QC criteria of 20.0% Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples associated with this initial calibration are qualified "J" as estimated and usable for limited purposes. Note that if height instead of area responses are used to calculate calibration factors, the initial calibration %RSD criteria are acceptable. Also note that if the low point of the calibration curve is disregarded, the %RSD of the 5 point curve becomes 12.8%, which is acceptable.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blank at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike/matrix spike duplicate samples.

I.2 All of the matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Sample number LON-W01 displayed hydrocarbon contamination, but at a level below the PQL.

k.2 Due to the large percent RSD in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in the project water sample at a concentration above the PQL and the results are considered acceptable.

L.2 Due to the large percent RSD in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and Water
DATE: March 10, 1994

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 11 soil samples and 1 water sample from the Point Lonely site on September 5, 1993 (referenced chain of custody record No. 486) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on September 10, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-2S04	1756	Soil
LON-SS09-2S06	1758	Soil
LON-SS09-2S07	1760	Soil
LON-SS12-2SW02	1761	Water
LON-SS12-2S04	1762	Soil
LON-SS12-2SD02	1763	Soil
LON-SS13-2SD04	1764	Soil
LON-SS13-2SD05	1765	Soil
LON-SS13-2SD06	1766	Soil
LON-ST10-2SD02	1767	Soil
LON-ST10-2SD08	1768	Soil
LON-ST10-2SD09	1770	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the water samples (1000 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF6 on 9/2/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 28.0% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 28.0% exceeds the recommended QC criteria of 20.0% Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples associated with this initial calibration are qualified "J" as estimated and usable for limited purposes. Note that if height instead of area responses are used to calculate calibration factors, the initial calibration %RSD criteria are acceptable. Also note that if the low point of the calibration curve is disregarded, the %RSD of the 5 point curve becomes 12.8%, which is acceptable.

B.2 The laboratory analyzed a 6 point initial calibration on GC instrument ICF5 on 8/28/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 41.6% was calculated using calibration factors determined from the initial 5 point calibration. The RSD of 41.6% exceeds the recommended QC criteria of 20.0%, primarily due to the interference in the 50 ppm calibration standard which produced an artificially high calibration factor. A %RSD

of 9.8 was obtained using a range of 200 ppm to 10,000 ppm. Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.2 The laboratory reported incorrect PQLs for sample numbers LON-SS13-2SD04, LON-SS13-2SD05 and LON-ST10-2SD09. The PQLs have been corrected on the data summary forms by the reviewer.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in any of the project soil and water samples at a

concentration above the PQL, and the results are considered acceptable.

L.2 The PQLs for sample numbers LON-SS13-2SD04, LON-SS13-2SD05 and LON-ST10-2SD09 were corrected on the data summary forms by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 1 water sample and 10 soil samples from the Point Lonely site on September 5, 1993 (referenced chain of custody record No. 0486). Three of the soil samples required analysis for the halogenated volatile organic compounds (HVOCs) and the BTEX compounds, and one of the soil sample required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on September 7, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers for the samples which required analysis are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-2S04	1756	Soil
LON-SS09-2S06	1758	Soil
LON-SS09-2S07	1760	Soil
LON-ST10-2SD09	1770	Soil

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number BUL-AOC11-2S06, which is associated with a different project sample set from a different DEW Line site, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 There were no target analytes detected at a concentration above the PQLs in any of the project samples.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 1 water sample and 10 soil samples from the Point Lonely site on September 5, 1993 (referenced chain of custody record No. 0486). Four of the soil samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on September 7, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers for the samples which required analysis are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-2S04	1756	Soil
LON-SS09-2S06	1758	Soil
LON-SS09-2S07	1760	Soil
LON-ST10-2SD09	1770	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY/ DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 5 soil samples and 1 water sample from the Point Lonely site on September 5, 1993 (referenced chain of custody record No. 487) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on September 10, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST10-2S05	1771	Soil
LON-ST10-2S03	1772	Soil
LON-ST10-2SD03	1773	Soil
LON-EB-08	1774	Water
LON-LF07-2S08	1778	Soil
LON-LF07-2S09	1779	Soil

The following sample designations were included in project documentation: sample numbers LON-EB-08 was designated as an equipment blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a 3 point initial calibration on GC instrument ICF6 on September 9, 1993. The range of the initial calibration was from 100 ppm to 10,000 ppm. Due to the sensitivity present at the 100 ppm initial calibration standard, the practical quantitation limit (PQL) of 50 ppm does not need to be raised to the low point of this initial calibration (100 ppm). A percent relative standard deviation (%RSD) of 44.5% was calculated using calibration factors determined from the initial calibration. The laboratory did not correctly quantitate the three initial calibration standards, causing the high percent RSD. Since only three points were used to establish the initial calibration curve, and the %RSD is outside the QC criteria, all detected results are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory analyzed a 6 point initial calibration on GC instrument ICF5 on 8/28/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 41.6% was calculated using calibration factors determined from the initial 5 point calibration. The RSD of 41.6% exceeds the recommended QC criteria of 20.0%, primarily due to the interference in the 50 ppm calibration standard which produced an artificially high calibration factor. A %RSD of 9.8 was obtained using a range of 200 ppm to 10,000 ppm. Since the initial calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-08 was designated as an equipment blank.

F.2 Diesel was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 There were no field blank analyses associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported an incorrect PQL for sample number LON-ST10-2S03. The PQL has been corrected on the data summary form by the reviewer.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in any of the project water and soil samples at a concentration above the PQL and the results are considered acceptable.

L.2 The PQL for sample number LON-ST10-2S03 has been corrected on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM:	Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY:	Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER:	Keith Strout
ANALYSIS:	HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX:	Water
DATE:	March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 1 water sample and 4 soil samples from the Point Lonely site on September 9, 1993 (referenced chain of custody record No. 0487). Only the water sample required analysis for the halogenated volatile organic compounds (HVOCs) and the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the sample for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on September 9, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-08	1776	Water

The following QC sample designation was included in project documentation: sample number LON-EB-08 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-08 was designated as an equipment blank in the project documentation.

F.2 No target analytes were detected in the equipment blank at a concentration above the PQLs and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Method blank water was used for the water matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 There were no target analytes detected at a concentration above the PQLs in the project sample.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 1 water sample and 4 soil samples from the Point Lonely site on September 9, 1993 (referenced chain of custody record No. 0487). Only the water sample required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the sample for Gasoline by USEPA Method 8015M (modified) (GC/FID) on September 9, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-08	1776	Water

The following QC sample designation was included in project documentation: sample number LON-EB-08 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-08 was designated as an equipment blank in the project documentation.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project sample analyses and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the PQL for gasoline in the project sample and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water
DATE: March 10, 1994

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 7 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 420) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-SW01	917	Water
LON-SS01-SW02	921	Water
LON-SS01-SW03	925	Water
LON-SS01-SW04	929	Water
LON-SS01-SW05	933	Water
LON-SS01-SW06	937	Water
LON-EB03	942	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS01-SW01 and LON-SS01-SW06 were designated as field duplicates, and sample number LON-EB03 was designated as an equipment blank.

The quantitation limits reported by the laboratory for the water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.2% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 31.2% exceeds the recommended QC criteria of 20.0%. Therefore, the detected results for diesel in all the water samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-03 was designated as an equipment blank.

F.2 Diesel was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analyses:

G.1 A QC limit for precision of $\leq$20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

G.2 Sample numbers LON-SS01-SW01 and LON-SS01-SW06 were utilized for

field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike and matrix spike duplicate analyses. The percent recovery for the MS was 43% and the percent recovery for the MSD was 35%, both outside the QC criteria of 50-150%. It is not known what effect this will have on the quality of the data.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.2 The laboratory reported incorrect PQLs (200 ppb) of diesel in all project samples. The lowest calibration standard that was usable was the 50 ppm, therefore, the PQLs should have been reported as 1000 ppb. The PQLs have been adjusted by the validator in the data summary forms submitted by the laboratory.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in the project water samples at a concentration above the PQL.

L.2 The PQLs of all the water samples were corrected on the data summary forms by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 water sample from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 420) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-EB-03	942	Water

The following set of QC sample designations were included in project documentation: sample number LON-EB-03 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blank at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-03 was submitted as an equipment blank for this project sample set.

F.2 PCBs were not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for PCB analysis with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in sample number LON-EB-03.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L1. PCBs were not detected at concentrations above the PQL of the PCBs in sample number LON-EB-03, and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water
DATE: March 12, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 7 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0420). One of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-SW01	918	Water
LON-SS01-SW02	922	Water
LON-SS01-SW03	928	Water
LON-SS01-SW04	932	Water
LON-SS01-SW05	936	Water
LON-SS01-SW06	940	Water
LON-EB-03	944	Water

The laboratory did not report any results for sample number LON-SS01-SW05. The following QC sample designations were included in project documentation: sample numbers LON-SS01-SW01 and LON-SS01-SW06 were designated as field duplicates and sample number LON-EB-03 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
ethylbenzene	23.2 %
m & p-xylene	22.6 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration

above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-03 was designated as an equipment blank.

F.2 No target analytes were detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of $\leq$ 20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

G.2 Samples LON-SS01-SW01 and LON-SS01-SW06 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-LF07-S05, which is a soil associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses. The laboratory did not submit results for water matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large % RSD for some of the analytes in the initial calibration, the detected results for these analytes are qualified "J" as estimated and are usable for limited purposes.

L.2 The laboratory did not report the results for sample number LON-SS01-SW05.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 29, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 7 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0420). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-SW01	918	Water
LON-SS01-SW02	922	Water
LON-SS01-SW03	928	Water
LON-SS01-SW04	932	Water
LON-SS01-SW05	936	Water
LON-SS01-SW06	940	Water
LON-EB-03	944	Water

The laboratory did not report any results for sample number LON-SS01-SW05. The following QC sample designations were included in project documentation: sample numbers LON-SS01-SW01 and LON-SS01-SW06 were designated as field duplicates and sample number LON-EB-03 was designated as an equipment blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-EB-03 was designated as an equipment blank.

F.2 Gasoline was not detected in the equipment blank at a concentration above the PQL and the results are considered acceptable.

G. Field Duplicate Analysis:

G.1 A QC limit for precision of ≤ 20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

G.2 Samples LON-SS01-SW01 and LON-SS01-SW06 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water and soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples and 3 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 421) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-SW01	892	Water
LON-LF11-SW02	896	Water
LON-LF11-SW03	902	Water
LON-LF07-S05	910	Soil
LON-LF07-S06	912	Soil
LON-LF07-S02	914	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the water samples (200 ppb) were lower than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher

than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.2% was calculated using calibration factors determined from the initial 6 point calibration. The %RSD of 31.2% exceeds the recommended QC criteria of 20.0%. Therefore, the detected results for diesel in all the water samples are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory attempted to perform a 6 point initial calibration curve on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the

PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate analyses associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used by the laboratory for the matrix spike/matrix spike duplicate analyses. The percent recovery for the MS was 43% and the percent recovery for the MSD was 35%, both outside the QC criteria of 50-150%. It is not know what effect this will have on the data.

I.2 All of the soil matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 The laboratory reported diesel in sample LON-LF07-S06 at a concentration of 270 ppm. It is the opinion of the reviewer that lube oil is also present in the sample with the diesel. Therefore, the result is qualified "J" as estimated and usable for limited purposes.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported incorrect PQLs for the three water samples. The PQLs have been corrected on the data summary forms by the reviewer.

K.4 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to lube oil contamination, the diesel concentration of 270 ppm in sample number LON-LF07-S06 was qualified "J" as estimated and usable for limited purposes.

L.2 The PQLs of the three water samples were corrected to 1000 ppb on the data summary forms by the reviewer.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Soil and Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 water samples and 3 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 421) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-SW01	892	Water
LON-LF11-SW02	896	Water
LON-LF11-SW03	902	Water
LON-LF07-SO5	910	Soil
LON-LF07-S06	912	Soil
LON-LF07-S02	914	Soil

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for analysis with this project sample set.

H. Surrogate Recoveries:

H.1 The surrogate recovery for sample number LON-LF11-SW01 was 36%, which is outside the applicable QC criteria of 50%-150%. Therefore, the PQLs are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met applicable QC criteria and the results are

considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used for the water matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project samples.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project soil and water samples, and the results are considered acceptable.

L.2 Due to a low surrogate recovery in sample number LON-LF11-SW01, all PQLs of the PCBs are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 14, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 3 soil samples and 5 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0421). All of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-SW01	894	Water
LON-LF11-SW02	898	Water
LON-LF11-SW03	904	Water
LON-AB-01	906	Water
LON-LF07-S05	910	Soil
LON-LF07-S06	912	Soil
LON-LF07-S02	914	Soil
LON-TB-03	916	Water

The following QC sample designations were included in project documentation: sample number LON-AB-01 was designated as an ambient condition blank and sample number LON-TB-03 was designated as a trip blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
ethylbenzene	23.2 %
m & p-xylene	22.6 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-AB-01 was designated as an ambient condition blank and sample number LON-TB-03 was designated as a trip blank.

F.2 No target analytes were detected in the ambient condition blank at a concentration above the PQL and the results are considered acceptable.

F.3 No target analytes were detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS01-S10-4, which is associated with another project sample set from this site, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound

identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large % RSDs for some of the analytes in the initial calibration, the detected results for these analytes are qualified "J" as estimated and are usable for limited purposes.

L.2 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 3 soil samples and 5 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0421). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-SW01	894	Water
LON-LF11-SW02	898	Water
LON-LF11-SW03	904	Water
LON-AB-01	906	Water
LON-LF07-S05	910	Soil
LON-LF07-S06	912	Soil
LON-LF07-S02	914	Soil
LON-TB-03	916	Water

The following QC sample designations were included in project documentation: sample number LON-AB-01 was designated as an ambient condition blank and sample number LON-TB-03 was designated as a trip blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-AB-01 was designated as an ambient condition blank and sample number LON-TB-03 was designated as a trip blank.

F.2 Gasoline was not detected in the ambient condition blank at a concentration above the PQL and the results are considered acceptable.

F.3 Gasoline was not detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with project sample set.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for other project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil
DATE: March 10, 1994

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 12 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 422) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-S01	946	Soil
LON-LF11-S02	948	Soil
LON-LF11-S03	950	Soil
LON-LF11-S04	952	Soil
LON-LF11-S05	954	Soil
LON-LF11-SD01	956	Soil
LON-LF11-SD02	958	Soil
LON-LF11-SD03	960	Soil
LON-ST02-S02	962	Soil
LON-ST02-S01-3	964	Soil
LON-LF07-S03	966	Soil
LON-LF07-S04	968	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF11-S01 and LON-LF11-S05 were designated as field replicate samples.

The analytical results for the soil samples were reported with an adjustment for moisture

content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory attempted to perform a 6 point initial calibration curve on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq$50%, as measured by Relative Percent

Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-LF11-S01 and LON-LF11-S05 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Sample LON-ST10-S01, which is not part of this project sample set but is from the Point Lonely site was analyzed as the soil matrix spike/matrix spike duplicate for chain of custody 422.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample number LON-ST02-S01-3 at a concentration of 1000 ppm.

K.2 The laboratory reported diesel in sample number LON-LF07-S04 at a concentration of 80 ppm. It is the opinion of the reviewer that diesel was present in the sample but is also contaminated with lube oil, resulting in a result biased high. Therefore, the result is qualified "J"as estimated and usable for limited purposes.

K.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 The laboratory reported incorrect PQLs for sample numbers LON-LF11-S02, LON-LF11,S03 and LON-LF11-S04. The PQLs have been corrected on the data summary forms by the reviewer.

K.5 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample number LON-ST02-S01-3 at a concentration of 1000 ppm and sample number LON-LF07-S04 at a concentration of 80 ppm.

L.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable

for limited purposes.

L.3 The PQLs of three soil samples have been adjusted on the data summary forms by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Soil
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 12 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 422) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-S01	946	Soil
LON-LF11-S02	948	Soil
LON-LF11-S03	950	Soil
LON-LF11-S04	952	Soil
LON-LF11-S05	954	Soil
LON-LF11-SD01	956	Soil
LON-LF11-SD02	958	Soil
LON-LF11-SD03	960	Soil
LON-ST02-S02	962	Soil
LON-ST02-S01-3	964	Soil
LON-LF07-S03	966	Soil
LON-LF07-S04	968	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF11-S01 and LON-LF11-S05 were designated as field replicate samples.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq 50\%$, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-LF11-S01 and LON-LF11-S05 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project samples.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the project soil samples, and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Pesticides by USEPA Method 8080
MATRIX: Soil
DATE: April 22, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 soil sample from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 422). One soil sample was requested for pesticide analysis by the pesticide organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for pesticides by USEPA Method 8080 on August 28, 1993.

The ICF site identification number and corresponding FBI laboratory sample identification number is listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-S03	950	Soil

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.01 ppm to 1.0 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using calibration factors determined from the initial calibration using the EC detector. The %RSDs for the following target analytes exceeded the recommended QC criteria of 20.0%

Compound	%RSD
Endosulfan II	38%
Endrin Aldehyde	31%
DDT/Endo. Sulfate	32%

Due to the large percent RSDs, the detected results for these compounds are qualified "J" as estimated and are usable for limited purposes.

Methoxychlor was spiked in at concentrations too low to be detected by the ECD except for the 0.5 ppm initial calibration. Therefore, all detected results for this analyte are qualified "R" as rejected and unusable, and the practical quantitation limit (PQL) is raised to <0.5 ppm.

C. Continuing Calibration:

C.1 No continuing calibrations were analyzed during the sequence with the exception of the column degradation solution containing Endrin and DDT. The stability of the instrument, GC column, and detector were monitored using the Endrin and DDT column degradation solution and the Aroclor 1254 continuing calibration solution. These two solutions were used to check area consistency and surrogate area stability. It is the opinion of the reviewer, that since no pesticide continuing calibration solutions were analyzed, this is the only criteria that can be used to monitor system performance.

C.2 Due to the absence of pesticide continuing calibrations, the PQLs for the target analytes in the project method blank and sample are qualified "J" as estimated and usable for limited purposes.

D. Laboratory Blanks:

D.1 The laboratory did not report the pesticide results for the method blank associated with this project sample set. Reviewing the method blank raw data, the validator reported that target analytes were not detected in the method blank at a concentration above the PQL for the target analytes, and the results are considered acceptable.

E. Instrument Blanks:

E.1 Target analytes were not detected in the instrument blank at a concentration above the PQL for the target analytes, and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for analyses for the pesticide fraction.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 No matrix spike and matrix spike duplicate analyses were performed for the pesticide fraction.

J. System Performance:

J.1 The laboratory set up the GC analytical run time on the primary GC column to elute all pesticide analytes within 9 minutes, causing co-elution of numerous pesticides and making identification difficult. A slower temperature program and/or slower carrier gas flow rate would increase resolution for many of the pesticide analytes.

J.2 The Endrin and 4,4'-DDT breakdown met QC criteria and the results are considered acceptable.

J.3 No other problems with system performance were observed for all other project sample analyses.

K. Quantitation and Identification:

K.1 Due to the absence of pesticide continuing calibrations, all PQLs for the target analytes in the project method blank and the sample are qualified "J" as estimated and usable for limited purposes.

K.2 Due to sensitivity problems with methoxychlor in the initial calibration, the PQL was raised by the reviewer to 0.5 ppm for the soil sample.

K.3 The laboratory did not report the pesticide results for the method blank associated with this sample set. The reviewer, by looking at the raw data from the method blank reported that no target analytes were not detected at a concentration above the PQL and the results are considered acceptable.

K.4 No other problems with compound quantitation and identification were observed.

L. Conclusion:

L.1 No target analytes were detected in the project method blank or the sample at a concentration above the PQLs for the target analytes.

L.2 Due to the absence of a pesticide continuing calibration, all PQLs for the target analytes in the method blank and the sample are qualified "J" as estimated and usable for limited purposes.

L.3 Due to low sensitivity and hydrocarbon interference detected in the initial calibration, the PQL for methoxychlor in the method blank and samples was raised to <0.5 ppm.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 14, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 12 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0422). All of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 29 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-S01	946	Soil
LON-LF11-S02	948	Soil
LON-LF11-S03	950	Soil
LON-LF11-S04	952	Soil
LON-LF11-S05	954	Soil
LON-LF11-SD01	956	Soil
LON-LF11-SD02	958	Soil
LON-LF11-SD03	960	Soil
LON-ST02-S02	962	Soil
LON-ST02-S01-03	964	Soil
LON-LF07-S03	966	Soil
LON-LF07-S04	968	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF11-S01 and LON-LF11-S05 were designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

B.3 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-LF11-S01 and LON-LF11-S05 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS01-S10-4, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 It is the opinion of the reviewer that carryover contamination from a previous sample has resulted in higher PQLs for the BTEX compounds in sample number LON-LF11-S04, therefore, the PQLs for the BTEX compounds are qualified "J" as estimated and are usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 A discrepancy exists between the detected amount of ethylbenzene reported by the laboratory and the amount recalculated by the reviewer in sample number LON-ST02-S01-03. The reported detected amount of this compound has been changed by the reviewer on the data summary form.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large %RSDs for some of the compounds in the initial calibrations, the detected amount of these target analytes in some of the samples have been qualified "J" as estimated and are usable for limited purposes, as indicated on the data summary forms.

L.2 Due to a discrepancy in the reported amount and the recalculated amount of ethylbenzene in sample number LON-ST02-S01-03, the detected amount of this analyte has been changed on the data summary form.

L.3 Due to carryover contamination of the BTEX analytes in sample number LON-LF11-S04, the PQLs for these compounds are higher than normal as indicated on the data summary form.

L.4 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 12 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0422). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 29 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-LF11-S01	946	Soil
LON-LF11-S02	948	Soil
LON-LF11-S03	950	Soil
LON-LF11-S04	952	Soil
LON-LF11-S05	954	Soil
LON-LF11-SD01	956	Soil
LON-LF11-SD02	958	Soil
LON-LF11-SD03	960	Soil
LON-ST02-S02	962	Soil
LON-ST02-S01-03	964	Soil
LON-LF07-S03	966	Soil
LON-LF07-S04	968	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF11-S01 and LON-LF11-S05 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for

the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-LF11-S01 and LON-LF11-S05 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 It is the opinion of the reviewer that carryover contamination from a previous sample was present in sample number LON-LF11-S04. The PQL for gasoline in this sample has been raised by the reviewer, and has been qualified "J" as estimated and is usable for limited purposes.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to carryover contamination in sample number LON-LF11-S04, the PQL for gasoline has been raised by the reviewer and is qualified "J" as estimated and is usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 4 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 423) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-SD01	884	Soil
LON-SS01-SD02	886	Soil
LON-SS01-SD03	888	Soil
LON-SS01-SD04	890	Soil

The diesel results for sample number LON-SS01-S15 were reported on this data summary form, even though the sample was included on the chain of custody 424.

The following QC sample designations were included in project documentation: sample numbers LON-SS01-SD01 and LON-SS01-SD04 were designated as field replicate samples.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project

samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory attempted to perform a 6 point initial calibration curve on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was established using only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq 50\%$, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS01-SD01 and LON-SS01-SD04 were utilized for field replicate analysis. The diesel results were 120 ppm and 270 ppm respectively,

which is outside the acceptable RPD criteria of ≤50%. It is not known what effect this will have on the quality of the data.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample numbers LON-SS01-S15 at concentrations of 6300 ppm, LON-SS01-SD02 at a concentration of 180 ppm, and LON-SS01-SD04 at a concentration of 270 ppm.

K.2 The laboratory reported diesel in sample LON-SS01-SD03 at a concentration of 280 ppm. It is the opinion of the reviewer that diesel was not present in the sample because the sample chromatogram did not support the diesel pattern, but did show lube oil contamination. Therefore, the reported result was changed to the appropriate PQL on the data summary form by the reviewer.

K.3 The laboratory reported diesel in sample LON-SS01-SD02 at a concentration of 330 ppm. The reviewer calculated the diesel result to be 180 ppm. The result was adjusted on the data summary form by the reviewer.

K.4 The laboratory reported <60 PQL for sample number LON-SS01-SD01. It is the opinion of the reviewer that diesel was present in the sample at a concentration of 120 ppm because the sample chromatogram supported the diesel pattern. However, the diesel may be carryover from the previous high level sample. Therefore, the result is qualified "J" as estimated and usable for limited purposes.

K.5 The laboratory also reported <60 PQL for sample number LON-SS01-SD04. It is the opinion of the reviewer that diesel was present in the sample at a concentration of 270 ppm because the sample chromatogram supported the diesel pattern. Therefore, the result is qualified "J" as estimated and usable for limited purposes.

K.6 Due to the large percent RSDs in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.7 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample numbers LON-SS01-S15 at concentrations of 6300 ppm, LON-SS01-SD02 at a concentration of 180 ppm, and LON-SS01-SD04 at a concentration of 270 ppm.

L.2 Due to lube oil contamination, the diesel result in sample number LON-SS01-SD03 was changed by the reviewer to the appropriate PQL on the data summary form.

L.3 Due to possible carryover from a previous high level sample, the diesel result of 120 ppm in sample number LON-SS01-SD01 was qualified 'J" as estimated and usable for limited purposes. The laboratory had reported a PQL value of <60 ppm for this sample number.

L.4 The laboratory reported <60 PQL for sample number LON-SS01-SD04. It is the opinion of the reviewer that diesel was present in the sample at a concentration of 270 ppm. The result is qualified "J" as estimated and usable for limited purposes.

L.5 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 4 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0423). All of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for the BTEX compounds by USEPA Method 8020 on August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-SD01	884	Soil
LON-SS01-SD02	886	Soil
LON-SS01-SD03	888	Soil
LON-SS01-SD04	890	Soil

The laboratory did not report the results for sample numbers LON-SS01-SD02 and LON-SS01-SD04. The following QC sample designations were included in project documentation: sample numbers LON-SS01-SD01 and LON-SS01-SD04 were designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS01-SD01 and LON-SS01-SD04 were utilized for field replicate analysis. The laboratory did not report the results for sample number LON-SS01-SD04, therefore a comparison of the results could not be made.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-ST10-S01, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria for the BTEX compounds were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 There were no target analytes detected at a concentration above the PQLs in any of the project samples.

L.2 The laboratory did not report the analytical results for project sample numbers LON-SS01-SD02 and LON-SS01-SD04.

L.3 All data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: March 16, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 4 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0423). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-SD01	884	Soil
LON-SS01-SD02	886	Soil
LON-SS01-SD03	888	Soil
LON-SS01-SD04	890	Soil

The laboratory did not report the results for sample numbers LON-SS01-SD02 and LON-SS01-SD04. The following QC sample designations were included in project documentation: sample numbers LON-SS01-SD01 and LON-SS01-SD04 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples numbers LON-SS01-SD01 and LON-SS01-SD04 were utilized for field replicate analysis. The laboratory did not report the results for sample number LON-SS01-SD04, therefore, a comparison of the results could not be made.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory reported a detected result of 100 ppm diesel in sample number LON-SS01-SD01. It is the opinion of the reviewer that the chromatographic pattern confirms the presence of late eluting hydrocarbons, therefore, the detected result is qualified "J" as estimated and is usable for limited purposes.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to the presence of late eluting hydrocarbons in sample number LON-SS01-SD01, the detected result is qualified "J" as estimated and is usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 15 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 424) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-S01	852	Soil
LON-SS01-S02-03	854	Soil
LON-SS01-S03	858	Soil
LON-SS01-S04	860	Soil
LON-SS01-S05	862	Soil
LON-SS01-S06	864	Soil
LON-SS01-S07-1	866	Soil
LON-SS01-S08-2.5	868	Soil
LON-SS01-S09	870	Soil
LON-SS01-S10-4	872	Soil
LON-SS01-S11	874	Soil
LON-SS01-S12-2.5	876	Soil
LON-SS01-S13-01	878	Soil
LON-SS01-S14-03	880	Soil
LON-SS01-S15	882	Soil

Sample number LON-SS01-S15 was included on this chain of custody, but the laboratory reported the results on chain of custody 423.

The following QC sample designations were included in project documentation: sample numbers LON-SS01-S02-3 and LON-SS01-S14-3 were designated as field replicate samples.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory attempted to perform a 6 point initial calibration curve on GC Instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was established using only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the

PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of ≤50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS01-S02-3 and LON-SS01-S14-3 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in the following project soil samples:

ICF Site No.	Diesel Conc. (ppm)
LON-SS01-S04	2500
LON-SS01-S07-1	5000
LON-SS01-S08-2.5	16000
LON-SS01-S11	3000
LON-SS01-S12-2.5	2300
LON-SS01-S13-01	15400

K.2 The laboratory reported incorrect PQLs for sample numbers LON-SS01-S02-3 and LON-SS01-S06. The PQLs have been corrected on the data summary forms by the reviewer.

K.3 The laboratory reported diesel in sample number LON-SS01-S13-01 at a concentration of 1500 ppm. The reviewer calculated a concentration of 15,400 ppm. It is the opinion of the reviewer that diesel was present in the sample 10 times greater than that reported concentration by the laboratory because the sample chromatogram displayed a saturated diesel pattern, and the area counts support the latter result. Therefore, the result was changed on the data summary form by the reviewer. Since the adjusted result was outside the linear range of the calibration curve, the result is qualified "J" as estimated and usable for limited purposes.

K.4 Due to the large percent RSD in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.5 The laboratory reported a PQL of <2300 for sample number LON-SS01-S12-2.5. Since the chromatogram supports a diesel pattern, it is the opinion of the reviewer that the laboratory inadvertently inserted the "<" before the 2300 ppm. The diesel result has been adjusted to the data summary form by the reviewer.

K.6 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in six sample numbers ranging in concentrations from 2300 ppm to 16000 ppm as listed above in Section K.

L.2 The PQLs for sample numbers LON-SS01-S02-3 and LON-SS01-S06 have been corrected on the data summary form by the reviewer.

L.3 Due to the large percent RSD in the initial calibration, the detected results for diesel in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: BTEX compounds by USEPA Method 8020
MATRIX: Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 15 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0424). All of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for the BTEX compounds by USEPA Method 8020 on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-S01	852	Soil
LON-SS01-S02-03	854	Soil
LON-SS01-S03	858	Soil
LON-SS01-S04	860	Soil
LON-SS01-S05	862	Soil
LON-SS01-S06	864	Soil
LON-SS01-S07-01	866	Soil
LON-SS01-S08-2.5	868	Soil
LON-SS01-S09	870	Soil
LON-SS01-S10-04	872	Soil
LON-SS01-S11	874	Soil
LON-SS01-S12-2.5	876	Soil
LON-SS01-S13-01	878	Soil
LON-SS01-S14-03	880	Soil
LON-SS01-S15	882	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS01-S02-03 and LON-SS01-S14-03 were designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS01-S02-03 and LON-SS01-S14-03 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS01-S10-04 was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met for the BTEX compounds and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that carryover contamination from previous analyses was present in sample numbers LON-SS01-S01 and LON-SS01-S04. The PQLs for the BTEX compounds in these samples have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to carryover contamination from previous analyses, the PQLs for the BTEX compounds in sample numbers LON-SS01-S01 and LON-SS01-S04 have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

L.2 Due to the large % RSDs in the initial calibration for select BTEX analytes, the detected results for these analytes in some samples are qualified "J" as estimated and are usable for limited purposes.

L.3 The laboratory did not report the analytical results for sample number LON-SS01-S15.

L.4 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Soil
DATE: March 16, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 15 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0424). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS01-S01	852	Soil
LON-SS01-S02-03	854	Soil
LON-SS01-S03	858	Soil
LON-SS01-S04	860	Soil
LON-SS01-S05	862	Soil
LON-SS01-S06	864	Soil
LON-SS01-S07-01	866	Soil
LON-SS01-S08-2.5	868	Soil
LON-SS01-S09	870	Soil
LON-SS01-S10-04	872	Soil
LON-SS01-S11	874	Soil
LON-SS01-S12-2.5	876	Soil
LON-SS01-S13-01	878	Soil
LON-SS01-S14-03	880	Soil
LON-SS01-S15	882	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS01-S02-03 and LON-SS01-S14-03 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results

are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS01-S02-03 and LON-SS01-S14-03 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 It is the opinion of the reviewer that carryover contamination from previous analyses was present in sample numbers LON-SS01-S01 and LON-SS01-S04. Therefore, the PQL for gasoline in these samples has been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory reported detected results in sample numbers LON-SS01-S07-01, LON-SS01-S08-2.5, LON-SS01-S12-2.5, and LON-SS01-S13-01 and indicated that it was diesel fuel. It is the opinion of the reviewer that the chromatographic pattern confirms the presence of late eluting hydrocarbons , therefore, the detected results are qualified "J" as estimated and are usable for limited purposes.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to carryover contamination in sample numbers LON-SS01-S01 and LON-SS01-S04, the PQL for gasoline in these samples has been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

L.3 Due to the presence of late eluting hydrocarbons in sample numbers LON-SS01-S07-01, LON-SS01-S08-2.5, LON-SS01-S12-2.5, and LON-SS01-S13-01, the detected results in these samples are qualified "J" as estimated and are usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 8 soil samples and 4 water samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 425) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-SW07	738	Water
LON-SS05-SW08	742	Water
LON-SS05-S19	746	Soil
LON-SS05-S17-3	748	Soil
LON-SS05-S16	750	Soil
LON-SS05-S15-2.5	752	Soil
LON-SS05-S14	754	Soil
LON-SS05-S13	756	Soil
LON-SS05-S12-03	758	Soil
LON-SS05-S11	760	Soil
LON-SS05-SW05	762	Water
LON-SS05-SW06	772	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS05-S13 and LON-SS05-S19 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the water samples (200 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 13.0% was calculated by the reviewer using calibration factors determined from the initial 6 point calibration. The %RSD of 13.0% is within the recommended QC criteria of 20.0%.

B.2 The laboratory attempted to perform a 6 point initial calibration curve on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was established using only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are

considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of ≤50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS05-S13 and LON-SS05-S19 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample numbers LON-SS05-S19 at a concentration of 290 ppm, LON-SS05-S16 at a concentration of 50 ppm, LON-SS05-S15-2.5 at a concentration of 50 ppm, LON-SS05-S14 at a concentration of 4300 ppm, LON-SS05-S13 at a concentration of 280 ppm, LON-SS05-S12-03 at a concentration of 1400 ppm and LON-SS05-S11 at a concentrations of 930 ppm.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 The laboratory reported incorrect PQLs for all water samples. The PQLs have been corrected on the data summary forms by the reviewer.

K.5 No other problems were observed with compound quantitation and

identification.

L. Conclusion:

L.1 Diesel was detected in seven of the soil samples ranging in concentrations between 50 ppm and 1400 ppm. Refer to Section K.1 for the specific sample numbers and associated concentrations.

L.2 Due to the large percent RSDs in the initial calibrations on GC instrument ICF6, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.3 The PQLs for the four water samples have been changed to 1000 ppb on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 16, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 4 water samples and 8 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0425). All of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for the BTEX compounds by USEPA Method 8020 on August 27 and August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-SW07	739	Water
LON-SS05-SW08	745	Water
LON-SS05-S19	746	Soil
LON-SS05-S17-03	748	Soil
LON-SS05-S16	750	Soil
LON-SS05-S15-2.5	752	Soil
LON-SS05-S14	754	Soil
LON-SS05-S13	756	Soil
LON-SS05-S12-03	758	Soil
LON-SS05-S11	760	Soil
LON-SS05-SW05	764	Water
LON-SS05-SW06	767	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS05-S13 and LON-SS05-S19 were designated as field replicates, and sample numbers LON-SS05-SW07 and LON-SS05-SW08 were designated as field duplicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a five point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
ethylbenzene	23.2 %
m & p-xylene	22.6 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-SS05-S13 and LON-SS05-S19 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Field Duplicate Analysis:

H.1 A QC limit for precision of ≤ 20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

H.2 Samples LON-SS05-SW07 and LON-SS05-SW08 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

I. Surrogate Recoveries:

I.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

J. Matrix Spike/Matrix Spike Duplicate Analyses:

J.1 Sample number LON-SS05-S15-2.5 was used for the soil matrix spike/matrix spike duplicate analyses, and the laboratory used method blank water for the water MS/MSD analyses.

J.2 All of the soil matrix spike/matrix spike duplicate QC criteria were met and

the results are considered acceptable.

J.3 All of the water matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

K. System Performance:

K.1 It is the opinion of the reviewer that carryover contamination from previous analyses was present in sample numbers LON-SS05-S17-03 and LON-SS05-S12-03. Therefore, the PQLs for the BTEX compounds have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

K.2 The laboratory did not report the results for toluene and ethylbenzene in sample number LON-SS05-S11, probably because of matrix interference in the sample.

K.3 No other problems with system performance were observed for the project samples.

L. Quantitation and Identification:

L.1 Compound identification was confirmed using a second column and an alternate detector.

L.2 Discrepancies exist between the reported detected results and the results recalculated by the reviewer for the BTEX compounds in sample number LON-SS05-S19. The corrected results have been inserted on the data summary forms by the reviewer.

L.3 No other problems were observed for compound quantitation and identification.

M. Conclusion:

M.1 Due to the large % RSDs for some of the BTEX compounds in the initial calibration, the detected results for these compounds in some of the project samples have been qualified "J" as estimated and are usable for limited purposes.

M.2 Due to carryover contamination in some of the project samples, the PQLs for the BTEX compounds in these samples have been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

M.3 The laboratory did not report the results for toluene and ethylbenzene in sample number LON-SS05-S11, probably due to matrix interference.

M.4 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 4 water samples and 8 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0425). All of the samples for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 27 and August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-SW07	739	Water
LON-SS05-SW08	745	Water
LON-SS05-S19	746	Soil
LON-SS05-S17-03	748	Soil
LON-SS05-S16	750	Soil
LON-SS05-S15-2.5	752	Soil
LON-SS05-S14	754	Soil
LON-SS05-S13	756	Soil
LON-SS05-S12-03	758	Soil
LON-SS05-S11	760	Soil
LON-SS05-SW05	764	Water
LON-SS05-SW06	767	Water

The following QC sample designations were included in project documentation: sample numbers LON-SS05-S13 and LON-SS05-S19 were designated as field replicates and sample numbers LON-SS05-SW07 and LON-SS05-SW08 were designated as field duplicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the

FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-SS05-S13 and LON-SS05-S19 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Field Duplicate Analysis:

H.1 A QC limit for precision of ≤ 20%, as measured by Relative Percent Difference (RPD) between water sample values, was specified for field duplicate comparability.

H.2 Samples LON-SS05-SW07 and LON-SS05-SW08 were utilized for field duplicate analysis. The results of the field duplicate analyses met all applicable QC criteria and the results are considered acceptable.

I. Surrogate Recoveries:

I.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

J. Matrix Spike/Matrix Spike Duplicate Analyses:

J.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

K. System Performance:

K.1 It is the opinion of the reviewer that carryover contamination from previous analyses was present in sample numbers LON-SS05-S17-03 and LON-SS05-S12-03. Therefore, the PQL for gasoline in these samples has been raised by the reviewer and are qualified "J" as estimated and are usable for limited purposes.

K.2 No other problems with system performance were observed for the project samples.

L. Quantitation and Identification:

L.1 The low initial calibration standard for gasoline analyzed on system 3-4 was 100 ppb, therefore, the PQL for gasoline in the water samples analyzed on system 3-4 has been raised by the reviewer to 100 ppb.

L.2 No other problems were observed with compound quantitation and identification.

M. Conclusion:

M.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

M.2 Due to carryover contamination in sample numbers LON-SS05-S17-03 and LON-SS05-S12-03, the PQL for gasoline in theses samples has been raised by the reviewer and qualified "J" as estimated and is usable for limited purposes.

M.3 Since the low initial calibration standard on system 3-4 was 100 ppb, the PQL for gasoline for the water samples analyzed on system 3-4 has been raised by the reviewer to 100 ppb.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 2 soil samples and 5 water samples from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 426) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-SW01	658	Water
LON-BKGD-SW02	666	Water
LON-SS05-SW02	667	Water
LON-SS05-SW03	675	Water
LON-SS05-SW04	679	Water
LON-SS05-SD06	686	Soil
LON-SS05-SD05	698	Soil

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the water samples (1000 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory attempted to perform a 6 point initial calibration curve on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 50 ppm to 10,000 ppm. The 500 ppm and the 200 ppm standards were not used due to autosampler injection errors. A percent relative standard deviation (%RSD) of 48.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 48.3% exceeds the recommended QC criteria of 20.0%. Since the initial calibration was established using only a 4 point calibration curve, and the %RSD exceeds the recommended criteria, the detected results for diesel in all the soil samples are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 13.0% was calculated by the reviewer using calibration factors determined from the initial 6 point calibration. The %RSD of 13.0% is within the recommended QC criteria of 20.0%.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Sample LON-SS05-S01, which is not part of this project sample set but is from the Point Lonely site was analyzed as the soil matrix spike/matrix spike duplicate for chain of custody 426. The corresponding matrix spike analysis could not be located in the raw data.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in sample numbers LON-SS05-SD06 and LON-SS05-SD05 at concentrations of 690 ppm and 240 ppm, respectively.

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported incorrect PQLs for all the water samples. The PQLs have been corrected on the data summary forms by the reviewer.

K.4 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was detected in sample number LON-SS05-SW06 at a concentration of 690 ppm and sample number LON-SS05-SD05 at a concentration of 240 ppm.

L.2 Due to the large percent RSDs in the initial calibration on GC instrument ICF6, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.3 The PQLs for the five water samples have been changed to 1000 ppb on the data summary form by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 water sample from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 426) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 27, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW02	666	Water

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument

ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blank at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blank at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Replicate Analyses:

F.1 There were no field replicate samples submitted for analysis with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Tap water was used for the water matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in sample number LON-BKGD-SW02.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in sample number LON-BKGD-SW02, and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Pesticides by USEPA Method 8080
MATRIX: Water
DATE: April 21, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 1 water sample from the Point Lonely site on August 25, 1993 (referenced chain of custody record No. 426) for pesticide analysis by the pesticide organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The sample was analyzed for pesticides by USEPA Method 8080 on August 27, 1993.

The ICF site identification number and corresponding FBI laboratory sample identification number is listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-BKGD-SW02	666	Water

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.01 ppm to 1.0 ppm. The percent relative standard deviations (%RSDs) were calculated for all compounds using calibration factors determined from the initial calibration using the EC detector. The %RSD for the following target analyte exceeded the recommended QC criteria of 20.0%

Compound	%RSD
beta-BHC	22%

Methoxychlor was spiked in at concentrations too low to be detected by the EC detector until the 0.5 ppm initial calibration standard. Therefore, all detected results for this analyte are qualified "R" as rejected and unusable, and the practical quantitation limit (PQL) was raised accordingly for the water sample.

Due to the large percent RSD in the analyte listed above, the detected results for this compound is qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 No continuing calibrations were analyzed during the sequence with the exception of the column degradation solution containing Endrin and DDT. The stability of the instrument, GC column, and detector were monitored using the Endrin and DDT column degradation solution and the Aroclor 1254 continuing calibration solution. These two solutions were used to check area consistency and surrogate area stability. It is the opinion of the reviewer, that since no pesticide continuing calibration solutions were analyzed, this is the only criteria that can be used to monitor system performance.

Due to the absence of pesticide continuing calibrations, the PQLs for the method blank and sample are qualified "J" as estimated and usable for limited purposes.

D. Laboratory Blanks:

D.1 The laboratory did not report the pesticide results for the method blank associated with this sample set. Reviewing the method blank raw data, the validator reported that target analytes were not detected in the method blank at a concentration above the PQL for the target analytes, and the results are considered acceptable.

E. Instrument Blanks:

E.1 Target analytes were not detected in the instrument blank at a concentration above the PQL for the target analytes, and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 There were no field replicate samples submitted for analyses for the pesticide fraction.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 No matrix spike and matrix spike duplicate analyses were performed for the pesticide fraction.

J. System Performance:

J.1 The laboratory set up the GC analytical run time on the primary GC column to elute all pesticide analytes within 9 minutes, causing co-elution of numerous pesticides and making identification difficult. A slower temperature program and/or slower carrier gas flow rate would increase resolution for many of the pesticide analytes.

J.2 The Endrin and 4,4'-DDT breakdown met QC criteria and the results are considered acceptable.

J.3 No other problems with system performance were observed for all other project sample analyses.

K. Quantitation and Identification:

K.1 Due to the absence of pesticide continuing calibrations, all PQLs for the target analytes in the project method blank and the sample are qualified "J" as estimated and usable for limited purposes.

K.2 Due to sensitivity problems with methoxychlor in the initial calibration, the PQL was raised by the reviewer to 10 ppb for the water sample.

K.3 The laboratory did not report the pesticide results for the method blank associated with this sample set. The reviewer, by looking at the raw data from the method blank reported that no target analytes were not detected at a concentration above the PQL for the target analytes, and the results are considered acceptable.

K.4 The laboratory reported incorrect PQLs of 2 ppb of the target analytes in the project water sample. The PQLs for the target analytes have been corrected to 0.01 ppm on the data summary form by the reviewer.

K.5 No other problems with compound quantitation and identification were observed.

L. Conclusion:

L.1 No target analytes were detected in the method blank or the sample at a concentration above the PQLs for the target analytes.

L.2 Due to the absence of a pesticide continuing calibration, all PQLs for the target analytes in the method blank and the sample are qualified "J" as estimated and usable for limited purposes.

L.3 Due to low sensitivity and hydrocarbon interference detected in the initial calibration, the PQL for methoxychlor in the method blank and sample was raised to <10 ppb.

L.4 The PQLs for the target analytes in the water sample have been corrected on the summary data forms by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 16, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 6 water samples and 3 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0426). Two of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 27 and August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-S10-03	662	Soil
LON-SS05-SW01	660	Water
LON-SS05-SW02	668	Water
LON-SS05-SW03	678	Water
LON-BKGD-SW02	672	Water
LON-SS05-SW04	680	Water
LON-TB-02	684	Water
LON-SS05-SD06	686	Soil
LON-SS05-SD05	698	Soil

The following QC sample designation was included in project documentation: sample number LON-TB-02 was designated as a trip blank.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a five point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
ethylbenzene	23.2 %
m & p-xylene	22.6 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

B.3 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-TB-02 was designated as a trip blank in project documentation.

F.2 No target analytes were detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples associated with this project sample set.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 The laboratory did not report the results for project sample number LON-SS05-S10-03.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to the large % RSDs for ethylbenzene and xylene in the initial calibration on system 3-4, the detected results for these analytes in sample number LON-SS05-SW03 are qualified "J" as estimated and are usable for limited purposes.

L.2 The laboratory did not report the results for project sample number LON-SS05-S10-03.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 6 water samples and 3 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 0426). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 27 and August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS05-S10-03	662	Soil
LON-SS05-SW01	660	Water
LON-SS05-SW02	668	Water
LON-SS05-SW03	678	Water
LON-BKGD-SW02	672	Water
LON-SS05-SW04	680	Water
LON-TB-02	684	Water
LON-SS05-SD06	686	Soil
LON-SS05-SD05	698	Soil

The following QC sample designation was included in project documentation: sample number LON-TB-02 was designated as a trip blank.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the

instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 Sample number LON-TB-02 was designated as a trip blank in project documentation.

F.2 Gasoline was not detected in the trip blank at a concentration above the PQL and the results are considered acceptable.

G. Field Replicate Analysis:

G.1 There were no field replicate samples identified in the project documentation.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory did not report the analytical results for project sample number LON-SS05-S10-03.

K.2 The low initial calibration standard on system 3-4 was 100 ppb, therefore, the PQL for gasoline in the water samples analyzed on system 3-4 has been raised by the reviewer to 100 ppb.

K.3 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 The laboratory did not report the analytical results for project sample number LON-SS05-S10-03.

L.3 Since the low initial calibration standard on system 3-4 was 100 ppb, the PQL for gasoline in the water samples analyzed on system 3-4 has been raised by the reviewer to 100 ppb.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Soil and Water
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 3 soil samples and 2 water samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 431) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW01	972	Water
LON-LF07-SW02	988	Water
LON-LF07-S01	992	Soil
LON-LF07-S08	994	Soil
LON-LF07-S07	996	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF07-S01 and LON-LF07-S08 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the water samples (200 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a 3 point initial calibration on GC instrument ICF6 on August 29, 1993. The range of the initial calibration was from 100 ppm to 10,000 ppm. Due to the sensitivity present at the 100 ppm initial calibration standard, the practical quantitation limit (PQL) of 50 ppm does not need to be raised to the low point of this initial calibration (100 ppm). All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 9.04 was calculated using calibration factors determined from the initial calibration, and is within the recommended QC limit of 20.0%. However, since only three points were used to establish the initial calibration curve, the detected results of the associated samples are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory analyzed a 7 point initial calibration on GC instrument ICF5 on August 25, 1993. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 13.0% was calculated by the reviewer using calibration factors determined from the initial 6 point calibration. The %RSD of 13.0% is within the recommended QC criteria of 20.0%.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of ≤50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-LF07-S01 and LON-LF07-S08 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was not detected in the project water and soil samples.

K.2 The laboratory reported diesel in sample LON-LF07-S01 at a concentration of 50 ppm. It is the opinion of the reviewer that diesel was not present in the sample because the sample chromatogram did not support the diesel pattern, but did show hydrocarbon contamination. Therefore, the reported result was changed to the appropriate PQL on the data summary form by the reviewer.

K.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 The laboratory reported incorrect PQLs for samples LON-ST02-SW01, LON-LF07-SW02. The PQLs have been corrected on the data summary forms by the reviewer.

K.5 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Diesel was not detected in the project water and soil samples at a concentration above the PQL and the results are considered acceptable.

L.2 The PQLs for sample numbers LON-ST02-SW01 and LON-LF07-SW02 have been changed to 1000 ppb on the data summary form by the reviewer.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Soil and Water
DATE: April 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 2 water samples and 3 soil samples from the Point Lonely site on August 26, 1993 (referenced chain of custody record No. 431) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 28, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW01	972	Water
LON-LF07-SW02	988	Water
LON-LF07-S01	992	Soil
LON-LFO7-S08	994	Soil
LON-LF07-S07	996	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF07-S01 and LON-LF07-S08 were designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blankS at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq 50\%$, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-LF07-S01 and LON-LF07-S08 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Sample LON-LF11-S01,which is not part of this project sample set, but is from the Point Lonely site was analyzed as the soil MATRIX SPIKE/matrix spike duplicate for chain of custody 431. The corresponding matrix spike analysis could not be located in the raw data.

I.2 Tap water was used for the water matrix spike/matrix spike duplicate analyses.

I.3 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the samples.

K.2 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L.1 PCBs were not detected at concentrations above the PQL of the PCBs in the project soil and water samples, and the results are considered acceptable.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 2 water samples and 3 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0431). All of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 29 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW01	978	Water
LON-LF07-SW02	990	Water
LON-LF07-S01	992	Soil
LON-LF07-S08	994	Soil
LON-LF07-S07	996	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF07-S01 and LON-LF07-S08 were designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional

Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

B.3 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-LF07-S01 and LON-LF07-S08 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 All surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS01-S10-04, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 No problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 There were no target analytes detected at a concentration above the PQLs in any of the project samples.

L.2 All data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 31, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 2 water samples and 3 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0431). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 29 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-ST02-SW01	978	Water
LON-LF07-SW02	990	Water
LON-LF07-S01	992	Soil
LON-LF07-S08	994	Soil
LON-LF07-S07	996	Soil

The following QC sample designations were included in project documentation: sample numbers LON-LF07-S01 and LON-LF07-S08 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This

report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of ≤ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Samples LON-LF07-S01 and LON-LF07-S08 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate QC recovery criteria were met for all project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 No problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY/ DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Diesel by EPA Method 8015M
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 8 soil samples and 2 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 442) for diesel analysis by the semivolatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for diesel by USEPA Method 8015M (modified) (GC/FID) on August 30, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-S01	998	Soil
LON-SS09-S02	1000	Soil
LON-SS09-S03	1004	Soil
LON-SS09-S05	1006	Soil
LON-SS09-S06	1008	Soil
LON-SS09-SW01	1010	Water
LON-SS09-SW02	1016	Water
LON-SS13-SD03	1020	Soil
LON-ST10-SD02	1024	Soil
LON-ST10-SD07	1026	Soil

The following sample designations were included in project documentation: sample numbers LON-SS09-S05, LON-SS09-S06, were designated as field replicate samples, and LON-ST10-SD02, and LON-ST10-SD07 were also designated as field replicate samples.

The analytical results for the soil samples were reported with an adjustment for moisture

content.

The quantitation limits reported by the laboratory for the water samples (1000 ppb) were higher than those specified in the Project Sampling and Analysis Plan (500 ppb). However, since the low point of the initial calibration is 50 ppm, the PQL should be 1000 ppb. It is the opinion of the reviewer that the quality of the data was not affected.

The quantitation limits reported by the laboratory for the soil samples (50 ppm) were higher than those specified in the Project Sampling and Analysis Plan (10 ppm). Since the low point of the initial calibration is 50 ppm, the PQL should be 50 ppm for the soil project samples. It is the opinion of the reviewer that the quality of the data was not affected.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8015M, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a 3 point initial calibration on GC instrument ICF6 on August 29, 1993. The range of the initial calibration was from 100 ppm to 10,000 ppm. Due to the sensitivity present at the 100 ppm initial calibration standard, the practical quantitation limit (PQL) of 50 ppm does not need to be raised to the low point of this initial calibration (100 ppm). All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 9.04 was calculated using calibration factors determined from the initial calibration, and is within the recommended QC limit of 20.0%. However, since only these three points were used to establish the calibration curve, the detected results of the associated samples are qualified "J" as estimated and usable for limited purposes.

B.1 The laboratory analyzed a 6 point initial calibration on GC instrument ICF5 on 8/28/93. The attempted range of the initial calibration was from 10 ppm to 10,000 ppm. Due to low sensitivity and interference, the 10 ppm calibration standard was deleted from the calibration. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 41.6% was calculated using calibration factors determined from the initial 5 point calibration. The RSD of 41.6% exceeds the recommended QC criteria of 20.0%, primarily due to the interference in the 50 ppm calibration standard which produced an artificially high calibration factor. A %RSD of 9.8 was obtained using a range of 200 ppm to 10,000 ppm. Since the initial

calibration exceeds the recommended QC criteria of 20.0%, the detected results for diesel in the project samples are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Diesel was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Diesel was not detected in the instrument blanks at concentrations above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blank analyses associated with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq$50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-ST10-SD07 and LON-ST10-SD02 were utilized for field replicate analysis. The diesel concentrations were 900 ppm and 200 ppm, respectively, the RPD for these values is 113%, which is outside the acceptable QC RPD criteria of $\leq$50%. It is not know what effect this will have on the quality of the data.

G.3 The results of the other field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate recovery was 200% in sample number LON-SS09-S03, 40% in sample number LON-SS09-SW01, and 39% in sample number LON-SS09-SW02. Since these recoveries were outside the QAPP QC limits of 50-150%, all detected results in these samples are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 All of the matrix spike/matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 Diesel was detected in sample numbers LON-SS09-S02 and LON-SS09-S03

at a concentration of 12,000 ppm and 16,000 ppm, respectively. Because the diesel results are above 10,000 ppm a dilution should have been performed by the laboratory. Therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

J.2 No other problems with system performance were observed for all project samples.

K. Quantitation and Identification:

K.1 Diesel was detected in the following soil project samples:

ICF Site No.	Diesel Conc. (ppm)
LON-SS09-S01	4100
LON-SS09-S02	12000 (oil contamination)
LON-SS09-S03	16000 (oil contamination)
LON-SS13-SW03	90 (oil contamination)
LON-ST10-SD02	250
LON-ST10-SD07	900

K.2 Due to the large percent RSDs in the initial calibrations, the detected results for diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.3 The laboratory reported diesel contaminated with oil in sample LON-SS09-S05 at a concentration of 70 ppm. It is the opinion of the reviewer that diesel was not present in the sample because the sample chromatogram did not support the diesel pattern, but did show lube oil contamination. Therefore, the reported result was changed to the appropriate PQL on the data summary form by the reviewer.

K.4 The laboratory reported incorrect PQLs for samples LON-SS09-SW01 and LON-SS09-SW02. The PQLs have been corrected on the data summary forms by the reviewer.

K.5 No other problems were observed with compound quantitation and identification.

L. Concentration:

L.1 As noted in Section K.1, diesel was detected in 6 of the soil samples at concentrations ranging between 90 ppm and 16000 ppm. Sample numbers LON-SS09-S02, LON-SS09-S03 and LON-SW13-SW03 were also contaminated with motor oil.

L.2 The PQLs for the two water samples have been changed to 1000 ppb on the data summary form by the reviewer.

L.3 Due to the large percent RSDs in the initial calibrations, the detected results of diesel in all project soil samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.4 Field replicate samples LON-ST10-SD07 and LON-ST10-SD02 were outside the acceptable QC RPD criteria of $\leq$50%. It is not known what effect this will have on the quality of the data.

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DATA VALIDATION REPORT

PROGRAM: POINT LONELY/ DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Timothy Vonnahme
ANALYSIS: Polychlorinated Biphenyls (PCBs) by USEPA Method 8080.
MATRIX: Soil and Water
DATE: April 20, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (Seattle, WA) received 6 soil samples and 2 water samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0442) for PCB analysis by the PCB organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The samples were analyzed for PCBs by USEPA Method 8080 (GC/ECD) on August 29, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-S01	998	Soil
LON-SS09-S02	1000	Soil
LON-SS09-S03	1004	Soil
LON-SS09-S05	1006	Soil
LON-SS09-S06	1008	Soil
LON-SS09-SW01	1010	Water
LON-SS09-SW02	1016	Water
LON-SS13-SW03	1020	Soil

The following sample designations were included in project documentation: sample numbers LON-SS09-S05, LON-SS09-S06, and LON-SS09-SD01, and LON-SS09-SD03 were designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared in accordance with the USEPA draft document " National Functional Guidelines for Organic Data Review", December 1990, and the analytical guidelines in USEPA Method 8080, and the Project Sampling and Analysis Plan.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory performed a five point initial calibration on GC instrument ICF6 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 30.3% was calculated using calibration factors determined from the initial calibration. The %RSD of 30.3 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

B.2 The laboratory performed a five point initial calibration on GC instrument ICF5 on August 21, 1993. The range of the initial calibration was from 0.1 ppm to 10 ppm. A percent relative standard deviation (%RSD) of 37.2% was calculated using calibration factors determined from the initial calibration. The %RSD of 37.2 exceeds the recommended method criteria of 20.0%, therefore, the detected results are qualified "J" as estimated and usable for limited purposes.

C. Continuing Calibration:

C.1 All QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 PCBs were not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 PCBs were not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks submitted for analysis with this project sample set.

G. Field Replicate Analyses:

G.1 A QC limit for precision of $\leq 50\%$, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate

comparability.

G.2 Sample numbers LON-SS09-S05, LON-SS09-S06, LON-SS09-SD01, and LON-SS09-SD03 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate recoveries for sample numbers LON-SS09-SW01 and LON-SS09-SW02 were 40% and 39% respectively, which is outside the applicable QC criteria of 50%-150%. Therefore, the PQLs of the PCBs in the two samples are qualified "J" as estimated and usable for limited purposes.

H.2 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate:

I.1 Sample number LON-ST02-S06, which is not part of this project sample set but is from the Point Lonely site, was analyzed as the soil matrix spike/matrix spike duplicate for chain of custody 442.

I.2 All of the matrix spike duplicate QC recovery criteria were met and the results are considered acceptable.

J. System Performance:

J.1 No problems with system performance were observed for the project sample analyses.

K. Quantitation and Identification:

K.1 PCBs were not detected at concentrations above the PQL of the PCBs in all the samples.

K.2 The laboratory reported incorrect PQLs for the PCBs in sample number LON-SS09-S06, and the aqueous method blank. The PQLs have been corrected on the data summary forms by the reviewer.

K.3 Due to the large percent RSDs in the initial calibration, the detected results for PCBs in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

K.4 No other problems with compound quantitation and identification were observed for this project sample set.

L. Conclusion:

L1. PCBs were not detected at concentrations above the PQL of the PCBs in the project water and soil samples, and the results are considered acceptable.

L.2 The surrogate recoveries for sample numbers LON-SS09-SW01 and LON-SS09-SW02 were 40% and 39% respectively, which is outside the applicable QC criteria of 50%-150%. Therefore, the PQLs of the PCBs in the two samples are qualified "J" as estimated and usable for limited purposes.

L.3 The PQLs of the PCBs in sample number LON-SS09-S06 have been corrected on the data summary forms by the reviewer.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: HVOCs by USEPA Method 8010 and BTEX compounds by USEPA Method 8020
MATRIX: Water and Soil
DATE: March 10, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 2 water samples and 9 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0442). Nine of the samples required analysis for the halogenated volatile organic compounds (HVOCs) and all of the samples required analysis for the BTEX compounds by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for HVOCs by USEPA Method 8010 and the BTEX compounds by USEPA Method 8020 on August 28 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-S01	998	Soil
LON-SS09-S02	1000	Soil
LON-SS09-S03	1004	Soil
LON-SS09-S05	1006	Soil
LON-SS09-S06	1008	Soil
LON-SS09-SW01	1012	Water
LON-SS09-SW02	1018	Water
LON-SS09-SD03	1020	Soil
LON-SS09-SD01	1022	Soil
LON-ST10-SD02	1024	Soil
LON-ST10-SD07	1026	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS09-S05 and LON-SS09-S06 were designated as field replicates, sample numbers LON-SS09-SD03 and LON-SS09-SD01 were designated as field replicates, and sample numbers LON-ST10-SD07 and LON-ST10-SD02 were also designated as field replicates.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Methods 8010 and 8020, and the Project Sampling and Analysis Plan.

The analytical results for the soil samples were reported with an adjustment for moisture content.

It should be noted that all quantitation limits reported by the laboratory for HVOCs for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a five point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
benzene	28.3 %
o-xylene	26.5 %

Due to the large percent RSDs, the detected results for these compounds in all project samples are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 29, 1993. The range of the initial calibration was from 1 ppb to 1000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. Percent relative standard deviations (%RSDs) were calculated for

all compounds using the calibration factors from the initial calibration using the FID detector. The % RSDs for the following compounds exceeded the recommended QC criteria of 20.0%.

Compound	% RSD
toluene	26 %
ethylbenzene	53 %
m & p-xylene	41 %
o-xylene	28 %

Due to the large percent RSDs, the detected results for these compounds in all project samples analyzed on system 3-4 when quantitated using the FID detector are qualified "J" as estimated and are usable for limited purposes.

B.3 The laboratory was unable to demonstrate linearity throughout the quantitation range using the ECD detector because the detector was saturated at low concentrations. It is the opinion of the reviewer that the ECD detector can be used only to confirm the presence of the halogenated compounds. Quantitation of the halogenated compounds should have been done on the PID or FID detector when possible, and only if compound detection was confirmed on the ECD.

C. Continuing Calibrations:

C.1 The continuing calibrations were performed at a concentration of 500 ppb. At this concentration, the ECD response for all of the halogenated compounds is saturated. Therefore, the ECD detector should only be used to confirm the presence of the halogenated compounds.

C.2 All other QC criteria for the continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 No target analytes were detected in the method blanks at a concentration above the practical quantitation limit (PQL) and the results are considered acceptable.

E. Instrument Blanks:

E.1 No target analytes were detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS09-S05 and LON-SS09-S06 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

G.3 Sample numbers LON-SS09-SD01 and LON-SS09-SD03 were also utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

G.4 Sample numbers LON-ST10-SD02 and LON-ST10-SD07 were also utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate recoveries in sample numbers LON-SS09-S02 and LON-SS09-S03 exceeded the QC acceptance criteria, which was probably due to interference from the late eluting hydrocarbons detected in the samples. It is the opinion of the reviewer that this should not have an effect on the project sample results.

H.2 All other surrogate recoveries met applicable QC criteria and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 Sample number LON-SS05-S01, which is associated with a different project sample set, was used for the matrix spike/matrix spike duplicate analyses.

I.2 All of the matrix spike/matrix spike duplicate QC criteria were met and the results are considered acceptable.

J. System Performance:

J.1 It is the opinion of the reviewer that the ECD detector cannot be used for the quantitation of the halogenated compounds because the detector displayed saturation at low concentrations. The ECD detector can be used for halogenated compound identification confirmation.

J.2 It is the opinion of the reviewer that carryover contamination from a previous analysis was present in sample number LON-ST10-SD02, therefore, the PQLs for the target analytes in this sample have been raised by the reviewer and are qualified "J" as estimated and usable for limited purposes.

J.3 No other problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 Compound identification was confirmed using a second column and an alternate detector.

K.2 The laboratory did not adjust the PQLs for the target analytes for moisture content in sample numbers LON-SS09-S06 and LON-ST10-S07. The PQLs for the

target analytes in these sample have been adjusted for moisture content by the reviewer.

K.3 No other problems were observed for compound quantitation and identification.

L. Conclusion:

L.1 Due to carryover contamination in sample number LON-ST10-SD02, the PQLs for the target analytes have been raised by the reviewer and qualified "J" as estimated and are usable for limited purposes.

L.2 The PQLs for the target analytes in sample numbers LON-SS09-S06 and LON-ST10-S07 have been properly adjusted for moisture content by the reviewer.

L.3 Due to the large % RSDs for some of the target analytes in the initial calibrations, the detected results for these analytes in several of the project samples have been qualified "J" as estimated and are usable for limited purposes, as indicated on the data summary forms.

L.3 All other data are considered valid and usable for all purposes.

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DATA VALIDATION REPORT

PROGRAM: Point Lonely / DEW Line RI/FS (ICF Project No. 41096-512-02)
LABORATORY: Friedman & Bruya, Inc. (Seattle, WA)
REVIEWER: Keith Strout
ANALYSIS: Gasoline by USEPA Method 8015M
MATRIX: Water and Soil
DATE: March 15, 1995

I. INTRODUCTION:

Friedman & Bruya, Inc. (FBI) (Seattle, WA) received 2 water samples and 9 soil samples from the Point Lonely site on August 27, 1993 (referenced chain of custody record No. 0442). All of the samples required analysis for Gasoline by the volatile organics extraction method described in Section 8 of the Project Sampling and Analysis Plan. The laboratory analyzed the samples for Gasoline by USEPA Method 8015M (modified) (GC/FID) on August 28 and August 31, 1993.

The ICF site identification numbers and corresponding FBI laboratory sample identification numbers are listed below.

ICF Site No.	Lab Sample No.	Matrix
LON-SS09-S01	998	Soil
LON-SS09-S02	1000	Soil
LON-SS09-S03	1004	Soil
LON-SS09-S05	1006	Soil
LON-SS09-S06	1008	Soil
LON-SS09-SW01	1012	Water
LON-SS09-SW02	1018	Water
LON-SS09-SD03	1020	Soil
LON-SS09-SD01	1022	Soil
LON-ST10-SD02	1024	Soil
LON-ST10-SD07	1026	Soil

The following QC sample designations were included in project documentation: sample numbers LON-SS09-S05 and LON-SS09-S06 were designated as field replicates, sample

numbers LON-SS09-SD03 and LON-SS09-SD01 were designated as field replicates, and sample numbers LON-ST10-SD07 and LON-ST10-SD02 were also designated as field replicates.

The analytical results for the soil samples were reported with an adjustment for moisture content.

The analytical results with qualifications are presented on modified sample data sheets submitted by the laboratory. Definitions of the data qualifiers are listed in Table 1B. This report was prepared using the guidelines in the USEPA draft document "National Functional Guidelines for Organic Data Review" (December 1990), USEPA Method 8015M, and the Project Sampling and Analysis Plan.

It should be noted that all quantitation limits reported by the laboratory for project soil samples were higher than those specified in the Project Sampling and Analysis Plan. According to the laboratory, all soil samples were extracted in methanol before analysis, as required by the State of Alaska guidelines. It is the opinion of the reviewer that the quality of the data was not affected.

II. VALIDITY & COMMENTS:

A. Technical Holding Times:

A.1 The technical holding time QC criteria were met for all project sample analyses.

B. Initial Calibration:

B.1 The laboratory analyzed a four point initial calibration on system 1-2 on August 19, 1993. The range of the initial calibration was from 50 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 31.8 was calculated using calibration factors determined from the initial calibration. The 31.8% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 1-2 are qualified "J" as estimated and are usable for limited purposes.

B.2 The laboratory analyzed a four point initial calibration on system 3-4 on August 24, 1993. The range of the initial calibration was from 100 ppb to 5000 ppb. All samples were quantitated using a linear regression curve calculated from the initial calibration. A percent relative standard deviation (%RSD) of 27.4 was calculated using calibration factors determined from the initial calibration. The 27.4% RSD exceeds the recommended 20.0% RSD, therefore, the detected results for gasoline in all of the samples analyzed on system 3-4 are qualified "J" as estimated and are usable for limited purposes.

C. Continuing Calibrations:

C.1 The laboratory did not perform any continuing calibrations for the gasoline fraction. The laboratory indicated that since the same injection was used to analyze for gasoline and the BTEX compounds, the continuing calibration response on the

FID for the BTEX compounds and the surrogate were used to determine linearity for the gasoline fraction. It is the opinion of the reviewer that the laboratory should have run continuing calibrations for the gasoline fraction, however, the response for the BTEX compounds and the surrogate compound can be used to determine if the instrument has maintained linearity for the gasoline fraction. Because the laboratory did not perform any continuing calibrations specifically for the gasoline fraction, the detected results and the practical quantitation limits (PQLs) are qualified "J" as estimated and are usable for limited purposes.

C.2 All QC criteria for the BTEX continuing calibrations were met and the results are considered acceptable.

D. Laboratory Blanks:

D.1 Gasoline was not detected in the method blanks at a concentration above the PQL and the results are considered acceptable.

E. Instrument Blanks:

E.1 Gasoline was not detected in the instrument blanks at a concentration above the PQL and the results are considered acceptable.

F. Field Blanks:

F.1 There were no field blanks associated with this project sample set.

G. Field Replicate Analysis:

G.1 A QC limit for precision of $\leq$ 50%, as measured by Relative Percent Difference (RPD) between soil sample values, was specified for field replicate comparability.

G.2 Sample numbers LON-SS09-S05 and LON-SS09-S06 were utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

G.3 Sample numbers LON-SS09-SD01 and LON-SS09-SD03 were also utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

G.4 Sample numbers LON-ST10-SD02 and LON-ST10-SD07 were also utilized for field replicate analysis. The results of the field replicate analyses met all applicable QC criteria and the results are considered acceptable.

H. Surrogate Recoveries:

H.1 The surrogate recoveries in sample numbers LON-SS09-S02 and LON-SS09-S03 exceeded the QC acceptance criteria which was probably due to interference from late eluting hydrocarbons present in the samples. It is the opinion of the reviewer that this should not effect the project sample results.

H.2 The surrogate QC recovery criteria were met for all other project samples and the results are considered acceptable.

I. Matrix Spike/Matrix Spike Duplicate Analyses:

I.1 The laboratory did not perform any matrix spike/matrix spike duplicate analyses for the gasoline fraction.

J. System Performance:

J.1 No problems with system performance were observed for the project samples.

K. Quantitation and Identification:

K.1 The laboratory reported detected results in sample numbers LON-SS09-S06, LON-SS13-SD03, LON-SS09-S02, LON-SS09-S03, LON-ST10-SD02, and LON-ST10-SD07, and identified it as diesel fuel. It is the opinion of the reviewer that the chromatographic pattern confirms the presence of late eluting hydrocarbons, and the reported detected results are qualified "J" as estimated and are usable for limited purposes.

K.2 No other problems were observed with compound quantitation and identification.

L. Conclusion:

L.1 Due to the large percent RSDs in the initial calibrations and the lack of continuing calibrations, the detected results and the PQL for gasoline in all project samples and blanks are qualified "J" as estimated and usable for limited purposes.

L.2 Due to the presence of late eluting hydrocarbons in several of the project samples, the reported results for gasoline in these samples are qualified "J" as estimated and are usable for limited purposes.

L.3 The laboratory mislabeled sample number LON-SS13-SD03 on the data summary form. The sample has been correctly identified on the data summary form by the reviewer.