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VOLUME II

DRAFT
PILOT TEST REPORT

INSTALLATION OF AIR SPARGING AND SOIL VAPOR EXTRACTION SYSTEMS AT SITES SS-06, SS-08 & ST-40

WURTSMITH AIR FORCE BASE
OSCODA, MICHIGAN

CONTRACT No. F41624-94-D-8066
DELIVERY ORDER 0007

March 16, 1998

PREPARED FOR:
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AFB, TEXAS

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DRAFT

PILOT TEST REPORT

FOR

INSTALLATION OF AIR SPARGING AND SOIL VAPOR EXTRACTION SYSTEMS AT SITES SS-06 AND SS-08

WURTSMITH AIR FORCE BASE
OSCODA, MICHIGAN

Contract No. F41624-94-D-8066
Delivery Order 0007

VOLUME II - APPENDICES

March 16, 1998

Prepared for:

Air Force Center for Environmental Excellence
Brooks Air Force Base, Texas

Prepared By:

AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, Indiana 46268

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APPENDIX A

SOIL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

M&E
Metcalf & Eddy
2800 CORPORATE EXCHANGE DRIVE
SUITE 250
COLUMBUS, OHIO 43231

PHONE: (614) 890-5501
FAX: 890-7421

Location: 5 feet West of VE1
Logged By: B Chavez
Date(s): 10/27/97 - 10/27/97
Consulting Firm: Amtech/ M&E
Contractor: American Enviro.
Drilling Method: Hollow Stem Auger
Completed Depth: 43.00'
X Coordinate: 2254665.00
Y Coordinate: 414935.49

Project Name: WURTSMITH AFB
Site Id: SS06-S1
Total Depth: 43.00'
Borehole Dia.: 6.00in

Remarks: Driller: Ron Mathes
Type of sampler: Splitspoon
Drilling Equiptment: CME 75
Site ID: SS06

Elevation (ft)	Depth (ft)	Recovery	Blow Count	Graphic Log	Material Description
			2 3 4 5		(0-6') Sand (SM) Silty Sand 5YR2.5/2 dark reddish brown, 10% clay, low density, low to medium density, low to medium plasticity, moist.
					(6'-2') Sand (SP) 10 YR5/4 yellowish brown, poorly graded, v fine grained, low density, trace med grained subangular sand, moist.
					(2-4) SAME AS ABOVE INTERVAL 6'-2', SOME BLACK DISCOLORATION.
610					(4-6) SAME AS ABOVE MATERIAL.
			1 1 2 1		
					(6-8) SAME AS ABOVE MATERIAL, 10YR light yellowish brown, poorly graded.
			1 1 2 1		
					(8-10) SAME AS ABOVE MATERIAL.
			2 2 2 4		
	10		3 4 4 4		(10-10.5)SAME AS ABOVE MATERIAL, 10YR4/3 brown.
					(10.5-12) Same as interval 8-10.
			3 3 6 13		(12-14) Same as above material, 10YR6/3 pale brown, dark brown staining, trace subrounded to rounded pebbles,9mm dia.
600					(14-16)SAME AS ABOVE MATERIAL, no staining.
			6 9 17 25		
					(16-18) SAME AS ABOVE MATERIAL, subangular to angular, trace of limst cobble.
			18 12 20 33		(18-20)SAME AS ABOVE MATERIAL, no cobble fragments.

MP. EL. 615.08

Elevation (ft)	Depth (ft)	Recovery	Blow Count	Graphic Log	Material Description	Well Construction
			6 10 23 34		(20-22)Sand (SP) 10YR6/3 pale brown, trace subrounded to rounded pebbles, 10mm dia, poorly graded, moist.	
			5 8 16 20		(22-24) SAME AS ABOVE MATERIAL, moist to wet.	
590					(24-26) SAME AS ABOVE MATERIAL, dark brown discoloration at 24-25, saturated.	
			6 8 12 20		(26-28)SAME AS ABOVE MATERIAL, no discoloration, few rounded pebbles.	
			6 6 11 21			
	28				(28-30)SAME AS ABOVE MATERIAL, 10YR5/2 grayish brown.	
			6 9 20 29		(30-32)SAME AS ABOVE MATERIAL.	
			8 11 16 40		(32-34)SAME AS ABOVE MATERIAL.	
580			7 12 19 26		(34-36)SAME AS ABOVE MATERIAL.	
			6 10 31 39		(36-38)SAME AS ABOVE MATERIAL.	
	38				(38-40)SAME AS ABOVE MATERIAL.	
					(40-42)SAME AS ABOVE MATERIAL.	
					DRILLED 1" TO TOTAL DEPTH OF 43 FEET.	
570					SCREENED INTERVAL 40.5-43'	

M&E
Metcalf & Eddy
2800 CORPORATE EXCHANGE DRIVE
SUITE 250
COLUMBUS, OHIO 43231

PHONE: (614) 890-5501
FAX: 890-7421

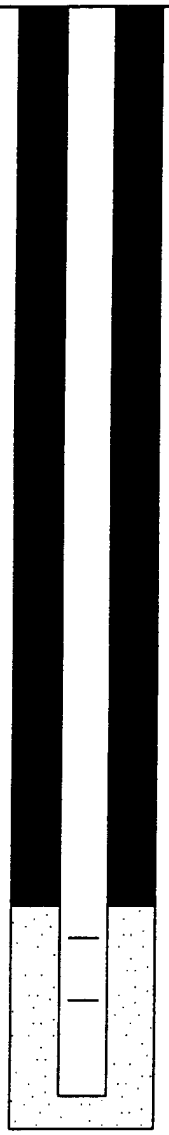
	Location: 5 feet South of VE1/MP6
	Logged By: B Chavez
	Date(s): 11/11/97 - 11/11/97
	Consulting Firm: Amtech/ M&E
	Contractor: American Enviro.
	Drilling Method: Hollow Stem Auger
	Completed Depth: 35.00'
	X Coordinate: 2250428.62
Project Name: WURTSMITH AFB	Y Coordinate: 415589.83
Site Id: SS08B-S1	Remarks: Driller: Ron Mathes Type of Sampler:Splitspoon Drilling Equiptment: CME 75 Site ID: SS08B
Total Depth: 35.50'	
Borehole Dia.: 14.00in	

Elevation (ft)	Depth (ft)	Recovery	Blow Count	Graphic Log	Material Description
			5 5 5 4		(1-3) Sand (SP) 10YR5/4 yellowish brown, poorly graded, low density , loose, low plasticity, trace of pebbles, v fine grained, moist.
			4 3 2 2		(3-5) SAME AS ABOVE MATERIAL, trace of rootlets.
			2 1 1 2		(5-7) Sand (SP) 10YR5/4 yellowish brown, few fines at 7'. moist.
			3 4 6		(7-9) Sand (SP) 10YR6/3 pale brown, poorly graded, low density, low plasticity, v fine grained.
610			4 5 5 5		(9-11) SAME AS ABOVE MATERIAL, moist.
	10		3 4 6 11		(11-13) SAME AS ABOVE MATERIAL, moist.
			4 7 11 18		(13-15) SAME AS ABOVE MATERIAL, 10YR6/4 light yellowish brown, wet at 15'.
			2 6 10 16		(15-17) SAME AS ABOVE MATERIAL, 10YR5/3 brown, saturated.
			2 6 11		(17-19) SAME AS ABOVE MATERIAL, some rounded and subangular pebbles and fine grained sand.

MP. EL. 620.52

Elevation (ft)	Depth (ft)	Recovery	Blow Count	Graphic Log	Material Description
600			14		(19-20) SAME AS ABOVE MATERIAL.
			3 5 8		(20-21) Sand (SW) fine sand, loose with fine sands, low to medium density, low plasticity, saturated.
			8		(21-23) Sand (SW) fine to medium sand, subrounded, loose, low plasticity, wet.
			2 5 6		
			10		(23-25) SAME AS ABOVE MATERIAL.
			2 4 7		
			11		(25-27) HEAVE IN SPOON.
			2 3 7		
			17		(27-29) SAME AS INTERVAL 21-23.
	28		1 1 6 12		
590					(29-31) SAME AS ABOVE MATERIAL.
			1 4 6		
			13		(31-33) NO RECOVERY.
			1 1 6 12		
					(33-35) HEAVE IN SPOON.
			1 3 6 11		
					END OF BORING AT 35.5'
	38				SCREENED INTERVAL 32.5-35.0'
580					

Well Construction



BORING LOG

Borehole ID: SS06-MP1
Sheet 1 of 1

			Location: 5ft. South of SS06-VE1	
Project Name: Pilot Test	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS06	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Steve Sikora	Ground Elevation	Total Drilled Depth: 40.5ft.	
Drilling Equipment: CME 75 / Drilling Method: HSA(9¼") / Borehole Diameter: 14"		Date/Time Drilling Started: 10/30/97/ 1400	Date/Time Total Depth Reached: 10/30/97 / 1510	
Type of Sampling Device: —		Water Level (bgs) First: 22' Final		
Sample Hammer Type: — Driving Wt.: — Drop: —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-5) SAND(SP) 10yr 5/3 brown, low density, low plasticity, very fine grained poorly graded, moist				Ø
				(5-10) Same as above material				Ø
				(10-15) SAND(SP) 10YR 6/4 light yellowish brown. As above material				Ø
				(15-20) SAND(SP) 10YR 5/3 brown. As above material.				Ø
				(20-25) As above material.				767
				(25-30) As above material.				986
				(30-35) As above material.				>2000
				(35-40) As above material.				>2000
				End of boring 40.5'				

AFCEE FORM BL.11

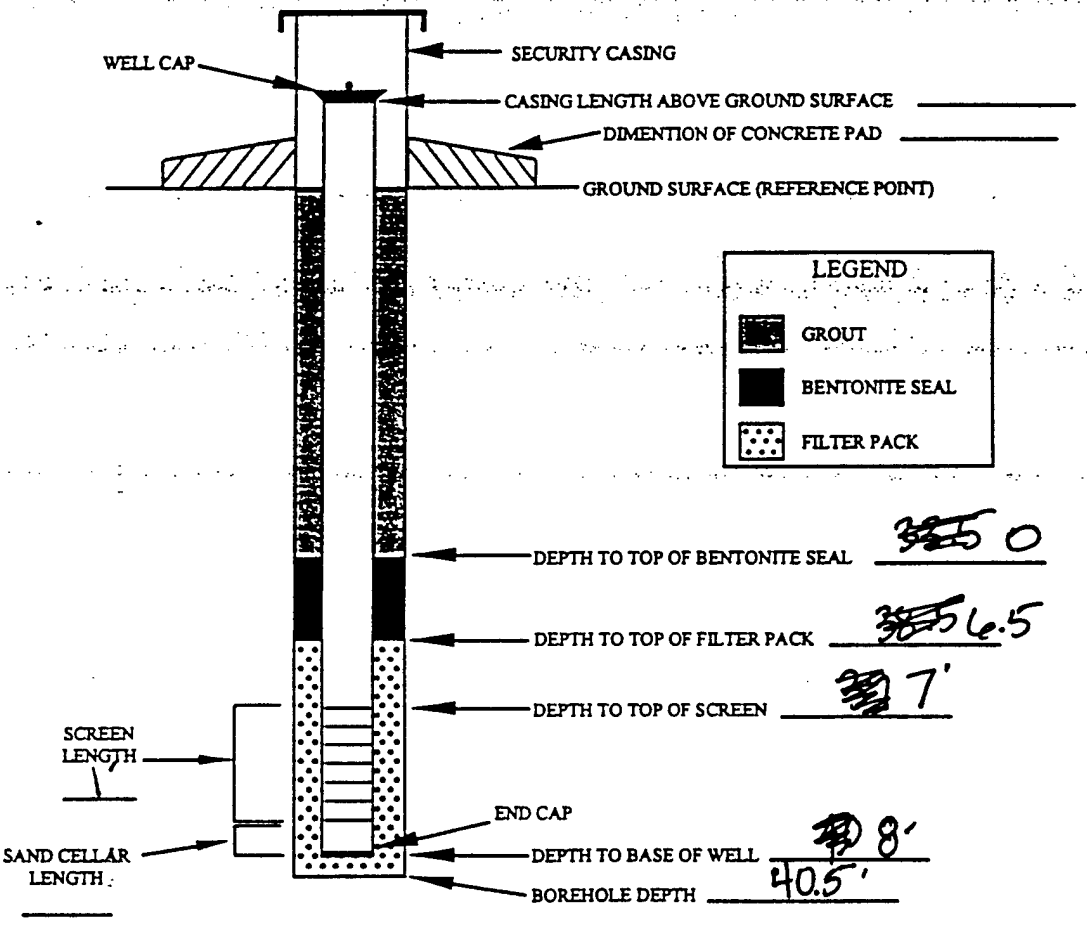
SS06-MP1A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-MP1A
WELL CONSTRUCTION START DATE: 11/6/97
WELL CONSTRUCTION COMPLETE DATE: 11/6/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 7-8
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 22
TYPE OF BENTONITE: Pure Gold Chips
AMOUNT BENTONITE USED: 35
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



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DISCREPANCIES:

SS06-MP1B

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

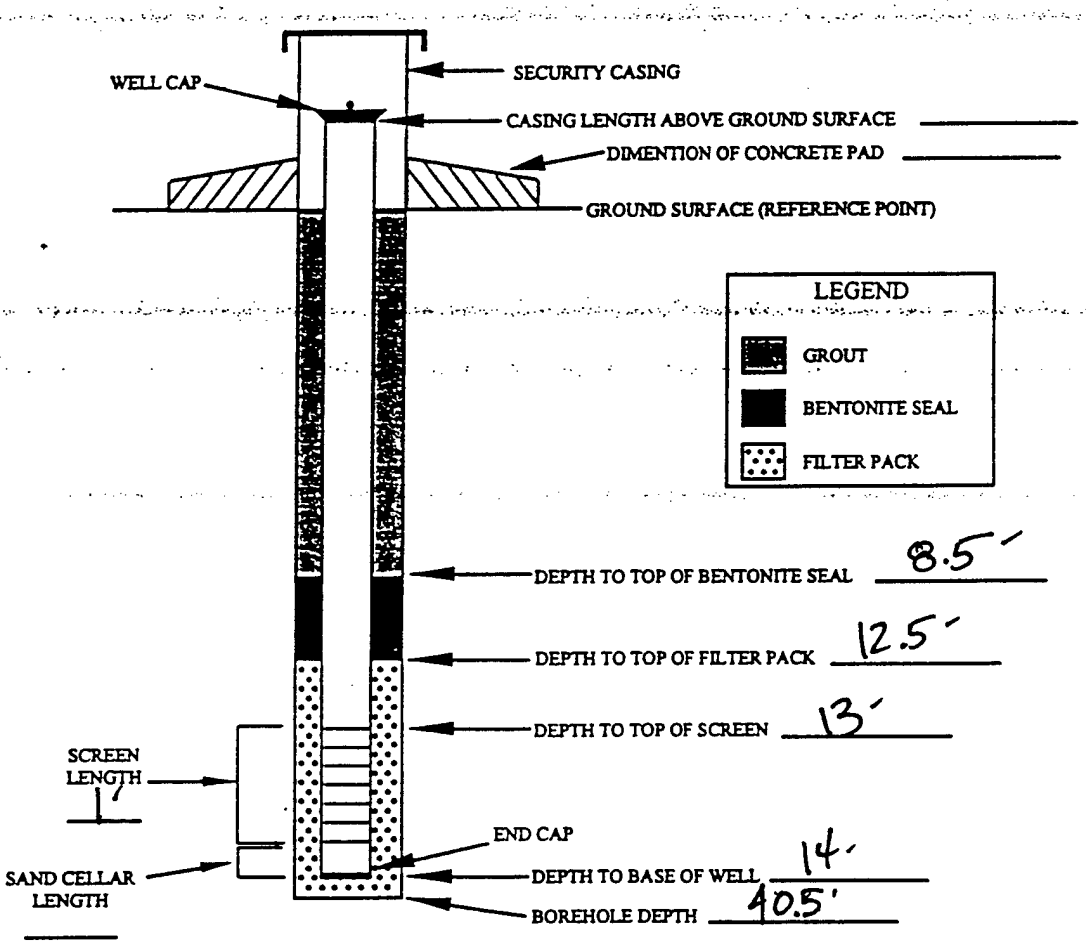
FIELD REPRESENTATIVE: B. Chávez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-MP1B

WELL CONSTRUCTION START DATE: 11/6/97
WELL CONSTRUCTION COMPLETE DATE: 11/6/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 13-14
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global SilicaSand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3 22
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 55
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



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SS06-MP1C

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chávez
DRILLING CONTRACTOR: American Environ.
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-MP1C
WELL CONSTRUCTION START DATE: 11/6/97
WELL CONSTRUCTION COMPLETE DATE: 11/6/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 19-20
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 22
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 35
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
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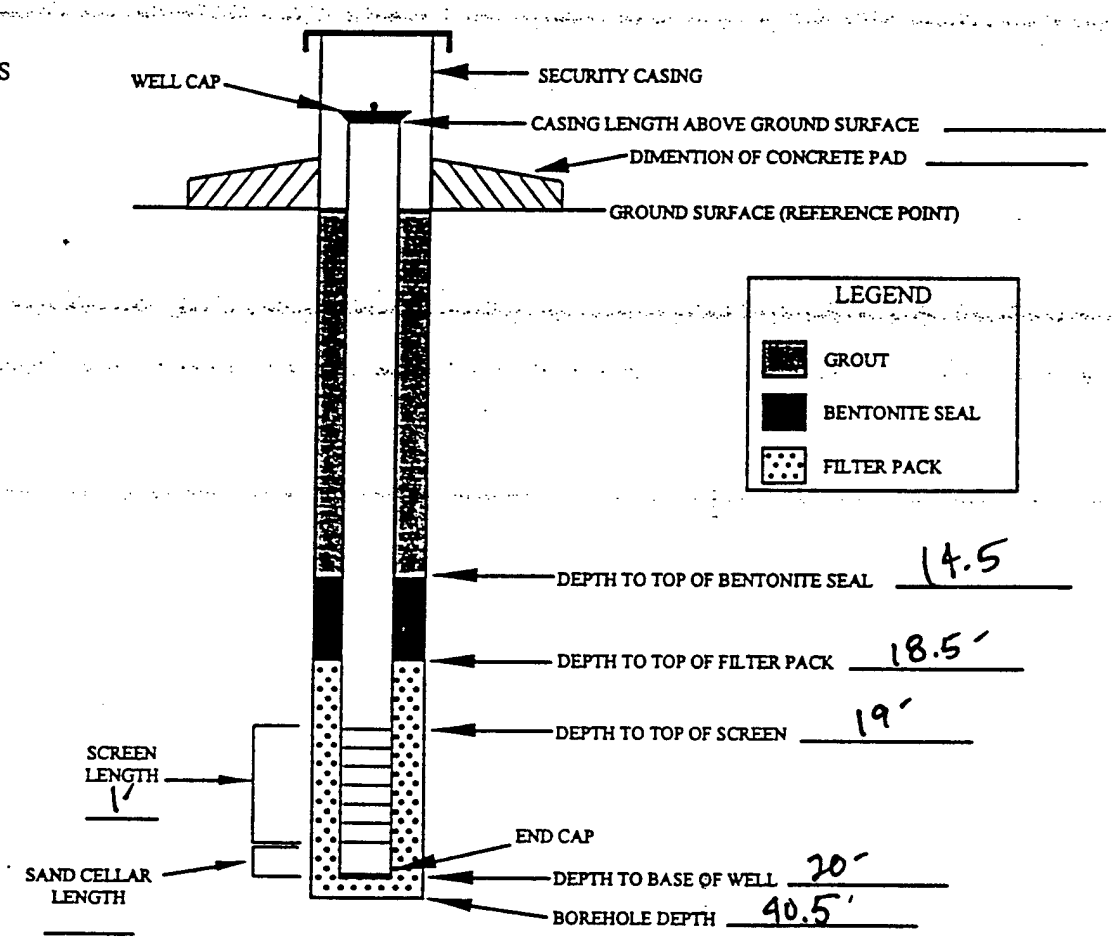

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DISCREPANCIES:

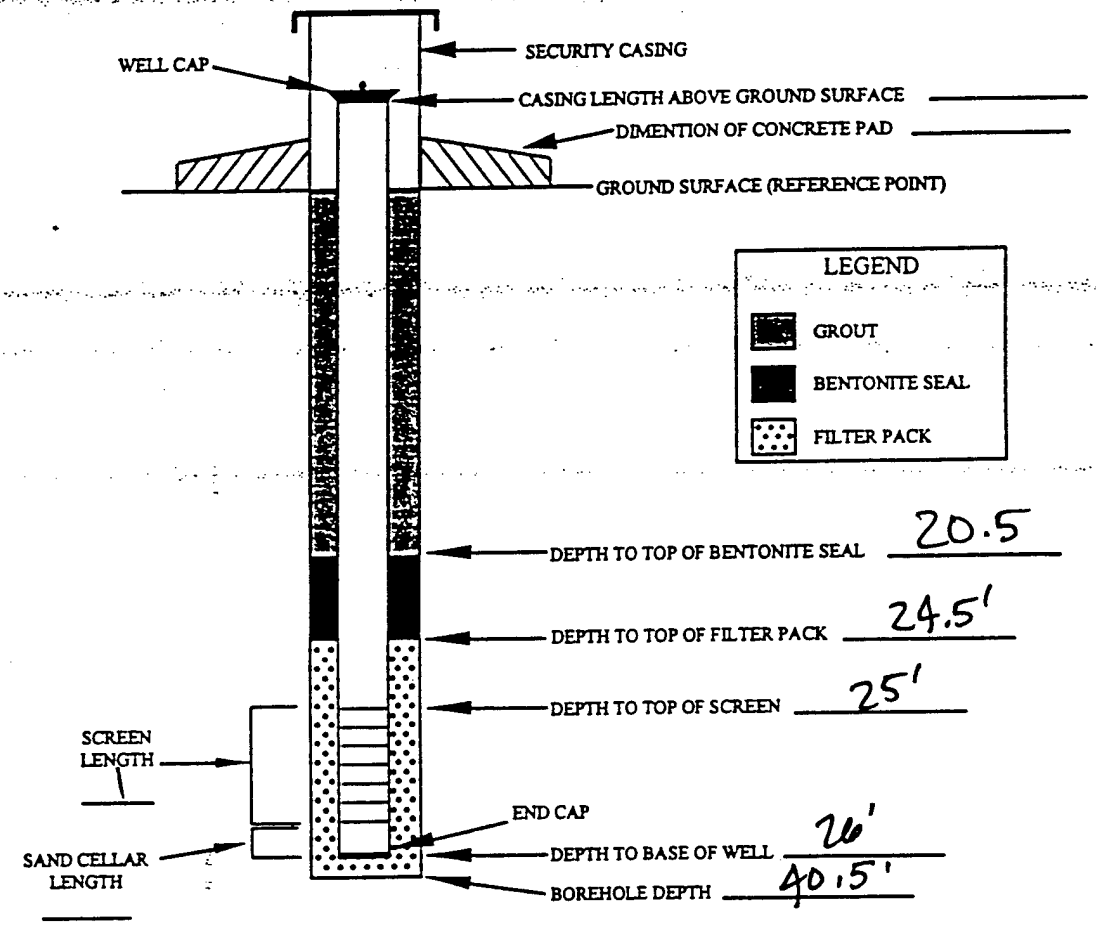
SS06-MP1D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-MP1A
WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 25-26
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 22
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 35
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental
INSTALLATION OBSERVED BY: Metcalf+Eddy (B. Chavez)

DISCREPANCIES:

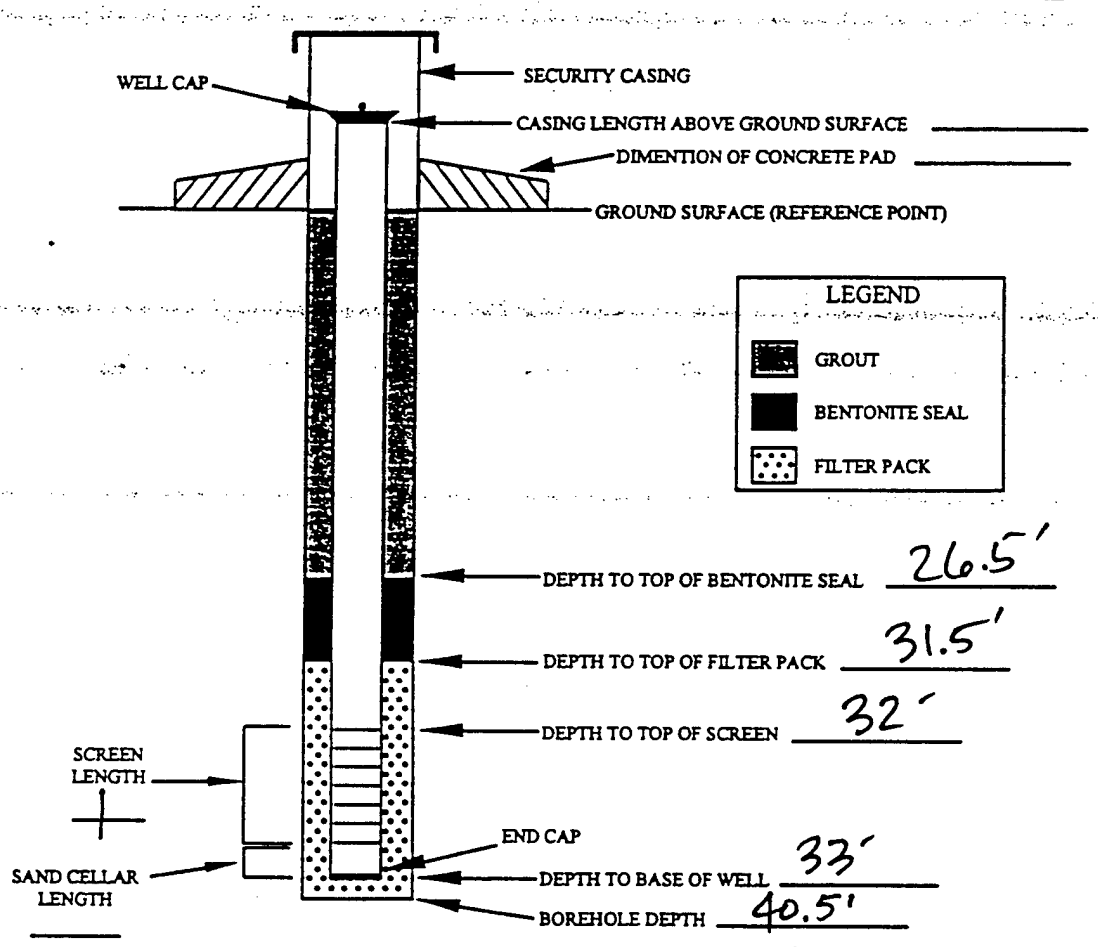
SS06-MP1E

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-MP1E
WELL CONSTRUCTION START DATE: 11/6/97
WELL CONSTRUCTION COMPLETE DATE: 11/6/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 32-33
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 22
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 35
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf: Eddy Inc (B. Chavez)

DISCREPANCIES:

SS06-MP1F

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environ.
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-MP1F

WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:

SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 39-40

CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 22

TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 35

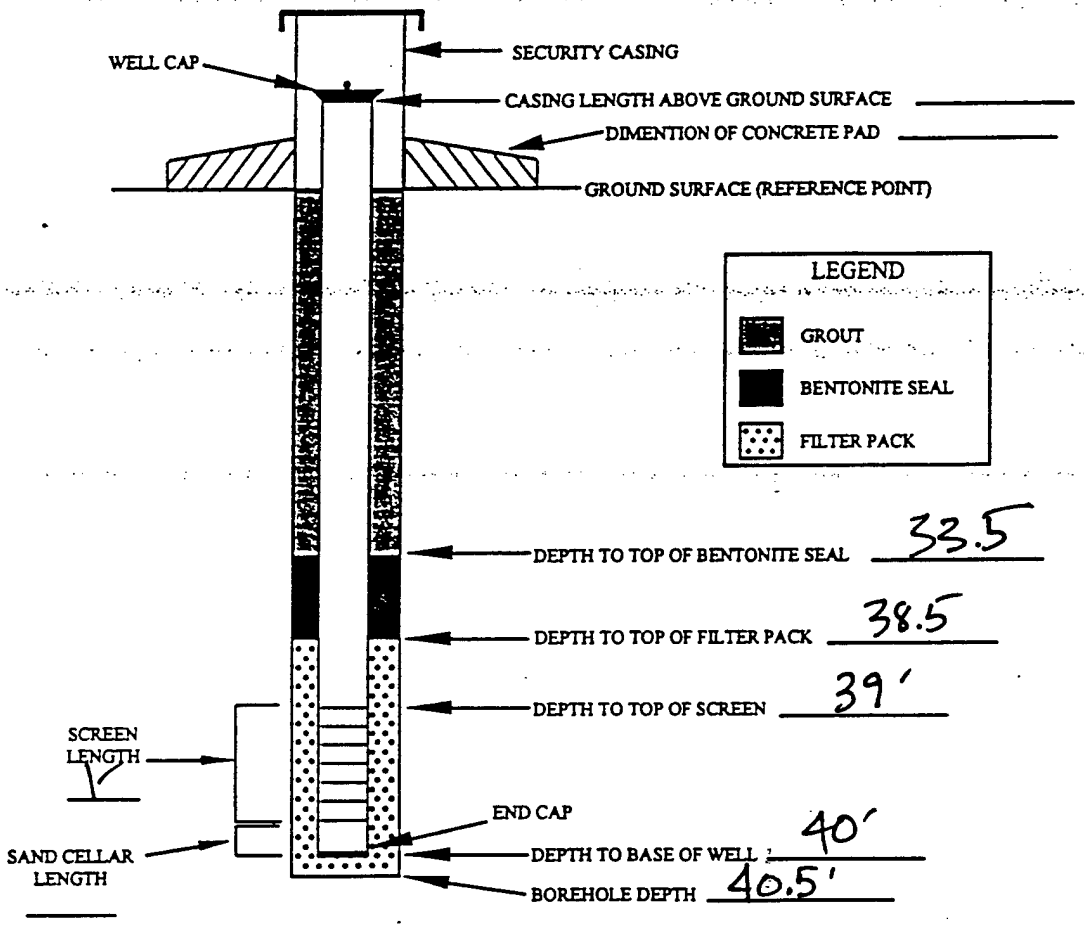
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf-Eddy Inc.

DISCREPANCIES:

BORING LOG

Borehole ID: SS06-MP2
Sheet 1 of 1

Project Name: Pilot Test wells	Project Number:	LTCCODE (IRPIMS):	Location: 10' NE of SS06 VE1/MP6 Site ID: SS06	LPRCODE (IRPIMS):
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation:	Total Drilled Depth: 40.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" ID HSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/6/97 1530	Date/Time Total Depth Reached: 11/6/97 1717 40.5
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type / Driving Wt. / Drop		Hydrogeologist: B. Chavez	Checked by/Date:	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-10) SAND (SP) [illegible]	SP		M	5
				(10-20) 10YR 5/2 Grayish brown [illegible]	SP		M	>2000
				(20-30) Same as above [illegible]	SP		M-W	72000
				(30-40) Same as above [illegible]	SP		W-Vi	>2000
				logged from cuttings				

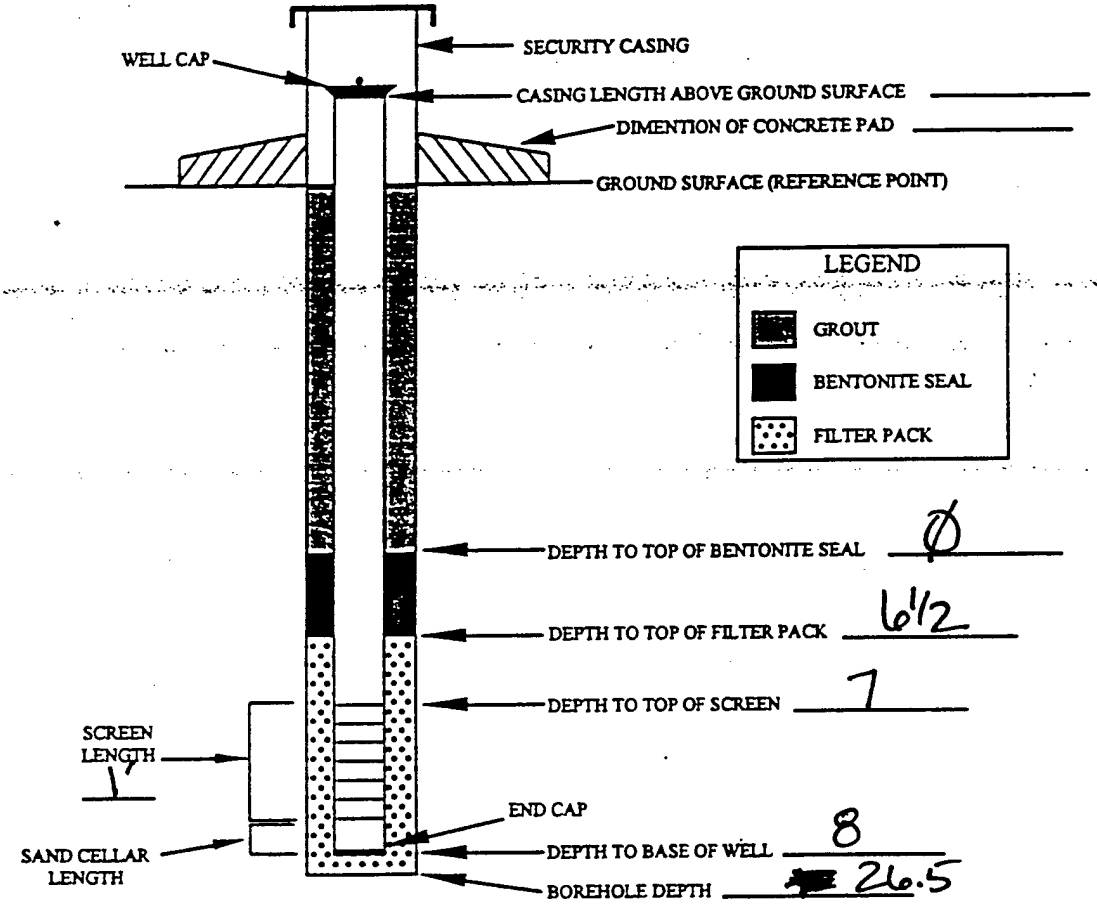
SS06 MP2A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9½ ID HSA
BOREHOLE IDENTIFICATION: SS06-MP2
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP2A
WELL CONSTRUCTION START DATE: 11/6/97
WELL CONSTRUCTION COMPLETE DATE: _____
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 7-8
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold Chips
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy/PXC (B. Chavez

DISCREPANCIES: _____

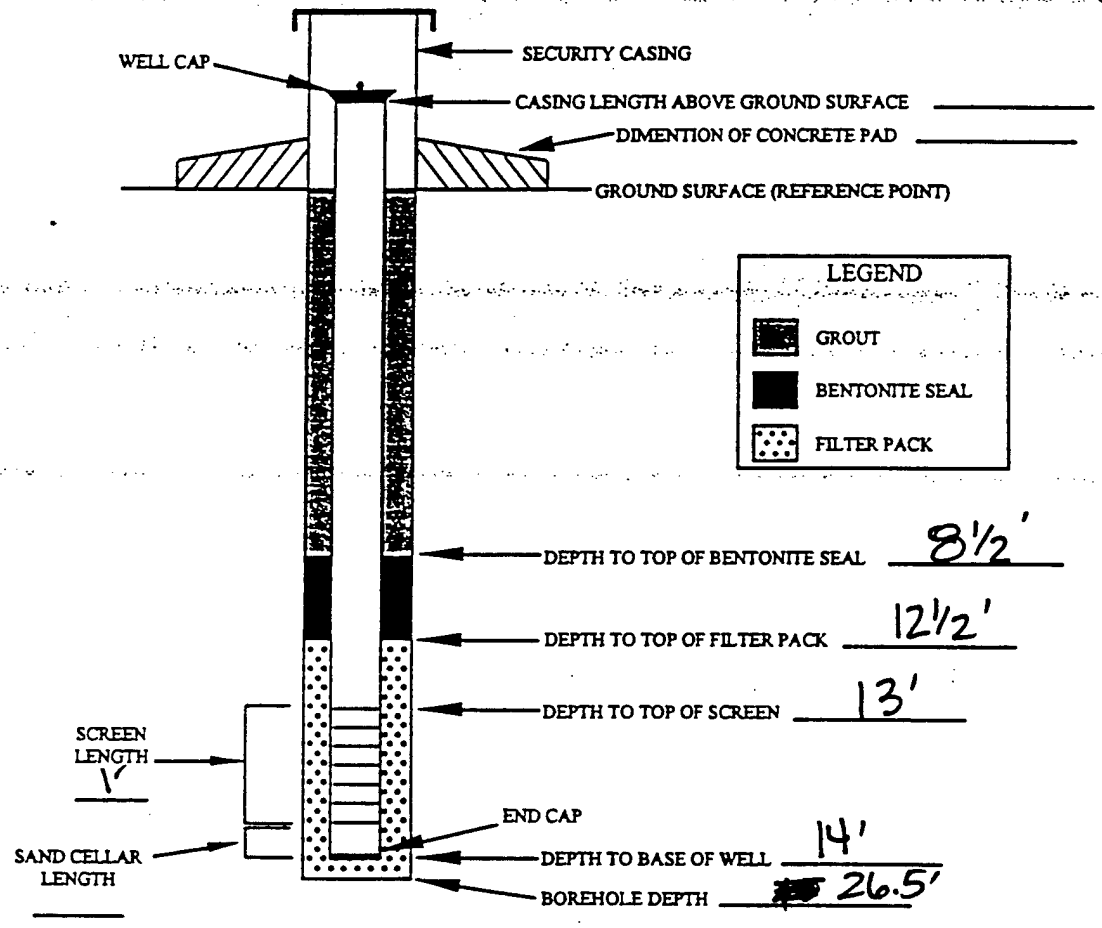
SSOG-MP2B

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼ ID HSA
BOREHOLE IDENTIFICATION: SSOG-MP2
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSOG-MP2B
WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 13-14
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 5
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf; Eddy (B. Chavez)

DISCREPANCIES:

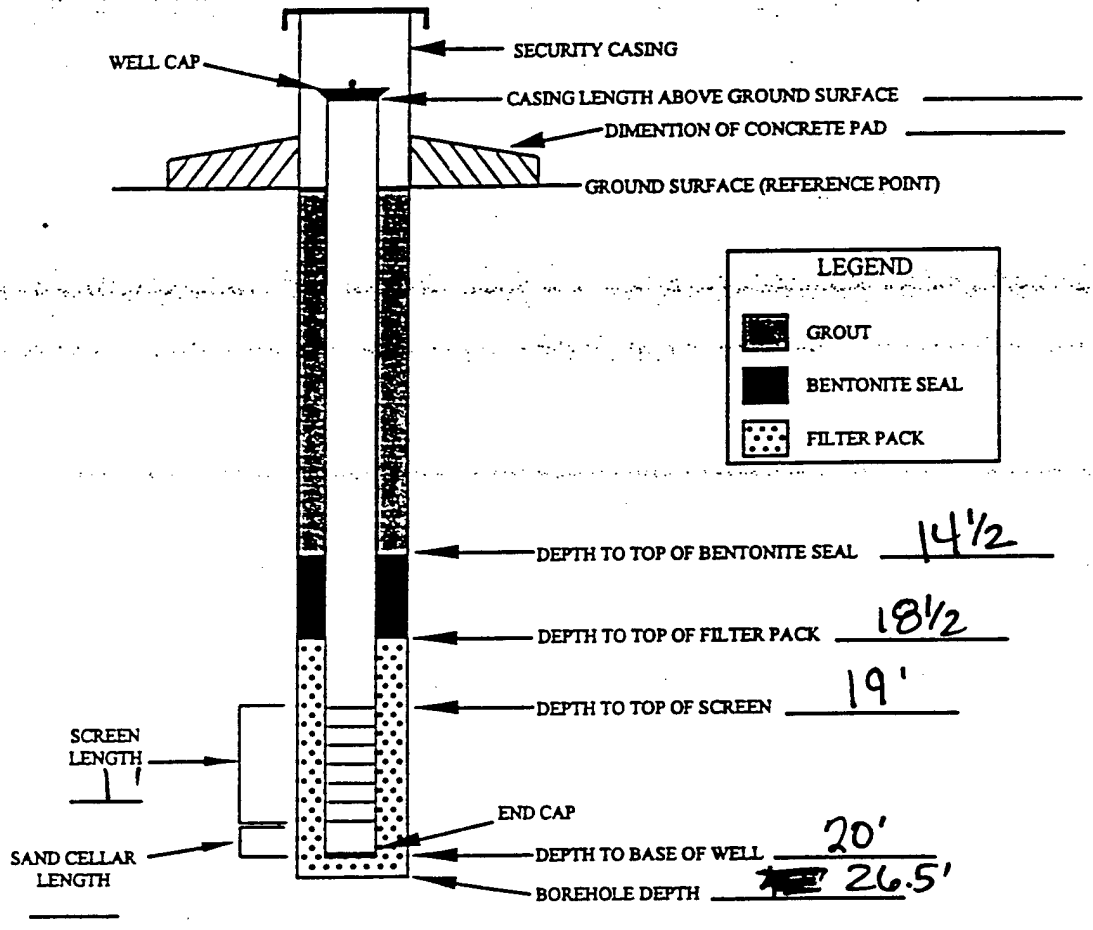
SS06-MP2C

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP2
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP2C
WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 19-20'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold chips
AMOUNT BENTONITE USED: 6
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez

DISCREPANCIES:

SS06-MP2D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP2
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP2D

WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:

SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: #1 3/4"
STRATUM-SCREENED INTERVAL (FT): 25-26

CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2

TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 6

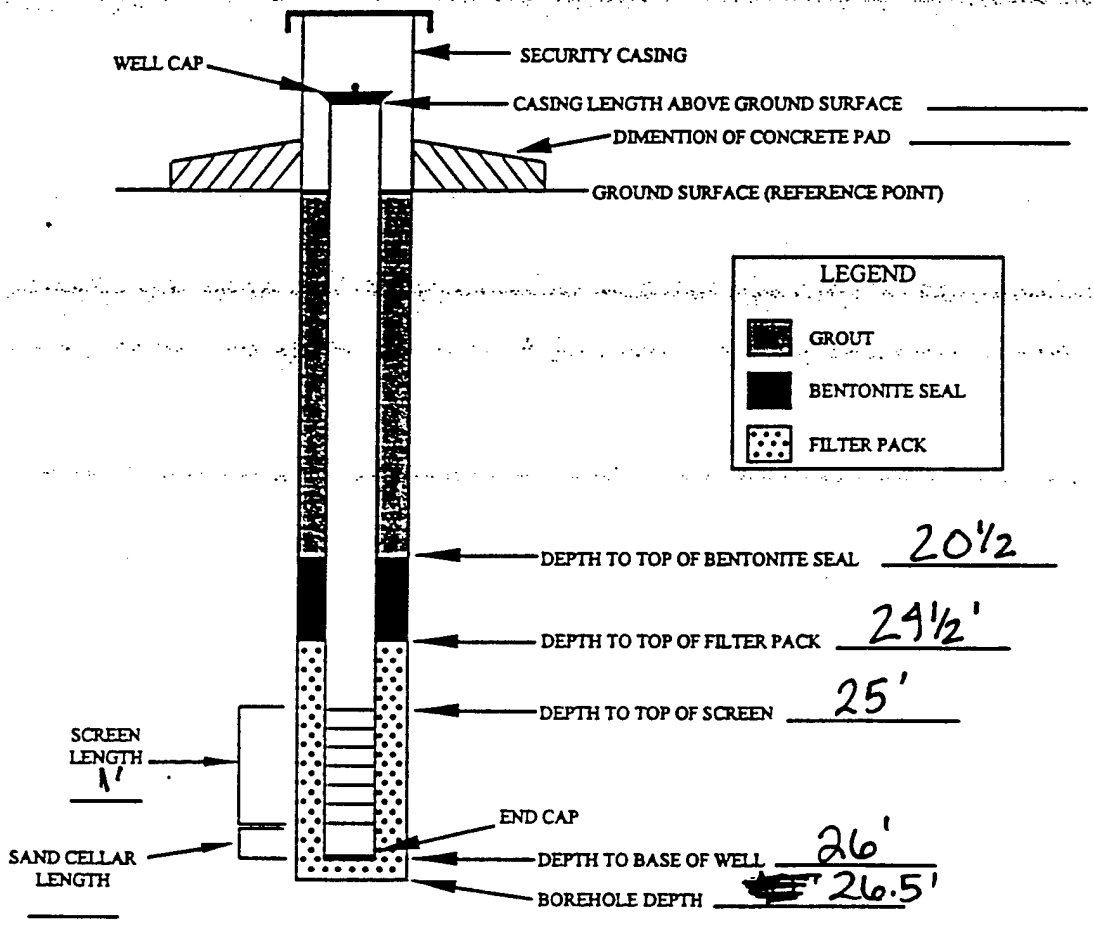
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy (B. Chavez)

DISCREPANCIES:

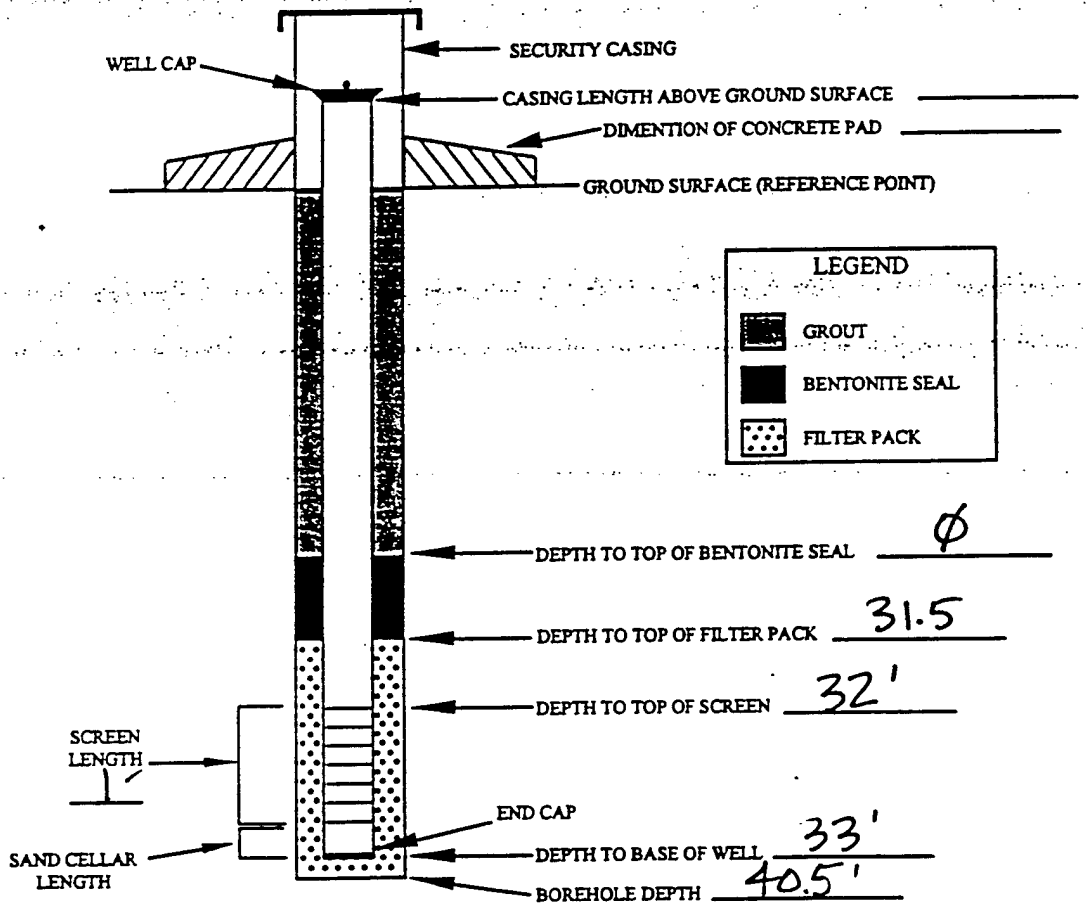
SS06-MP2E

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP2
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP2E
WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 32-33
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: PureGold.
AMOUNT BENTONITE USED: 56 bags
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy (B. Chavez)

DISCREPANCIES:

SS06-MP2F

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9 1/4" ID HSA

BOREHOLE IDENTIFICATION: SS06-MP2
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP2F

WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:

SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 39-40

CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 1 bag

TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 6 bags

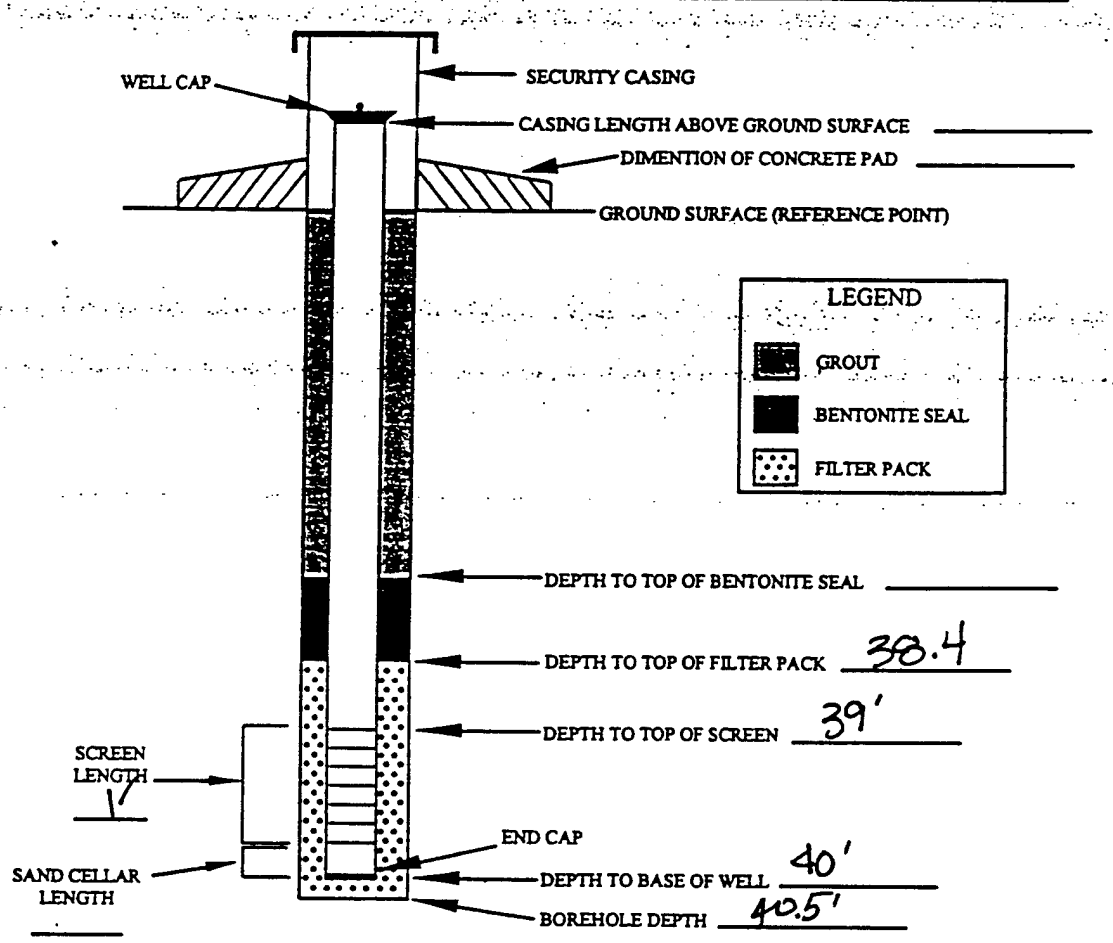
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy (B. Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS06-MP3
Sheet 1 of 1

			Location: 15' NW of SS06 VE1	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS06	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 33.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" IDHSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/8/97 / 1115	Date/Time Total Depth Reached: 11/8/97 / 1115 — 33.5'
Type of Sampling Device: —		Water Level (bgs) First: 22' Final:		
Sample Hammer Type: — Driving Wt.: — Drop: —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-10) SAND(SP) 10YR 5/4 yellowish brown very fine grained, loose density, low plasticity, trace pebbles moist	SP		M	0
10				(10-20) 10YR 6/4 light yellowish brown Same as above moist	SP		M	22
20				20-30 Same as above moist	SP		M-W	72000
30				30-33.5 Same as above moist	SP		M-W	72000
				END OF BORING 33.5'				

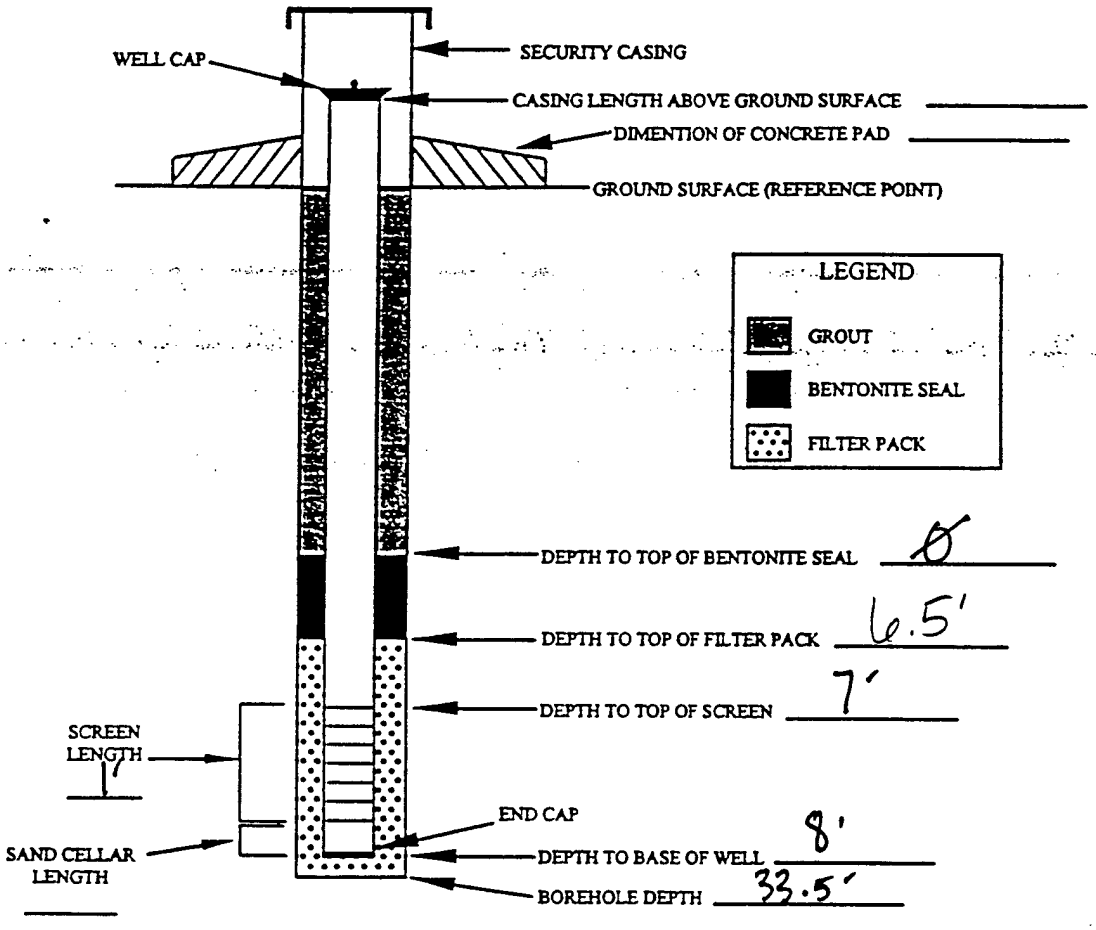
SS06-MP3A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP3
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP3A
WELL CONSTRUCTION START DATE: 11/8/97
WELL CONSTRUCTION COMPLETE DATE: _____
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 14"
STRATUM-SCREENED INTERVAL (FT): 7-8'
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 12
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalfe Eddy (B. Chavez)

DISCREPANCIES: _____

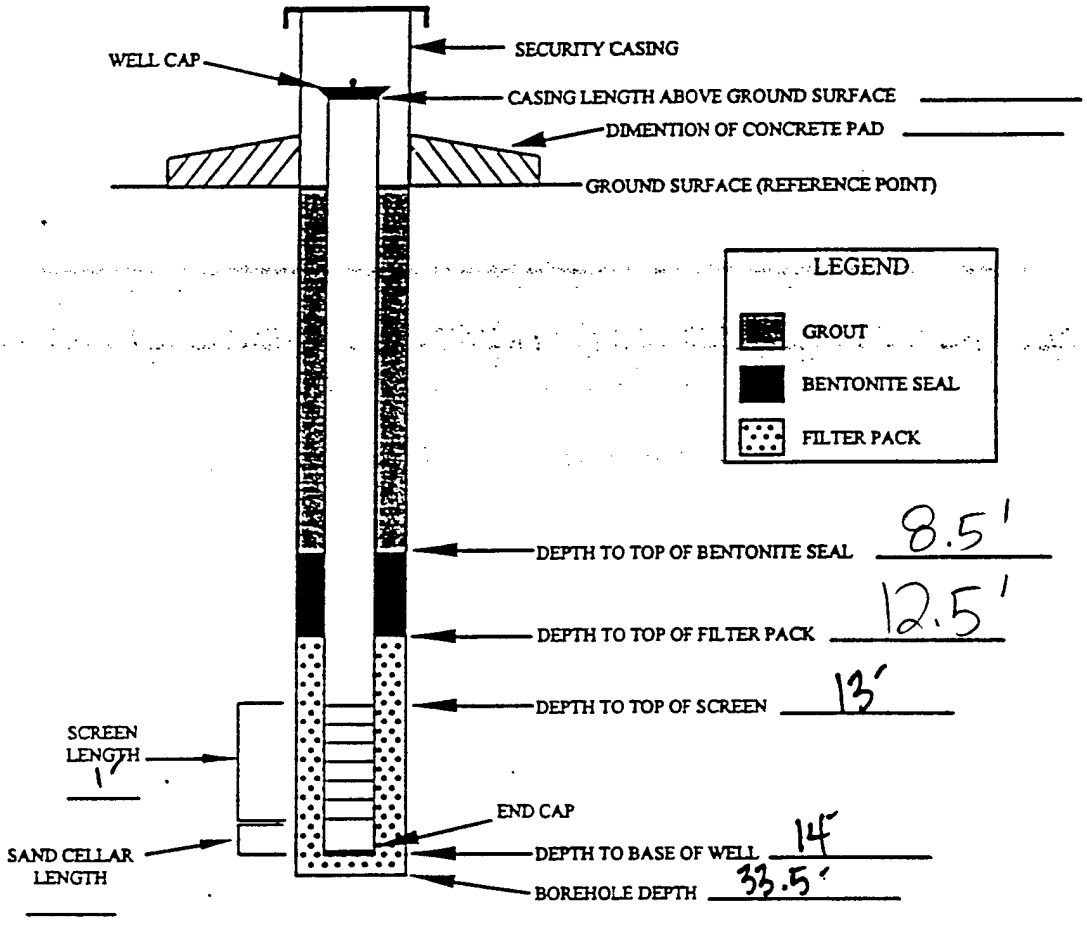
SS06-MP3D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP3
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06 MP3B
WELL CONSTRUCTION START DATE: 11/8/97
WELL CONSTRUCTION COMPLETE DATE: _____
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 13'-14'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure gold
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf; Eddy Inc. (B. Chavez)

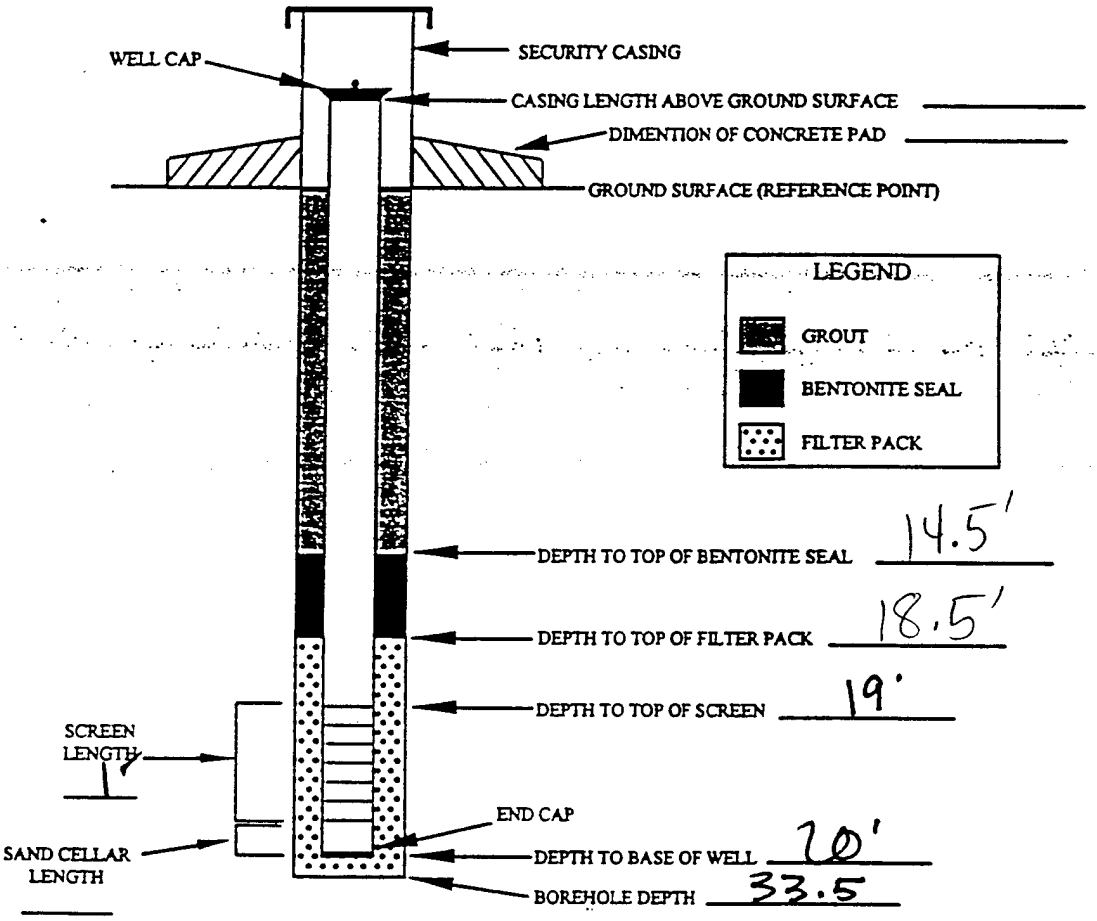
DISCREPANCIES: _____

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼ ID HSA
BOREHOLE IDENTIFICATION: SS06-MP3
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06 MP3C
WELL CONSTRUCTION START DATE: 11/8/97
WELL CONSTRUCTION COMPLETE DATE: _____
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 19-20
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 8
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES: _____

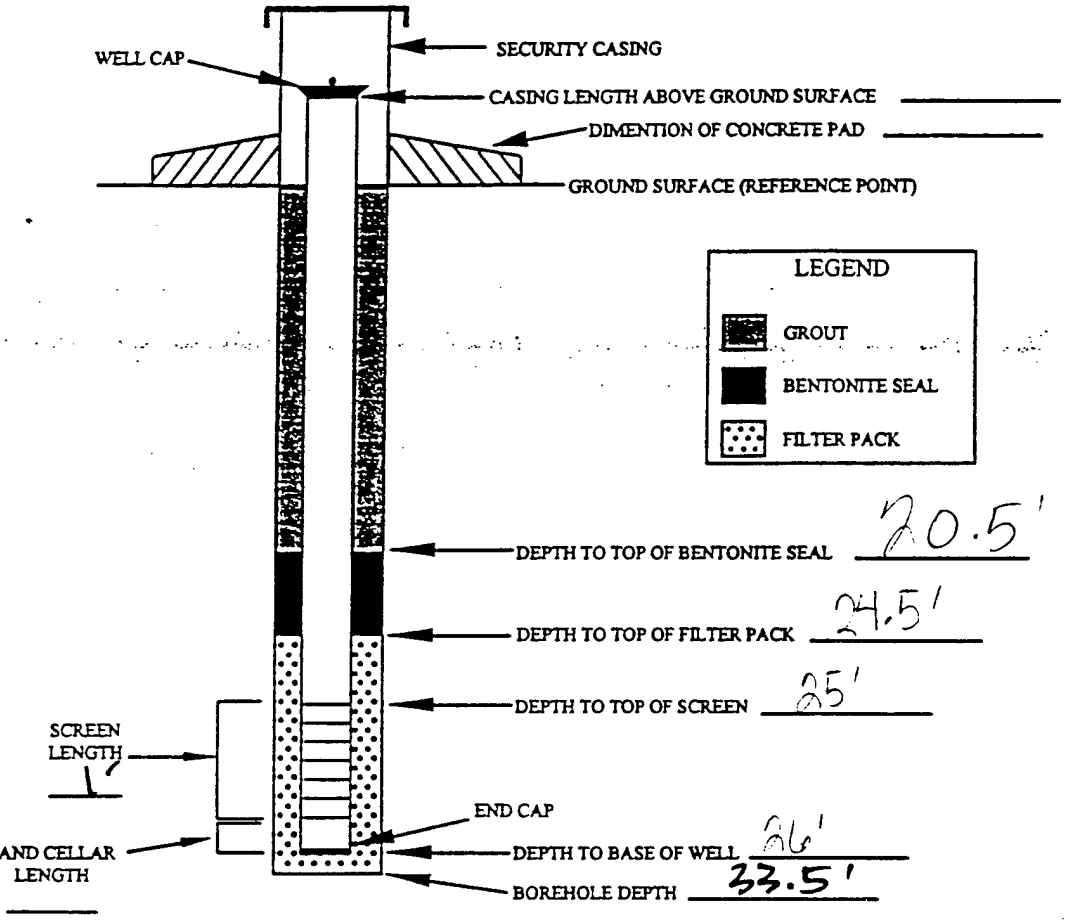
SSO6 MP3D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SSO6-MP3
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSO6-MP3D
WELL CONSTRUCTION START DATE: 11/8/97
WELL CONSTRUCTION COMPLETE DATE: _____
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 25-26
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 2"

TYPE OF FILTER PACK: Global Sand
GRADATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold Chips
AMOUNT BENTONITE USED: 6
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES: _____

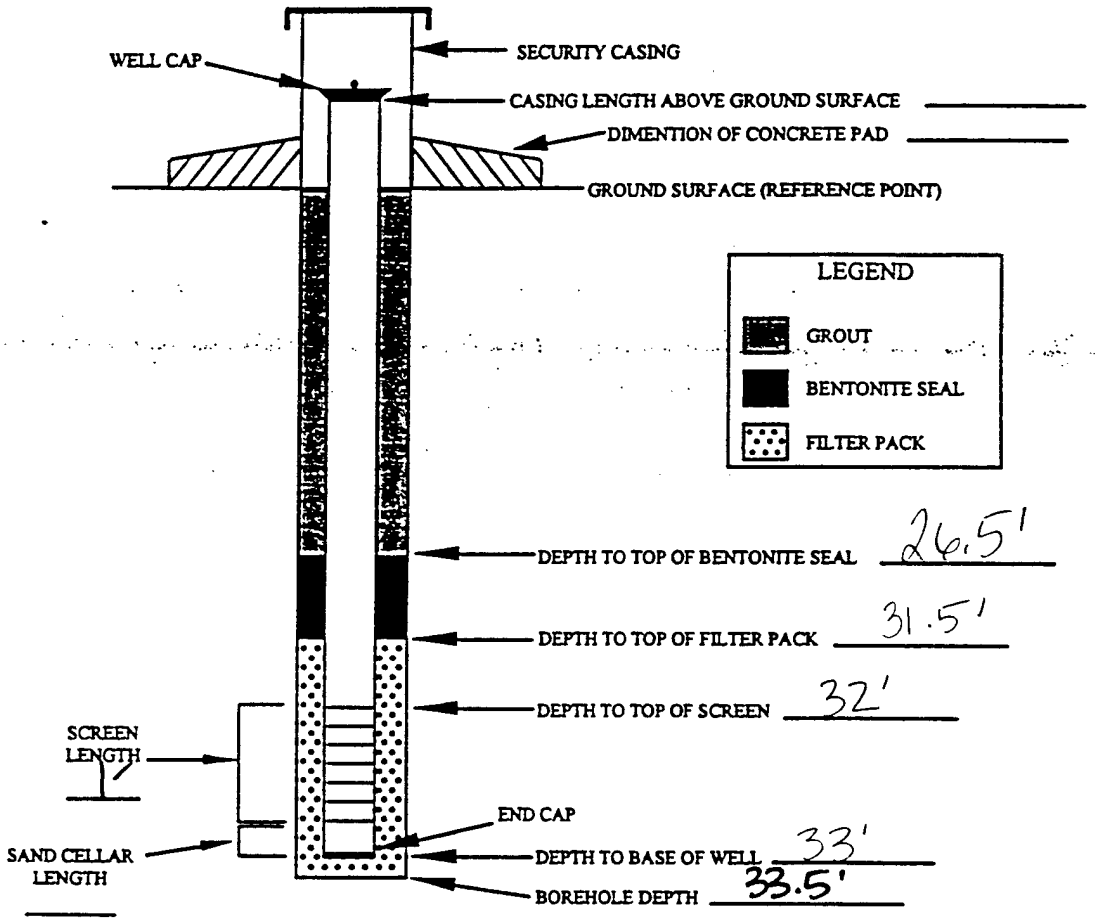
SS06 MP3E

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: BChavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP3
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP3E
WELL CONSTRUCTION START DATE: 11/8/97
WELL CONSTRUCTION COMPLETE DATE: _____
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 32-33
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold Chips
AMOUNT BENTONITE USED: 12
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (BChavez)

DISCREPANCIES: _____

BORING LOG

Borehole ID: SS06-MP4
Sheet 1 of 1

			Location	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS06	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 33.5'	
Drilling Equipment: CME 75 / Drilling Method: 9¼ ID HSA / Borehole Diameter: 14"		Date/Time Drilling Started: 11/10/97 0819	Date/Time Total Depth Reached: 11/10/97 0902 33.5'	
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-10) SAND (SP) 10YR [illegible]	SP		M	
				10-20 10YR [illegible]	SP		M	261
				(20-30) [illegible] odor			M-W	1177
				(30-33.5) [illegible] odor			M-W	1205

SSO6 MP4A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SSO6-MP4
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSO6-MP4A

WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97

SCREEN MATERIAL: PVC. Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 7-8'

CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: #2 Colorado sand
GRADIATION: #2
AMOUNT OF FILTER PACK USED: 4

TYPE OF BENTONITE: Pure gold
AMOUNT BENTONITE USED: 10

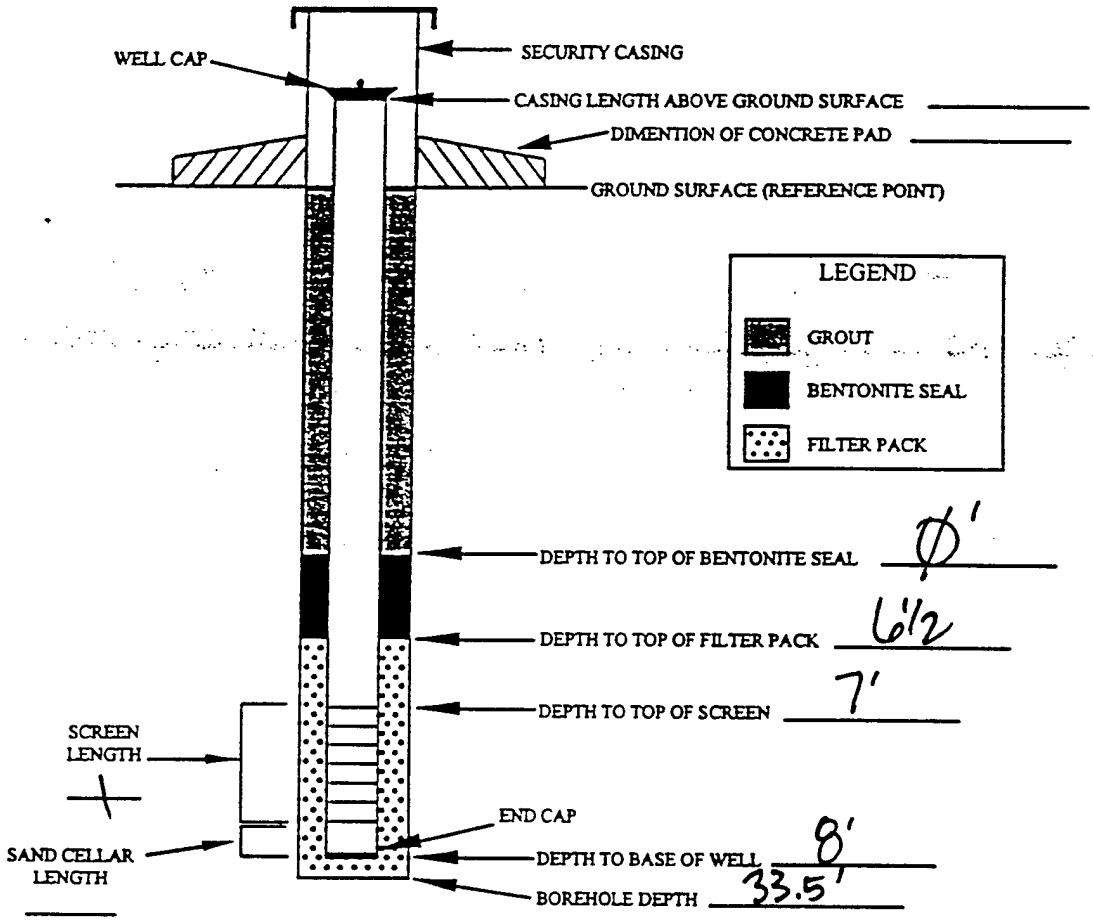
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental
INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

DISCREPANCIES:

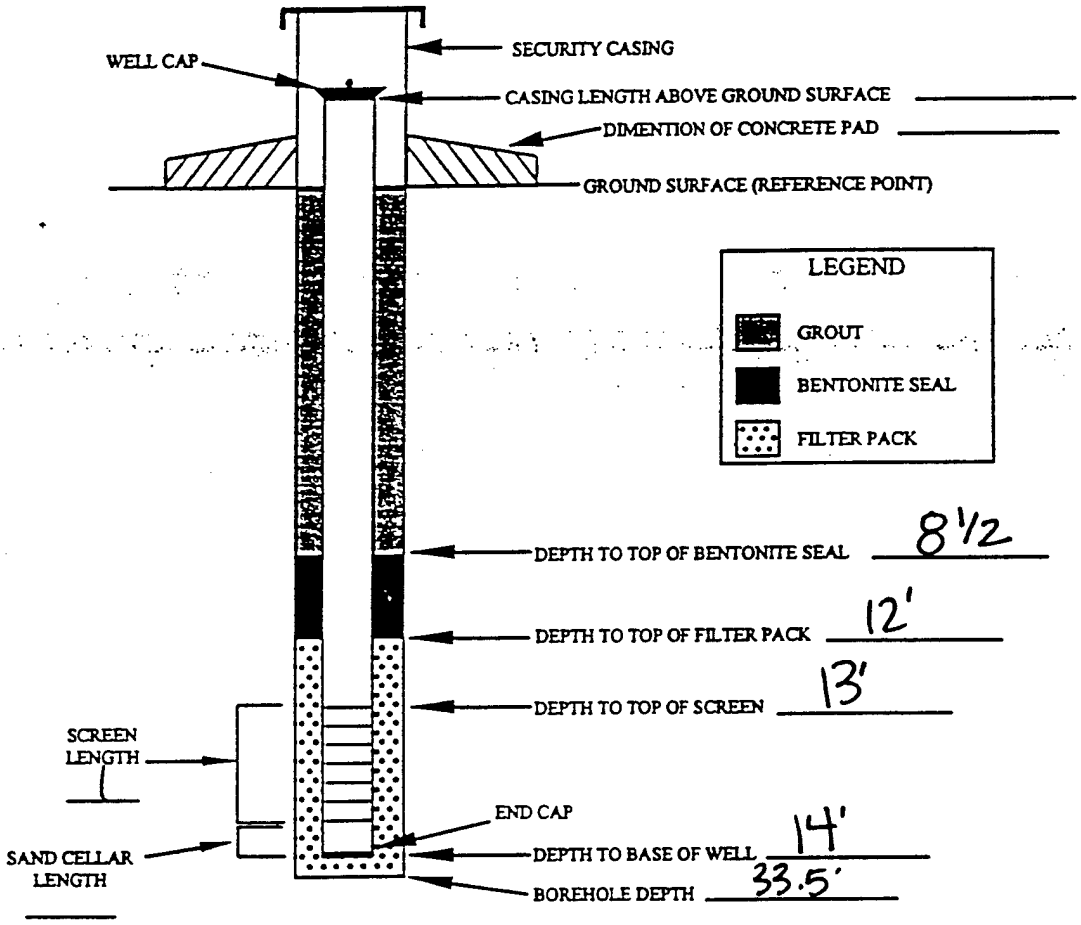
SSO6 MP4D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SSO6 MP4
BOREHOLE DIAMETER: 9¼"
WELL IDENTIFICATION: SSO6 MP4B
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 13-14'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: pure gold
AMOUNT BENTONITE USED: 10
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

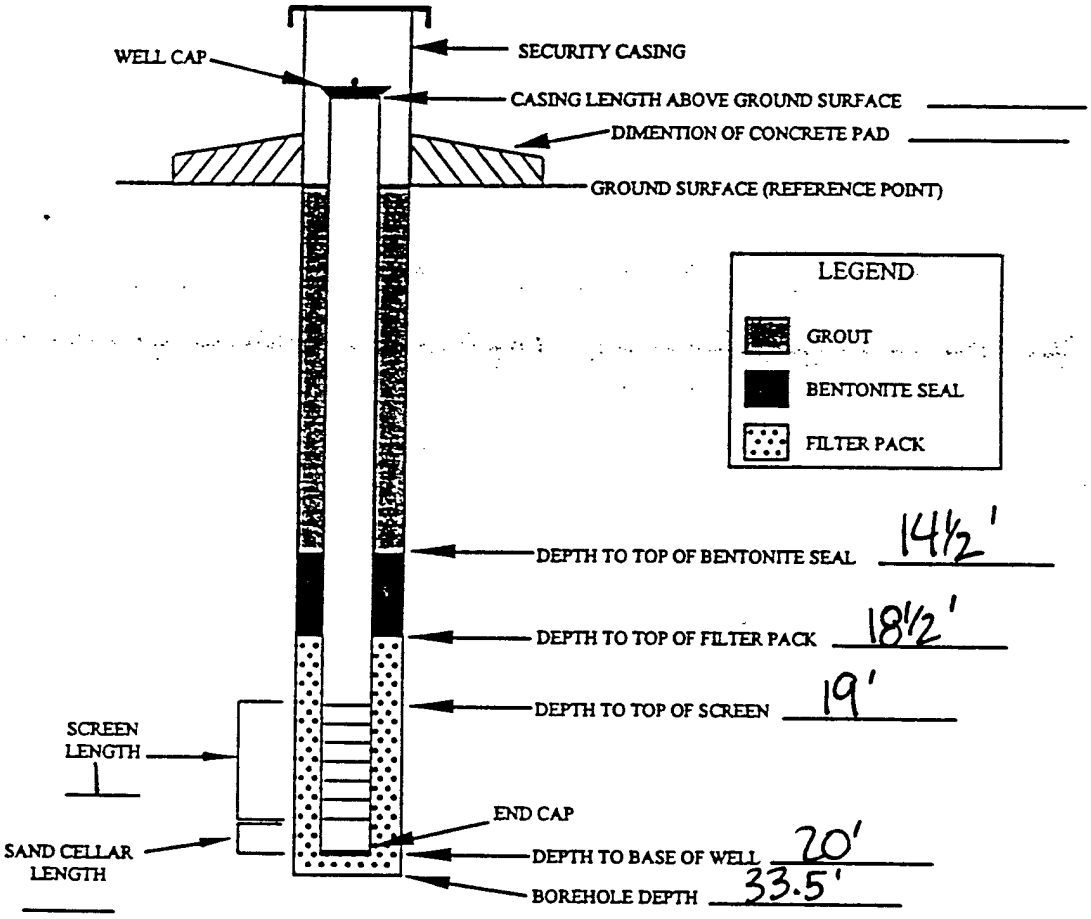
DISCREPANCIES:

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06 MP4
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06 MP4C
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 19-20
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: pure gold
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B Chavez)

DISCREPANCIES:

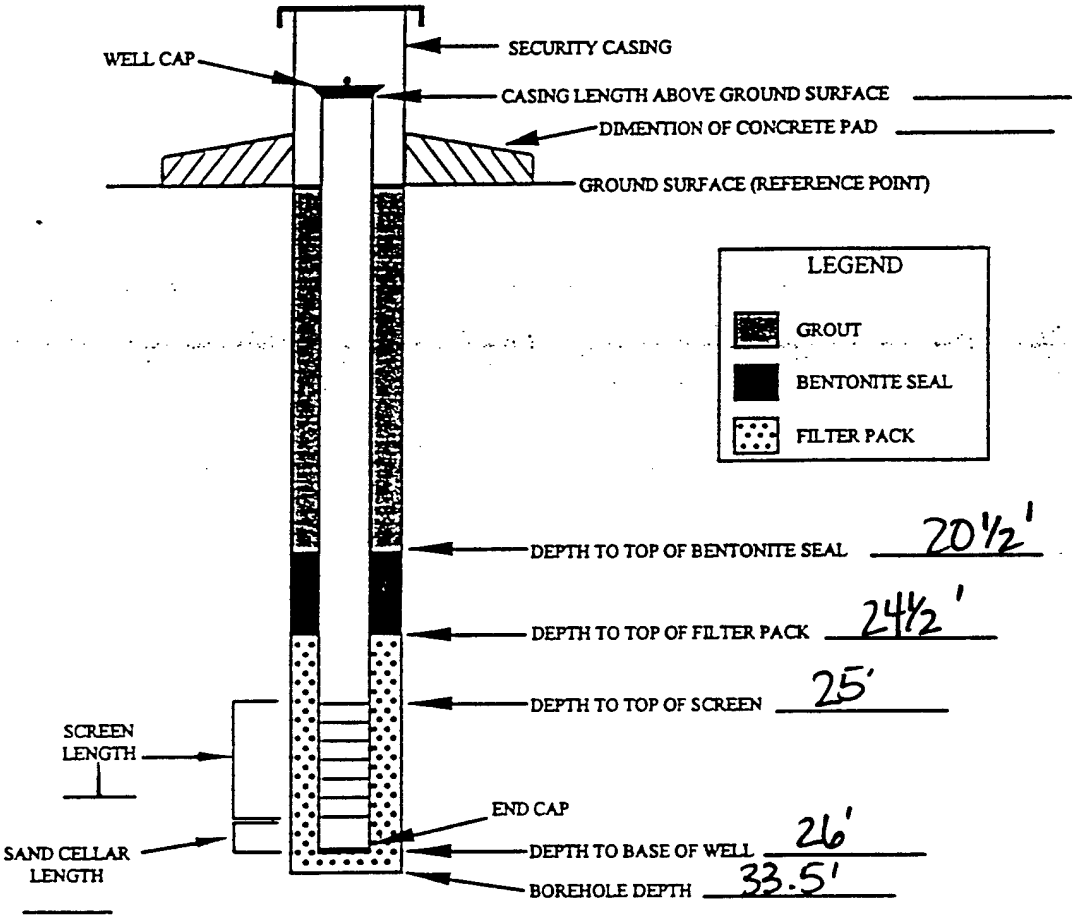
SS06 MP4D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environ.
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP4
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP4D
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 25-26'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: pure gold
AMOUNT BENTONITE USED: 5
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAA.11

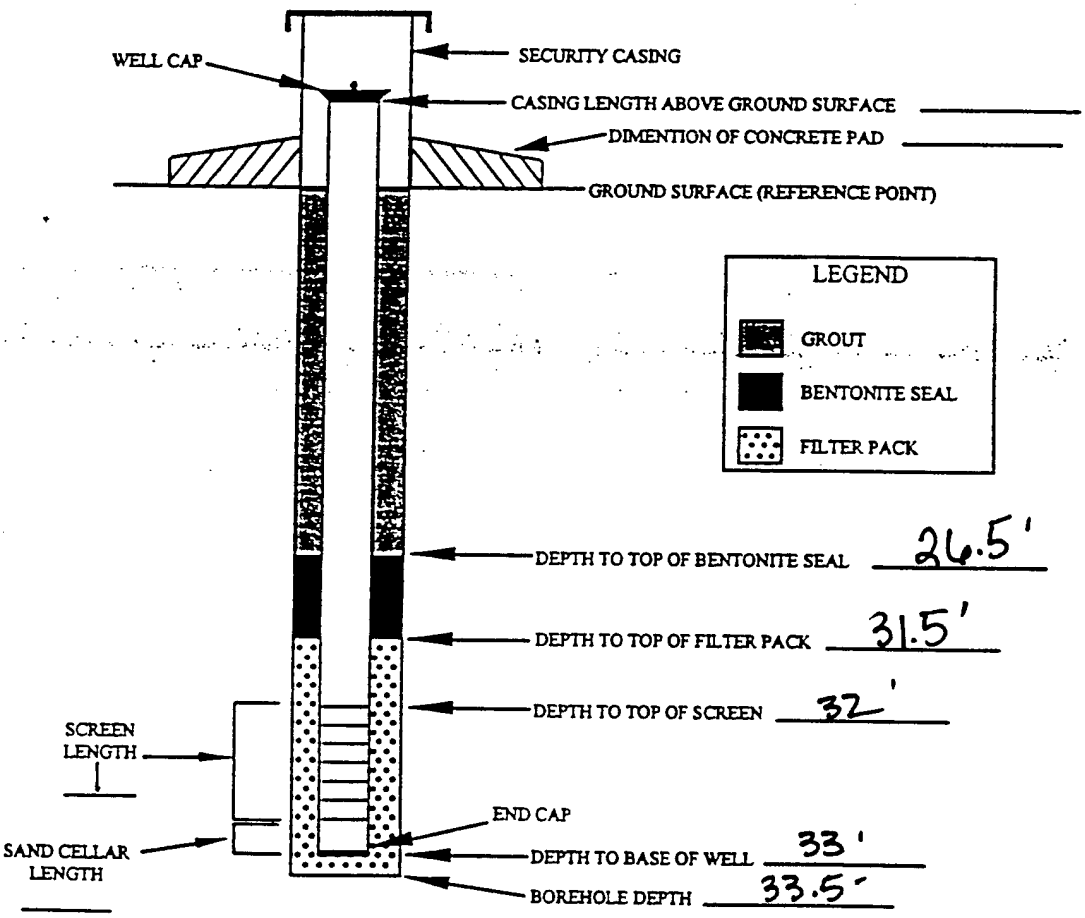
SS06-MP4E

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP4
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP4E
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 32-33
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

DISCREPANCIES:

SSO6-MP5A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SSO6-MP5
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSO6-MP5A

WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97

SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 7-8'

CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: #5 global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED:

TYPE OF BENTONITE: Pure Gold Chips
AMOUNT BENTONITE USED:

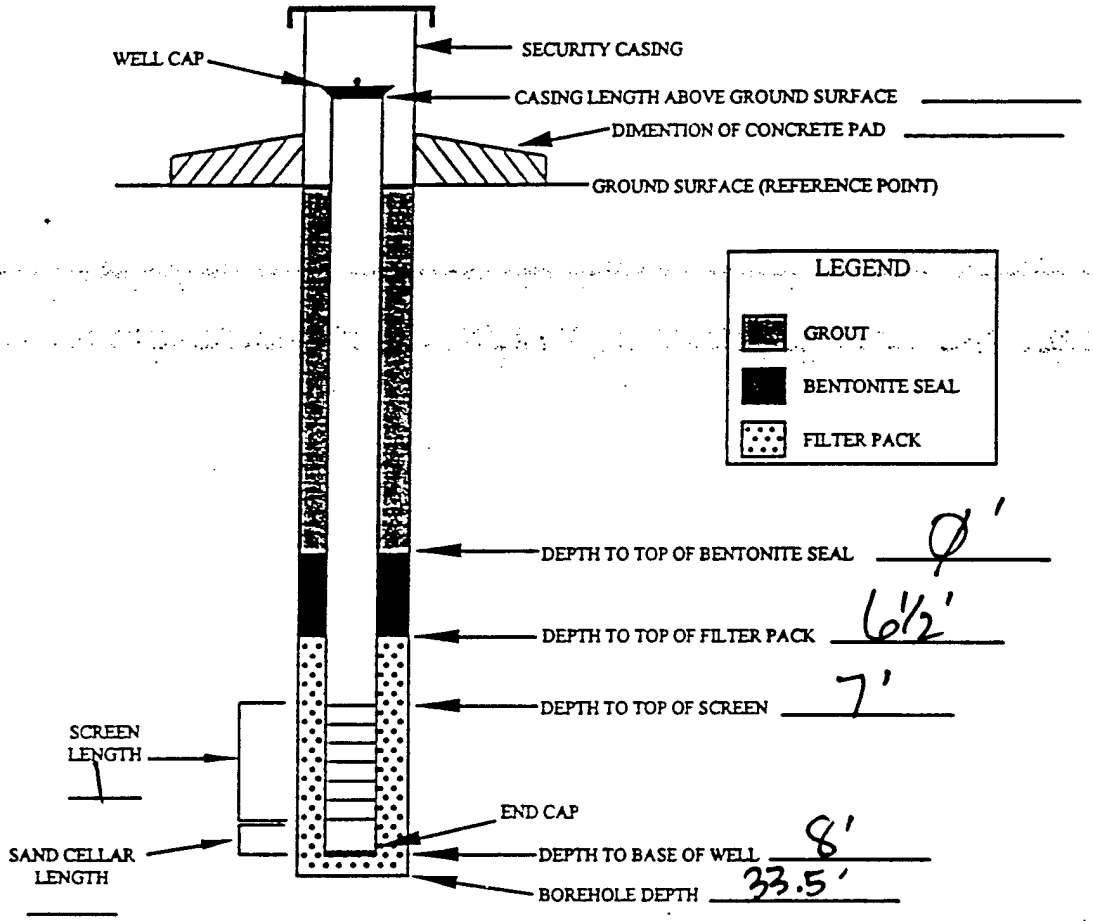
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: M&E (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAA.11

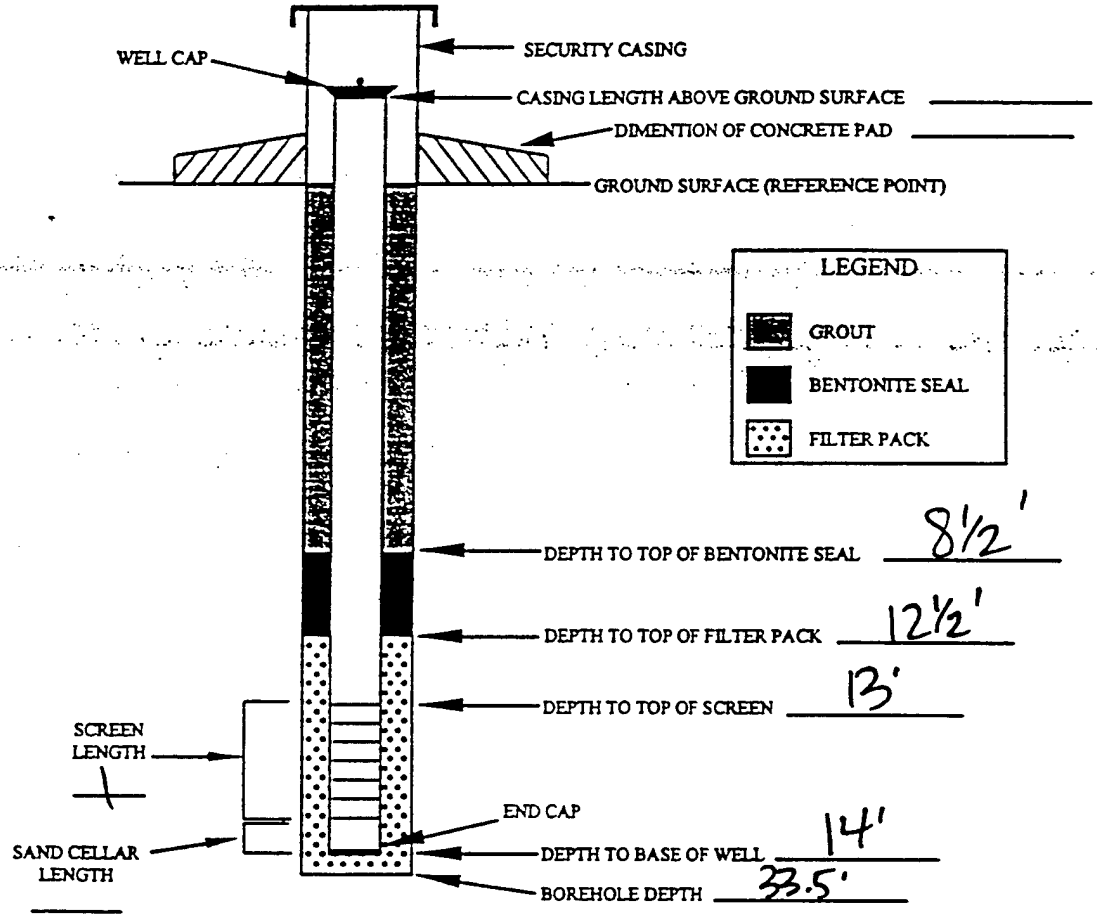
SS06-MP5 D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP5
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP5B
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 13-14'
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: #2 Sand
GRADIATION: #25
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: M&E (B. Chavez)

DISCREPANCIES:

SSO6-MP5C

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SSO6-MP5C
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSO6-MP5C

WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97

SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 19-20

CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED:

TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED:

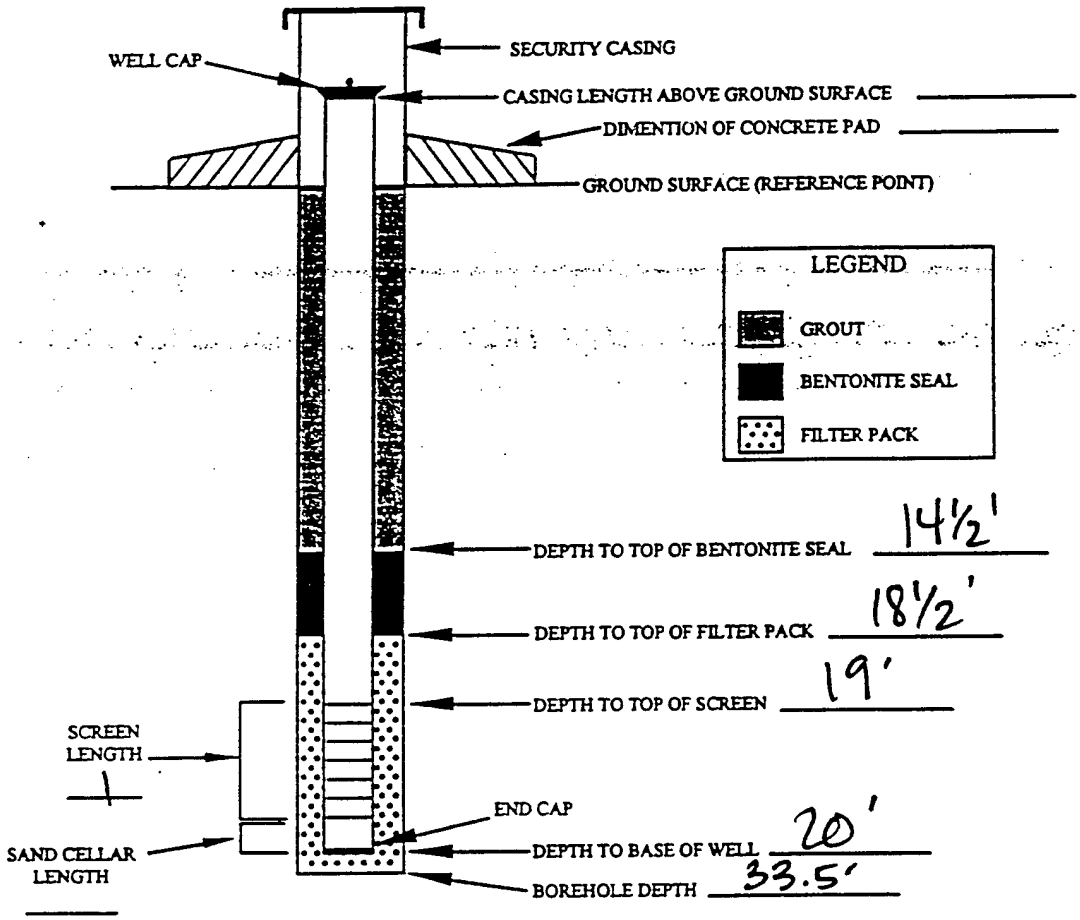
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: M&E (B. Chavez)

DISCREPANCIES:

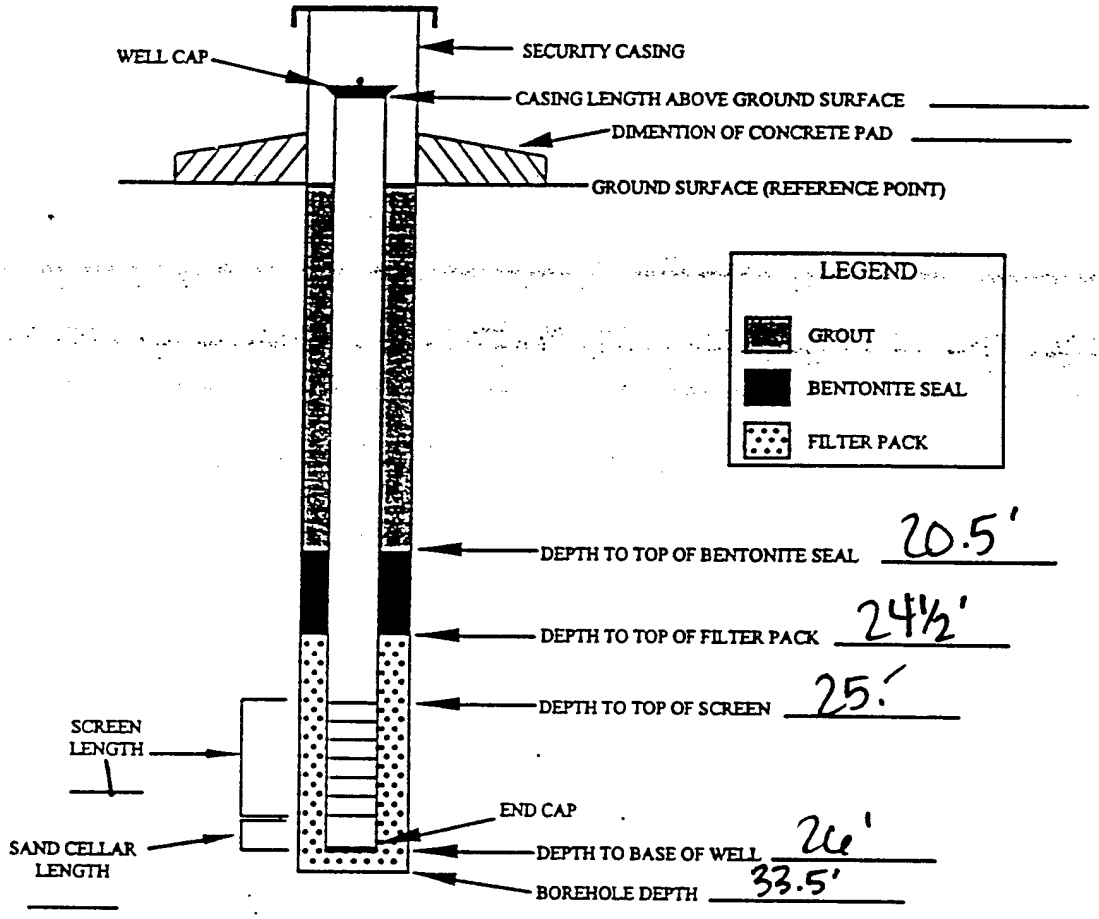
SS06-MP5D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" IDHSA
BOREHOLE IDENTIFICATION: SS06-MP5
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP5D
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 25-26'
CASING MATERIAL: PVC Schedule 40'
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: bentonite pure gold
AMOUNT BENTONITE USED:
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: M&E (B. Chavez)

DISCREPANCIES:

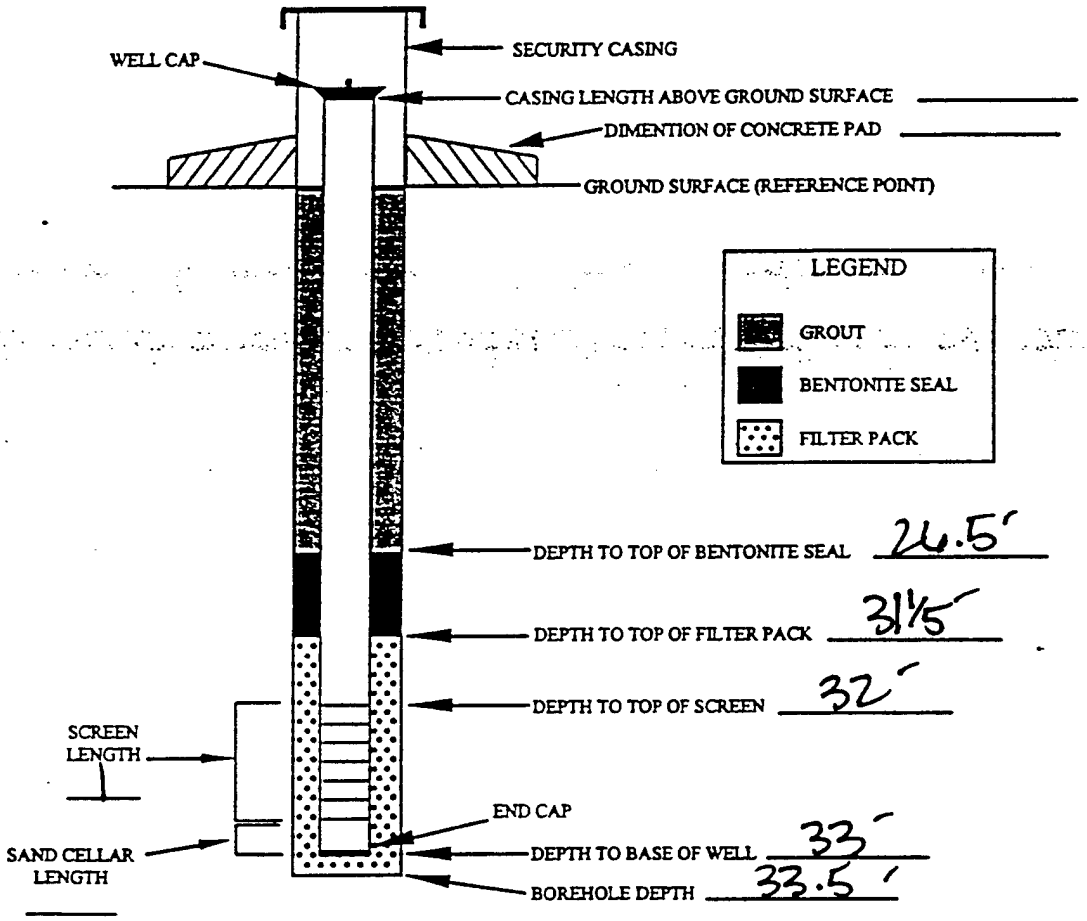
SS06-MP5E

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environ.
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-MP5
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS06-MP5E
WELL CONSTRUCTION START DATE: 11/10/97
WELL CONSTRUCTION COMPLETE DATE: 11/10/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 32-33
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold.
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: M.E Becky Chavez

DISCREPANCIES:

BORING LOG

Borehole ID: SS06-VE1 / SS06-MW6
Sheet 1 of ___

logged From cuttings

Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Location: center location for Site Site ID: SS06	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Steve Sikora	Ground Elevation	Total Drilled Depth: 23' (bgs)	
Drilling Equipment: CME 75	Drilling Method: HSA (9¼)	Borehole Diameter: 13"	Date/Time Drilling Started: 10/29/97 / 0845	Date/Time Total Depth Reached: 10/29/97 / 0921 / 23'
Type of Sampling Device: —		Water Level (bgs) First: 23'	Final: 22'	
Sample Hammer Type: — Driving Wt.: — Drop: —		Hydrogeologist: B. Chavez	Checked by/Date	

Location Description (include sketch in field logbook)
after well had set it was noticed there was 1' of water so ~~elevation~~ depth was changed to 22'

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
5	0-5			SAND (SP) 10YR5/4 yellowish brown, [illegible]	SP		M	0
	5-10			Same as above material	SP		M	0
10	10-15			Same as above material	SP		M	51.6
15	15-20			Same as above material (10YR5/3, brown)			M	181
20	20-23			Same as above material			M	403
25				END OF BORING 23' bgs				

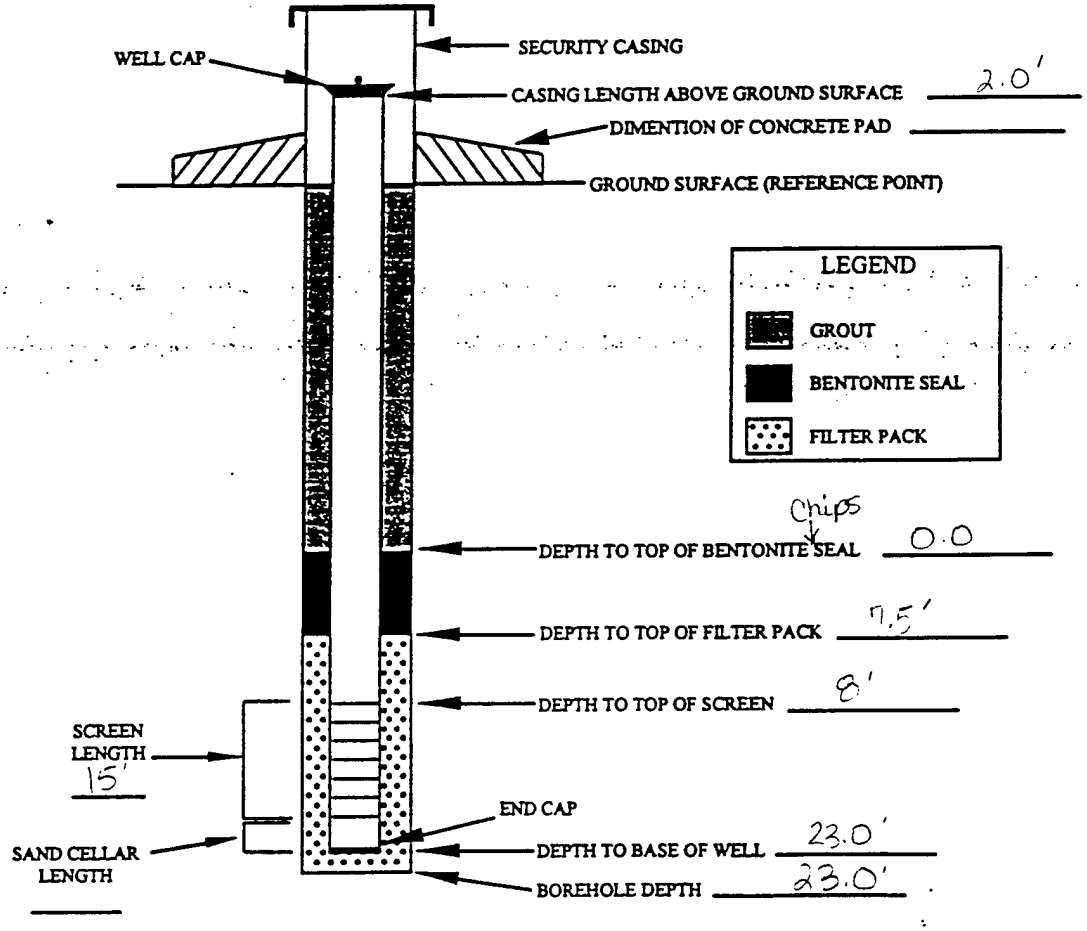
SS06-VE1 / SS06-MP

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B.Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-VE1
BOREHOLE DIAMETER: 13"
WELL IDENTIFICATION: SS06-VE1
WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:
SCREEN MATERIAL: PVC Schedule 80
SCREEN DIAMETER: 4" ± 1"
STRATUM-SCREENED INTERVAL (FT): 8'-23'
CASING MATERIAL: PVC
CASING DIAMETER: 4" ± 1"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: # 5.0
AMOUNT OF FILTER PACK USED: 19
TYPE OF BENTONITE: Baroid 3/8" Chips
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP: J.Plug
TYPE OF END CAP: PVC
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: B.Chavez (Metcalf-Eddy)

DISCREPANCIES:

BORING LOG

Borehole ID: SS06-S1
Sheet 1 of 3

				Location: 5' West of VE1	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)		Site ID: SS06	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Steve Sikora	Ground Elevation		Total Drilled Depth: 43.0 Feet	
Drilling Equipment: CME 75	Drilling Method: HSA (4¼)	Borehole Diameter: 6"	Date/Time Drilling Started: 10/27/97 1415	Date/Time Total Depth Reached: 10/27/97 1745	42.5 ft.
Type of Sampling Device: Split spoon Sampler			Water Level (bgs) First: 23'	Final: 22'	
Sample Hammer Type: hydraulic Driving Wt.: 140 Drop: 18"			Hydrogeologist: B. Chavez	Checked by/Date	

~~Location Description (include sketch in field logbook)~~

after well was set it was noticed that there was 1' of water in well so the water level was changed to 23'

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
2	0-2'	24"	3,3 4,5	SAND(SM) Silty sand 5YR 5/2 dark reddish brown 10% clay, low density, low to medium plasticity, low to med plasticity moist	SM		M	∅
				6"-2'-SAND(SP) 10YR 5/4, yellowish brown, poorly graded, v. fine grained, low density, trace med grained subangular sand, moist	SP		M	∅
4	2-4'	12"	3,2 3,2	SAME AS INTERVAL 6"-2' Some black discoloration.	SP		M	∅
6	4-6'	8"	1,1 2,1	Same as above material	SP		M	∅
			2,1 3,3	Same as above material 10YR 6/4 light yellowish brown, poorly graded.	SP		M	∅
8	6-8'	8"	2,2 3,4	Same as above material	SP		M	∅
10	8-10'	12"	3,4	10-10.5 10YR 4/3, brown Same material as above.	SP		M	∅
			4,4	10.5-12 Same as 8-10 interval				
12	10-12'	8"	3,3 6,13	10YR 4/3, pale brown dark brown staining trace Subrounded to rounded pebbles 1cm dia.	SP		M	31
14	12-14'	12"	20 25	Same as above material no staining	SP		M	7.4
16	14-16'	8"	18,12 20,33	Same as above material trace of [illegible]			M	7.4
18	16-18'	12"	6,10 13,14	[illegible] no cobble fragments	SP		M	477

AFCEE FORM BL.11

Borehole ID: SS06-S1
Sheet 2 of 3

BORING LOG

			Location	
Project Name	Project Number	LTCCODE (IRPIMS)	Site ID	LPRCODE (IRPIMS)
Drilling Company	Driller	Ground Elevation	Total Drilled Depth	
Drilling Equipment	Drilling Method / Borehole Diameter	Date/Time Drilling Started	Date/Time Total Depth Reached	
Type of Sampling Device		Water Level (bgs) First	Final	
Sample Hammer Type / Driving Wt. / Drop		Hydrogeologist	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
20	20-22	12"	5/8, 16, 25	SAND(SP) 10YR6/3, pale brown, trace subround to rounded pebbles 10mm dia, poorly graded, moist	SP		M	590 Very Strong odor
22	22-24	12"	6,10 17, 29	Same material as above moist/wet	SP		M-W	636 V. Strong odor
24	24-26	12"	6,8 12, 20	Same material as above dark brown discoloration @ 24'-25' Saturated	SP		W	282
26	26-28	12"	6,9 11,21	Same as 22'-24' material no discoloration few subrounded pebbles	SP		W	78
28	28-30	18"	-	Same material as above 10YR5/2 grayish brown	SP		W	8.4
30	30-32	24"	6,9 20, 29	[illegible]	SP		W	25
32	32-34	36"	8, 16, 40	Same material as above	SP		W	8.2
34	34-36	16"	7,12 19, 26	Same material as above	SP		W	7.7
36				Same material as above	SP		W	0.6

AFCEE FORM BL.11

BORING LOG

Borehole ID: SS06-S1
Sheet 3 of 3

Location			
Project Name	Project Number	LTCCODE (IRPIMS)	Site ID / LPRCODE (IRPIMS)
Drilling Company	Driller	Ground Elevation	Total Drilled Depth
Drilling Equipment / Drilling Method / Borehole Diameter		Date/Time Drilling Started	Date/Time Total Depth Reached
Type of Sampling Device		Water Level (bgs) First / Final	
Sample Hammer Type / Driving Wt. / Drop		Hydrogeologist	Checked by/Date
Location Description (include sketch in field logbook)			

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
38	38 40	18"	–	Same material as above	SP		W	Ø
40	40 42	12"	–	Same material as above	SP		W	Ø
42				Drilled 1' to total depth				
				43' TOTAL DEPTH				

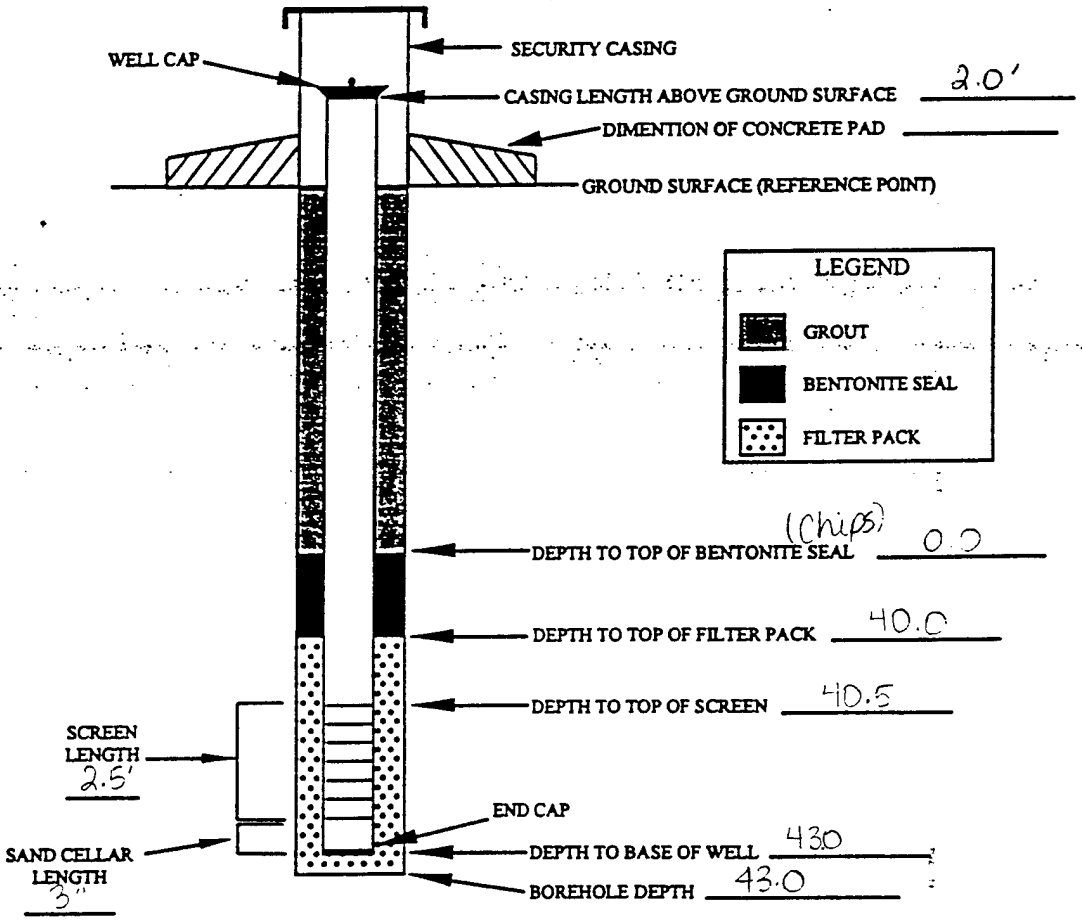
SS06-S1

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS06-S1
BOREHOLE DIAMETER: 6"
WELL IDENTIFICATION: SS06-S1
WELL CONSTRUCTION START DATE:
WELL CONSTRUCTION COMPLETE DATE:
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 1"
STRATUM-SCREENED INTERVAL (FT): 40.5-43
CASING MATERIAL: PVC
CASING DIAMETER: 1"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #50
AMOUNT OF FILTER PACK USED: 3.5
TYPE OF BENTONITE: Baroid 3/8" Chips
AMOUNT BENTONITE USED: #20
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP: J-Plug
TYPE OF END CAP: PVC
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf: Eddy (B. Chavez)

DISCREPANCIES:

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID SS06-S1
SHEET 1 of 1

PROJECT NAME: Pilot Test PROJECT NO.: 021746 DATE:

LOCATION: SS06 DATE INSTALLED: 10/27/97

TOTAL DEPTH (FTOC) CASING DIAMETER 1"

METHODS OF DEVELOPMENT

☐ Swabbing ☐ Bailing ☒ Pumping ☐ Describe

Equipment decontaminated prior to development ☐ Yes ☒ NO

Describe used peristaltic pump w/ disposable tubing

EQUIPMENT NUMBERS: (015235)

pH Meter Hydac EC Meter Hydac Turbidity Meter Thermometer Hydac

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

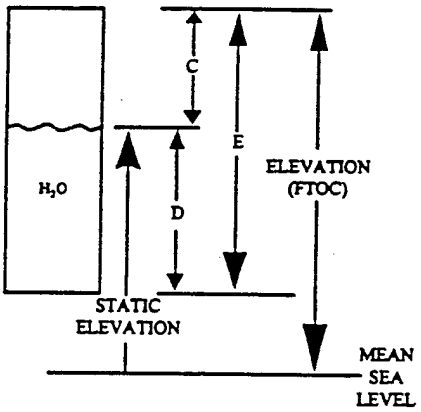
Measured Well Depth (B) ft.

Measured Water Level Depth (C) ft.

Length of Static Water Colume (D) (B) - (C) = ft.

Casing Water Volume (E) = (A) 0.04 x (D) = gal

Total Purge Volume = (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH	EC	Temperature F or C	Turbidity/ Sand (ppm)	Comments

BORING LOG

Borehole ID: SS06-MP5
Sheet 1 of 1

			Location: 40' W of SS06 VE1	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS06	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathis	Ground Elevation	Total Drilled Depth: 33.5'	
Drilling Equipment: CME75	Drilling Method: 9¼" ID HSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/10/97 1400	Date/Time Total Depth Reached: 11/10/97 1730 33.5'
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type —	Driving Wt. —	Drop —	Hydrogeologist: B. Chavez	Checked by/Date
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-10) SAND (SP) 10YR5/4 [illegible]	SP		M	0
				(10-20) Same as above material	SP		M	182
				(20-30) Same as above material Large Cobble (granite) rounded				1639
				(30-33.5) Same as above material				

AFCEE FORM BL.11

BORING LOG

Borehole ID: SS08A-VE1
Sheet 1 of 1

MW6

			Location: Center location	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08A	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 14.5'	
Drilling Equipment: CME 75 / Drilling Method: 4¼" ID HSA / Borehole Diameter: 8"		Date/Time Drilling Started: 11/5/97 / 1545	Date/Time Total Depth Reached: 11/5/97 / 1745	14.5'
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1				(0-5) Top 1 - [illegible]				
3				SAND(SP) [illegible]	SP		M	Ø
5				(5-10)				
7				Same as above interval	SP		M	Ø
9								
11				(10-15) Same as above interval	SP		M-W	Ø
13				underlying @ 14.5'				
15								

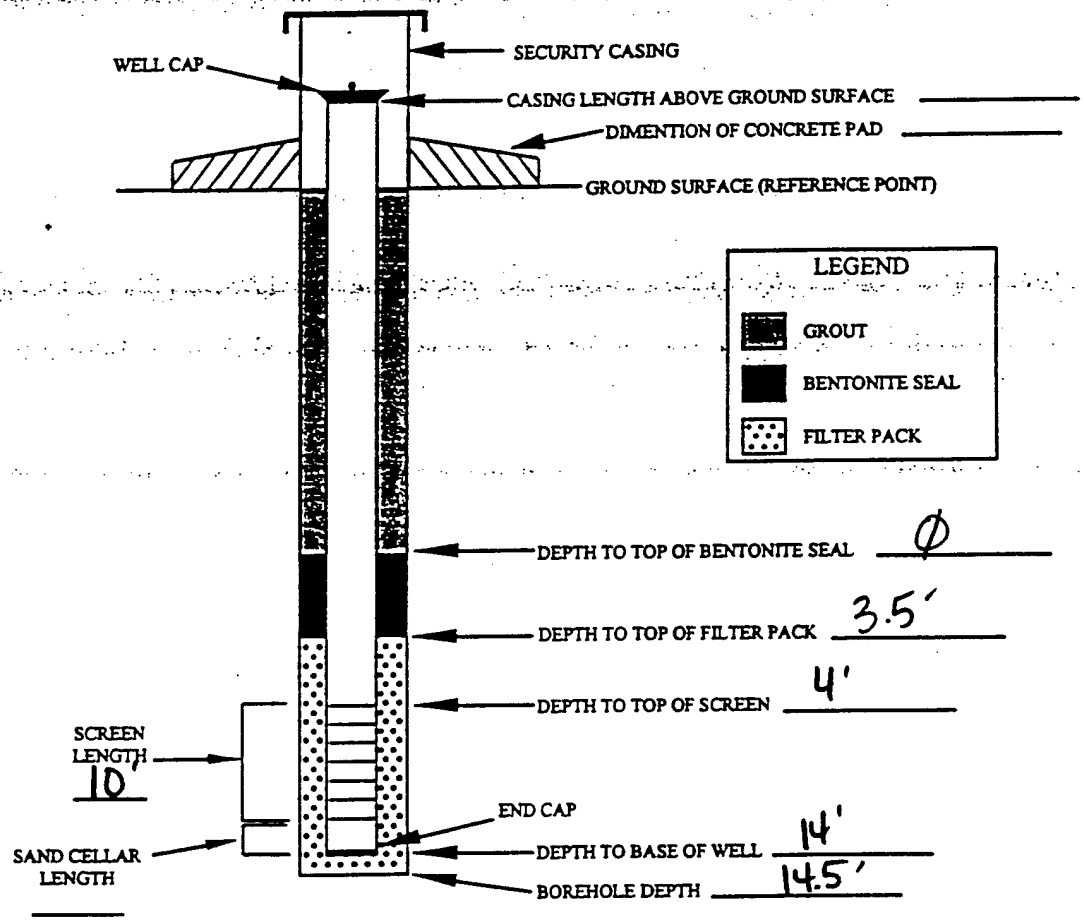
SSOBA VE1/MW6

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chávez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 6 1/4" IDHSA
BOREHOLE IDENTIFICATION: SSOBA-VE1/MW6
BOREHOLE DIAMETER: 10"
WELL IDENTIFICATION: SSOBA-VE1
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 4"
STRATUM-SCREENED INTERVAL (FT): 4-14'
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 7
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 2
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

DISCREPANCIES:

SS08A-MP6

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 6 1/4" ID HSA

BOREHOLE IDENTIFICATION: SS08A-VE1/MP6
BOREHOLE DIAMETER: 10"
WELL IDENTIFICATION: SS08A-MP6

WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97

SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 4-14'

CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 7 bags

TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 2 bags

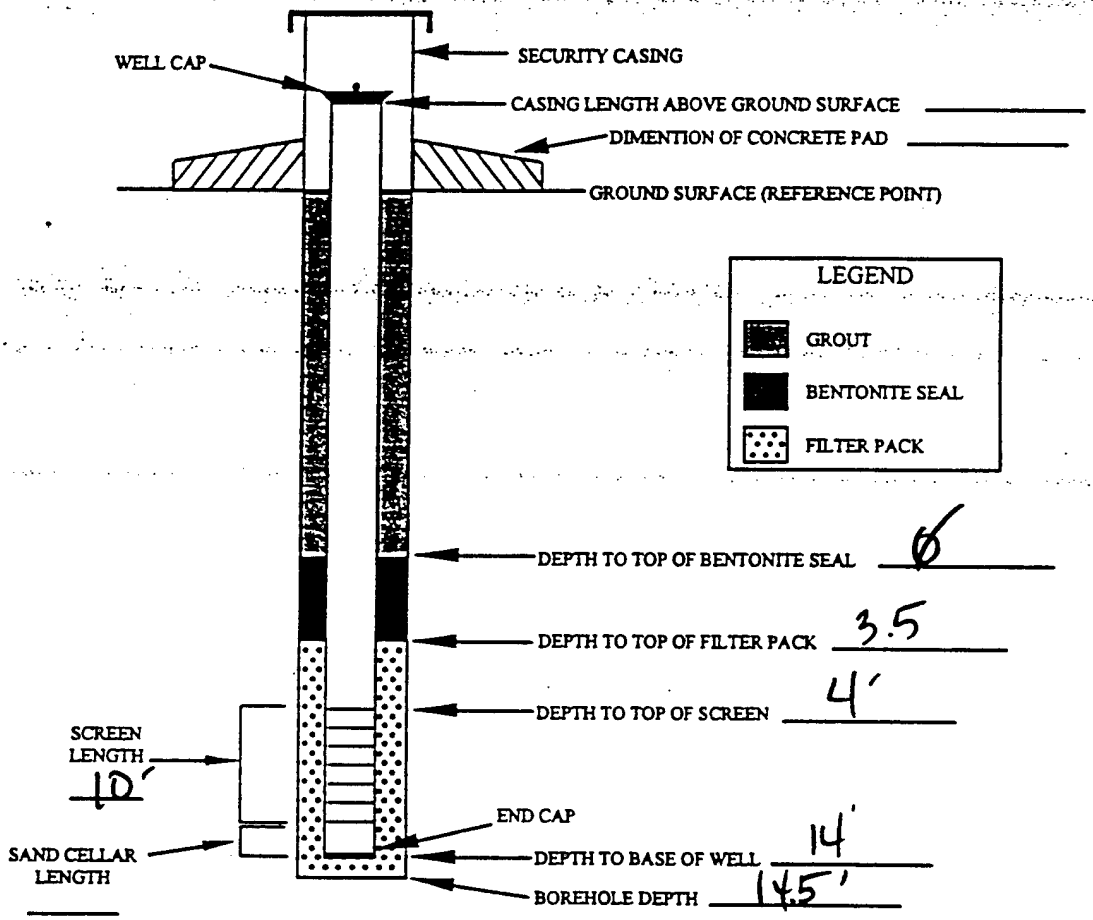
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf-Eddy Inc (B. Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS08A-MP1
Sheet 1 of 1

Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Location: 5' South of VE1/MP6 Site ID: SS08A	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 14.5	
Drilling Equipment: CME75	Drilling Method: 4¼" ID HSA	Borehole Diameter: 8"	Date/Time Drilling Started: 11/5/97 | 1100	Date/Time Total Depth Reached: 11/5/97 | 1112 | 14.5
Type of Sampling Device: —		Water Level (bgs) First: — not encountered Final: —		
Sample Hammer Type: — Driving Wt.: — Drop: —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1				(0-5) [illegible]				
3				[illegible] moist	SP		M	∅
5				(5-10)				
7				Same as above material 10YR6/4 light yellowish brown				
9				trace cobbles	SP		M	∅
11				(10-14)				
13				Same as above material no cobbles wet at 13'	SP		W	∅
15				End of boring at 14.5'				

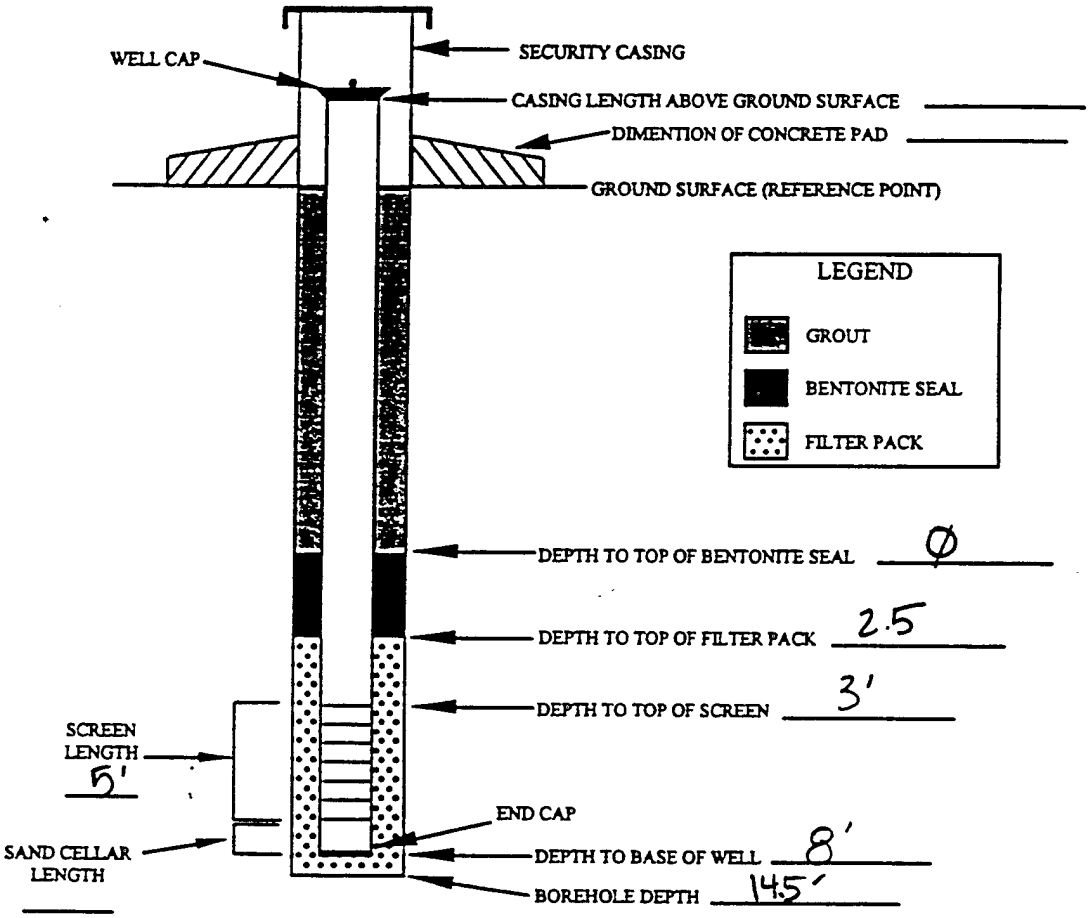
SS08A-MP1A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B.Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08A-MP1
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SS08A-MP1A
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 3-8'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3 bags
TYPE OF BENTONITE: PureGold
AMOUNT BENTONITE USED: 1/4 bag
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf; Eddy Inc (B Chavez)

DISCREPANCIES:

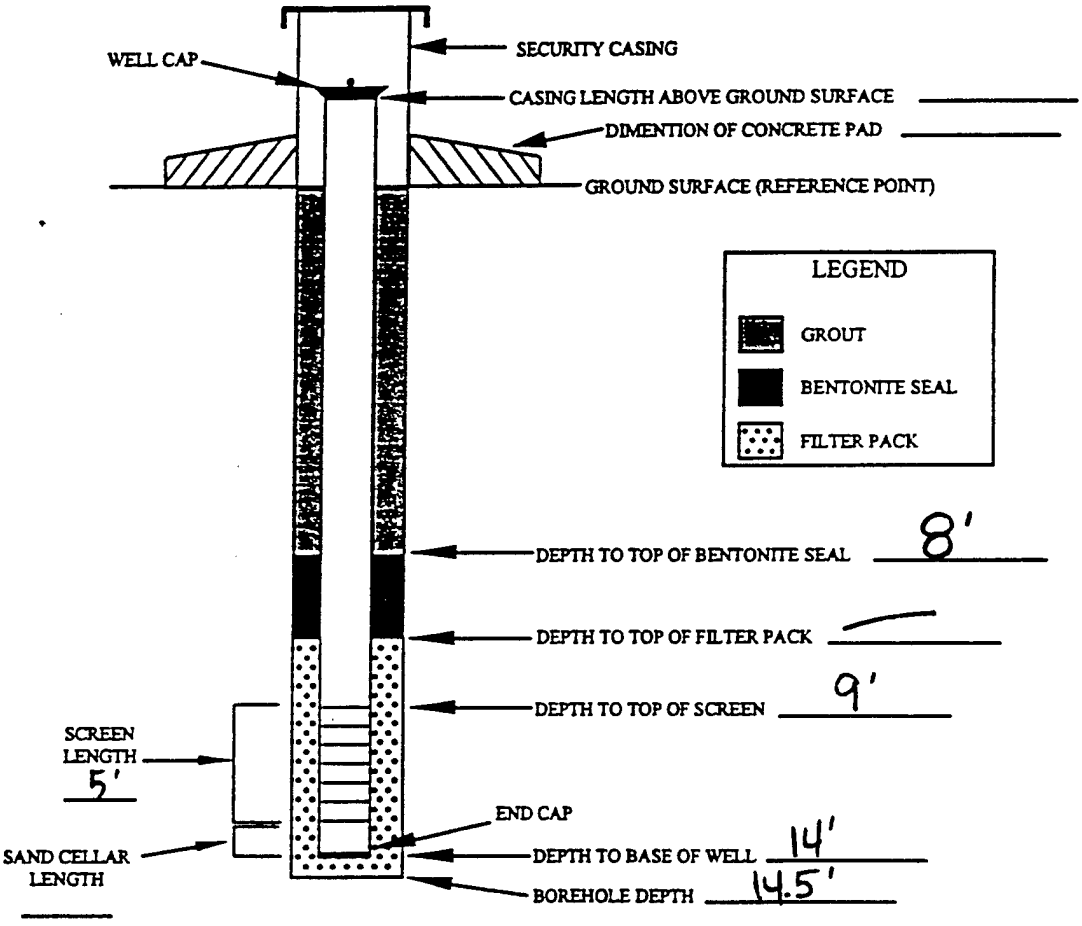
SSOBA MP1D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS08A-MP1
BOREHOLE DIAMETER: 8'
WELL IDENTIFICATION: SS08A-MP1B
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 9-14'
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3 bags
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 2 ½ bags
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf+Eddy Inc. (B. Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS08A-MP2
Sheet 1 of 1

			Location: 10' NW of VE1/MP6	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08A	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 14.5'	
Drilling Equipment: CME 75	Drilling Method: 4¼ ID HSA	Borehole Diameter: 8"	Date/Time Drilling Started: 11/5/97 | 1145	Date/Time Total Depth Reached: 11/5/97 | 1235 | 14.5'
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1				(0-5) Top 1' Gravel fill				
3				SAND (SP) [illegible]	SP		M	Ø
5				(5-10)				
7				Same as above material	SP		M	Ø
9								
10				(10-15)				
11				Same as above material	SP		MW	Ø
13				End of Boring at 14.5'				
15								

Logged from cuttings

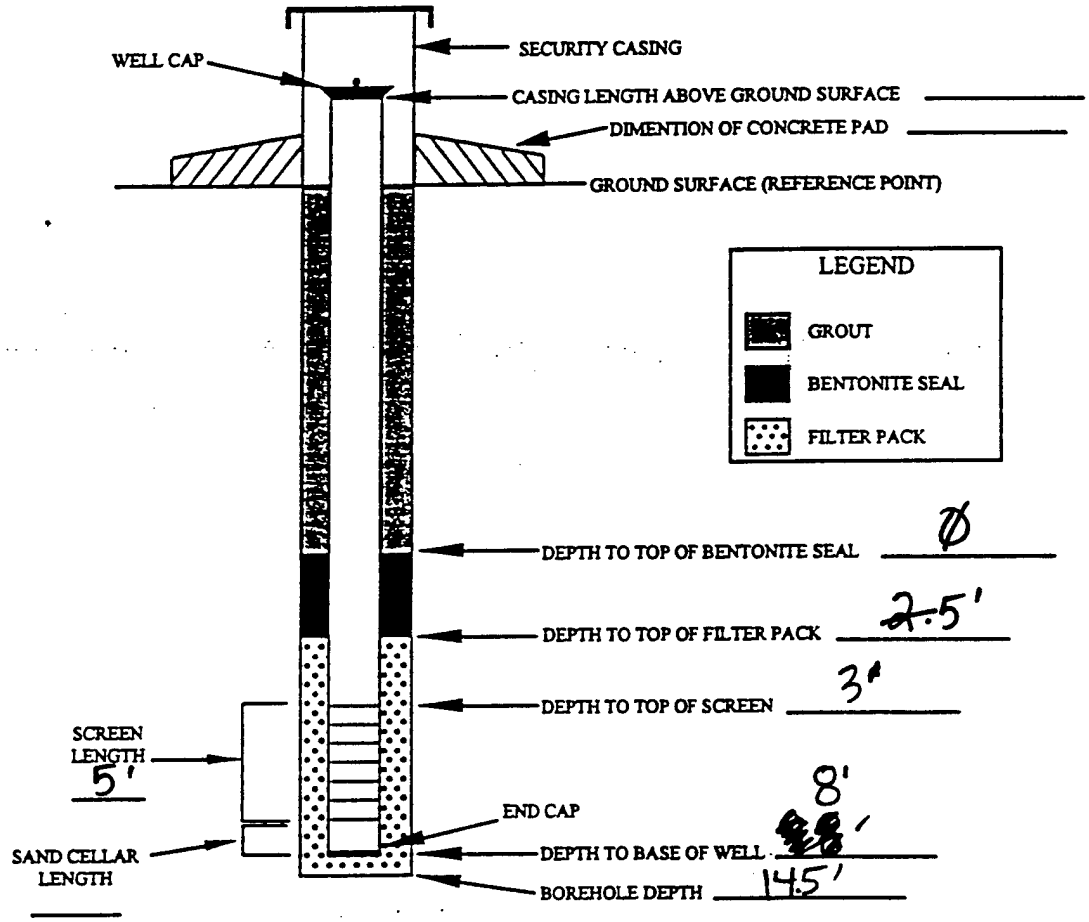
SSOBA-MP2A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chávez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08A - MP2
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SS08A - MP2A
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4" ID
STRATUM-SCREENED INTERVAL (FT): 3-8
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4" ID

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2 1/2
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 2 1/4 bag
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf: Eddy Inc (B. Chavez)

DISCREPANCIES:

SS08A - MP2D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼ ID HSA
BOREHOLE IDENTIFICATION: SS08A - MP2
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SS08A - MP2B

WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97

SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 5/8"
STRATUM-SCREENED INTERVAL (FT): 9-14'

CASING MATERIAL: PVC Schedule 40'
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2 bags

TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: ½ bag

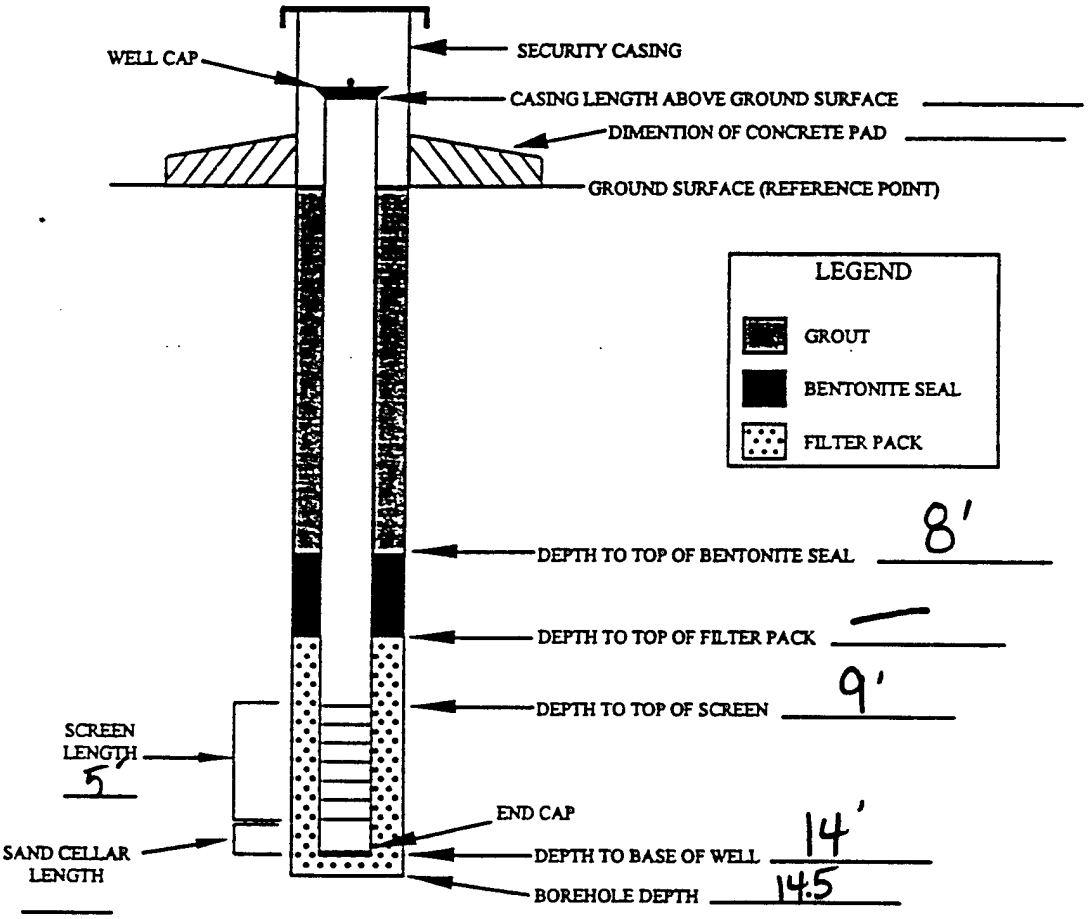
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY CASING:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental
INSTALLATION OBSERVED BY: Metcalf; Eddy Prd B. Chavez

DISCREPANCIES:

BORING LOG

Borehole ID: SS08A-MP3
Sheet 1 of 1

			Location: 15' NE of VE1 / MP6	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08A	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 14.5'	
Drilling Equipment: CME 75 / Drilling Method: 1¼" ID HSA / Borehole Diameter: 8'		Date/Time Drilling Started: 11/5/97 | 1430	Date/Time Total Depth Reached: 11/5/97 | 1525 14.5' BGS	
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1				(0-5) Top 1' - Gravel fill				
3				SAND (SP) 10YR% brown/yellowish brown, poorly graded, trace gravels, fine to coarse grained, dry, fine moist	SP		M	Ø
5				(5-10)				
7				Same as above material	SP		M	Ø
9								
11				(10-15)				
13				Same as above material	SP		M-W	Ø
15				Bottom of boring @ 14.5'				

AFCEE FORM BL.11

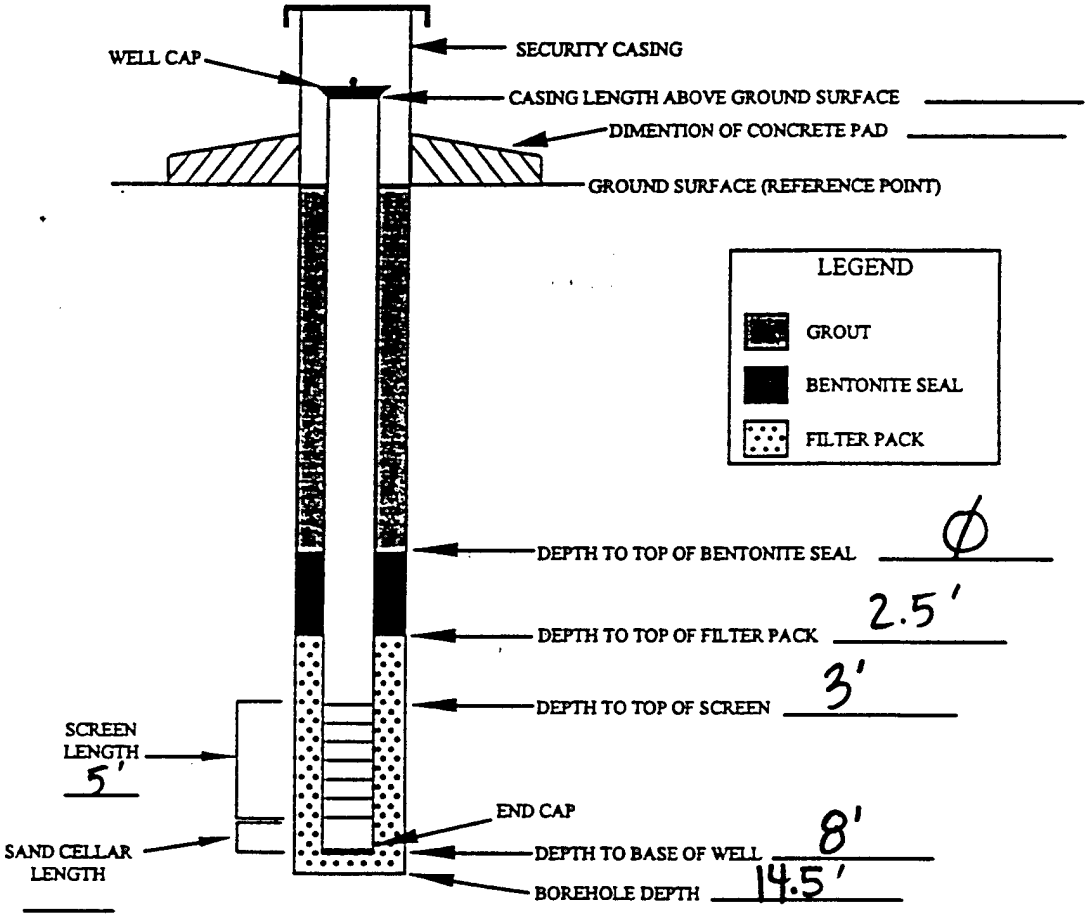
SSOA - MP3A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SSOBA-MP3
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SSOBA-MP3A
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 3-8'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2½ bags
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 2¼ bags
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

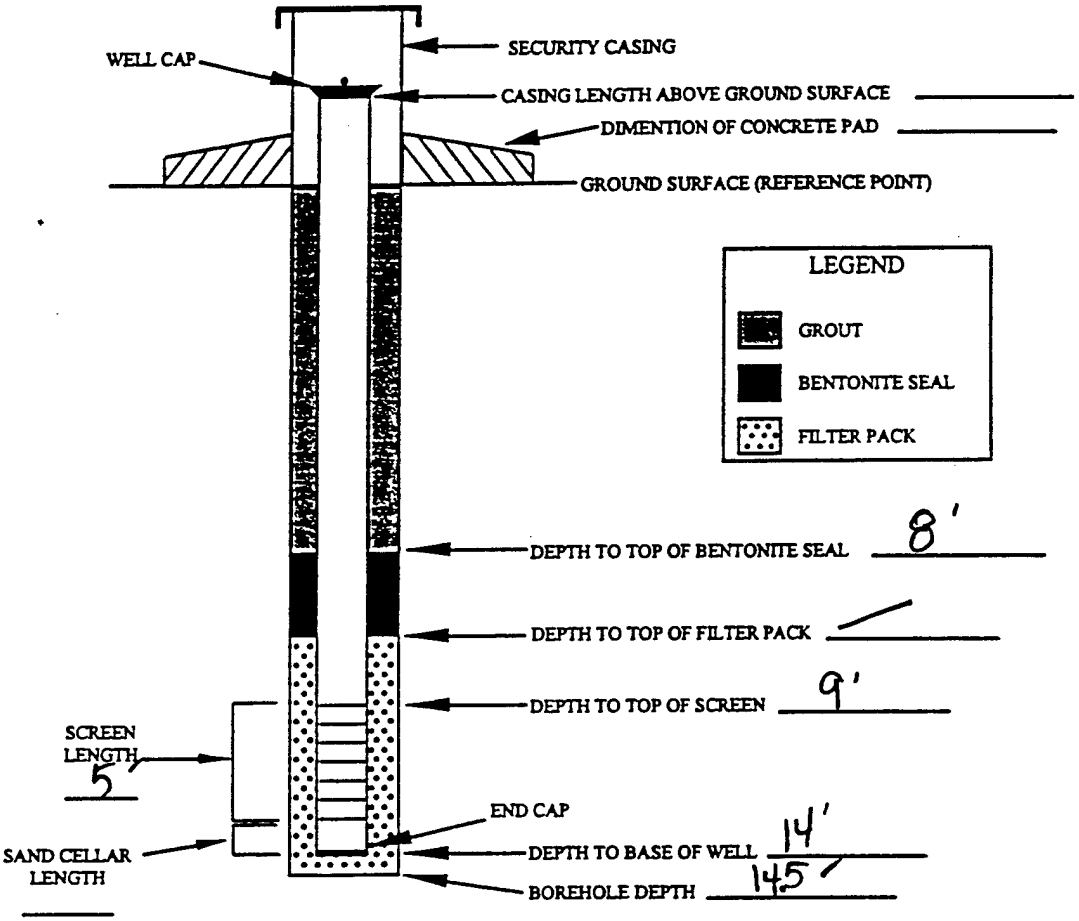
DISCREPANCIES:

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08A-MP3
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SS08A-MP3B
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 9-14'
CASING MATERIAL: PVC schedule 40'
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2½ bags
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: ¼ bag
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS08A-MP4
Sheet 1 of 1

			Location: 25'SE of VE1/MP6	
Project Name: Pilot Well Test	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08A	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 13.5'	
Drilling Equipment: CME 75	Drilling Method: 4¼ ID HSA	Borehole Diameter: 8 ~~6~~"	Date/Time Drilling Started: 11/5/97 0914	Date/Time Total Depth Reached: 11/5/97 0951 13.5'
Type of Sampling Device: Split Spoon		Water Level (bgs): First	Final	
Sample Hammer: Type hydraulic Driving Wt. 140 Drop 18"		Hydrogeologist	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1			4,7	SAND (SP)	SP			
3		18	9,9					0
			3,3					
5		18	4,5		SP			0
			4,3					
7		18	3,5	As above	SP			1.3
0936			5,3					
9		14	3,5	As above, occasional cobbles	SP			1.0
0942			5,3					
11		18	3,5	As above, no cobbles	SP			3.4
0947			4,3					
13		10	17/7	As above (at 13 wet)	SP			3.0
15				end of boring 13.5'				
17								

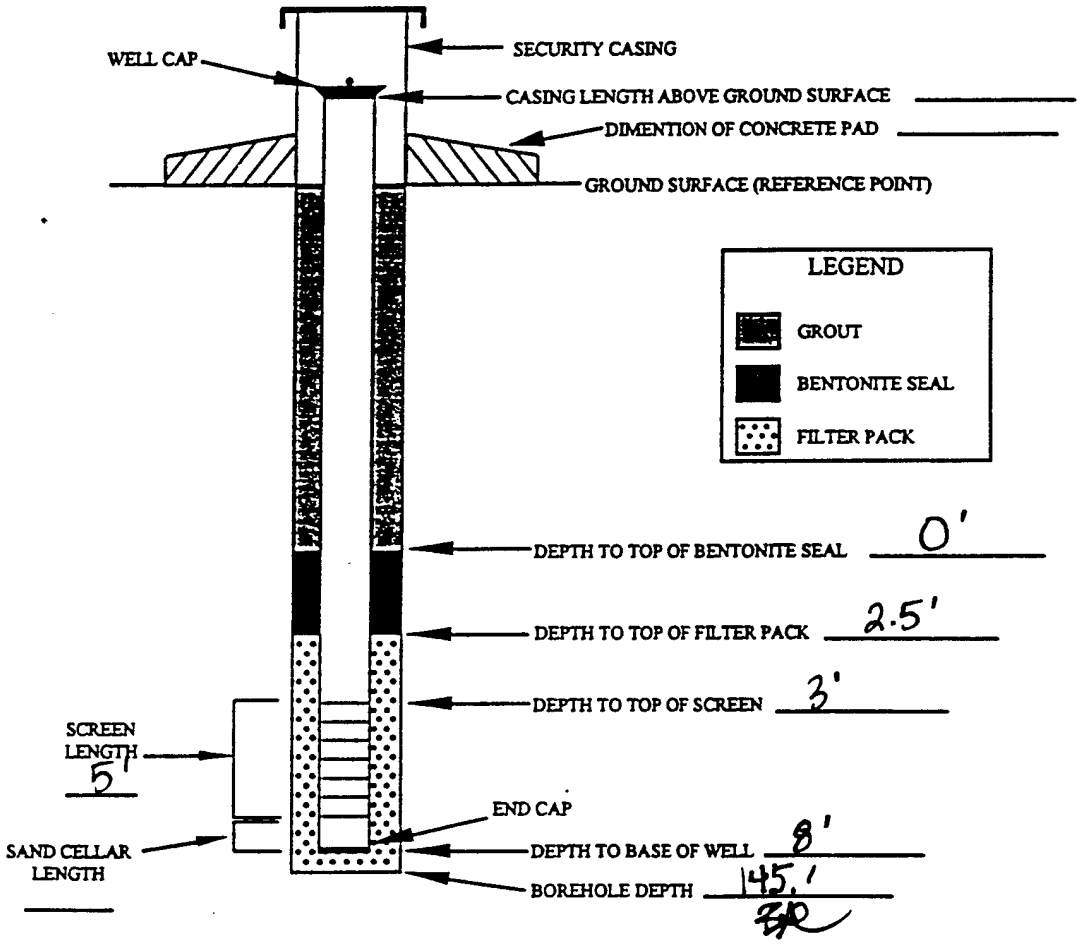
SS08A-MP4A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS08A-MP4
BOREHOLE DIAMETER: 6"
WELL IDENTIFICATION: SS08A-MP4A
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 3'-8'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global Silica Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3 bags
TYPE OF BENTONITE: Pure Gold
AMOUNT BENTONITE USED: 1 3/4 bags
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

DISCREPANCIES:

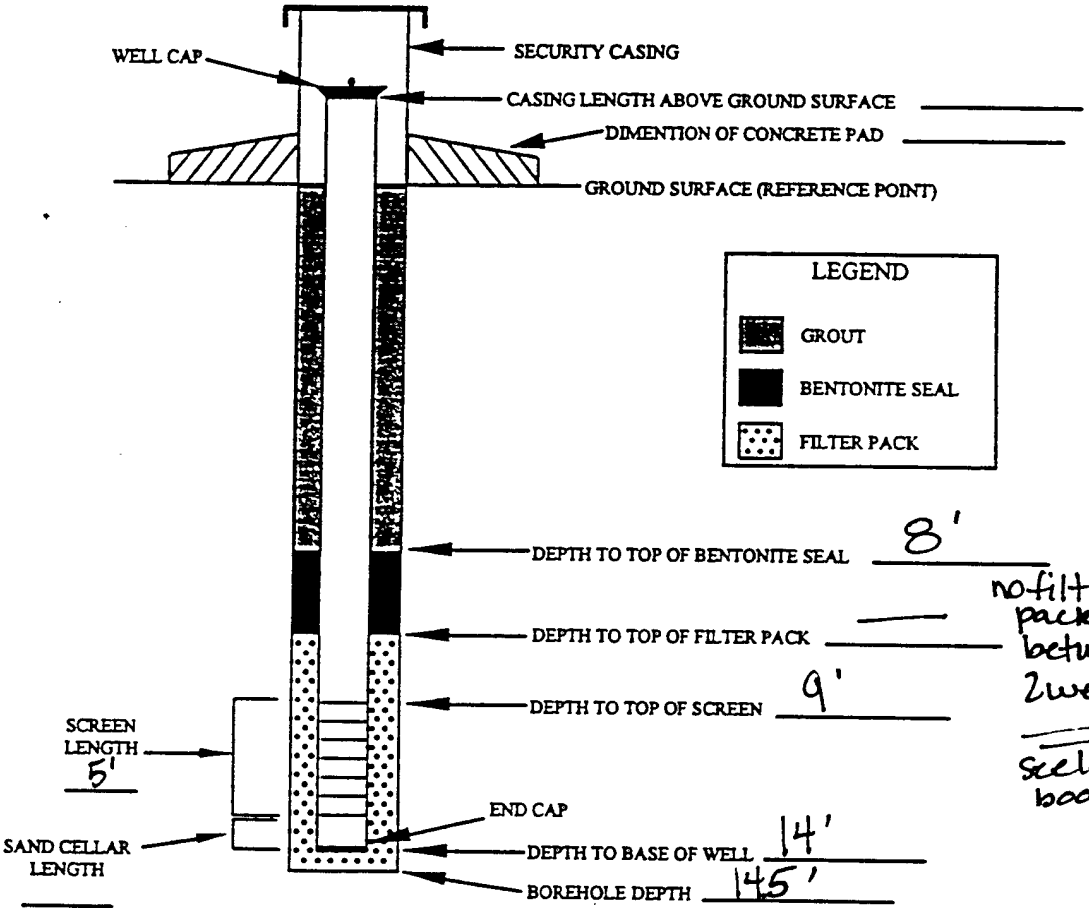
SSOA-MP4B

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B.Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS08A-MP4B
BOREHOLE DIAMETER: 6"
WELL IDENTIFICATION: SS08A-MP4B
WELL CONSTRUCTION START DATE: 11/5/97
WELL CONSTRUCTION COMPLETE DATE: 11/5/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 9-14
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global SilicaSand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2¼
TYPE OF BENTONITE: PureGold
AMOUNT BENTONITE USED: ¼ bag
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



no filter pack between 2 wells

see log book pg 24

NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc. (B. Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS08A-MP5
Sheet 1 of 1

			Location: 40' NE of VE1/MP6	
Project Name: Pilot Test Wells	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08A	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation	Total Drilled Depth: 14.5'	
Drilling Equipment: CME 75	Drilling Method: 4¼" ID HSA	Borehole Diameter: 8"	Date/Time Drilling Started: 11/6/97 0730	Date/Time Total Depth Reached: 11/6/97 0745 14.5 ft bgs
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1				(0-5) Top 1' is gravel fill				
3				SAND (SP) 10YR6/6 brownish yellow, f. fine grained, loose density, non plastic, trace of cobbles	SP		M	Ø
5				(5-10)				
7				Same as above material	SP		M	Ø
9								
11				(10-14) Same as above material	SP		M-W	Ø
13								
15				End of boring at 14.5'				

AFCEE FORM BL.11

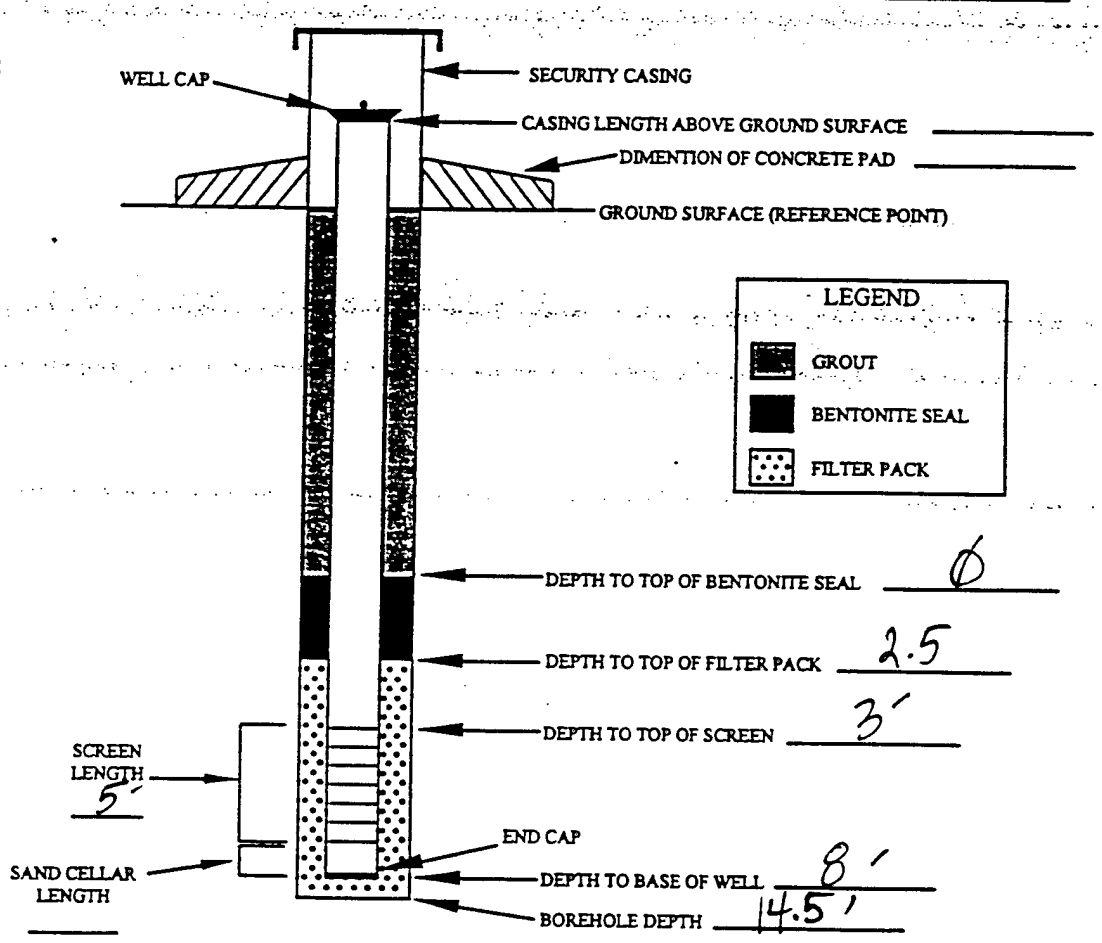
SSOE-MSL

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B.Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS08A-MP5
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SS08A-MP5A
WELL CONSTRUCTION START DATE: 11/6/97
WELL CONSTRUCTION COMPLETE DATE: 11/6/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 3-8'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: Global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pureagold chips
AMOUNT BENTONITE USED: ¼
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS08B-[redacted] S1
Sheet 1 of 2

			Location: 5' South of VE1/MP6	
Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mather	Ground Elevation	Total Drilled Depth: 35.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" IDHSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/11/97 / 0917	Date/Time Total Depth Reached: 11/11/97 / 1102 35.5
Type of Sampling Device: —			Water Level (bgs) First: 15' Final:	
Sample Hammer Type: — Driving Wt.: — Drop: —			Hydrogeologist: B. Chavez	Checked by/Date
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0917		18"	5,5 5,4	(1-3) SAND(SP) 10yr 5/4 yellowish brown poorly graded, low density, loose, low plasticity, trace pebbles, very fine grained, moist	SP		M	Ø
0921		18"	4,3 2,2	(3-5) As above material, trace of rootlets	SP		M	Ø
0930		18"	2,1 1,2	(5-7) SAND(SP) 10yr 5/4 yellowish brown moist Lenses at 7'	SP		M	Ø
0932		12"	3,4 6	(7-9) SAND(SP) 10yr 6/3 pale brown, poorly graded, low density, low plasticity, fine grained.	SP		M	Ø
0935		16"	4,5 5,5	(9-11) Same as above material, moist	SP		M	Ø
0941		18"	3,4 6,1	(11-13) Same as above material, moist	SP		M	Ø
0943		19"	4,7 11,12	(13-15) Same as above material, 10yr 6/4 light yellowish brown, wet at 15'	SP		M-W	Ø
0950		12"	2,6 10,16	(15-17) Same as above material, 10yr 5/3 brown, saturated	SP		W	Ø
0955		22"	2,6 11,4	(17-19) Same as above material, some rounded to subangular pebbles - fine grained sand	SP		W	Ø
0959		18"	3,5 8,8	(19-21) (19-20) Same as above (20-21) SAND(SW) fine sand, loose with fine sands, low to medium density low plasticity, saturated	SP/SW		W	Ø

BORING LOG

Borehole ID: SS08B-S1
Sheet 2 of 2

Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS):	Location: 5' South of VE1/MP6 Site ID: SS08B	LPRCODE (IRPIMS):
Drilling Company: American Environmental	Driller: Ron Mathes	Ground Elevation:	Total Drilled Depth: ~~32.5~~ 35.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" ID HSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/11/97 0917	Date/Time Total Depth Reached: 11/11/97 / 1102 ~~32.5~~ 35.5'
Type of Sampling Device: —		Water Level (bgs): First —	Final —	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date: —	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
1011			2,5 6,10	(21-23) SAND(SW) fine sand to medium (.5mm) surrounded to surrounded, loose, low plasticity, wet	SW		W	0.4
1013			2,4 7,11	(23-25) Same as above material	SW		W	ø
1021		10"	2,3 7,17	(25-27) Heave in spoon	SW		W	ø
1030		19"	1,1 6,12	(27-29) Same as Interval 21-23.	SW		W	ø
1039		12"	1,4 6,13	(29-31) Same as above material	SW		W	ø
1057			1,1 6,12	(31-33) No recovery				
			1,3 6,11	(33-35) Heave in spoon end of boring				

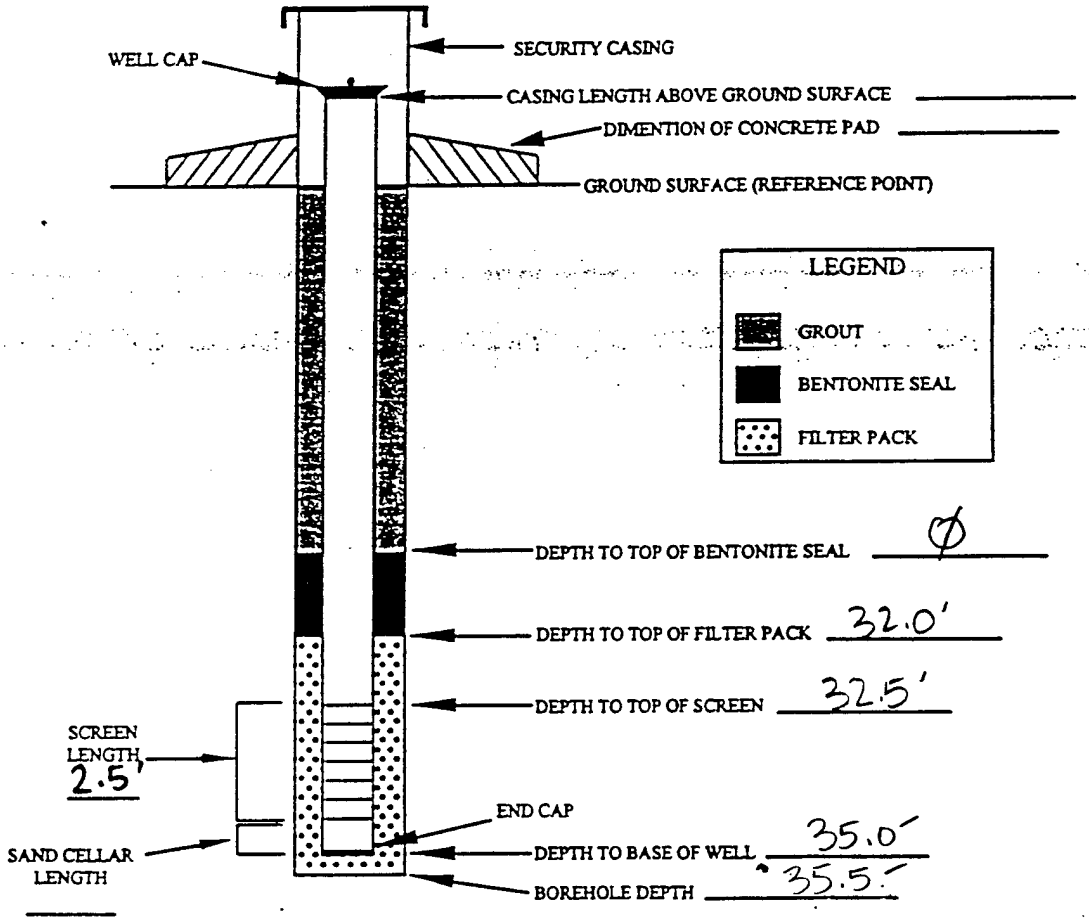
SS08-S1

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 4¼" ID HSA
BOREHOLE IDENTIFICATION: SS08-S1
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: SS08-S1
WELL CONSTRUCTION START DATE: 11/11/97
WELL CONSTRUCTION COMPLETE DATE: 11/11/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 1"
STRATUM-SCREENED INTERVAL (FT): 32.5-35
CASING MATERIAL: PVC Schedule 40
CASING DIAMETER: 1"

TYPE OF FILTER PACK: #5 Global Sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 20
TYPE OF BENTONITE: Pure Gold.
AMOUNT BENTONITE USED: 24
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: MF (B Chavez)

DISCREPANCIES:

BORING LOG

Borehole ID: SS08B-MP1
Sheet 1 of 1

			Location: 5' West of SS08B-VE1	
Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Hatlen	Ground Elevation	Total Drilled Depth: 32.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" IDHSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/12/97 / 0830	Date/Time Total Depth Reached: 11/12/97 / 1215 / 32.5'
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-5) SAND (SP) 10YR 5/4 yellowish brown [illegible] poorly [illegible] pebbles mac.	SP		W	0
				5-15 Same as above material moist/wet	SP		M-W	0
				15-20' Sand as above material 10YR 5/3 brown	SP		W	0
				20-30 Same as above material wet	SP		W	0
				30-32.5 Same as above material	SP		W	0

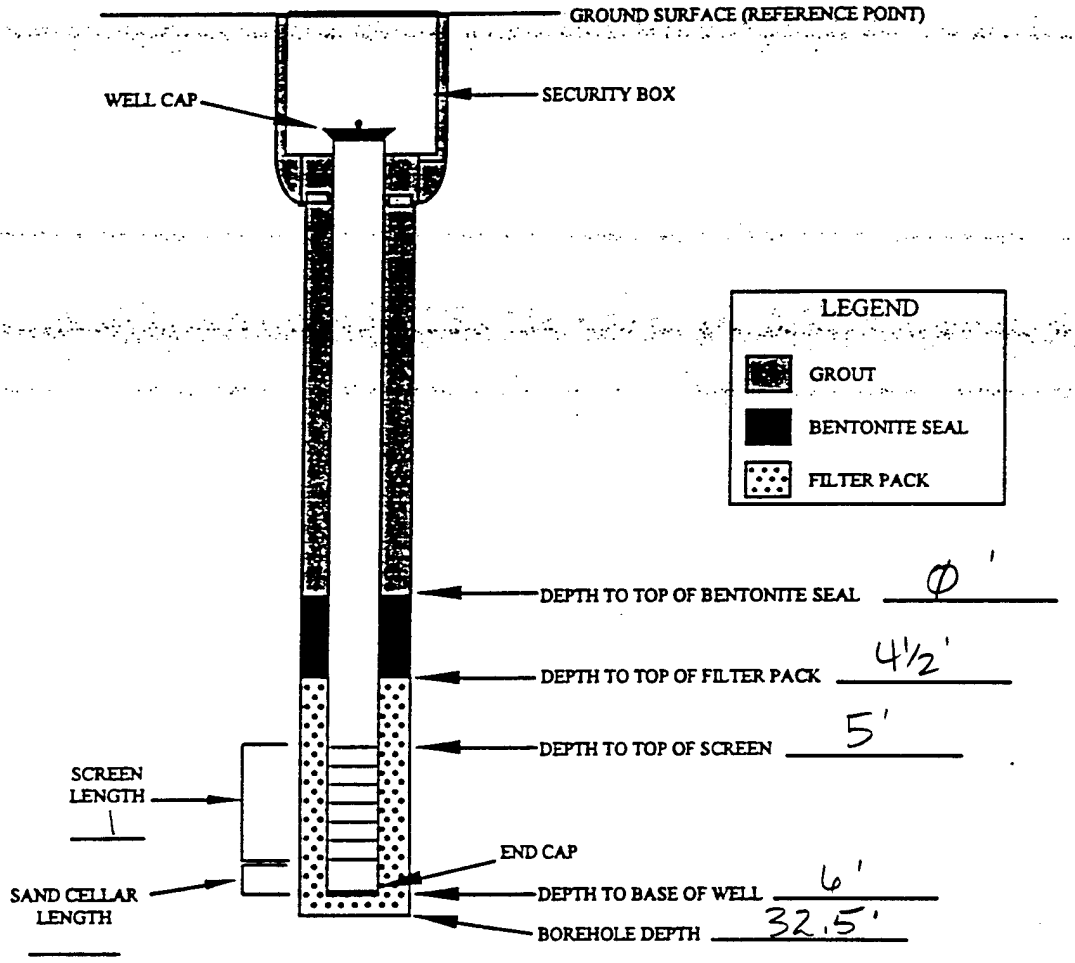
AFCEE FORM BL.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 5-6
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: fine Sand
AMOUNT OF FILTER PACK USED: 6
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 6
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

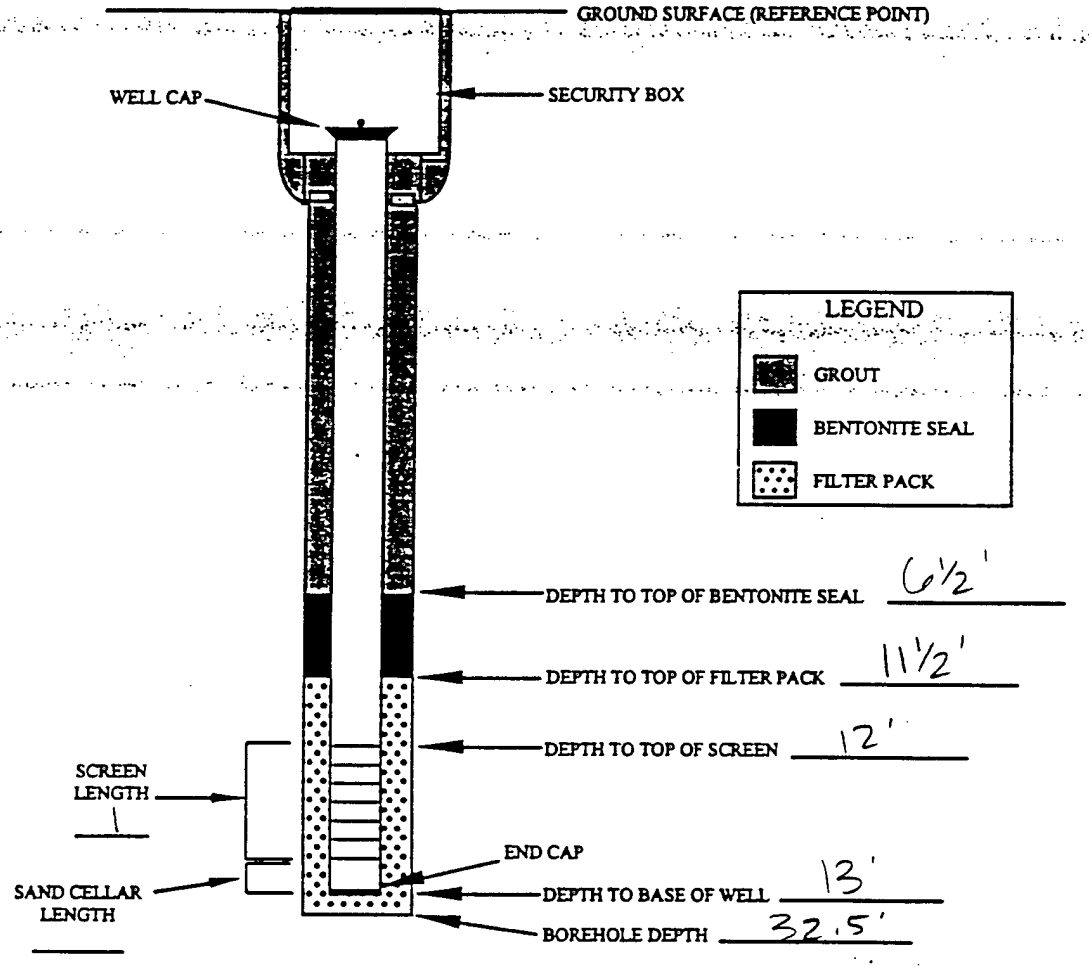
AFCEE FORM WAB.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 12-13'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: fine
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 6
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

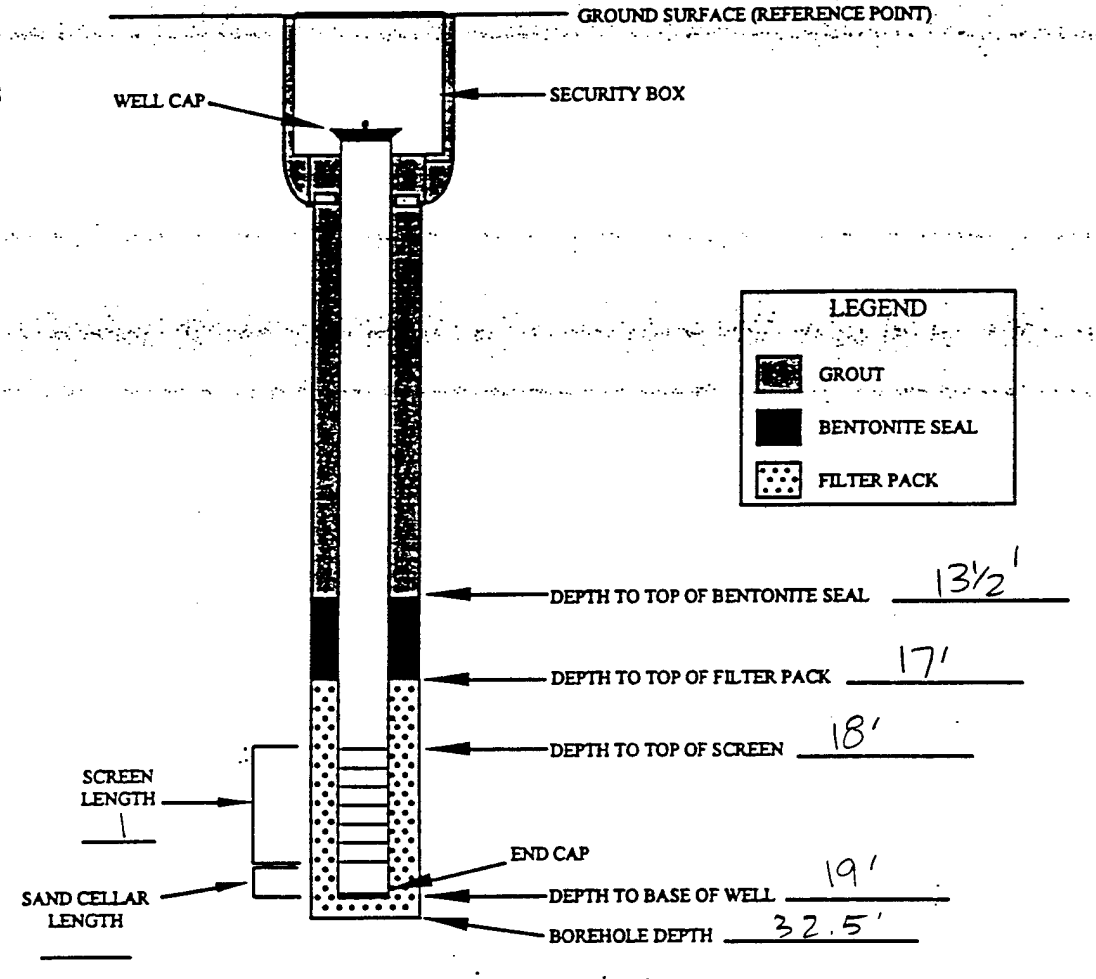
AFCEE FORM WAB.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/17/97
WELL CONSTRUCTION COMPLETE DATE: 11/17/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 18-19
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 6
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 7
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

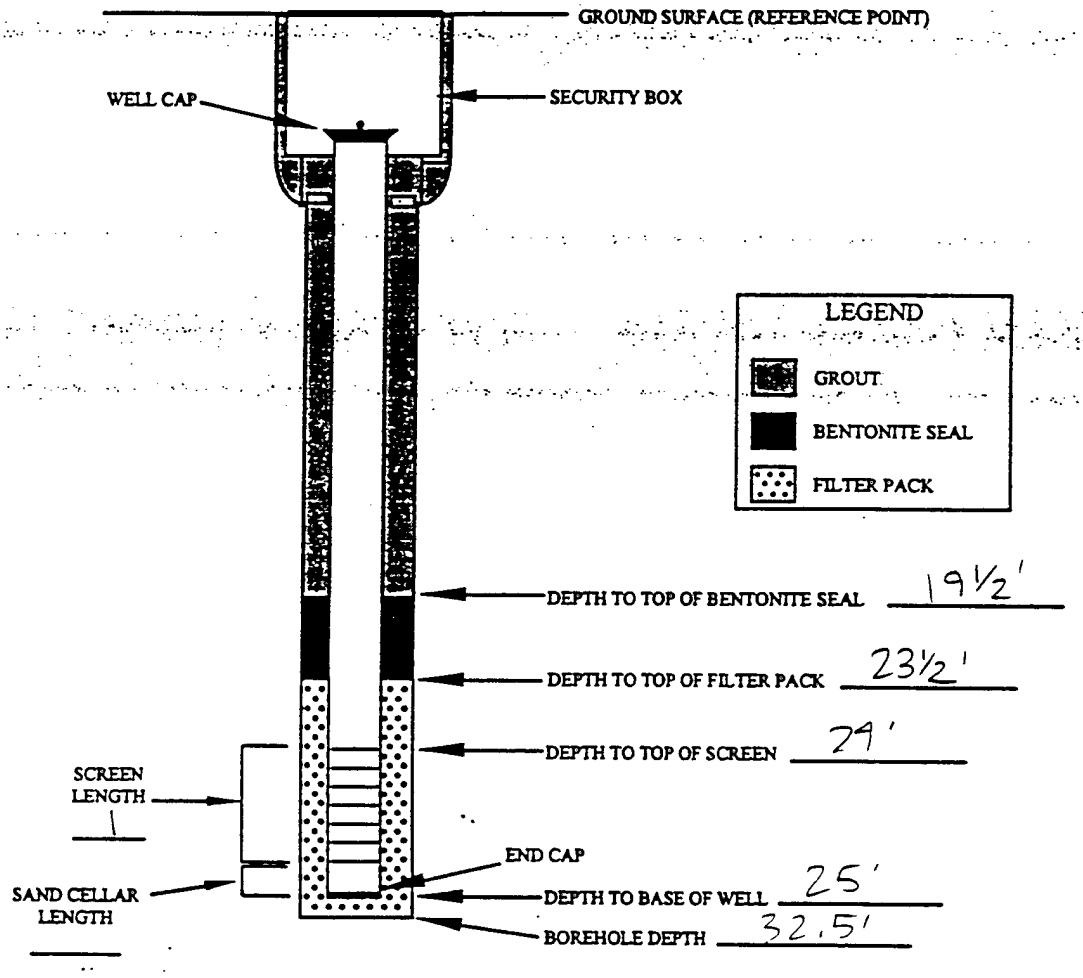
AFCEE FORM WAB.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 24-25'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 6
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 6
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA

BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP

WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97

SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 31-32.

CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4

TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 7

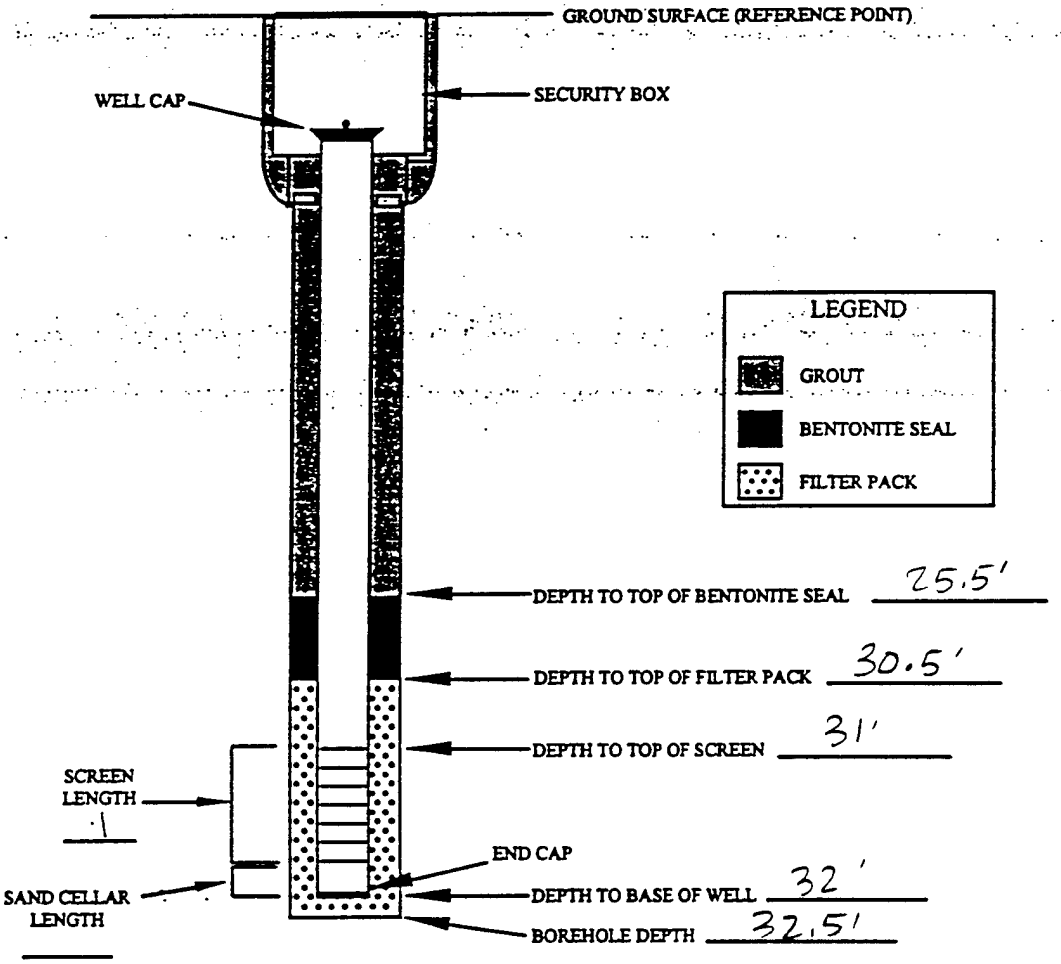
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY BOX:

TYPE OF WELL CAP:
TYPE OF END CAP:

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

BORING LOG

Borehole ID: SS08B-MP2
Sheet 1 of 1

			Location: 10' North of SS08B-VE1	
Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Hatch	Ground Elevation	Total Drilled Depth: 32.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" IDHSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/12/97 / 1410	Date/Time Total Depth Reached: 11/12/97 / 1800 / 32.5'
Type of Sampling Device: —		Water Level (bgs) First	Final	
Sample Hammer Type: —	Driving Wt.: —	Drop: —	Hydrogeologist: B. Chavez	Checked by/Date
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (include all sample types & depth, odor, organic vapor measurements, etc.)
				SAND(SP) 10YR 5/4 yellowish brown, poorly graded, [illegible] loose, trace pebbles. Saturated, very fine grained. (0-10).	SP		M	Ø
				Same as above material 10YR 6/3 pale brown (10-15)	SP	M		Ø
				15-20 Same as above material 10YR 6/4 light yellowish brown	SP		M-W	Ø
				(20-32.5) Same as above material			W	Ø
				END of BORING 32.5'				

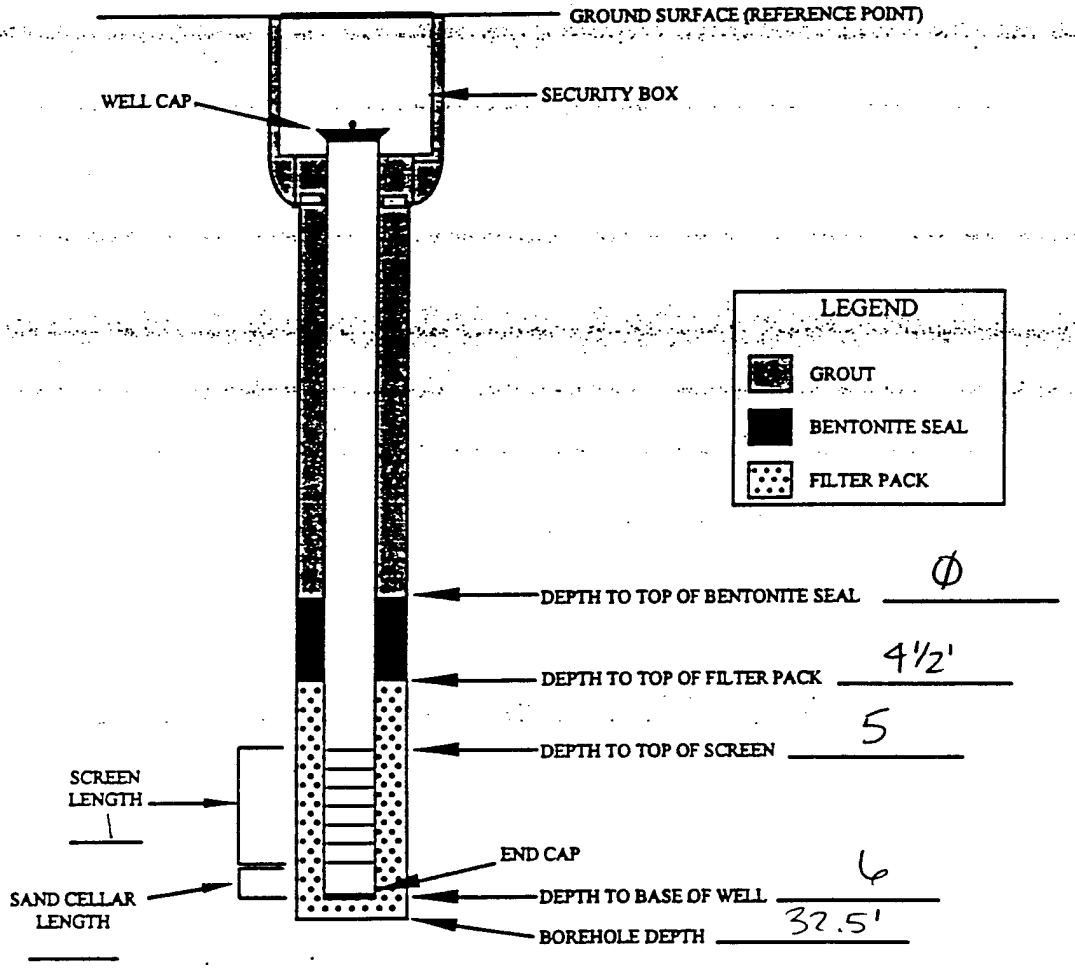
AFCEE FORM BL.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM MP2A

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 5-6
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: fine
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 5
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

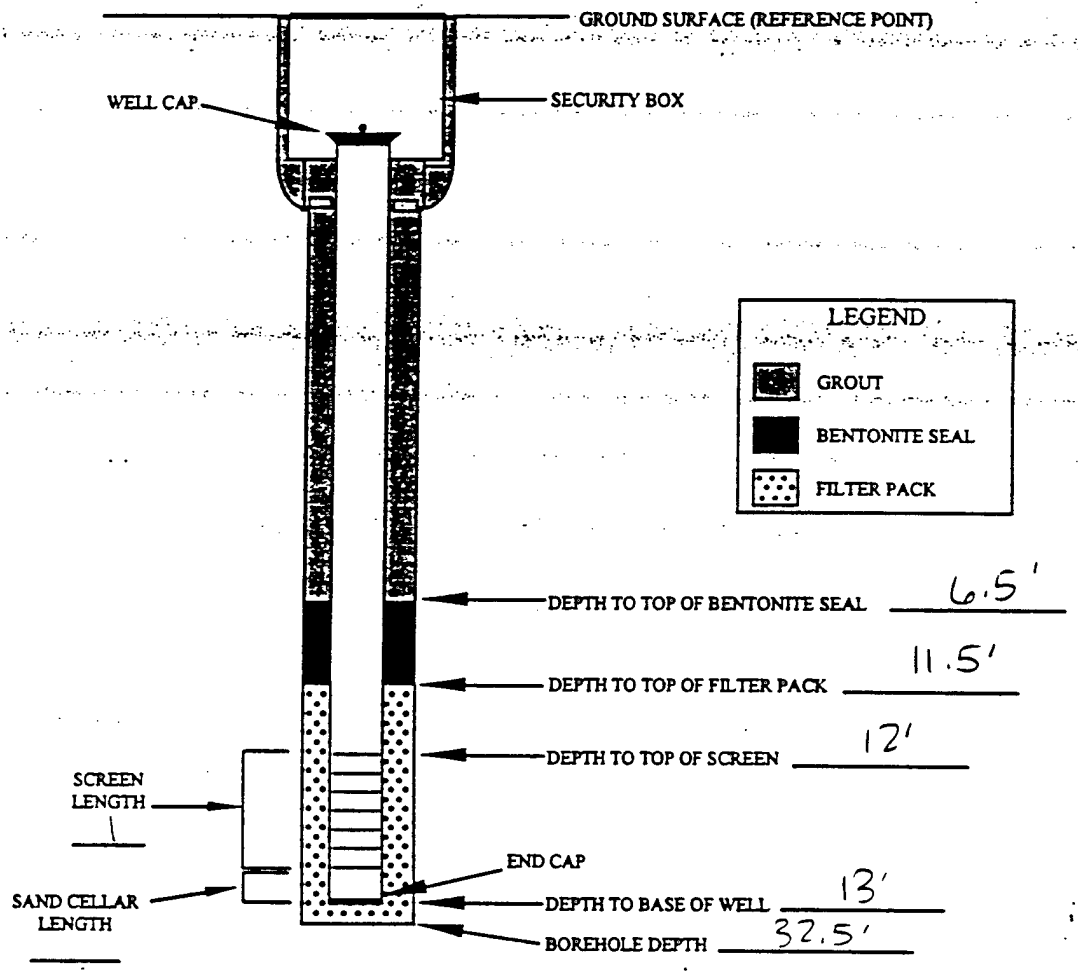
AFCEE FORM WAB.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 12-13'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: Fine
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 5
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

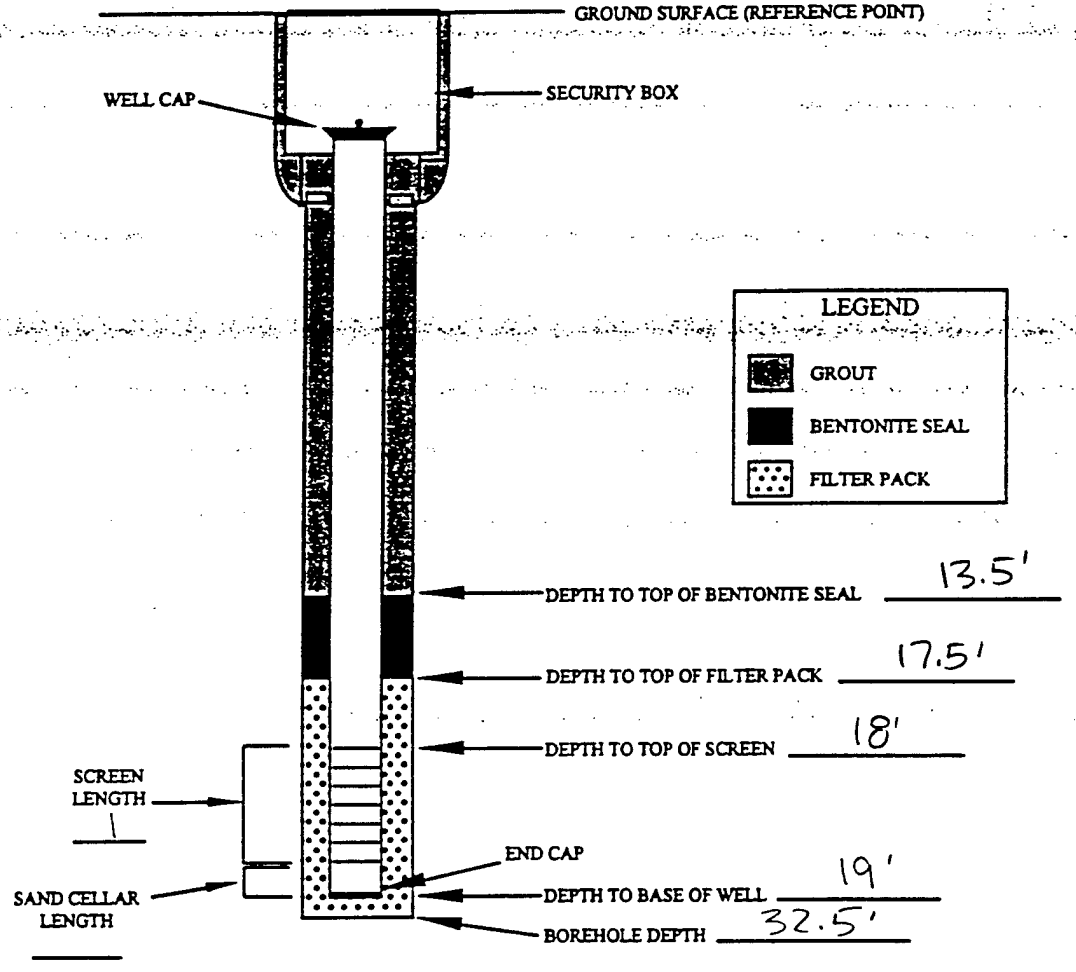
SS08B-MP2C

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/2/97
WELL CONSTRUCTION COMPLETE DATE: 11/2/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 18-19'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 1
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 2
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

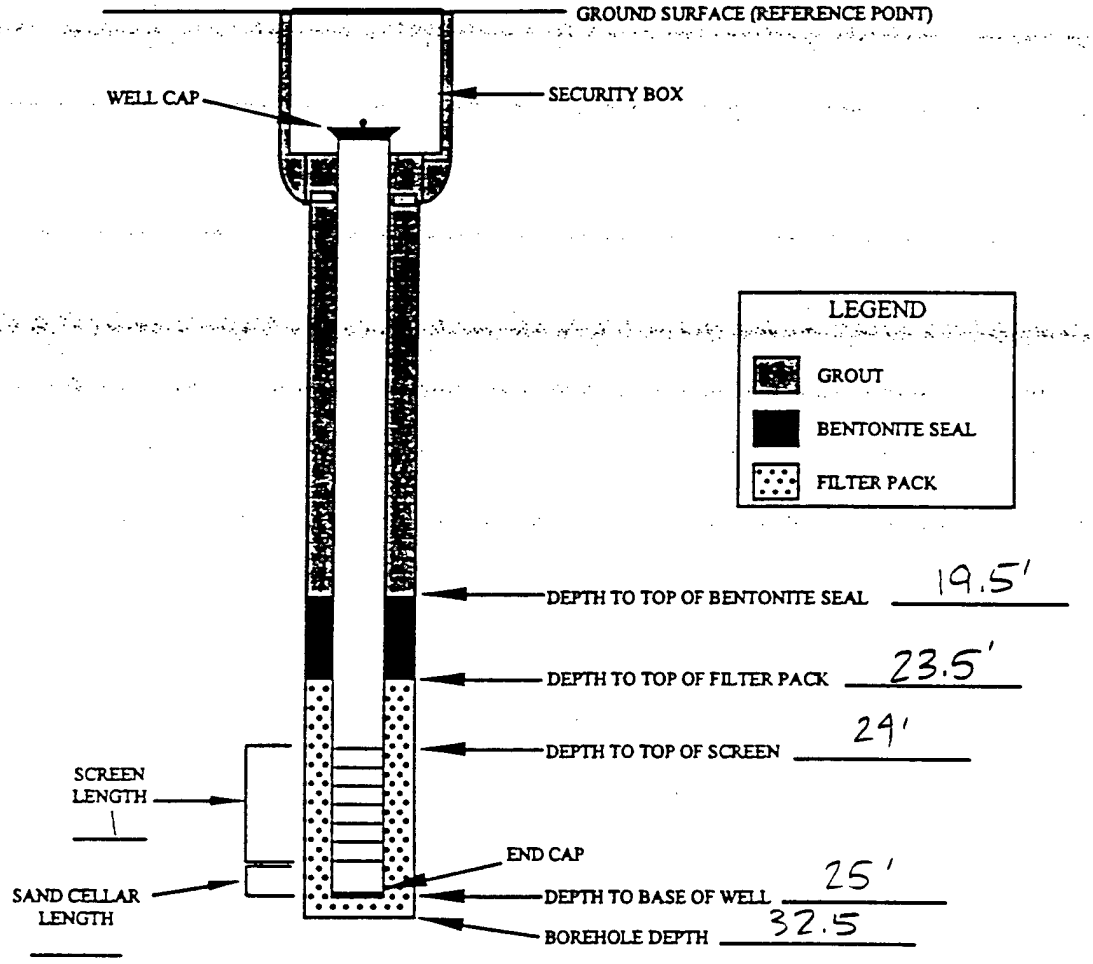
SS-53
MP2D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 24-25
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold / Hollplug
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

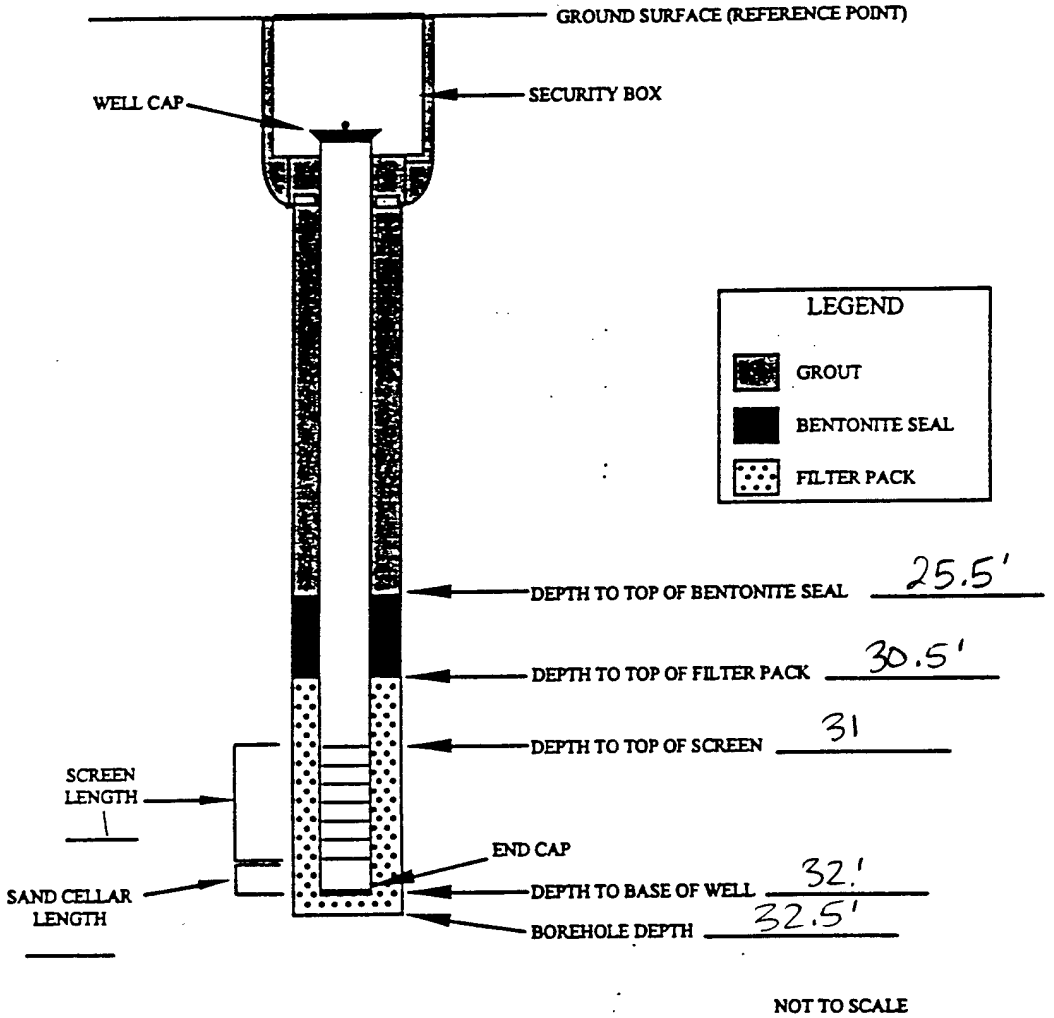
SS08B-MP-E

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/12/97
WELL CONSTRUCTION COMPLETE DATE: 11/12/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 31-32
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

BORING LOG

Borehole ID: SS08B-MP3
Sheet 1 of 1

			Location: 15' E OF VE1	
Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Hatch	Ground Elevation	Total Drilled Depth: 25½'	
Drilling Equipment: CME 75	Drilling Method: 9¼" ID HSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/13/97 / 0944	Date/Time Total Depth Reached: 11/13/97 / 1016 25½'
Type of Sampling Device: —		Water Level (bgs): First	Final	
Sample Hammer: Type — Driving Wt. — Drop —		Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, minerology, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				SAND (SP) 10YR5/4 yellowish brown, poorly graded, low density, low plasticity, loose, very fine grained, trace of pebbles. MOIST (0-10)	SP		M	∅
				(10-15) Same as above material 10YR 4/3 pale brown	SP		M	∅
				(15-25.5) Same as above material 10YR5/3 brown.	SP		M-W	∅
				END OF BORING 25.5'				

AFCEE FORM BL.11

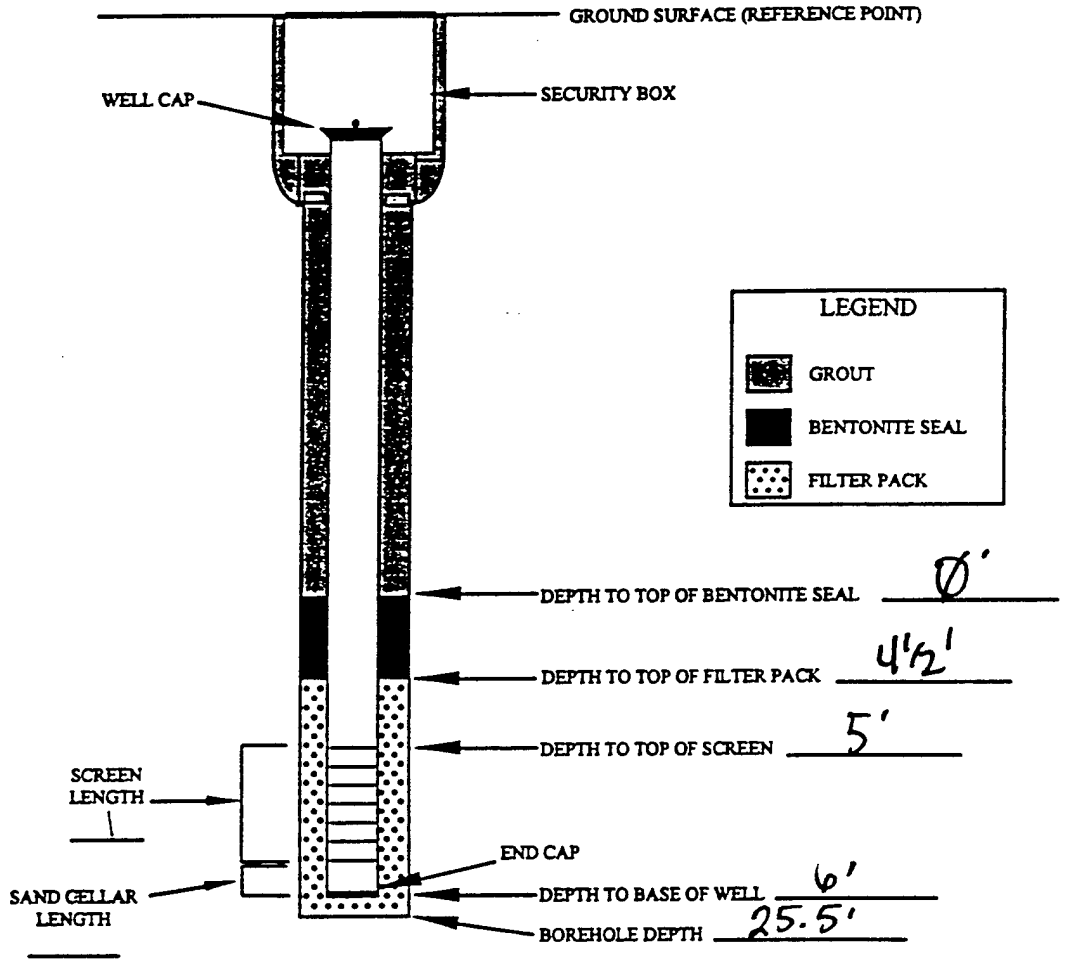
SS08B-MP3A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 5-6
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

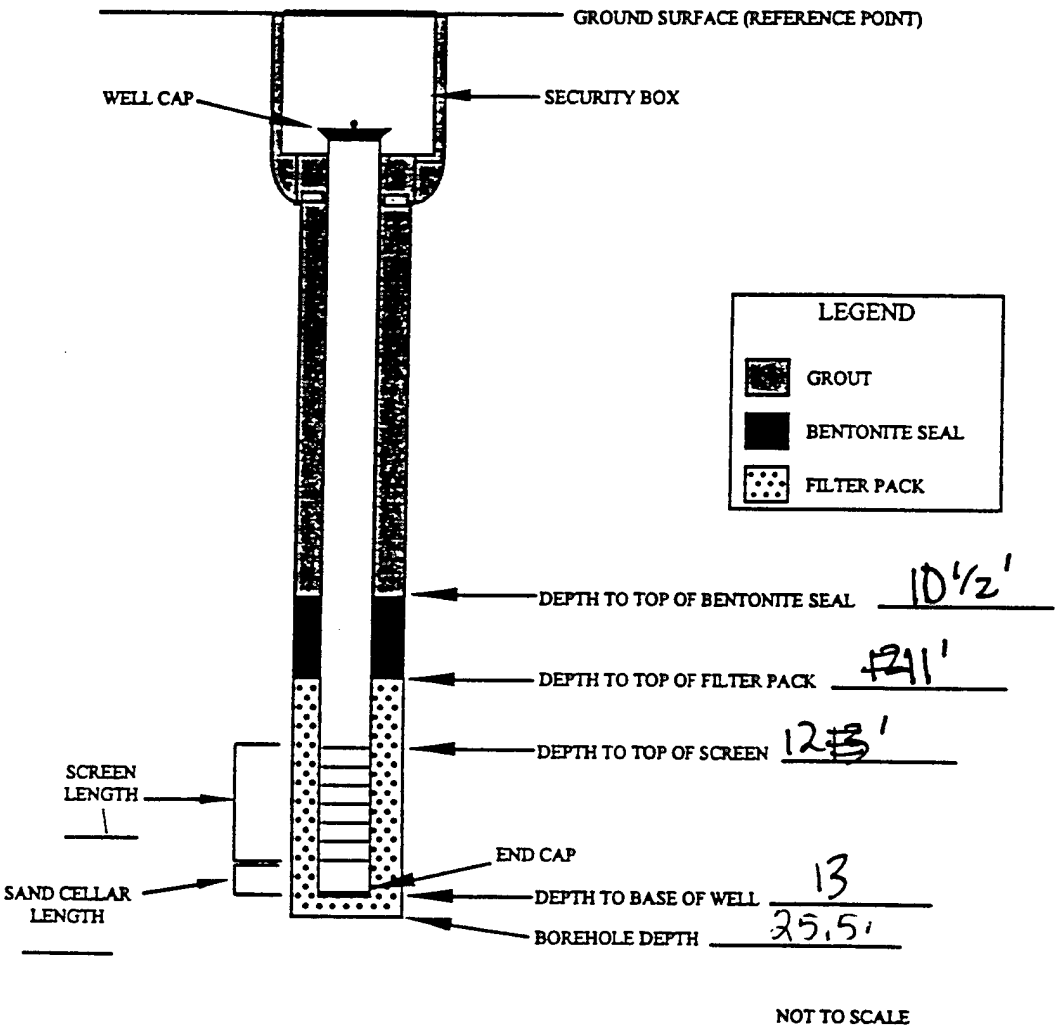
SSOE5-MP3

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 12-13'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 3
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

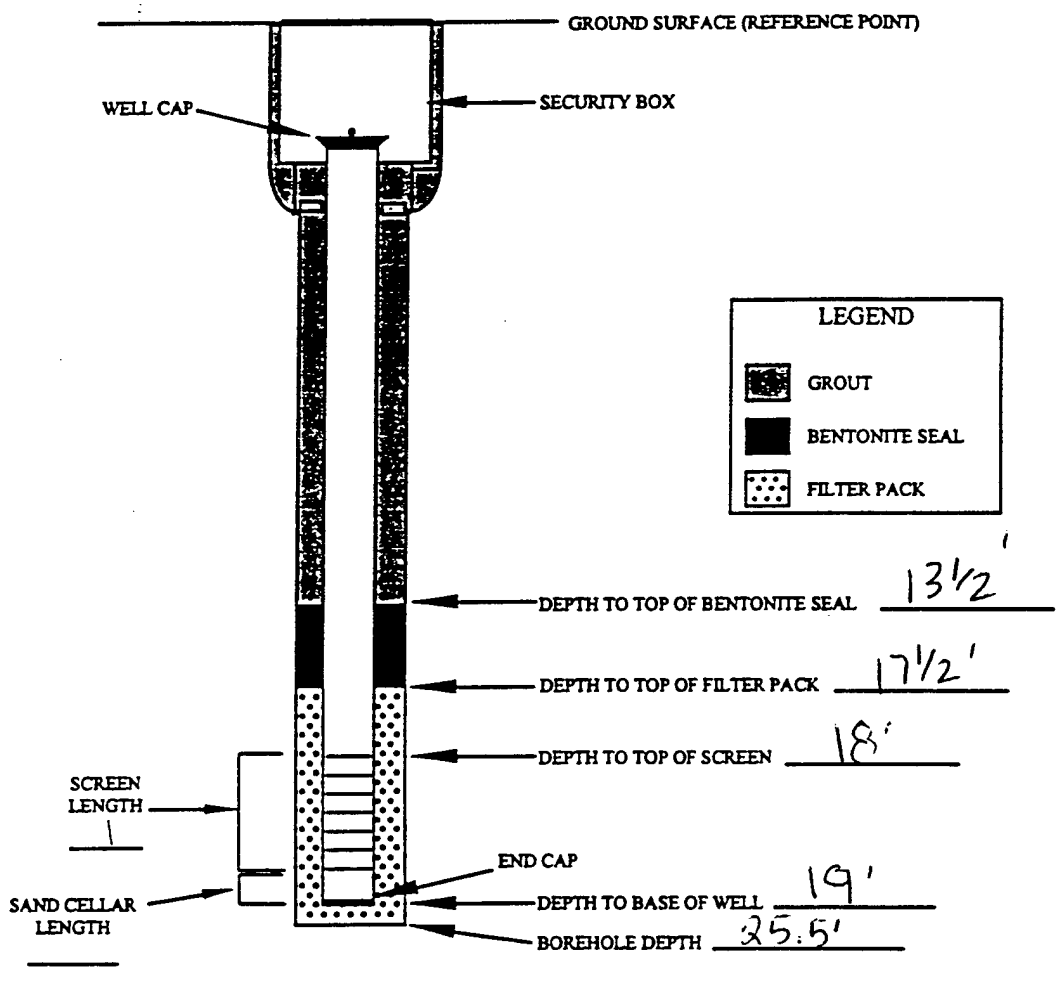
SS08B-MP

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 18-19'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 1
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 3
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

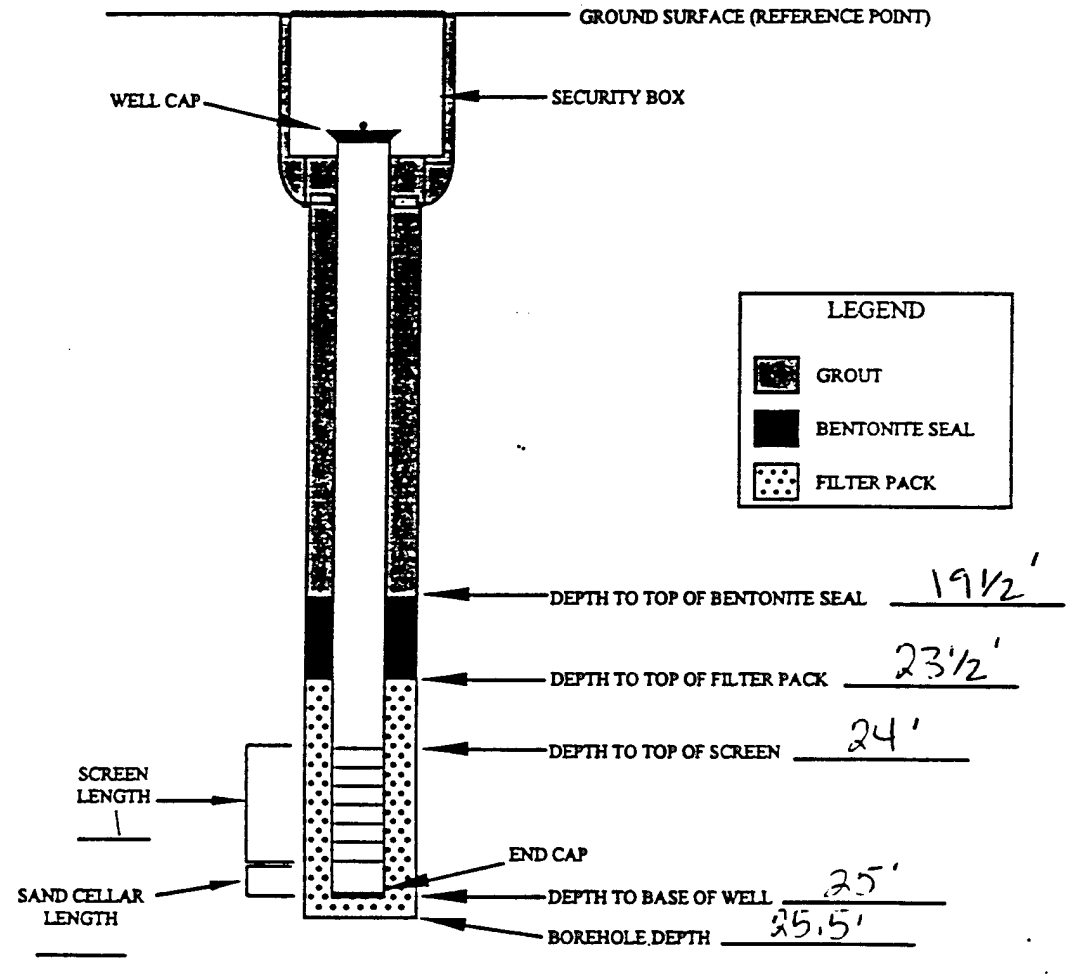
SSOE5-MF3D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 24-25'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 1½
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 3
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

BORING LOG

Borehole ID: SS08B-MP4
Sheet 1 of 1

			Location: 25' South of VE1	
Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS)	Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Mather	Ground Elevation	Total Drilled Depth: 25.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" IDHSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/13/97 / 1635	Date/Time Total Depth Reached: 11/13/97 1635 25.5'
Type of Sampling Device: —			Water Level (bgs): First	Final
Sample Hammer: Type —	Driving Wt. —	Drop —	Hydrogeologist: B. Chavez	Checked by/Date
Location Description (include sketch in field logbook)				

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
0-10				SAND (SP) 10YR5/4 yellowish brown, poorly graded, low density, loose, low plasticity, very fine grained. trace of pebbles.	SP		M	0
10-15				Same as above material 10YR6/3 pale brown	SP		M	0
15-25				Same as above material 10YR5/3 brown	SP		M-W	0

AFCEE FORM BL.11

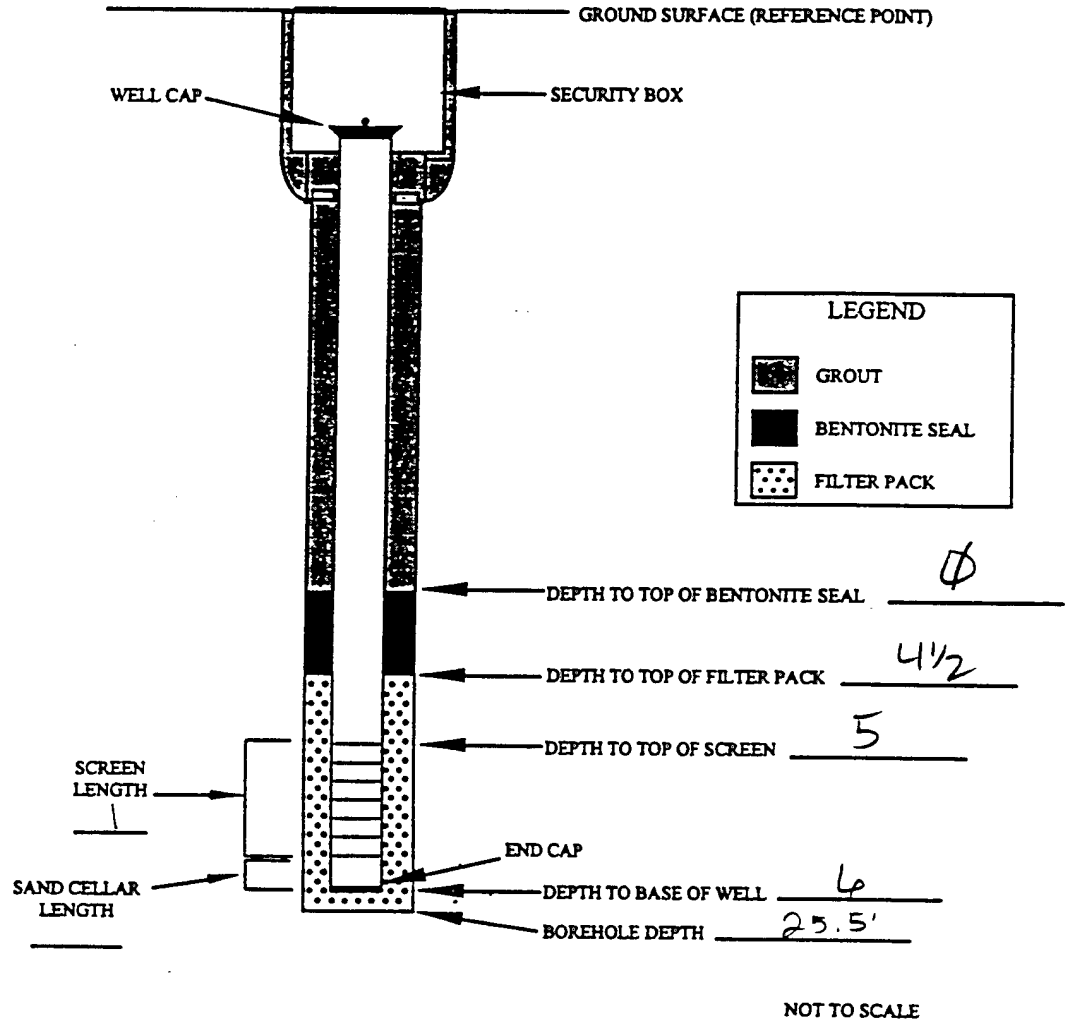
SSO8B-MP4A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SSO8B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSO8B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 5-6
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 3
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

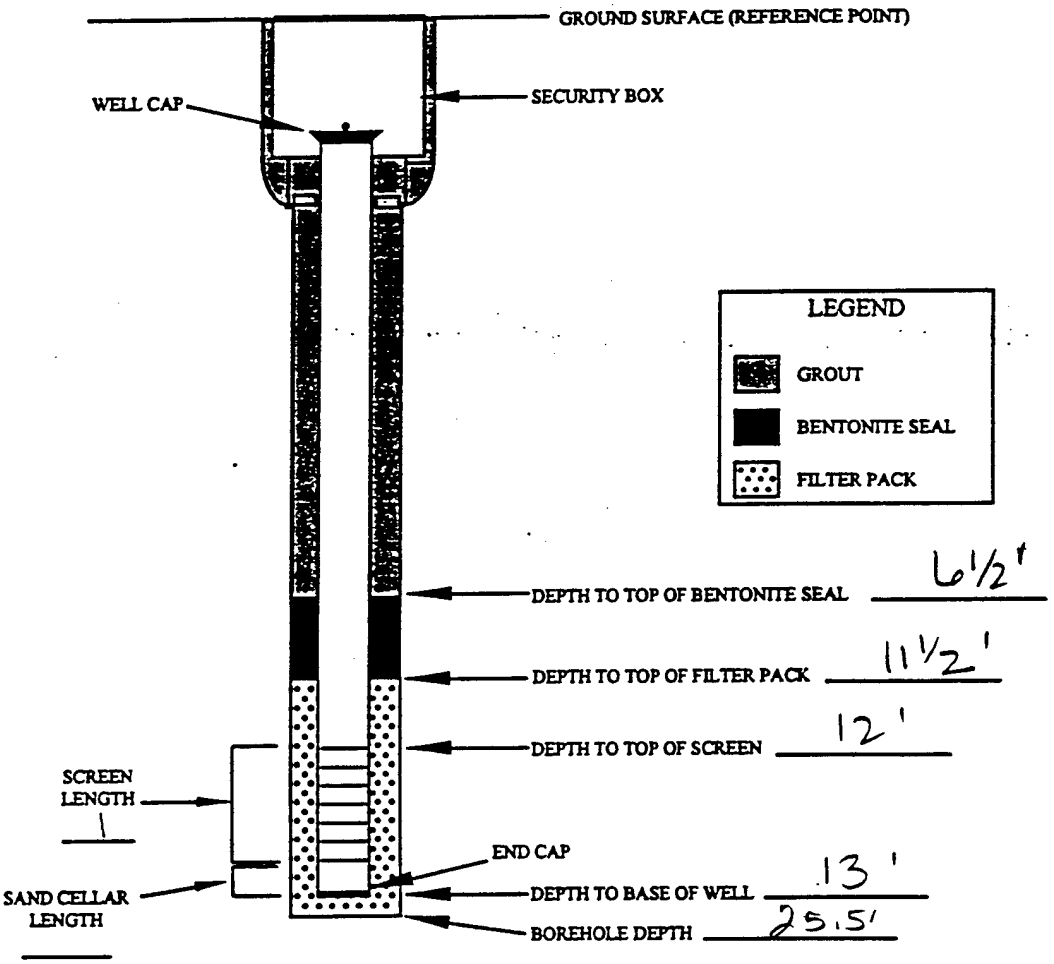
SSOSB MP48

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 12-13'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 5
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

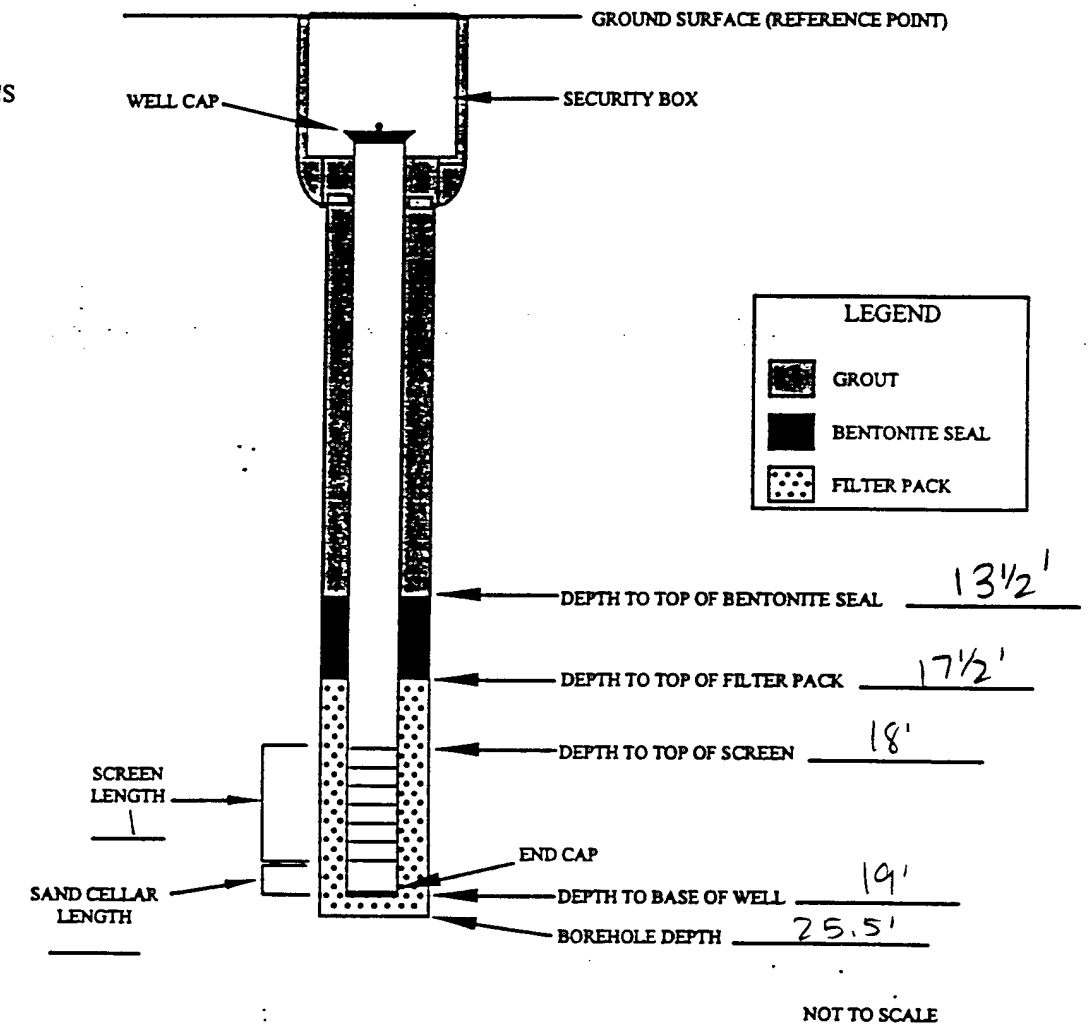
AFCEE FORM WAB.11

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 18-19'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 2
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

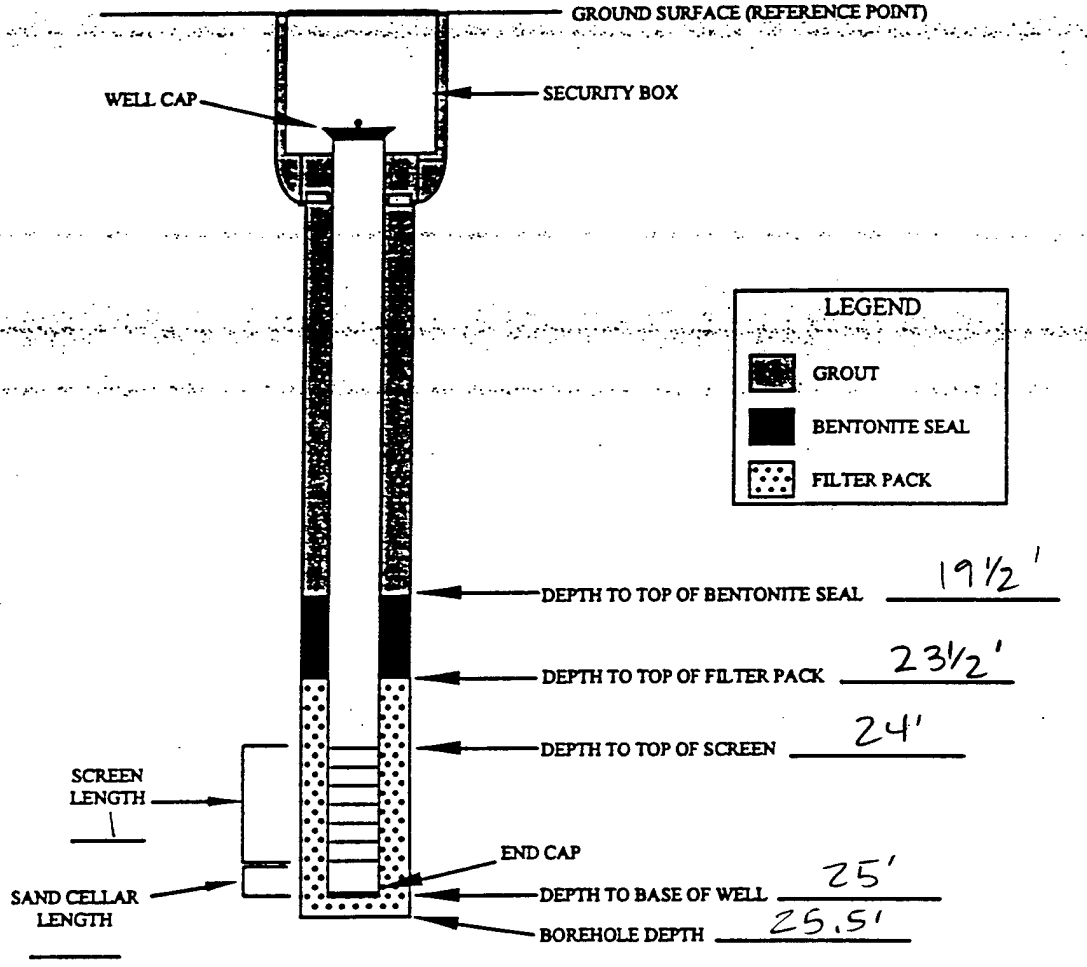
MP4D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME 75
AUGER SIZE AND TYPE: 9 1/4" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): _____
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT: _____
AMOUNT CEMENT USED: _____
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY BOX: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES: _____

AFCEE FORM WAB.11

BORING LOG

Borehole ID: SS08B-MP5
Sheet 1 of 1

				Location: 40' E of VE1	
Project Name: Pilot Test Well	Project Number: 021746	LTCCODE (IRPIMS)		Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Hatley	Ground Elevation		Total Drilled Depth: 25.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" IDHSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/13/97 0944	Date/Time Total Depth Reached: 11/13/97 1014	25.5'
Type of Sampling Device: —			Water Level (bgs): First	Final	
Sample Hammer: Type —	Driving Wt. —	Drop —	Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)					

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-10) SAND (SP) 10YR5/4 yellowish brown, poorly graded, low density, low plasticity, loose, V. fine grained, trace of pebbles. moist.	SP		M	∅
				(10-15) Same as above material 10YR6/3 pale brown	SP		M	∅
				(15-25) Same as above material 10YR5/3 brown	SP		M-W	∅

AFCEE FORM BL.11

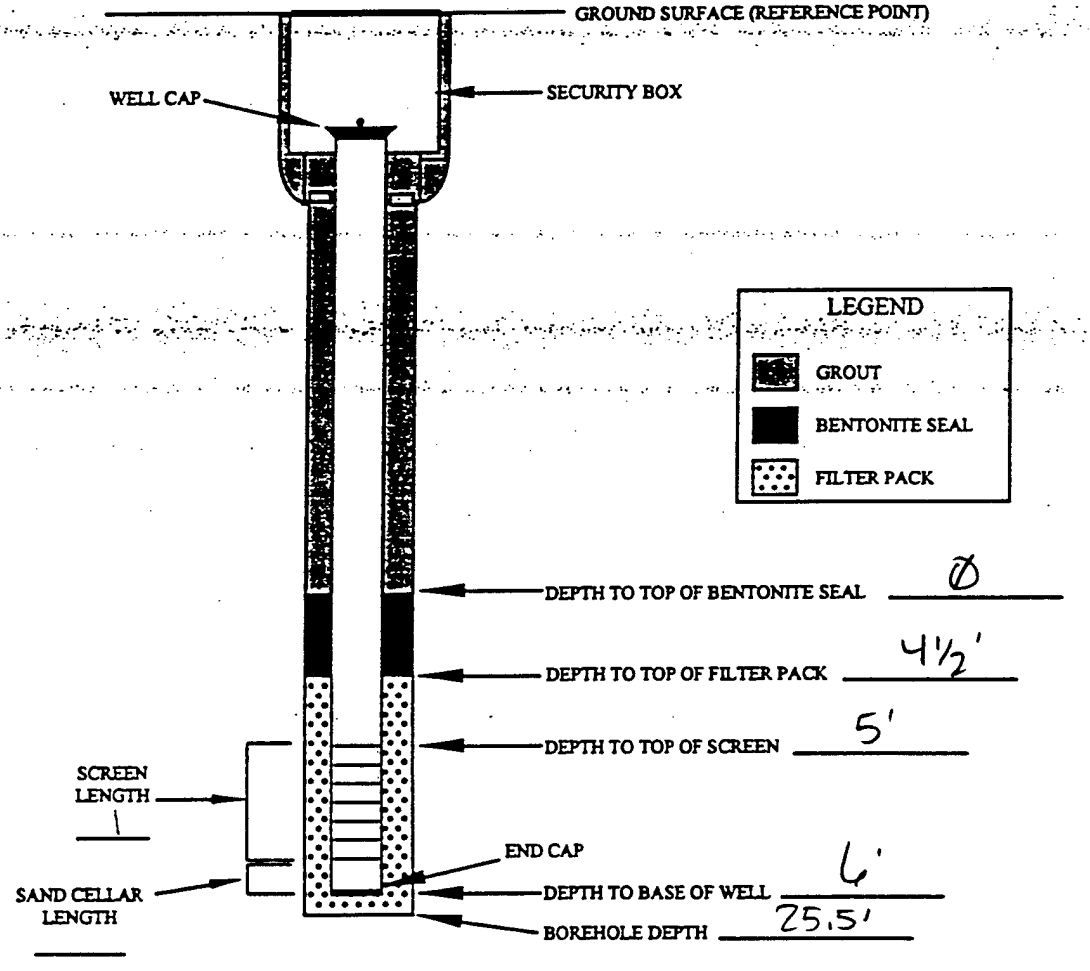
>>>>- M.P5A

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 5-6'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 2
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 1
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

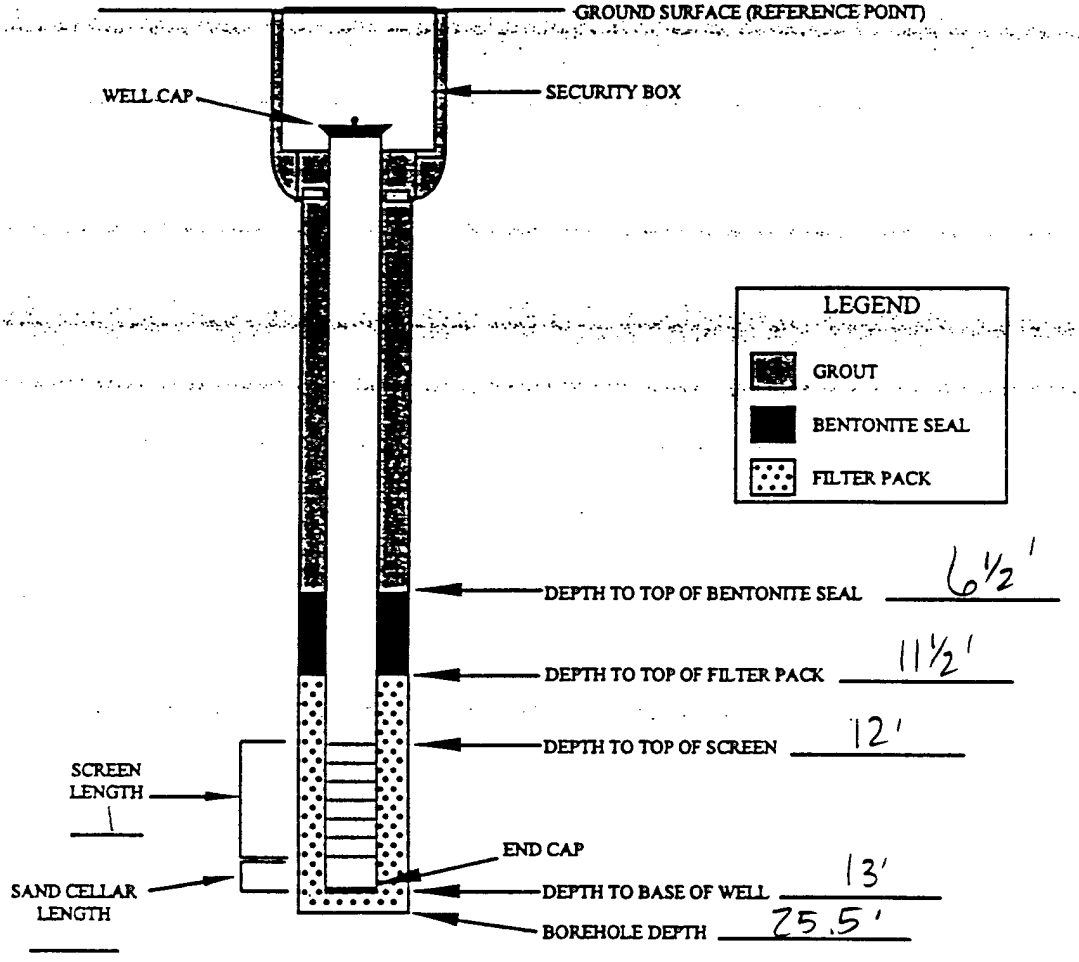
MP5B

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 12-13'
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 4
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



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DISCREPANCIES:

AFCEE FORM WAB.11

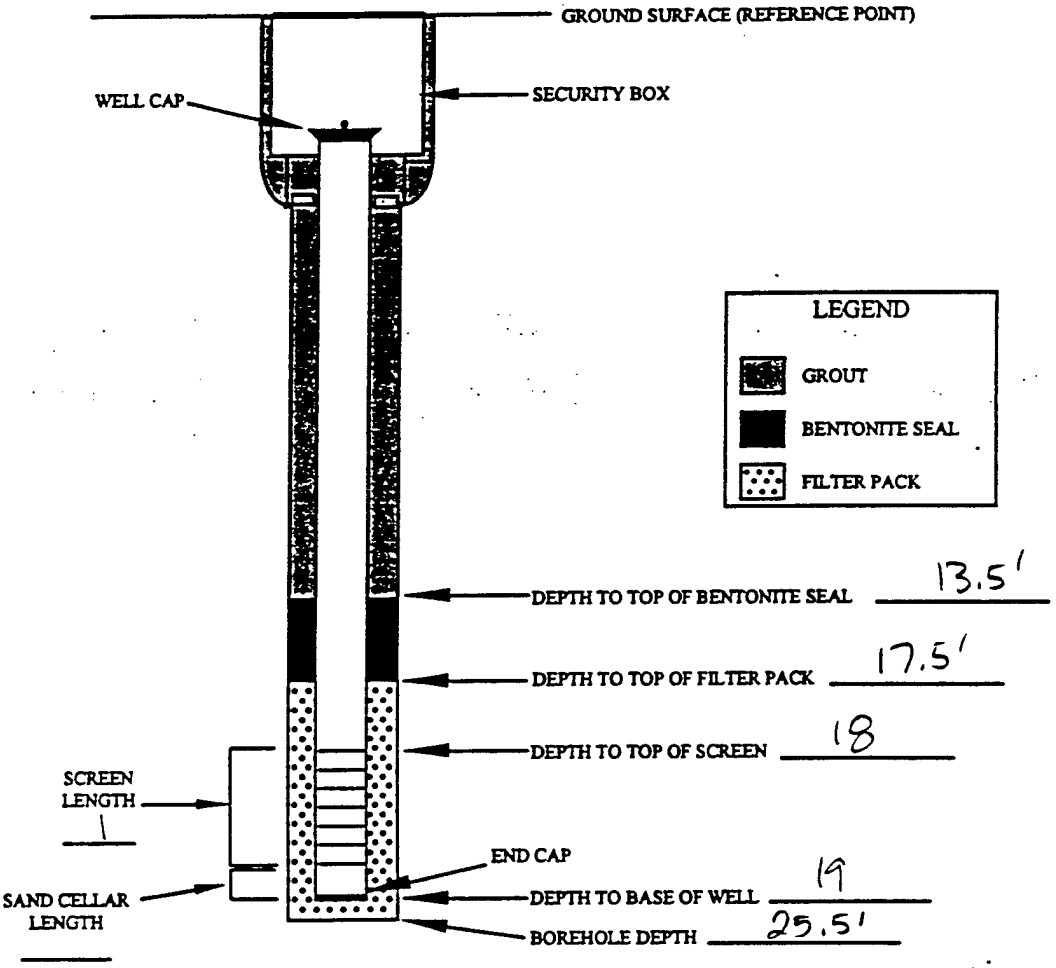
SSOE?
MP5C

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SS08B-MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 18-19
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 6
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



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DISCREPANCIES:

AFCEE FORM WAB.11

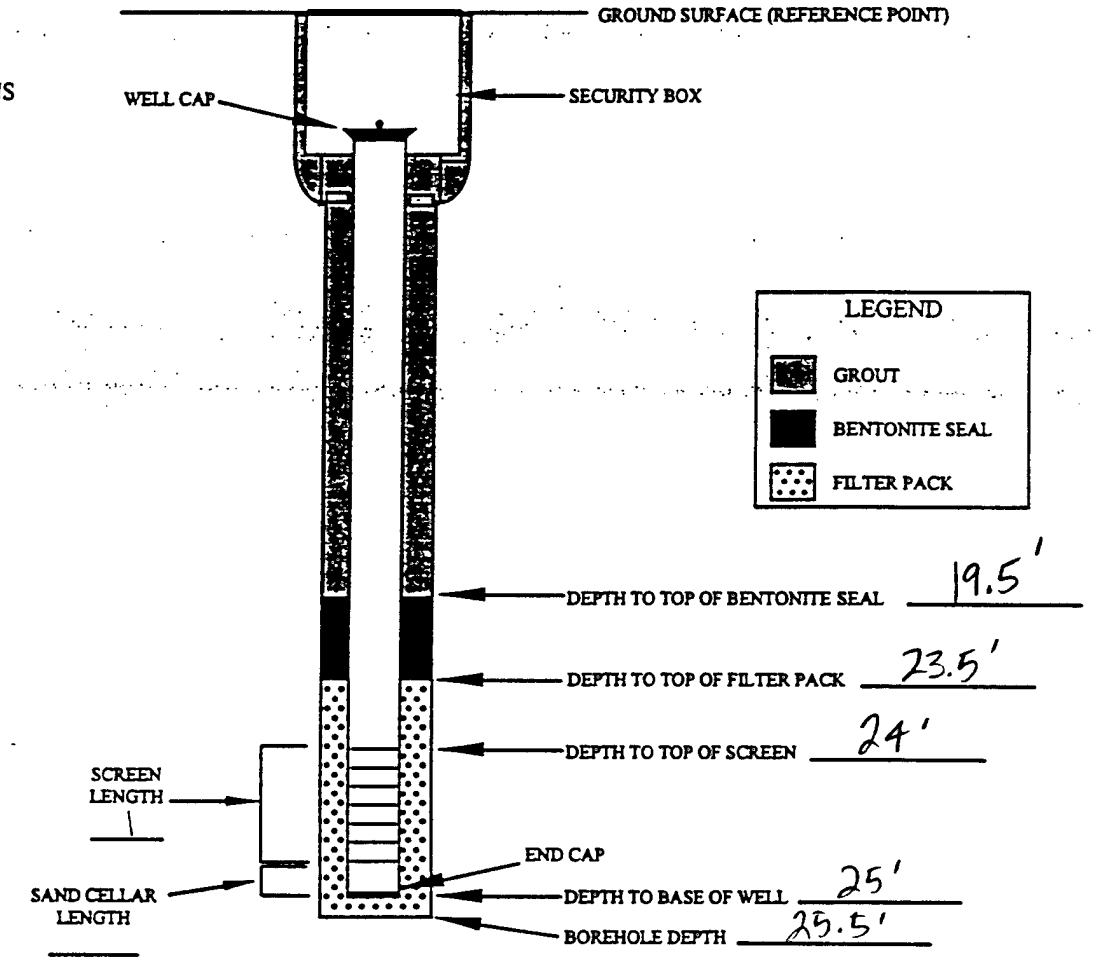
SSOEB-MP5D

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B. Chavez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SSOSB-MP
BOREHOLE DIAMETER: 14"
WELL IDENTIFICATION: SSOSB- MP
WELL CONSTRUCTION START DATE: 11/13/97
WELL CONSTRUCTION COMPLETE DATE: 11/13/97
SCREEN MATERIAL: PVC Schedule 40
SCREEN DIAMETER: 3/4"
STRATUM-SCREENED INTERVAL (FT): 24-25
CASING MATERIAL: PVC schedule 40
CASING DIAMETER: 3/4"

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 3
TYPE OF BENTONITE: Pure Gold / Holeplug
AMOUNT BENTONITE USED: 4
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY BOX:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: American Environmental INSTALLATION OBSERVED BY: Metcalf & Eddy Inc (B. Chavez)

DISCREPANCIES:

AFCEE FORM WAB.11

BORING LOG

Borehole ID: SS08B-MP to VE1
Sheet 1 of 1

Project Name: Pilot Test Well	Project Number: 021746		LTCCODE (IRPIMS)	Location: 5' North of SS08B-S1 Site ID: SS08B	LPRCODE (IRPIMS)
Drilling Company: American Environmental	Driller: Ron Hatley		Ground Elevation	Total Drilled Depth: 15.5'	
Drilling Equipment: CME 75	Drilling Method: 9¼" ID HSA	Borehole Diameter: 14"	Date/Time Drilling Started: 11/11/97 / 1502	Date/Time Total Depth Reached: 11/11/97 / 1645	15.5'
Type of Sampling Device: —			Water Level (bgs): First	Final	
Sample Hammer: Type —	Driving Wt. —	Drop —	Hydrogeologist: B. Chavez	Checked by/Date	
Location Description (include sketch in field logbook)					

Depth	Interval	Recovery	Blow Counts	Description (Include lithology, grain size, sorting, angularity, Munsell color name & notation, mineralogy, bedding, plasticity, density, consistency, etc., as applicable)	USCS Symbol	Lithology	Water Content	Remarks (Include all sample types & depth, odor, organic vapor measurements, etc.)
				(0-5) SAND (SP) [illegible] poorly graded, [illegible] fines - [illegible] for moist, [illegible] native material	SP		M	6
				(5-10) SAND (SP) 10YR 4/3 pale brown Same as above material	SP		M	0
				(10-15.5) Same as above material	SP		M	0
				[illegible] 15.5'				—

AFCEE FORM BL.11

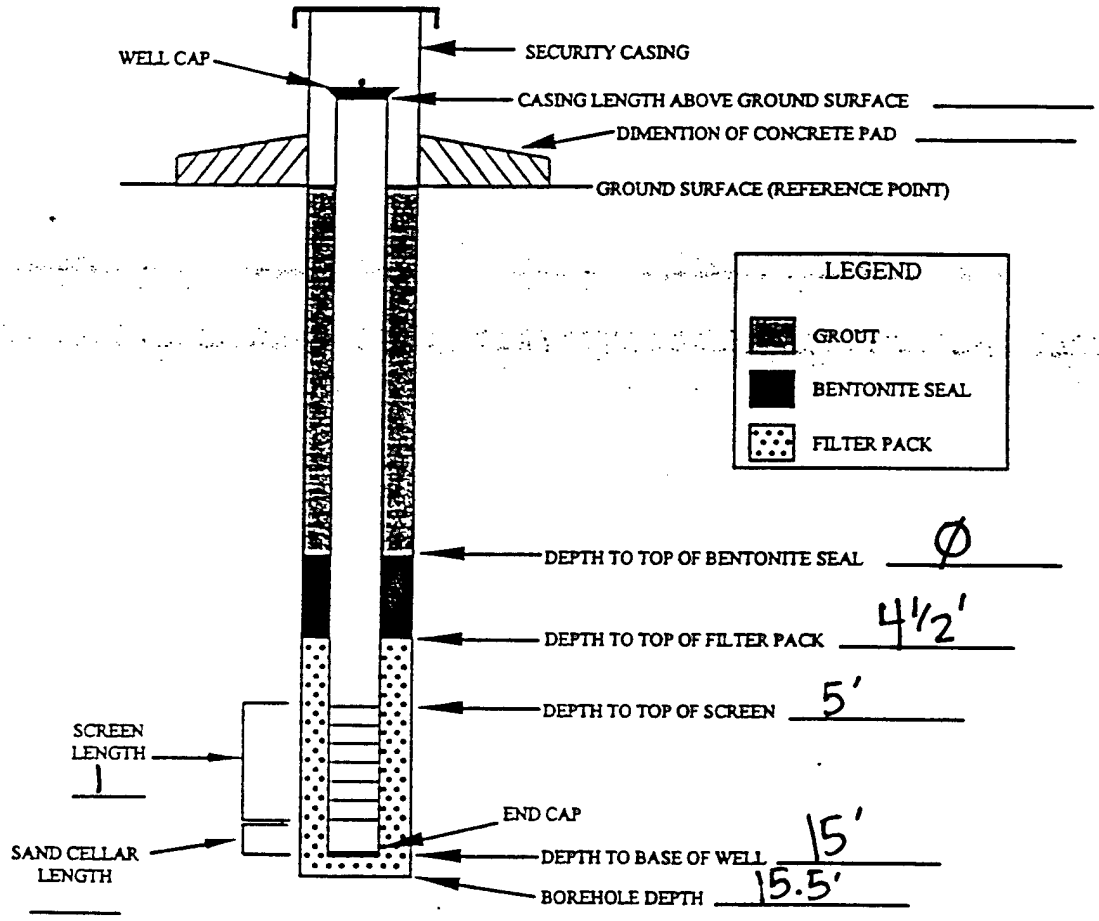
SS08B-VE1/MP6

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: B.Chávez
DRILLING CONTRACTOR: American Environmental
DRILLING TECHNIQUE: CME75
AUGER SIZE AND TYPE: 9¼" ID HSA
BOREHOLE IDENTIFICATION: SS08B-MP6/VE1
BOREHOLE DIAMETER:
WELL IDENTIFICATION: SS08B-MP6/VE1
WELL CONSTRUCTION START DATE: 11/11/97
WELL CONSTRUCTION COMPLETE DATE: 11/11/97
SCREEN MATERIAL: PVC schedule 40
SCREEN DIAMETER:
STRATUM-SCREENED INTERVAL (FT):
CASING MATERIAL: PVC schedule 40
CASING DIAMETER:

TYPE OF FILTER PACK: global sand
GRADIATION: #5
AMOUNT OF FILTER PACK USED: 12
TYPE OF BENTONITE: Pure Gold Chips
AMOUNT BENTONITE USED: 18
TYPE OF CEMENT:
AMOUNT CEMENT USED:
GROUT MATERIALS USED:
DIMENSIONS OF SECURITY CASING:
TYPE OF WELL CAP:
TYPE OF END CAP:
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

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DISCREPANCIES:

APPENDIX B

PILOT TEST DATA AND ANALYSES FOR SITE SS-06

WURTSMITH AFB PILOT TESTING SITE SS06, AS/SVE SYSTEM READINGS

Date	Time	MP6 Vacuum (in H2O)	InletTemp (°F)	Port 1 Vacuum (in H2O)	Port 1 % O2	Port 1 % CO2	Port 1 %CH4	Port 1 PID (ppmv)	SVE Flow Rate (scfm)	Port 2 Vacuum (in H2O)	SVE Blower Outlet Temp (°C)	Port 3 Pressure (in H2O)	Port 4 Extracted % He	Port 4 % O2	Port 4 % CO2	Port 4 %CH4	Port 4 PID (ppmv)	Port 4 Pressure (in H2O)	Port 5 % O2	Port 5 % CO2	Port 5 %CH4	Port 5 PID (ppmv)	Port 5 Pressure (inches H2O)	Final Discharge % O2	Final Discharge % CO2	Final Discharge %CH4	Final Discharge PID (ppmv)	Sparge Air % He	Sparge Air Pressure (psi)	SpargeOutflow Rate (cfm)	Temp (°F)	Helium Flow (µ/min)	SF6 Flow (µ/min)	Sparge On Cycle (Min.)	Sparge Off Cycle (Min.)
11/13/97	10:15													15.9	3.7	16.6																			
11/13/97	16:10	19.1		22.0					156.00	34.3	26	14.10					432	13.80				0	5.60				0								
11/13/97	16:44	19.1		21.9					154.00	33.2	30	14.50					330	14.10				0	5.80				0								
11/13/97	17:09	19.1		21.9					153.00	33.1	31	14.30		14.3	4.9	22.0	370	14.00				0	5.70				0								
11/13/97	18:00	19.0		21.8	14.9	4.5	19.8		151.00	32.7	31	14.20		15.0	4.4	19.7	451	13.90				0	5.70				0								
11/13/97	21:50	19.4		22.6	15.8	3.7	16.5		155.00	34.2	30	14.20					330	13.90				0	5.60				0								
11/14/97	8:45	19.0		21.8	16.4	3.0	13.4		154.00	32.6	29	14.10		13.8	3.0	16.5	254	13.80				119	5.80				0								
11/14/97	11:45	11.9	52	14.2					96.00	18.4	23	6.20					495	6.10				270	2.20				0								
11/15/97	12:45	21.1		14.5					95.00	18.8	22	5.70					440	5.50				0	1.70				0								
11/15/97	18:00	11.3		13.5					94.00	7.6	21	5.30					375	5.20				0	1.40				0								
11/16/97	11:15	11.3	52	13.6	18.1	1.4	7.0		95.00	17.7	22	5.60		18.4	1.4	7.1	655	5.40	18.5	1.4	4.4	236	1.90				0								
11/16/97	12:00																751					0					0								
11/17/97	8:20	11.6		14.0					95.00	18.2	21	3.80					810	3.90				0					0								
11/17/97	11:20		52	13.8	16.6	1.3	6.7	750																											
11/17/97	15:00	11.5	52	13.7	17.3	1.2	5.4	414	95.00	17.9	20	3.70		17.2	1.3	6.4	690	3.60	17.2	1.3	1.7	149	2.27	17.2	1.3	2.2	0								
11/17/97	18:50	11.1	52	13.3					94.00	17.8	22	5.80					461	5.65				224	2.25				0								
11/18/97	10:51	9.1	52	12.2	18.8	1.4	6.8	590	86.00	14.5	24	5.80		18.7	1.4	5.9	775					479					0								
11/18/97	18:05				19.4	1.4	6.5							19.2	1.4	6.5	624					348					1								
11/18/97	18:23																624					4					0								
11/18/97	19:30																738					426					0								
11/18/97	21:04	11.6		13.4					90.00	17.7	18	5.85					971	5.70				0	2.40				0								
11/19/97	8:30	11.6		13.5					94.00	12.6	21	6.15					311	5.50				149	2.46				1								
11/19/97	9:30				8.3	1.2	5.8							8.3	1.3	6.1	331																		
11/19/97	11:22																282					109					0								
11/19/97	13:47																257												0.0	0.0					
11/19/97	14:05																470											1.7	11.5	14	90	150	32	10	0
11/19/97	14:15																381											1.5	10.0	15.2	102	150	32	10	0
11/19/97	14:22												0.15				374											1.5	9.7	15	101	150	32	10	0
11/19/97	14:30												0.16				318											1.5	9.0	15.20	100	150	32	10	0
11/19/97	15:00												0.54				214											1.6	8.7	15.20	94	150	32	10	0
11/19/97	15:30																221												8.8	15.20	104	149	33	10	0
11/19/97	16:00												0.75				214											1.7	8.7	15.25	105	150	32	10	0
11/19/97	16:30												0.79				214											1.7	9.2	15.30	115	150	33	10	0
11/19/97	17:15	11.1		13.0					94.00	17.0	24	6.14	0.75				241	6.00				121	2.50				0	1.8	8.2	15.40	120	150	33	10	0
11/19/97	18:49												0.68				293											1.5	8.2	15.40	120	152	33	10	0
11/19/97	19:05				18.9	1.7	17.7	275						18.9	1.7	17.2	293																		
11/19/97	19:55												0.51				311											1.6	8.5	15.60	112	147	32	10	0
11/19/97	21:10												0.45				362											1.7	8.9	15.80	102	150	32	10	0
11/20/97	0:13	11.2		13.0						17.0	20	6.06					830	5.85				335	2.45				0								
11/20/97	13:20												0.31				545											1.7		15.40	104	155	30	10	0
11/20/97	17:24												0.25	19.2	1.2	13.8	264																		
11/20/97	20:47												0.31	20.4	0.0	0.4	159																		
11/20/97	21:20	11.2		13.0					94.00	17.1	24	5.90	0.29				297	6.01				189	2.50				0	1.5		15.20	115	150	33	8	2
11/21/97	7:30												0.28	20.2	0.0	0.1	342																		
11/21/97	8:54												0.2				374	5.98				277	2.52				0	1.7		15.80	118	150	32	8	2
11/21/97	13:51				20.6	0.0	0.0						0.22	19.5	0.9	14.3	307																		
11/21/97	17:35	11.5		13.3	20.9	0.0	4.9		99.00	12.5	22	6.01	0.39	19.4	0.9	12.6	321											1.6		15.20	112	150	32	6	4
11/22/97	8:20	11.4	52	17.2					86.00	17.4	22	6.03	0.32				391	6.22				161	2.21				0	1.5		15.20	106	150	32	6	4
11/22/97	17:40												0.18	19.6	0.3	2.3	396																		
11/23/97	8:16																368	5.64				267	2.03				0	1.5		15.20	98	150	32	5	5
11/23/97	16:55																																10	0
11/23/97	18:03													19.9	0.3	0.0	305																		
11/23/97	18:25	11.7		13.5					96.00	17.6	20	5.78																							
11/23/97	19:07																281	5.67				231	2.20				0								
11/24/97	10:55																											1.8		15.40	107	150	33	10	0
11/24/97	13:30																													15.40	118	150	33	10	0
11/24/97	17:30																													15.50	100	145	34	10	0
11/24/97	20:47																													15.20	102	150	34	10	0

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR DATA FOR WELL MP1A

Test Location SS06
Vapor Monitoring Well MP1A

Time	Vacuum (inches H20)	%02	%C02	%CH4	% Helium	PID (ppm)	Operator
11/11/97 18:22		13	5.3	0.2	0.0	161	JP
11/12/97 19:51		20.3	0.0	0.2	0.0	2.45	JP
11/13/97 9:32		20.0	0.4	0		240*	FA
11/13/97 9:47		20.2	0.4	6		32.4	JP
11/15/97 15:00	1.59	20	0	0.05		40.3	FA
11/17/97 11:22	1.5	18	0	0.1		88	FA
11/18/97 11:23	1.21	20.1	0	0		19.2	ASR
11/19/97 14:27	1.52	20.2	0	0		7.7	SJ
11/20/97 14:02	1.4	20	0	0.1	0	37.3	SJ
11/21/97 12:20	1.8	19.8	0	0	0	37.7	SJ
11/22/97 12:30	1.62	20.6	0.2	0	0	21.7	SJ
11/23/97 15:40	1.67	20.6	0.2	0	0	434	SJ
11/24/97 11:51	-0.14	19.4	0.1	38.2	1.8	435	JP
11/24/97 16:04	-0.16	19.5	0	55.3	2	407	JP
11/24/97 21:45		19.6	0	45	2	418	ASR
11/26/97 11:00		19.6	0.1	37.5	0.9	623	FA
11/28/97 12:50		18.4	0.3	12.7	0.52	2308*	FA
11/30/97 16:30		18.3	0.4	1.8	0.28	272	FA
12/2/97 11:03		18.2	0.5	0.7	0.2	217.6	SJ
12/4/97 10:32		17.7	0.7	0.1	0.15	114.5	SJ
12/9/97 16:25		17.6	0.7	0	0	35	ASR
12/13/97 10:42		16.9	1.1	0	0	13.7	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR DATA FOR WELL MP1B

Test Location SS06
Vapor Monitoring Well MP1B

Time	Vacuum (inches H20)	%02	%C02	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:11	0	0.2	14.9	55	0	143	JP
11/12/97 19:36	6.2	19.8	0.7	0.7	0	454*	JP
11/13/97 9:58		15.1	3.9	0.7		270*	JP
11/15/97 15:05	3.45	20	0	0		40.3	FA
11/17/97 11:48		17.9	0	0		40.8	FA
11/18/97 11:37	2.71	20	0	0		15.1	ASR
11/19/97 14:41	3	20.1	0	0		7.7	SJ
11/20/97 15:59	2.93	20.4	0	0	0	13.4	SJ
11/21/97 13:30	3.12	20.3	0	0	0	35	SJ
11/22/97 13:40	3.25	20	0.2	0	0	12.7	SJ
11/23/97 17:58	3.23	19.9	0.2	0	0	204.8*	SJ
11/24/97 12:02	-0.38	19.6	0	33.8	1.9	465	JP
11/24/97 16:21	-0.38	19.7	0	45.1	2	444	JP
11/24/97 21:58		19.7	0	39.5	2	425	ASR
11/25/97 16:48		18.7	0.6	27.8	1.4	627	SJ
11/26/97 11:16		17.2	0.8	17.8	1.3	645	FA
11/28/97 13:18		16	1.3	6.1	0.88	1951*	FA
11/30/97 16:45		15.4	1.8	0.6	0.44	201	FA
12/2/97 11:17		14	2.5	0.6	0.26	180.5	SJ
12/4/97 10:53		11.7	3.4	1.6	0.18	284	SJ
12/9/97 16:40		9.3	4.7	1.6	0	216.2	ASR
12/13/97 12:49		6	6.3	1.4	0	302	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR DATA FOR WELL MP1C

Test Location SS06
Vapor Monitoring Well MP1C

Time	Vacuum (inches H20)	%02	%CO2	%CH4	%Helium	OVM PID (ppm)	Operator
11/11/97 18:33		0	15.6	150	0	79.4	JP
11/12/97 19:28	7.3	4.7	13.4	29.8	0	1000	JP
11/13/97 10:09	6.78	4.5	12.3	71.7		142	FA
11/15/97 15:10	4.11	20	0	0		42.2	FA
11/17/97 11:55	4.05	17.9	0.2	0.5		387	FA
11/18/97 11:57	3.3	20.2	0.1	0.3		391	ASR
11/19/97 17:35		14.1	7.2	150		85.5	SJ
11/20/97 18:24	3.47	20.2	0	0	0	5.9	JP
11/20/97 19:23	3.54	16	3.7	48.3	0.27	194	SJ
11/21/97 16:18	3.59	21.2	0	0	0	11.9	SJ
11/22/97 16:16	3.51	18.9	1.8	7.6	0	602	SJ
11/23/97 14:09	3.75	13.9	7.6	72.7	0.21	164	SJ
11/24/97 12:24	-0.47	19.4	0	11.4	1.9	552	JP
11/24/97 16:37	-0.54	19.9	0	12.3	2	526	JP
11/24/97 22:10	-0.54	19.5	0	29.7	1.9	439	ASR
11/25/97 17:12		19.1	0.5	55.6	1.5	477	SJ
11/26/97 11:20		17.6	0.5	66.5	1.6	445	SJ
11/28/97 14:00		15	1.4	59.8	1.1	1673*	FA
11/30/97 17:05		12.8	2.4	46.5	0.52	411	FA
12/2/97 11:53		11	3.6	51.8	0.17	399	SJ
12/4/97 11:11		6.9	4.7	63.3	0.06	427	SJ
12/9/97 20:00		3.4	7.2	57.4	0	403	FA
12/13/97 14:20		1.7	9.6	49.4	0	853	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP2A

Test Location SS06
Vapor Monitoring Well MP2A

Time	Vacuum (inches H20)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:44		11.5	6.1	2.5	0	725	JP
11/12/97 20:18		20.1	0.3	2.7	0	2449	JP
11/13/97 10:20		17.9	2.1	2.8		896	FA
11/15/97 15:17	0.69	20	0	0		57.1	FA
11/17/97 12:10	0.69	18.4	0	0		83	FA
11/18/97 12:26	0.63	21	0	0		55.6	ASR
11/19/97 14:55	0.68	20.1	0	0		10.2	SJ
11/20/97 14:36	0.66	20.4	0	0	0	24.6	SJ
11/21/97 12:10	0.83	19.7	0	0	0	202.7	SJ
11/22/97 12:48	0.91	20.1	0.2	0	0	18.7	SJ
11/23/97 16:51	0.72	20.2	0.3	0	0	159.9	SJ
11/24/97 12:36	-0.08	18.1	0.3	5	0	318	SJ
11/24/97 16:46	-0.07	17.2	1.9	21.4	0.08	391	JP
11/24/97 22:20		18	1.8	21.4	0.52	418	ASR
11/25/97 17:25		19.9	1.1	0.5	0.44	377	SJ
11/26/97 11:35		18.9	0.7	0.7	0.42	275	FA
11/28/97 15:20		18.8	0.5	0.1	0.35	227	FA
11/30/97 17:25		18.8	0.4	0.4	0.28	200	FA
12/2/97 12:11		18	0.7	0.3	0.17	146	SJ
12/4/97 11:29		17	1	0.2	0.1	152	SJ
12/9/97 17:00		16.6	1.2	0	0	20	ASR
12/13/97 11:20		16	1.8	0	0	7	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP2B

Test Location SS06
Vapor Monitoring Well MP2B

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:53		3.4	11.8	16.4	0	431	JP
11/12/97 20:09		17.9	2.2	3.2	0	1950	JP
11/13/97 10:25		14.2	4.6	0.3		304	FA
11/15/97 15:25	0.86	20	0	0		57.1	FA
11/17/97 12:15	0.89	18.7	0	0		74	FA
11/18/97 12:34	0.78	21	0	0		47	ASR
11/19/97 17:03	0.75	20.3	0	0		8.3	SJ
11/20/97 16:23	0.84	20.5	0	0	0	11.9	SJ
11/21/97 13:47	0.99	20.6	0	0	0	30.4	SJ
11/22/97 14:11	0.71	19.6	0.4	0	0	11.1	SJ
11/23/97 18:15	0.86	20.3	0.2	0	0	232	SJ
11/24/97 12:56	-0.09	16.4	1.7	16.5	0	3.26	SJ
11/24/97 17:03		16.2	3	39.4	0.33	318	SJ
11/24/97 22:30		17.4	2.5	31.5	0.96	346	ASR
11/25/97 17:45		18.1	2.6	0.4	0.54	245	SJ
11/26/97 11:45		16.7	2.2	0.5	0.46	210	FA
11/28/97 15:50		17.1	1.8	0	0.33	187	FA
11/30/97 17:45		16.5	1.9	0.1	0.16	103	FA
12/2/97 12:50		15.6	2.3	0	0	47.2	SJ
12/4/97 11:55		13.6	3.2	0	0	93.3	SJ
12/9/97 18:55		12.8	3.7	0	0	48.2	FA
12/13/97 13:04		11.2	5.1	0	0	29.3	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP2C

Test Location SS06
Vapor Monitoring Well MP2C

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 18:57		0	15.2	150	0	80.7	JP
11/12/97 20:00		1.5	15.2	132.7	0	205	JP
11/13/97 10:30		3.3	12.7	129		133	FA
11/15/97 15:30	1.56	14.4	5.1	15.7		400	FA
11/17/97 12:20	1.52	15.2	3.5	16.6		997	FA
11/18/97 15:59	1.56	17.3	3.5	20.6		938	ASR
11/19/97 18:43	1.24	12	7.7	82.3	0	185.5	JP
11/20/97 19:01	1.37	12.1	7.7	70.8	0	250	SJ
11/21/97 16:37	1.77	21	0	0	0	7.3	SJ
11/22/97 16:28	1.41	12.8	8.9	47.7	0	515	SJ
11/23/97 14:19	1.58	19.9	0.3	0	0	309	SJ
11/24/97 13:06	-0.23	13.8	6	148.3	0.66	181	SJ
11/24/97 17:16	-0.19	17.8	3.3	150	1.1	170	SJ
11/24/97 22:45		18.1	2.4	150	1.5	172	ASR
11/25/97 18:03		16.7	4.9	131.2	0.85	255	SJ
11/26/97 11:55		14	4.5	132.5	0.62	255	FA
11/28/97 16:10		10.6	5.6	97.5	0.11	1001*	FA
11/30/97 18:00		5.7	7.4	97.5	0	276	FA
12/2/97 14:25		4.1	8.6	88.7	0	261	SJ
12/4/97 12:09		1.6	10.3	102.8	0	289	SJ
12/9/97 19:50		0	12	93.8	0	301	FA
12/13/97 14:37		0	13.3	100.5	0	519	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP3A

Test Location SS06
Vapor Monitoring Well MP3A

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:05		16.6	1.9	6.1	0	745	JP
11/12/97 20:52		20.5	0	0.4		395	JP
11/13/97 10:45		19.9	0.2	2.4		818	FA
11/15/97 17:15	0.62	19.4	0	0		703	FA
11/17/97 12:30	0.59	18.8	0	0.1		208	FA
11/18/97 14:05	0.9	21.2	0	0		51.6	JP
11/19/97 15:14	0.83	20.1	0	0		16	SJ
11/20/97 14:48	0.7	20.2	0	0	0	28.3	SJ
11/21/97 12:35	0.75	19.7	0	0	0	33.1	SJ
11/22/97 12:56	0.81	19.9	0.3	0	0	17.2	SJ
11/23/97 17:11	0.98	20.1	0.3	0	0	184.6	SJ
11/24/97 13:30	-0.29	19.1	0.2	30.2	0.35	491	SJ
11/24/97 17:37	-0.24	19.8	0.1	26.6	1.9	449	SJ
11/24/97 22:53		19.5	0.2	45.4	1.9	373	JP
11/25/97 18:20		20.8	0.3	19.4	0.75	518	SJ
11/26/97 12:10		19	0.2	28.5	0.67	470	FA
11/28/97 17:15		17.8	0.7	4.3	0.72	1860*	FA
11/30/97 18:15		18.6	0.4	1.6	0.47	315	FA
12/2/97 14:39		18.5	0.4	0.6	0.79	231	SJ
12/4/97 12:48		16.3	1.2	3.2	0	371	SJ
12/9/97 17:17		16.8	1	0.1	0	84.5	ASR
12/13/97 11:48		16.5	1.6	0.3	0	166.5	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP3B

Test Location SS06
Vapor Monitoring Well MP3B

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:12		1.3	13.6	off scale	0	86.7	JP
11/11/97 20:45		20.2	0	0.6		572	JP
11/12/97 10:48		13.6	2.7	5.6		206	FA
11/14/97 17:35	1.15	19.3	0	0		870	FA
11/15/97 12:45	1.15	18.8	0	0		96.3	FA
11/17/97 15:31	1.4	21.2	0	0		21.2	ASR
11/18/97 16:39	0.85	20	0	0		9.6	SJ
11/19/97 16:37	0.94	20.4	0	0	0	10.4	SJ
11/20/97 14:38	0.86	21	0	0	0	22.1	SJ
11/21/97 14:29	1.17	19.7	0.3	0	0	14.2	SJ
11/22/97 18:27	0.96	20.4	0.2	0	0	197	SJ
11/23/97 13:44	-0.5	19.3	0	26.1	0.17	493	JP
11/24/97 17:59	-0.67	19.9	0	25.9	2	453	SJ
11/24/97 23:02		19.5	0.1	41.5	1.9	370	JP
11/24/97 18:35		19.9	0.6	56	1.1	407	SJ
11/25/97 12:25		17.8	0.8	68.7	1.3	364	FA
11/26/97 17:40		18	0.7	3.6	0.62	1808*	FA
11/28/97 18:30		16.4	1.6	9.4	0.49	459	FA
11/30/97 14:49		15.3	1.4	6.5	0.47	407	SJ
12/2/97 13:18		10.6	3.9	22.1	0.11	404	SJ
12/4/97 18:40		10	4.7	9.9	0	360	FA
12/9/97 13:21		4	7.6	20.5	0	747	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP3C

Test Location SS06
Vapor Monitoring Well MP3C

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:16		0	15.1	150	0	70.1	JP
11/12/97 20:29		20	0.2	0.4		461	JP
11/13/97 10:58		6.1	7.7	56.6		91	FA
11/15/97 17:20	1.66	19.3	0	0		60	FA
11/17/97 13:00	1.68	18.8	0	0		67.9	FA
11/18/97 16:36	1.8	21	0	0		88	ASR
11/19/97 17:57	0.89	19.1	1.9	150		160	JP
11/20/97 19:50	1	20	0.2	71.4	1.2	338	SJ
11/21/97 16:55	1.4	20.9	0	0	0	8.2	SJ
11/22/97 16:40	1.37	20	0.3	13.2	1.5	902	SJ
11/23/97 14:38	1.26	19.9	0.3	0	0	655	SJ
11/24/97 14:08	-0.87	19.7	0	24.2	1.6	517	JP
11/24/97 18:36	-0.72	19.7	0	21.6	2.1	486	SJ
11/24/97 23:13		19.4	0	36	1.9	397	JP
11/25/97 19:07		19.9	0.4	64.3	1.6	377	SJ
11/26/97 14:00		18.4	0.4	72.4	1.7	346	SJ
11/28/97 18:00		15.7	1.3	65.4	1	1192*	FA
11/30/97 18:55		13.6	2.2	72.2	0.86	335	FA
12/2/97 15:07		12.4	2.9	69.1	0.4	293	SJ
12/4/97 13:31		9.5	4.3	92.5	0.1	294	SJ
12/9/97 19:40		2.9	7.3	94.9	0	301	FA
12/13/97 14:53		0.7	10	98.1	0	578	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP4A

Test Location SS06
Vapor Monitoring Well MP4A

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:22		12.8	5.4	14.1	0	997	JP
11/12/97 21:17		20.1	0	4		395	JP
11/13/97 11:07		19.4	0.4	1.2		576	FA
11/15/97 17:30	0.21	19.3	0	0		54.4	FA
11/17/97 13:19	0.19	19	0	0		37	FA
11/18/97 14:27	0.22	21.2	0	0		24.2	ASR
11/19/97 15:31	0.15	20.1	0	0		10.9	SJ
11/20/97 15:23	0.21	20.3	0	0	0	20.8	SJ
11/21/97 12:53	0.11	19.4	0	0	0	13.8	SJ
11/22/97 13:12	0.22	20.2	0.2	0	0	20.1	SJ
11/23/97 17:22	0.45	19.9	0.3	0	0	194.1	SJ
11/24/97 14:28	-0.07	18.9	0.5	52.5	0.85	331	JP
11/24/97 19:00	-0.07	19.3	0.8	54.4	1.5	330	JP
11/24/97 23:21		18.9	0.5	57.2	0.97	309	JP
11/25/97 21:38		19.8	0.3	4.8	0.52	650	SJ
11/26/97 14:20		19.8	0	1	0.33	301	SJ
11/28/97 18:20		19.6	0	0.4	0.27	45	FA
11/30/97 19:10		19.8	0	0.8	0.2	30	FA
12/2/97 15:20		19.1	0.3	0.6	0.2	197	SJ
12/4/97 13:45		18.2	0.5	0.4	0.1	173	SJ
12/9/97 17:35		18.2	0.6	0	0.01	19.3	ASR
12/13/97 12:17		17.5	1	0	0.11	29.3	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP4B

Test Location SS06
Vapor Monitoring Well MP4B

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:26		3.5	11.3	41.4	0	595	JP
11/12/97 21:11		20	0	0.7		619	JP
11/13/97 11:10		12.6	4.6	0.9		415	FA
11/15/97 17:45	0.5	19.3	0	0		500	FA
11/17/97 13:38	0.5	19	0	0		36.3	FA
11/18/97 15:19	0.49	21.2	0	0		13.1	ASR
11/19/97 16:27	0.26	20.1	0	0		8.3	SJ
11/20/97 16:58	0.37	20.4	0	0	0	9.7	SJ
11/21/97 15:03	0.43	21	0	0	0	8.2	SJ
11/22/97 14:43	0.46	19.9	0.2	0	0	14.8	SJ
11/23/97 18:37	0.41	20.5	0.2	0	0	18	SJ
11/24/97 14:43	-0.16	19.3	0.7	104.2	1.2	287	JP
11/24/97 19:20	-0.13	19.5	0.5	90.6	1.9	279	JP
11/24/97 23:29		19	0.8	84.2	1.7	282	JP
11/25/97 21:49		17.6	2.1	13.6	0.89	650	SJ
11/26/97 14:28		17.1	1.6	2.4	0.59	335	SJ
11/28/97 18:35		18	1	0.3	0.29	99	FA
11/30/97 19:35		17.7	1.3	0.3	0.24	30	FA
12/2/97 15:47		16.4	2	0.2	0.11	89.8	SJ
12/4/97 13:56		13.8	3.4	0.4	0	173	SJ
12/9/97 18:25		13.4	3.4	0	0	43.1	FA
12/13/97 13:37		12.6	4	0.2	0	128.3	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP4C

Test Location SS06
Vapor Monitoring Well MP4C

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:31		0	14.6	150	0	66.7	JP
11/12/97 21:05		16.6	3.2	1		592	JP
11/13/97 11:15		4.5	10.2	68		77	FA
11/15/97 17:40	0.96	19.2	0.1	0		60.2	FA
11/17/97 13:28	0.96	18.6	0.4	0		78.7	FA
11/18/97 16:58	0.9	20.9	0.4	0.1		100.2	ASR
11/19/97 18:07	0.51	15.6	6.9	150	2.5	75.2	JP
11/20/97 20:12	0.62	18.2	2	30.5	0.51	189.5	SJ
11/21/97 17:11	0.97	21	0	0		3.6	SJ
11/22/97 17:09	0.8	18.2	2.2	13.1	0.23	318	SJ
11/23/97 15:06	0.61	20.6	0.2	0	0.07	296	SJ
11/24/97 15:01	-0.41	19.3	0.5	110.7	1.5	293	JP
11/24/97 19:30	-0.39	19.5	0.5	88.9	2	289	JP
11/24/97 23:38					1.9	230	JP
11/25/97 22:00		18.3	1.8	136.3	1.4	391	SJ
11/26/97 14:46		16.9	1.7	122.3	1.2	269	SJ
11/28/97 18:55		13.5	3.3	68	0.56	480	FA
11/30/97 19:45		10.5	5.1	79.6	0.29	218	FA
12/2/97 15:58		6.1	7	100.1	0	179.7	SJ
12/4/97 14:05		2.9	9	124.1	0	192	SJ
12/9/97 19:25		0.7	11.2	107.9	0	188	FA
12/13/97 15:32		1.1	12.4	100.5	0	324	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP5A

Test Location SS06
Vapor Monitoring Well MP5A

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:36		12.5	5.1	17.6	0	792	JP
11/12/97 21:39		20	0	0.3		336	JP
11/13/97 11:25		16.5	2.2	1.6		585	FA
11/15/97 17:57	0.05	19.5	0	0		41.5	FA
11/17/97 14:00	0.05	19	0	0		21.2	FA
11/18/97 14:45	0.14	21.2	0	0		15.1	ASR
11/19/97 15:41	0.03	20.1	0	0		9.6	SJ
11/20/97 15:45	0.03	20.3	0	0	0	15.6	SJ
11/21/97 13:10	0.02	19.6	0	0	0	18.4	SJ
11/22/97 13:29	0.04	20.1	0.2	0	0	14.3	SJ
11/23/97 17:33	0.25	19.8	0.3	0	0	192.7	SJ
11/24/97 15:16	-0.02	17.1	1.8	43	0.52	272	JP
11/24/97 19:43	-0.02	17.4	2.3	70.1	0.85	246	JP
11/24/97 23:45					0.25	229	JP
11/25/97 22:16		19.4	0.9	2.4	0.04	613	SJ
11/26/97 14:59		20.2	0.1	1	0.09	289	SJ
11/28/97 19:05		19.8	0	2.6	0.11	43.4	FA
11/30/97 20:00		20.2	0	0.8	0.07	35	FA
12/2/97 16:09		19.1	0.4	0.6	0.4	161	SJ
12/4/97 14:21		16.8	1.3	0.4	0.27	145	SJ
12/9/97 17:53		19.7	0.2	0	0.03	14.3	ASR
12/13/97 12:35		16.3	1.7	0	0	18.1	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP5B

Test Location SS06
Vapor Monitoring Well MP5B

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 17:42		0.5	12.6	145.4	0	121.9	JP
11/12/97 21:33		19.5	0.4	0.5		442	JP
11/13/97 11:28		10.2	3.8	8.8		304	FA
11/15/97 6:15	0.17	19.5	0	0		350	FA
11/17/97 14:10	0.18	18.9	0	0		12.5	FA
11/18/97 15:07	0.19	21.2	0	0		13.1	ASR
11/19/97 16:08	0.07	20	0	0		9.6	SJ
11/20/97 17:19	0.11	20.5	0	0	0	10.4	SJ
11/21/97 15:37	0.15	20.8	0	0	0	10.1	SJ
11/22/97 15:47	0.12	20.9	0.1	0	0	2.2	SJ
11/23/97 18:49	0.11	20.7	0.3	0	0	154	SJ
11/24/97 15:32	-0.08	16.1	3.5	63.9	0.67	208	JP
11/24/97 19:55	-0.08	17.8	3.2	92.7	1.1	200	JP
11/24/97 23:50					1	170	JP
11/25/97 22:36		16.1	4.1	12.8	0.38	477	SJ
11/26/97 15:13		18.5	1.5	0.6	0.24	204	SJ
11/28/97 19:20		18.2	1.3	0.2	0.19	12	FA
11/30/97 20:10		17.3	1.8	0.5	0.08	30	FA
12/2/97 16:20		10.4	5.3	0.8	0	135	SJ
12/4/97 14:34		5.5*	7.8*	2.1*	0*	209*	SJ
12/9/97 18:10		12.5	4.7	0.2	0	52.9	FA
12/13/97 14:04		10.5	6.5	0.5	0	130.2	SJ

* Data point left out of plot due to probable data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP5C

Test Location SS06
Vapor Monitoring Well MP5C

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/11/97 19:47		0	13.3	150	0	77.1	JP
11/12/97 21:26		19.1	0.9	1.3		631	JP
11/13/97 11:33		4.7	9.5	114.6		108	FA
11/17/97 14:40	0.45	18.8	0	0		73.7	FA
11/18/97 17:36	0.43	21.1	0.1	0.1		104	ASR
11/19/97 18:21	0.22	17.7	2.2	17.3	0.98	77.1	JP
11/20/97 20:39	0.29	19.4	0.7	2.1	0.08	174	SJ
11/21/97 17:24	0.59	21.1	0	0	0	3.4	SJ
11/22/97 17:19	0.51	19.3	0.8	2.2	0	262	SJ
11/23/97 15:22	0.3	20.5	0.2	0	0	449	SJ
11/24/97 15:43	-0.23	18.2	2.4	150	1.2	131	JP
11/24/97 20:13	-0.23	18.8	1.6	150	1.6	129	JP
11/24/97 23:00					1.5		JP
11/25/97 22:55		16.4	4.9	146.5	0.91	243	SJ
11/26/97 15:23		14.3	4.5	121	0.73	181	SJ
11/28/97 19:35		10.6	6.4	105.8	0.26	193	FA
11/30/97 20:25		5.3	8.7	115.2	0	200	FA
12/2/97 16:30		3.1	10.8	146	0	117.9	SJ
12/4/97 14:47		0.9	12.4	150	0	126.3	SJ
12/9/97 19:10		0	13.2	141.3	0	131.7	FA
12/13/97 16:00		0.2	14.1	146	0	217	SJ

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP6

Test Location SS06
Vapor Monitoring Well MP6

Time	Vacuum (inches H2O)	%O2	%CO2	%CH4	%Helium	PID (ppm)	Operator
11/24/97 21:30	-0.53	19.6	0	47.5	2	426	ASR
11/25/97 23:07		19.2	0.5	62.5	1.4	499	SJ
11/26/97 16:20		18.4	0.4	48	1	450	FA
11/28/97 19:55		17.2	0.8	14.6	0.59	480	FA
11/30/97 20:35		16.3	1.3	9.2	0.48	496	FA
12/2/97 16:45		15.2	1.9	9.8	0.24	411	SJ
12/9/97 20:15		11.2	3.5	11.5	0	475	FA
12/13/97 16:29		10.8	4.3	9	0	886	SJ

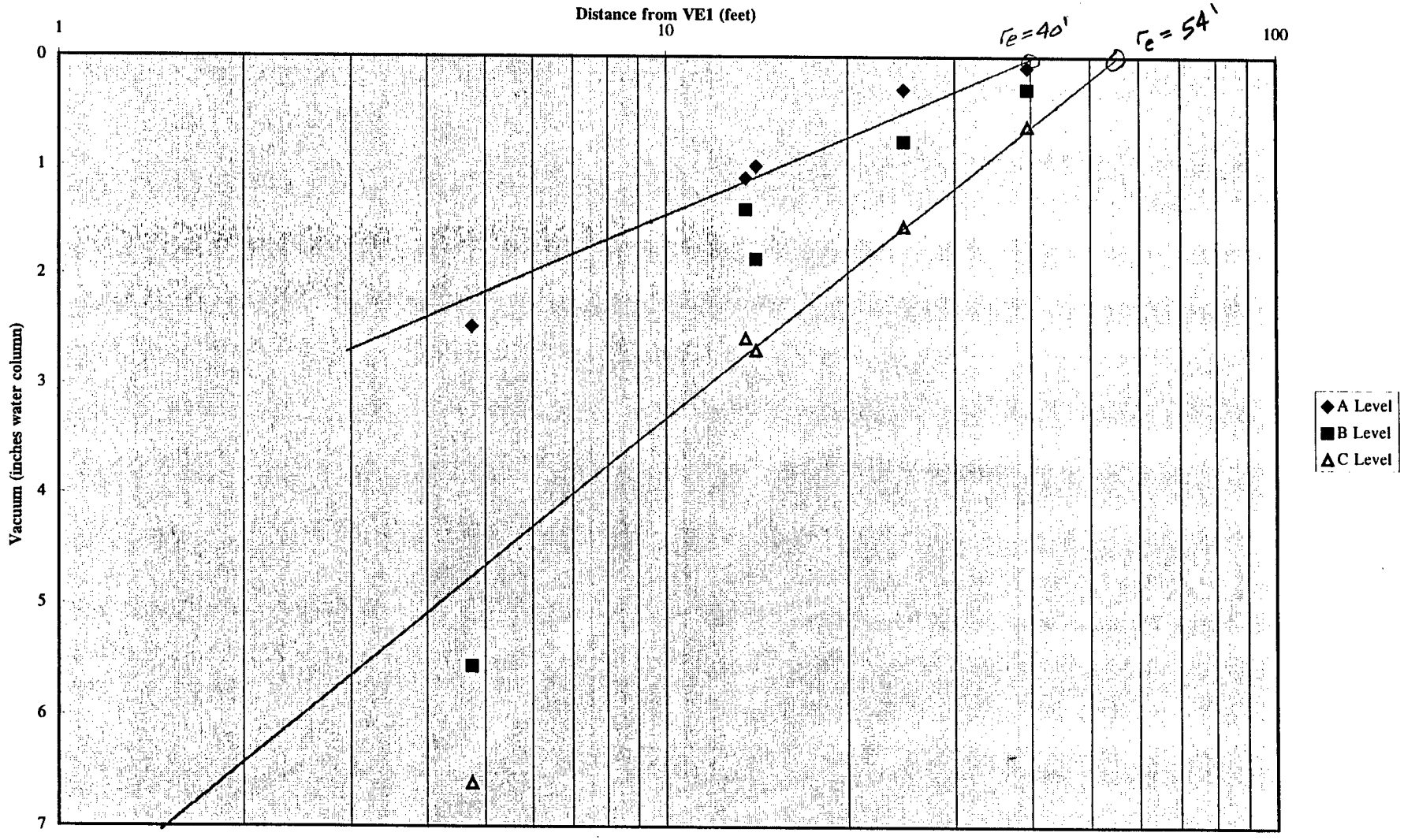
WURTSMITH PILOT TESTING
SS06
VOC RESULTS FROM SUMMA CANNISTER SAMPLING

Sample Name:		SVE Sample Port 1		SVE Sample Port 1 Duplicate		Well MP6
Sample Date:		**11/18/97**		**11/18/97**		**11/24/97**
Sample Time:		**13:27**		**18:15**		**20:30**
Target Compounds	**Units**					
Benzene	ppb v/v	ND<10.0		**1800**		**5400**
Ethylbenzene	ppb v/v	**970**		**2300**		**21000**
m,p-Xylene	ppb v/v	**2000**		**4700**		**46000**
o-Xylene	ppb v/v	ND<10.0		ND<20.0		**3200**
4-Ethyl Toluene	ppb v/v	**240**		**700**		**5100**
1,3,5-Trimethylbenzene	ppb v/v	**240**		**690**		**3400**
1,2,4-Trimethylbenzene	ppb v/v	**710**		**2300**		**8600**
Tentatively Identified						
2,4-Dimethylpentane	ppb v/v	3400	NJ	8800	NJ	
2-Methylhexane	ppb v/v	9800	NJ	26000	NJ	200000
2-Methylpentane	ppb v/v	9700	NJ	27000	NJ	11000
3-Methylhexane	ppb v/v			42000	NJ	18000
3-Methylpentane	ppb v/v	6600	NJ	19000	NJ	8800
C6 Unsaturated Hydrocarbon	ppb v/v	16000	J	40000	J	
C7 Hydrocarbon	ppb v/v			3800	J	
C7 Hydrocarbon (2)	ppb v/v	18400	J			
C7 Hydrocarbon (3)	ppb v/v					44300
C7 Unsaturated Hydrocarbon	ppb v/v	4300	J			
C8 Hydrocarbon (3)	ppb v/v	14700	J	33400	J	41700
C8 Unsaturated Hydrocarbon	ppb v/v			6300	J	
Dimethyl cyclohexane isomer	ppb v/v			7100	J	7500
Dimethyl cyclopentane isomer	ppb v/v	3600	J			
Hexane	ppb v/v	7200	NJ	19000	NJ	
Methylcyclohexane (2)	ppb v/v	22000	NJ	50000	NJ	
Methylcyclopentane	ppb v/v					26000
Trimethyl cyclohexane isomer (2)	ppb v/v			6200	J	22000
Trimethyl cyclopentane isomer	ppb v/v			5000	J	
Trimethyl cyclopentane isomer (3)	ppb v/v	5800	J			
Total Volatiles (ppb v/v)		125660.0		306090.0		472000.0
Key:						
J = Estimated Value						
N = Tentatively Identified Compound						

WURTSMITH AFB PILOT TESTING
SITE SS06
STEADY STATE SOIL PERMEABILITY CALCULATIONS
EFFECTIVE RADIUS METHOD

SS06eq1	n or b (ft)	P_{atm} (psi)	Q_v (scfm)	P_{atm}-P* (in. H_2O)	P_{atm}-P (ft H_2O)	r (ft)	r_e (ft)	μ (kg/m,sec)	Air temp. °F	k_a (m^2)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1	22	14.26	154	18.03	4.88	4.75	54	1.78E-05	52	5.90E-11	59.8	3.31	0.05	142.84
MP2	22	14.26	154	18.03	1.7	13.55	54	1.78E-05	52	9.60E-11	97.2	5.38	0.08	232.28
MP3	22	14.26	154	18.03	1.85	14.09	54	1.78E-05	52	8.57E-11	86.8	4.81	0.07	207.45
MP4	22	14.26	154	18.03	0.88	24.76	54	1.78E-05	52	1.04E-10	105.8	5.86	0.09	252.81
MP5	22	14.26	154	18.03	0.35	39.53	54	1.78E-05	52	1.05E-10	106.4	5.89	0.09	254.10

WURTSMITH AFB PILOT TESTING
SITE SS06
STEADY STATE DISTANCE PLOT



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1/21/98

WURTSMITH AFB PILOT TESTING
SITE SSO6
STEADY STATE SOIL PERMEABILITY CALCULATIONS
TWO WELL METHOD

Observation Well Pair	Steady State Vacuum at Well 1	Steady State Vacuum at Well 2	r_1 (ft)	r_2 (ft)	P_{atm}-P* (in. H_2O)	Q_v (scfm)	μ (kg/m,sec)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1-MP2	4.88	1.7	4.75	13.55	18.0	154	1.78E-05	39.7	2.20	3.34E-02	9.47E+01
MP1-MP3	4.88	1.85	4.75	14.09	18.0	154	1.78E-05	41.6	2.30	3.51E-02	9.94E+01
MP1-MP4	4.88	0.88	4.75	24.76	18.0	154	1.78E-05	49.6	2.75	4.18E-02	1.19E+02
MP1-MP5	4.88	0.35	4.75	39.53	18.0	154	1.78E-05	-56.2	-3.11	-4.73E-02	-1.34E+02
MP2-MP3	1.7	1.85	13.55	14.09	18.0	154	1.78E-05	31.2	1.73	2.63E-02	7.46E+01
MP2-MP4	1.7	0.88	13.55	24.76	18.0	154	1.78E-05	88.0	4.87	7.41E-02	2.10E+02
MP2-MP5	1.7	0.35	13.55	39.53	18.0	154	1.78E-05	94.9	5.25	7.99E-02	2.27E+02
MP3-MP4	1.85	0.88	14.09	24.76	18.0	154	1.78E-05	69.6	3.85	5.86E-02	1.66E+02
MP3-MP5	1.85	0.35	14.09	39.53	18.0	154	1.78E-05	82.3	4.56	6.93E-02	1.97E+02
MP4-MP5	0.88	0.35	24.76	39.53	18.0	154	1.78E-05	105.5	5.84	8.89E-02	2.52E+02

WURTSMITH AFB PILOT TESTING
SITE SS06
STEADY STATE SOIL PERMEABILITY CALCULATIONS
PSEUDO STEADY STATE METHOD

Observation Well Pair	Steady State Vacuum at Well 1	Steady State Vacuum at Well 2	r_1 (m)	r_2 (m)	Q_v (m^3/min)	μ (kg/m,sec)	k_a (m^2)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1-MP2	4.88	1.7	1.45	4.13	4.36	1.78E-05	6.20E-12	6.28	0.35	2.93E-04	0.83
MP1-MP3	4.88	1.85	1.45	4.29	4.36	1.78E-05	6.75E-12	6.84	0.38	3.19E-04	0.90
MP1-MP4	4.88	0.88	1.45	7.55	4.36	1.78E-05	7.76E-12	7.86	0.44	3.67E-04	1.04
MP1-MP5	4.88	0.35	1.45	12.05	4.36	1.78E-05	8.80E-12	8.91	0.49	4.16E-04	1.18
MP2-MP3	1.7	1.85	4.13	4.29	4.36	1.78E-05	-4.90E-12	-4.96	-0.27	-2.32E-04	-0.66
MP2-MP4	1.7	0.88	4.13	7.55	4.36	1.78E-05	1.38E-11	14.01	0.78	6.54E-04	1.85
MP2-MP5	1.7	0.35	4.13	12.05	4.36	1.78E-05	2.46E-11	24.87	1.38	1.16E-03	3.29
MP3-MP4	1.85	0.88	4.29	7.55	4.36	1.78E-05	1.09E-11	11.07	0.61	5.17E-04	1.46
MP3-MP5	1.85	0.35	4.29	12.05	4.36	1.78E-05	1.29E-11	13.10	0.73	6.11E-04	1.73
MP4-MP5	0.88	0.35	7.55	12.05	4.36	1.78E-05	1.66E-11	16.82	0.93	7.85E-04	2.22

WURTSMITH AFB PILOT TESTING
SITE SS06
TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Well	W(u,r/B)	1/u	r/B	Vacuum (match point)	Time (match point)	r (ft)	ka (darcies)	Kw (cm/sec)	Kw (ft/day)	na	K'w (cm/sec)
MP1A	1	1	0.62	2.20	0.028	5.11	33.50	2.82E-02	80	4.99	9.14E-03
MP1B	1	1	0.62	4.40	0.031	5.11	16.80	1.41E-02	40	0.27	4.57E-03
MP1C	1	1	0.87	7.60	0.042	5.11	9.69	8.17E-03	23.2	0.22	5.21E-03
MP1C(2)	1	1	0.62	2.80	0.027	5.11	15.49	1.31E-02	37.02	0.22	4.23E-03
MP3A	1	1	0.62	0.70	0.068	15.64	62.00	5.22E-02	148	0.24	1.81E-03
MP3B	1	1	0.87	1.50	0.110	15.64	28.90	2.44E-02	69.1	0.18	1.66E-03
MP3B(2)	1	1	0.62	1.00	0.089	15.64	43.40	3.66E-02	104	0.25	1.26E-03
MP3C	1	1	0.87	2.10	0.120	15.64	20.70	1.74E-02	49.4	0.14	1.19E-03
MP4A	1	1	0.36	0.17	0.041	24.27	255.00	2.15E-01	610	0.25	1.04E-03
MP4B	1	1	0.36	0.31	0.059	24.27	140.00	1.18E-01	334	0.19	5.71E-04
MP4C	1	1	0.62	0.80	0.130	24.27	70.00	5.90E-02	167	0.21	6.23E-05
MP5C	1	1	0.87	0.68	0.380	39.53	63.90	5.38E-02	153	0.22	5.73E-04

Air injection rate = 105.8 scfm
u = 1.8E-5 kg/m sec
Patm = 14.25 psi
vadose zone thickness = 22 feet

WURTSMITH AFB PILOT TESTING
SITE SS06
STEADY STATE SOIL PERMEABILITY CALCULATIONS
EFFECTIVE RADIUS METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1

Assume: Steady state conditions ($u < 0.01$)
One dimensional flow

Equation:

$$k_a = \frac{Q_v P^* u}{pi\ b} \cdot \frac{\ln(r_e/r)}{P^2 - P_{atm}^2}$$

where:

Q_v	=	volumetric flow rate (L^3/T)
P^*	=	absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)
P	=	absolute pressure at the observation well. (M/LT^2)
P_{atm}	=	atmosphere pressure (absolute) dury test (M/LT^2)
u	=	dynamic viscosity of soil gas (M/LT)
pi	=	3.1415926
b	=	Aquifer thickness (L)
r_e	=	radius of pressure influence (L)
r	=	Distance from VE1 to observation well (L)
k_a	=	apparent air permeability (L^2)

Input:

Q_v =	154.00 scfm	=	0.072674	m^3/sec
P_{atm} =	29.05 in Hg	=	98335.26	kg/m sec^2
P*diff =	18.03 in H20	=	4489.348	kg/m sec^2
at 46F u =	1.78E-05 kg/m sec			
b =	22 feet	=	6.7056	m
r_e =	54 feet	=	16.4592	m
r =	4.75 feet	=	1.4478	m
P diff =	4.88 in H_2O	=	1215.087	kg/m sec^2

Calculated:

P^* =	93845.91 kg/m sec^2		
P =	97120.17 kg/m sec^2		
k_a =	5.9E-11 m^2	=	59.79054 darcies
K_a =	3.310602 cm/sec		
K_w =	5.04E-02 cm/sec	=	142.8429 ft/day

WURTSMITH AFB PILOT TESTING
SITE SS06
STEADY STATE SOIL PERMEABILITY CALCULATIONS
TWO WELL STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume: Steady state conditions (u < 0.01)
One dimensional flow

Equation:
$$k_a = \frac{Q_v P^* \mu}{pi\ b} \cdot \frac{\ln(r_2/r_1)}{P_2^2 - P_1^2}$$

where:

Q_v =	volumetric flow rate (L^3/T)
P^* =	absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)
μ =	dynamic viscosity of soil gas (M/LT)
pi =	3.1415926
b =	Aquifer thickness (L)
r_1 =	distance to observation well no. 1 (L)
r_2 =	distance to observation well no. 2 (L)
P_1 =	absolute pressure at well no. 1 (M/LT^2)
P_2 =	absolute pressure at well no. 2 (M/LT^2)
k_a =	apparent air permeability (L^2)

Input:	Q_v =	154.00 scfm	=	0.072674	m^3/sec
	P_{atm} =	29.05 in Hg	=	98335.26	kg/m sec^2
	P*diff =	18.03 in H20	=	4489.348	kg/m sec^2
at 46F	μ =	1.78E-05 kg/m sec			
	b =	22 feet	=	6.7056	m
	r_1 =	4.75 feet	=	1.4478	m
	r_2 =	13.55 feet	=	4.13004	m
	P_1 diff =	4.88 in H_2O	=	1215.087	kg/m sec^2
	P_2 diff =	1.7 in H_2O	=	423.2885	kg/m sec^2

Calculated:	P^* =	93845.91 kg/m sec^2			
	P_1 =	97120.17 kg/m sec^2			
	P_2 =	97911.97 kg/m sec^2			
	k_a =	3.91E-11 m^2	=	39.65263	darcies
	K_a =	2.195566 cm/sec			
	K_w =	3.34E-02 cm/sec	=	94.7323	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS06
STEADY STATE SOIL PERMEABILITY CALCULATIONS
PSEUDO STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume: steady state conditions
One dimensional flow

Equation: $k_a = \frac{Q_v \mu}{4 \pi b} \frac{\ln(r_2/r_1)}{P_2 - P_1}$

where:
- Q_v = volumetric flow rate (L^3/T)
- μ = dynamic viscosity of soil gas (M/LT)
- pi = 3.1415926
- b = Aquifer thickness (L)
- r_1 = distance to observation well no. 1 (L)
- r_2 = distance to observation well no. 2 (L)
- P_1 = absolute pressure at well no. 1 (M/LT^2)
- P_2 = absolute pressure at well no. 2 (M/LT^2)
- k_a = apparent air permeability (L^2)

Input:

Q_v =	154.00 scfm	=	0.072674	m^3/sec
Patm =	29.05 in Hg	=	98335.26	kg/m sec^2

Temp (F)
52

μ =	1.78E-05 kg/m sec		
b =	22 feet	=	6.7056 m
r_1 =	4.75 feet	=	1.4478 m
r_2 =	13.55 feet	=	4.13004 m
P_1 diff =	4.88 in H_2O	=	1215.087 kg/m sec^2
P_2 diff =	1.7 in H_2O	=	423.2885 kg/m sec^2

Calculated:

P_1 =	97120.17 kg/m sec2		
P_2 =	97911.97 kg/m sec^2		
k_a =	6.20E-12 m^2	=	6.279867 darcies
K_a =	0.347716 cm/sec		
K_w =	5.29E-03 cm/sec	=	15.00294 ft/day

WURTSMITH AFB PILOT TESTING
SITE SS06
TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Transient Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
MP1A

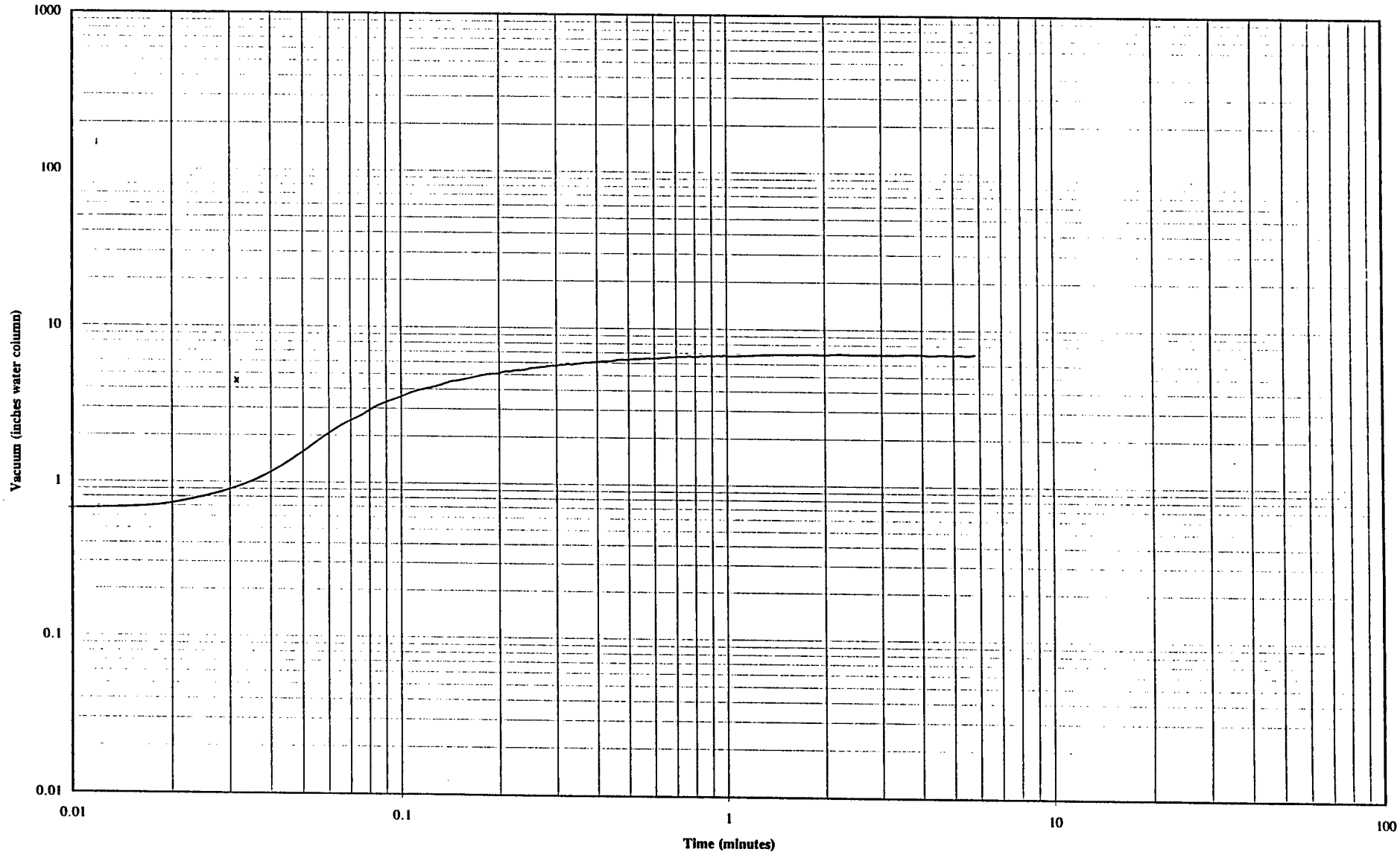
Assume: One dimensional flow

Equations: $ka = \frac{Qv\ u}{4\ pi\ b} \frac{W(u/B)}{(P - Patm)}$ $na = \frac{4\ ka\ (P\text{-}Patm)\ t\ u}{r^2\ u}$ $B^2 = \frac{Kr\ m\ m'}{K'}$

where:
- Qv = volumetric flow rate (L^3/T)
- P-Patm = guage vacuum obtained at match point (H2O")
- *u* = dynamic viscosity of soil gas (M/LT)
- pi = 3.1415926
- b = vadose zone thickness (L)
- (u, r/B) = leaky well function (obtained from type curve match point)
- 1/u = obtained from match point on type curve
- t = time obtained from type curve match point
- Patm = absolute atmospheric pressure
- ka = apparent air permeability (L^2)
- Kr = vadose zone conductivity (L^2/T)
- K' = surface seal conductivity (L^2/T)
- r/B = type curve value
- m = vadose zone thickness (L)
- m' = surface seal thickness (L)

Input:	Qv =	179.7 scfm	=	0.084803	m^3/sec
	(P-Patm)=	2.2 in H20	=	547.8	kg/m sec^2
	u =	1.80E-05 kg/m sec			
	b =	22 feet	=	6.7056	m
	W(u,r/B) =	1			
	u=	1			
	r/B =	0.62 (from matching curve)			
	t =	0.28 minutes	=	16.8	seconds
	Patm =	14.25 psi	=	98218.13	kg/msec^2
	r=	5.11 feet	=	1.55855	m
	m' =	1 feet	=	0.305	m
Calculated:	ka =	3.31E-11 m^2	=	33.49	darcies
	Ka =	1.85 cm/sec			
	Kw =	2.82E-02 cm/sec	=	80.02	ft/day
	na =	4.991821			
	B =	8.24			
	K' =	9.14E-03 cm/sec	=	25.91	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP1B TRANSIENT DATA



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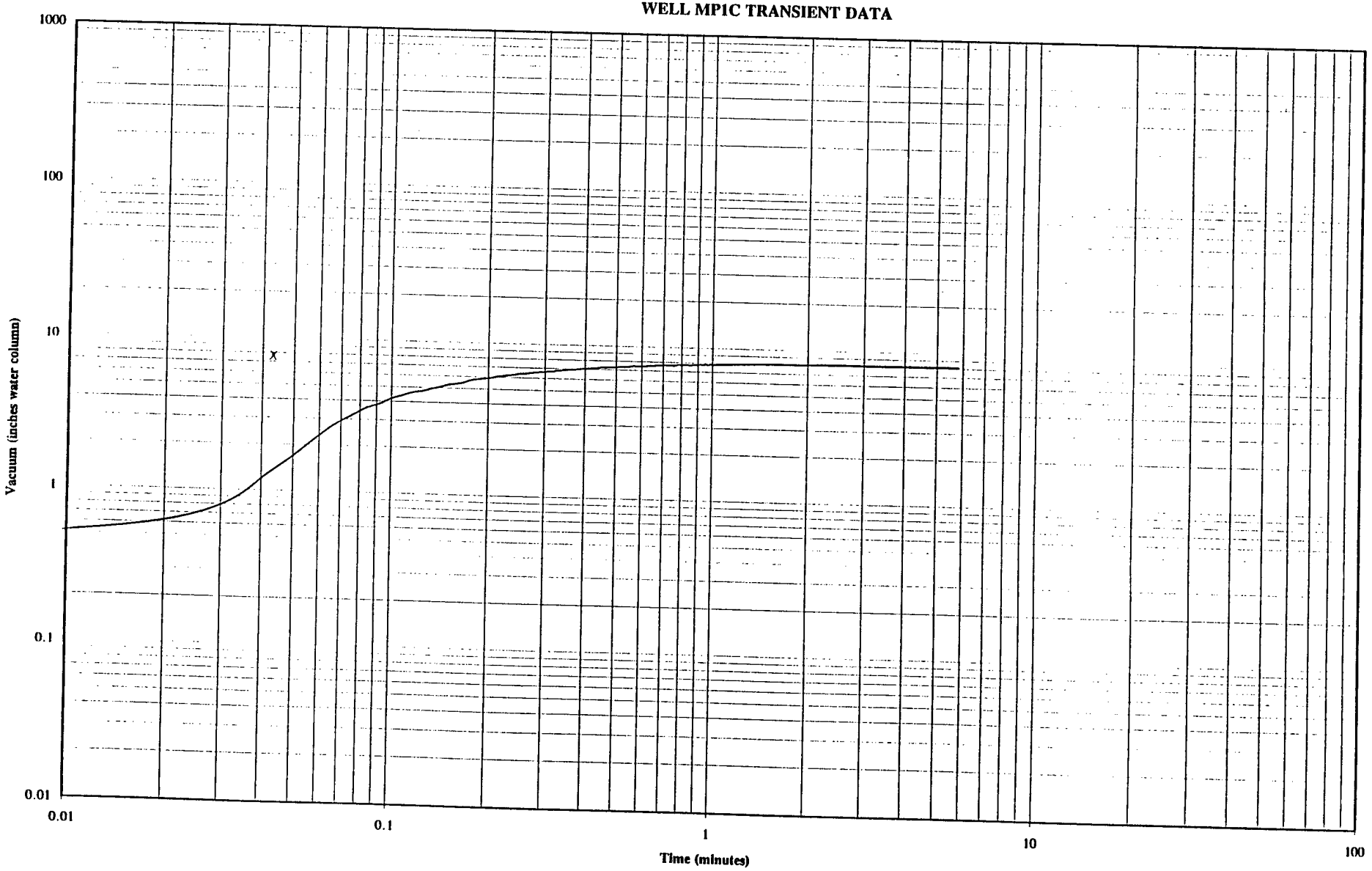
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP1C TRANSIENT DATA



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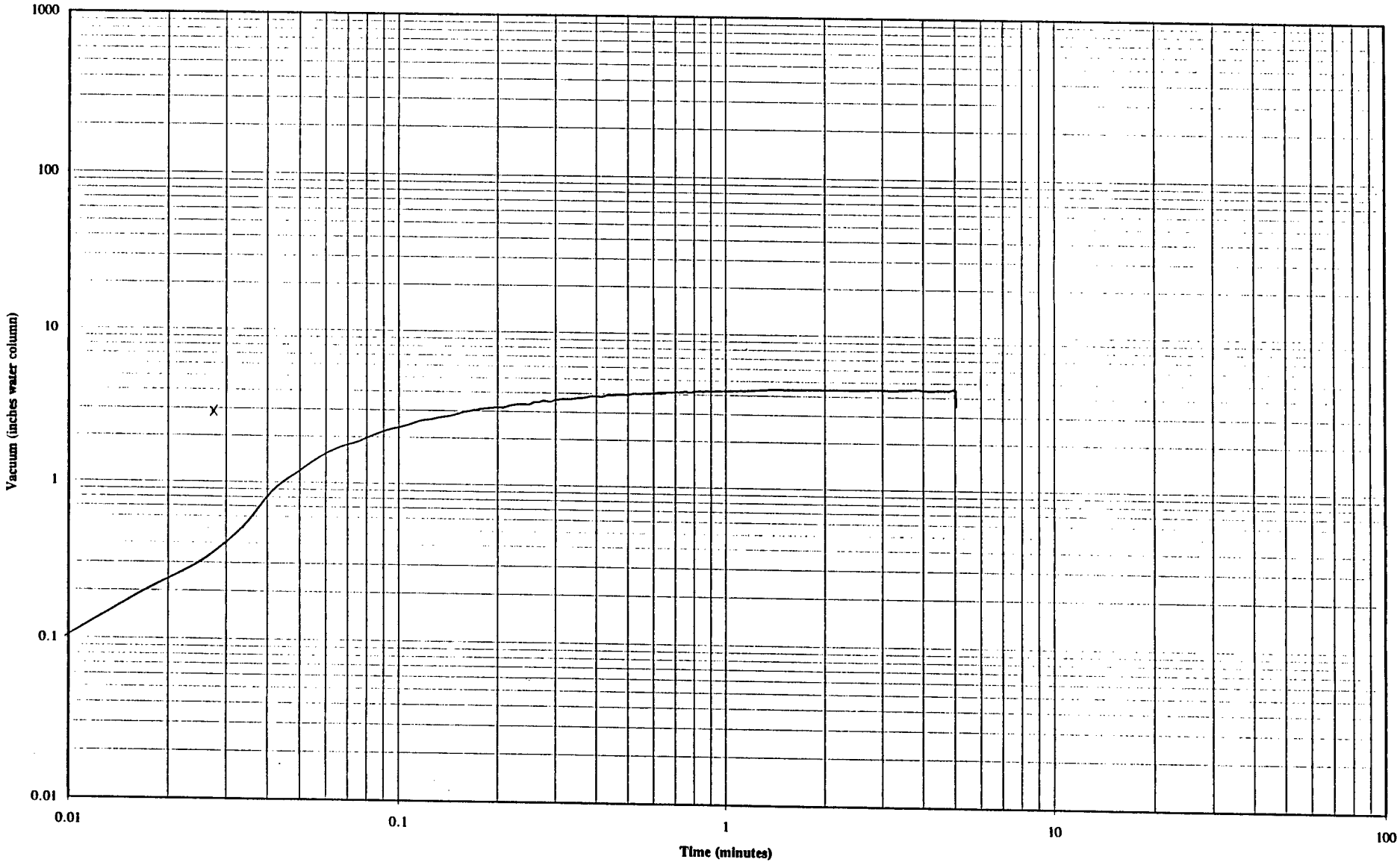
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP1C(2) TRANSIENT DATA



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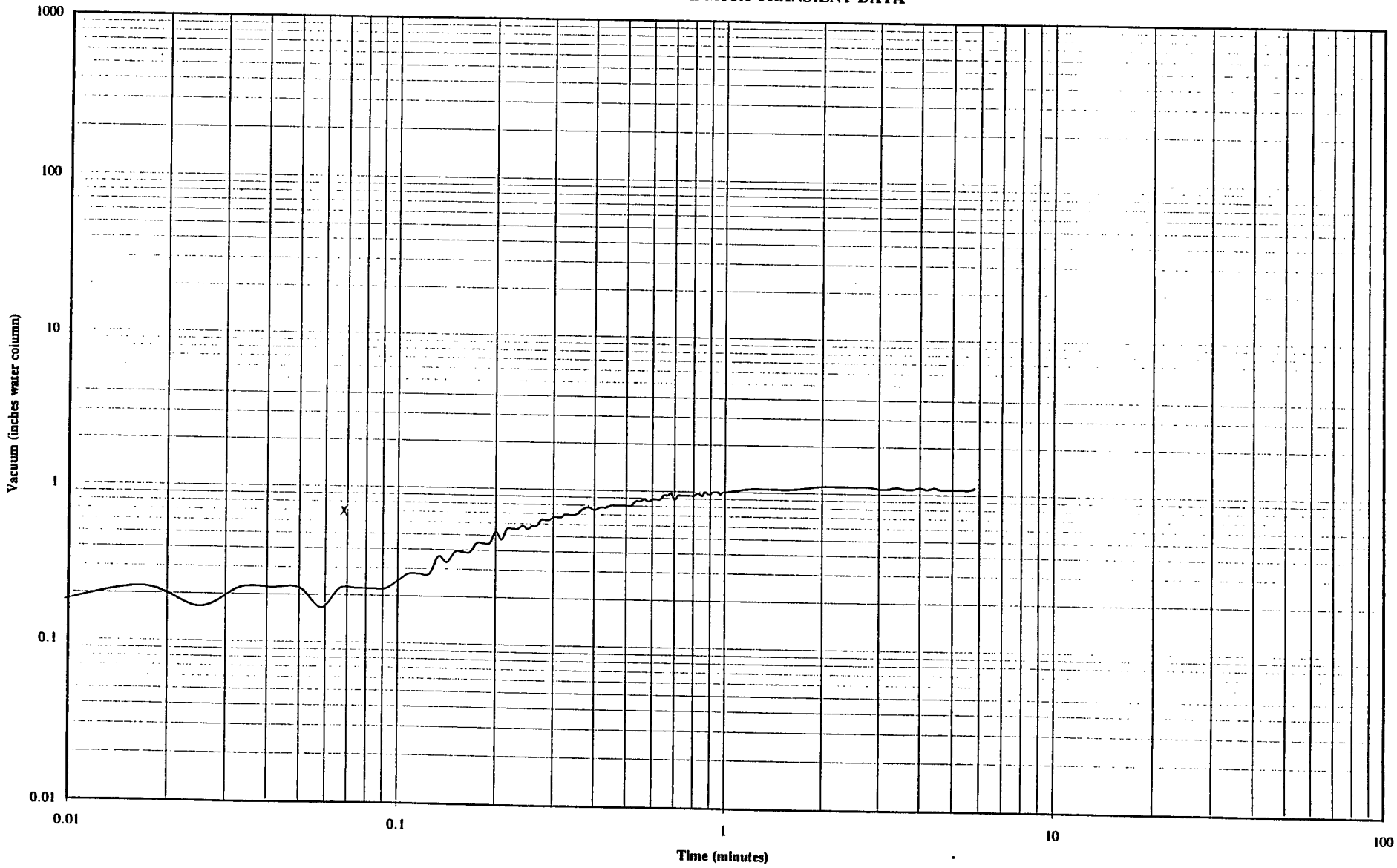
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP3A TRANSIENT DATA



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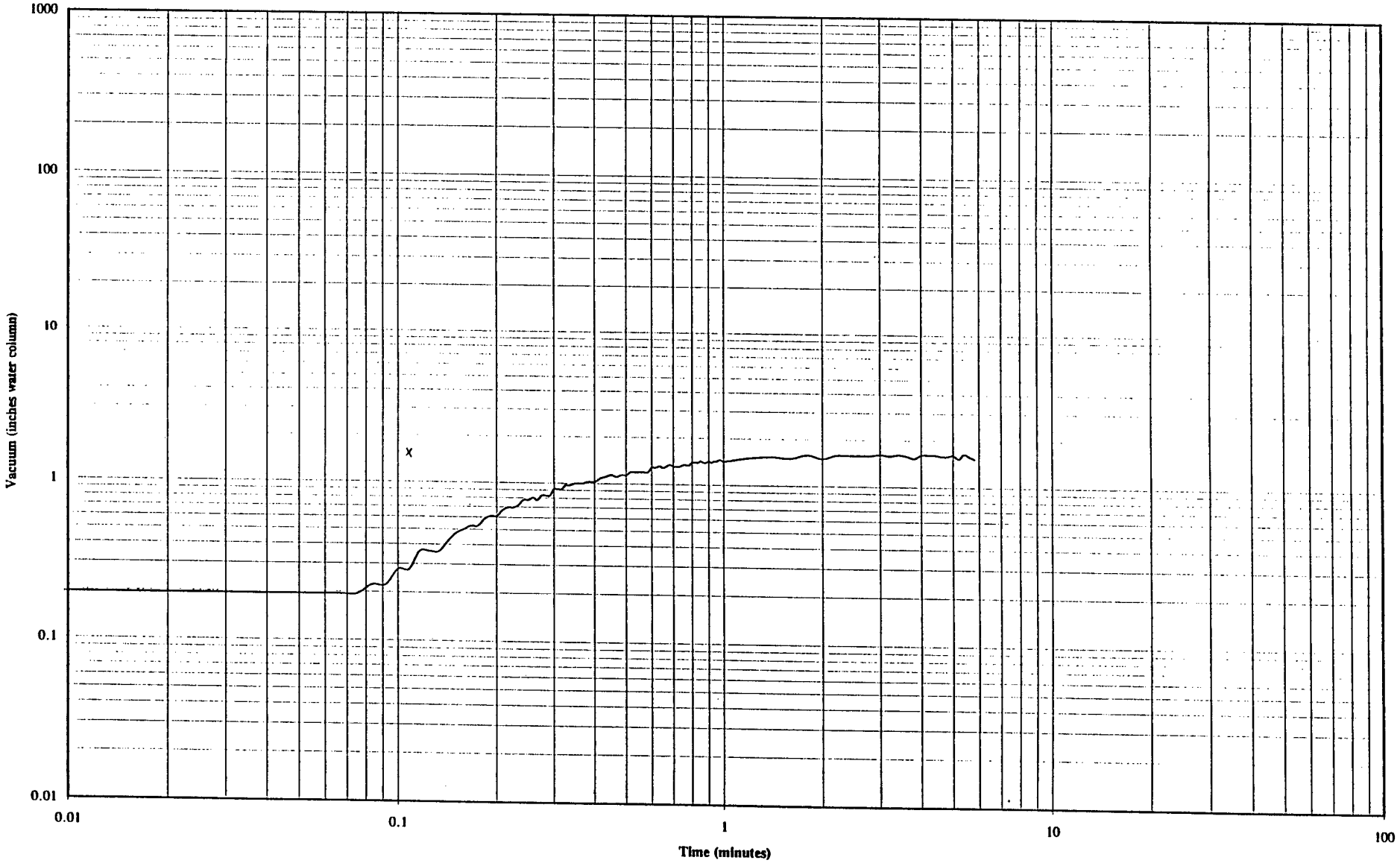
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP3B TRANSIENT DATA



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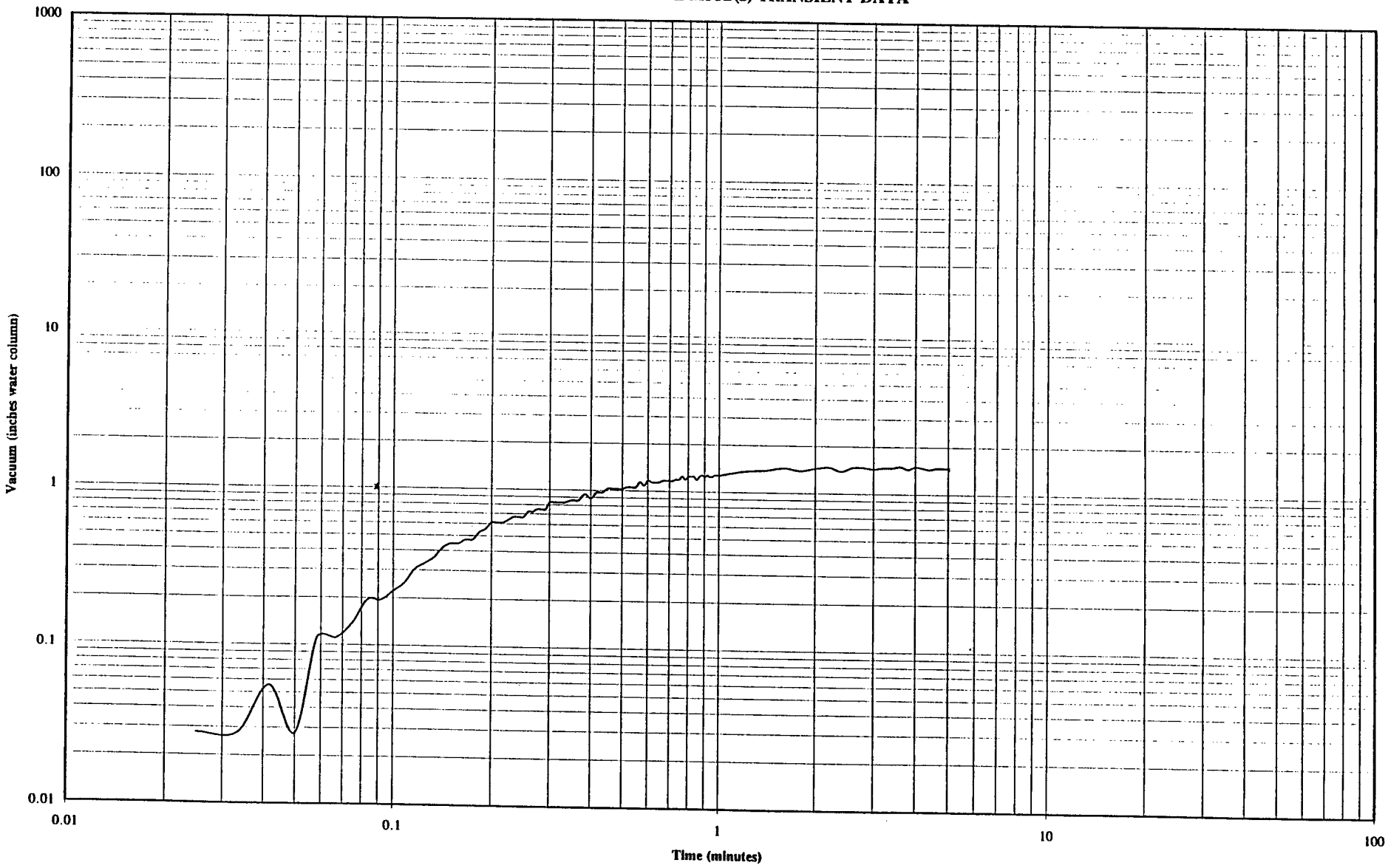
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP3B(2) TRANSIENT DATA



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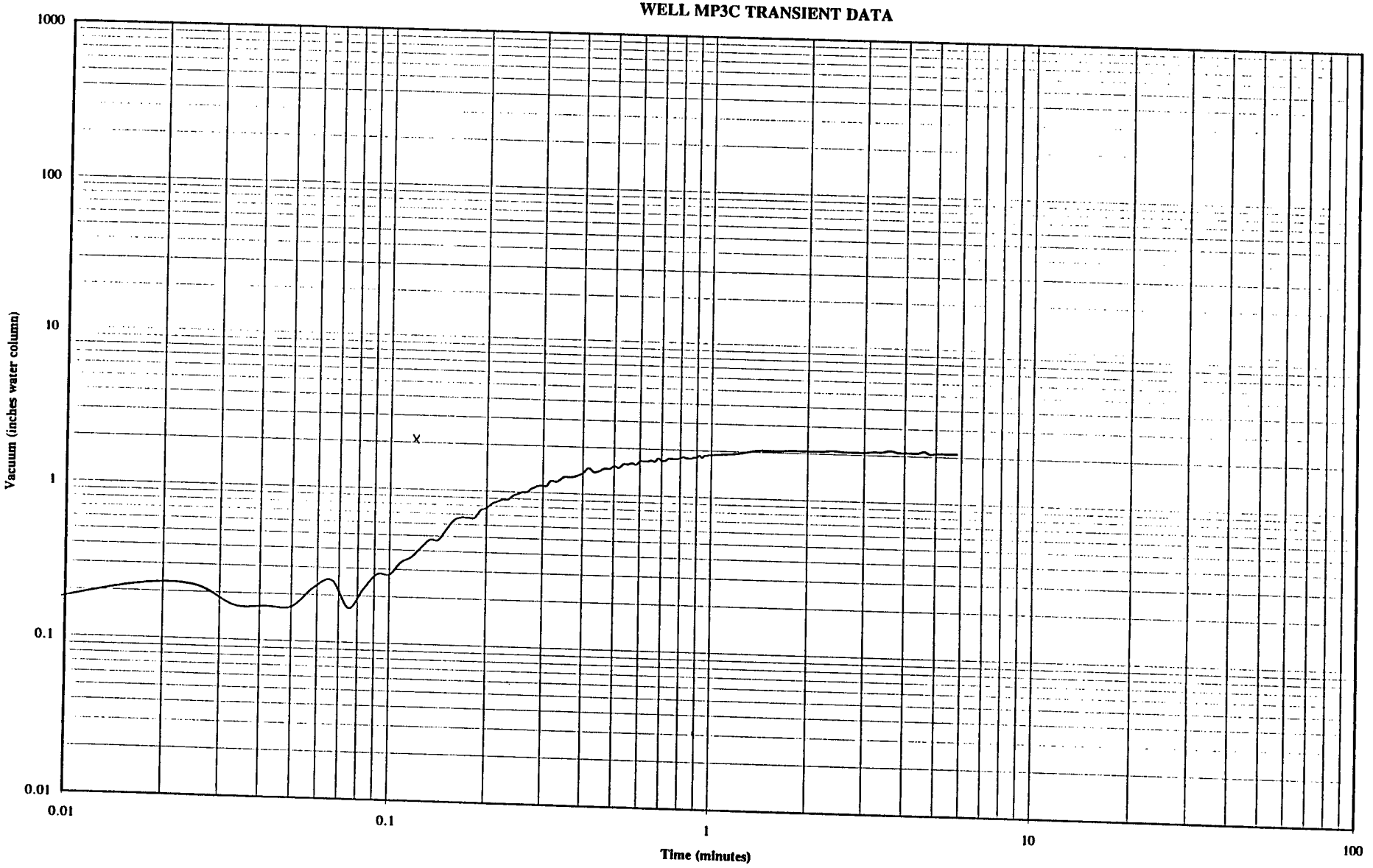
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP3C TRANSIENT DATA



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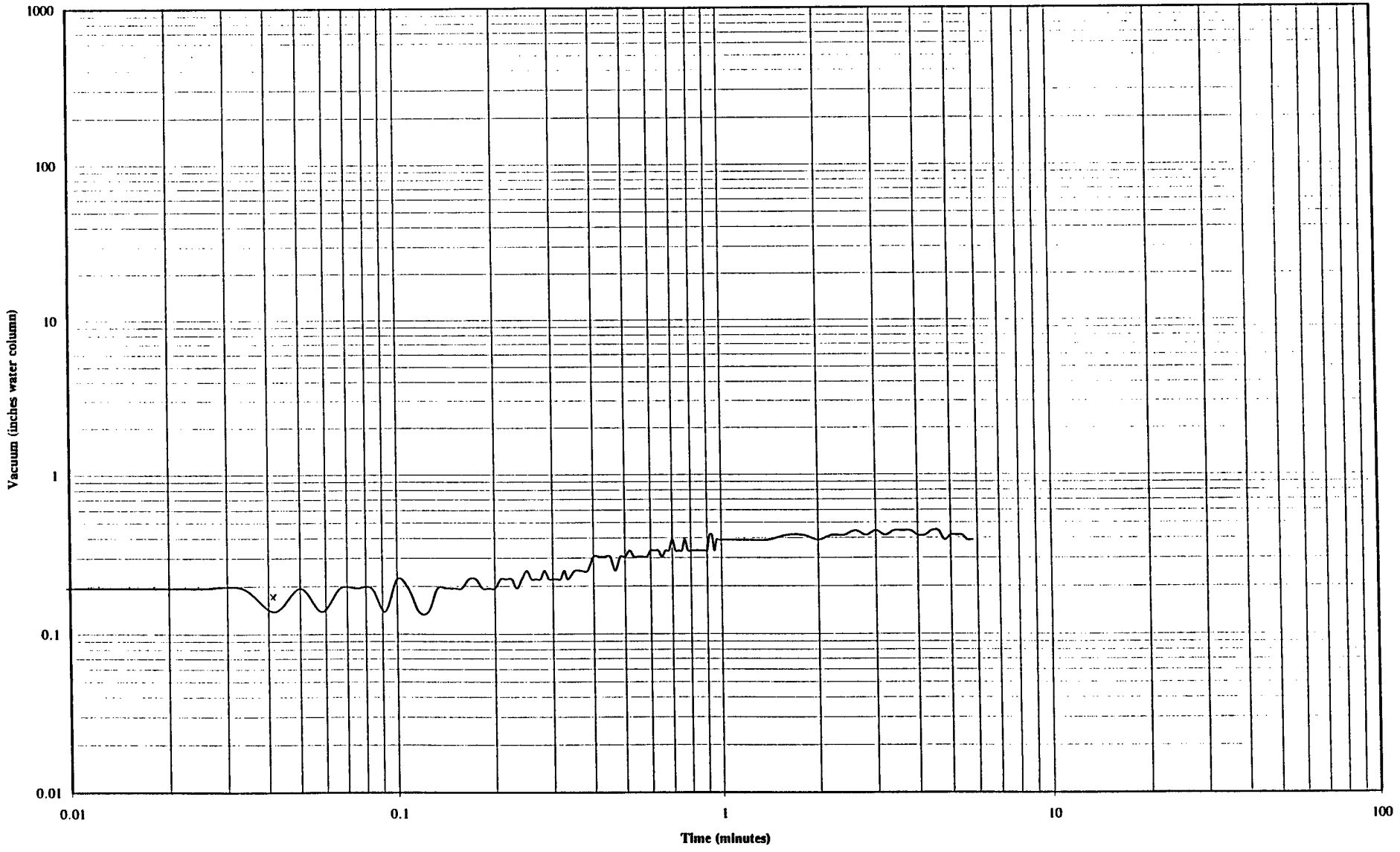
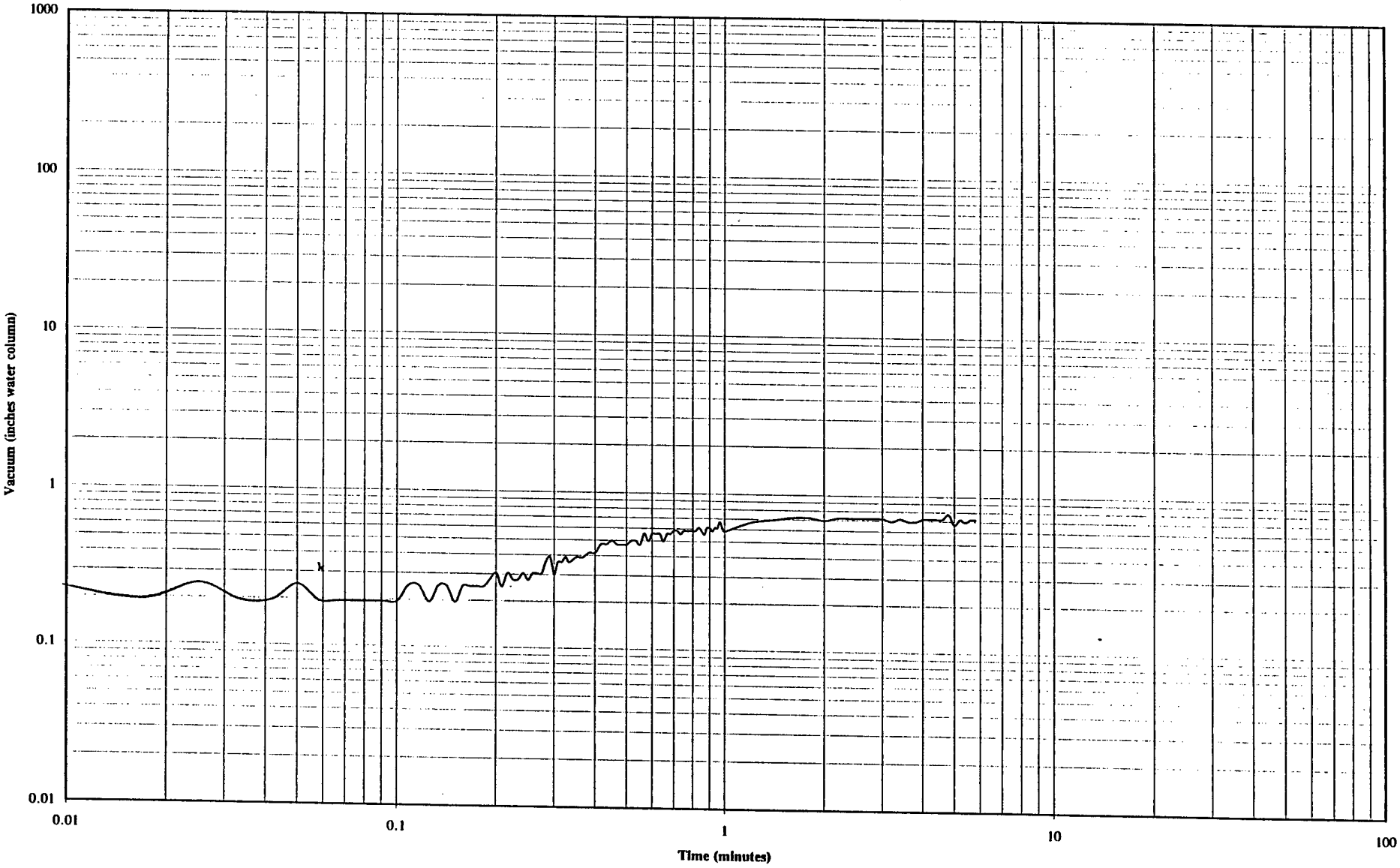
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP4A TRANSIENT DATA



WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP4B TRANSIENT DATA



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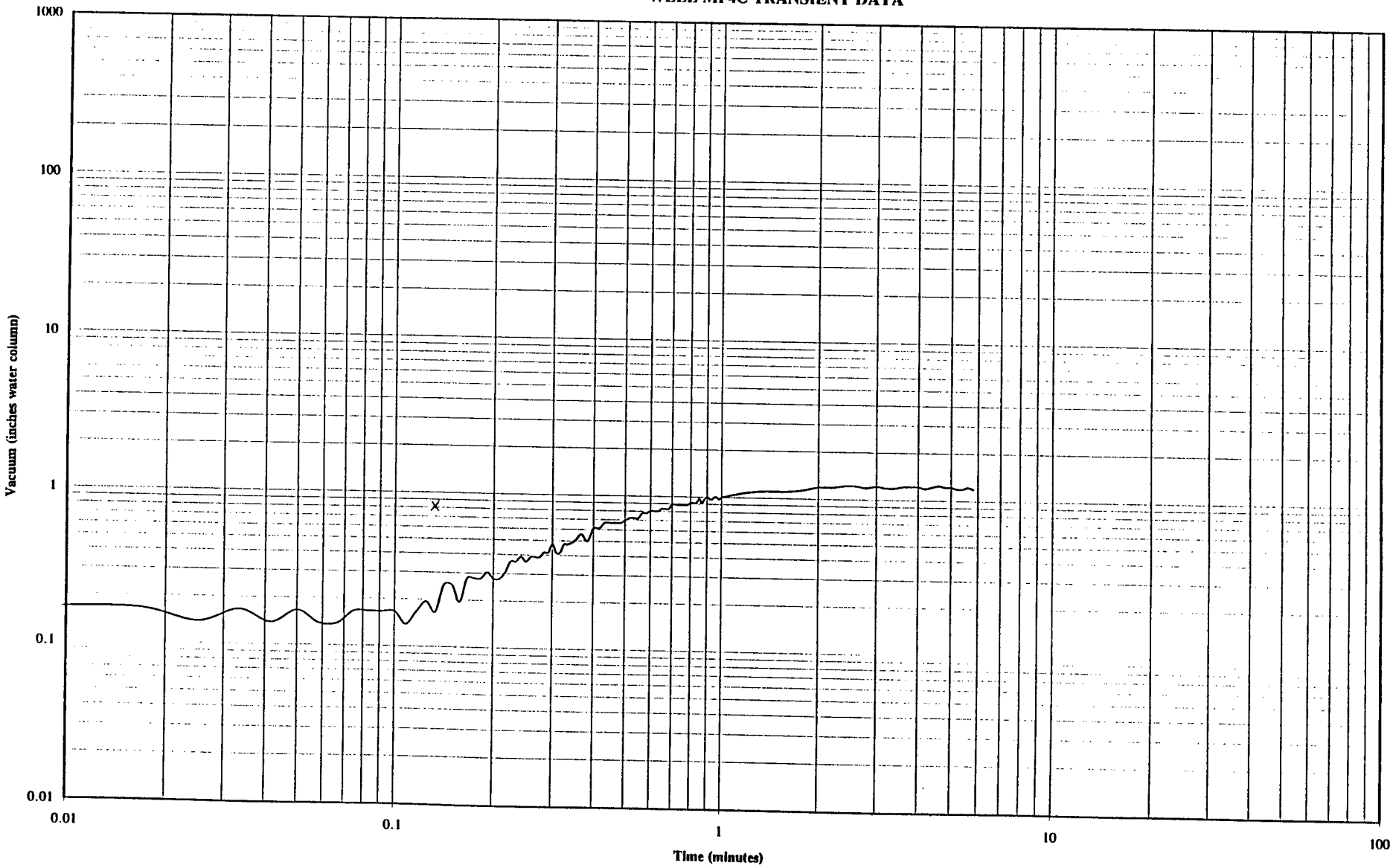
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP4C TRANSIENT DATA



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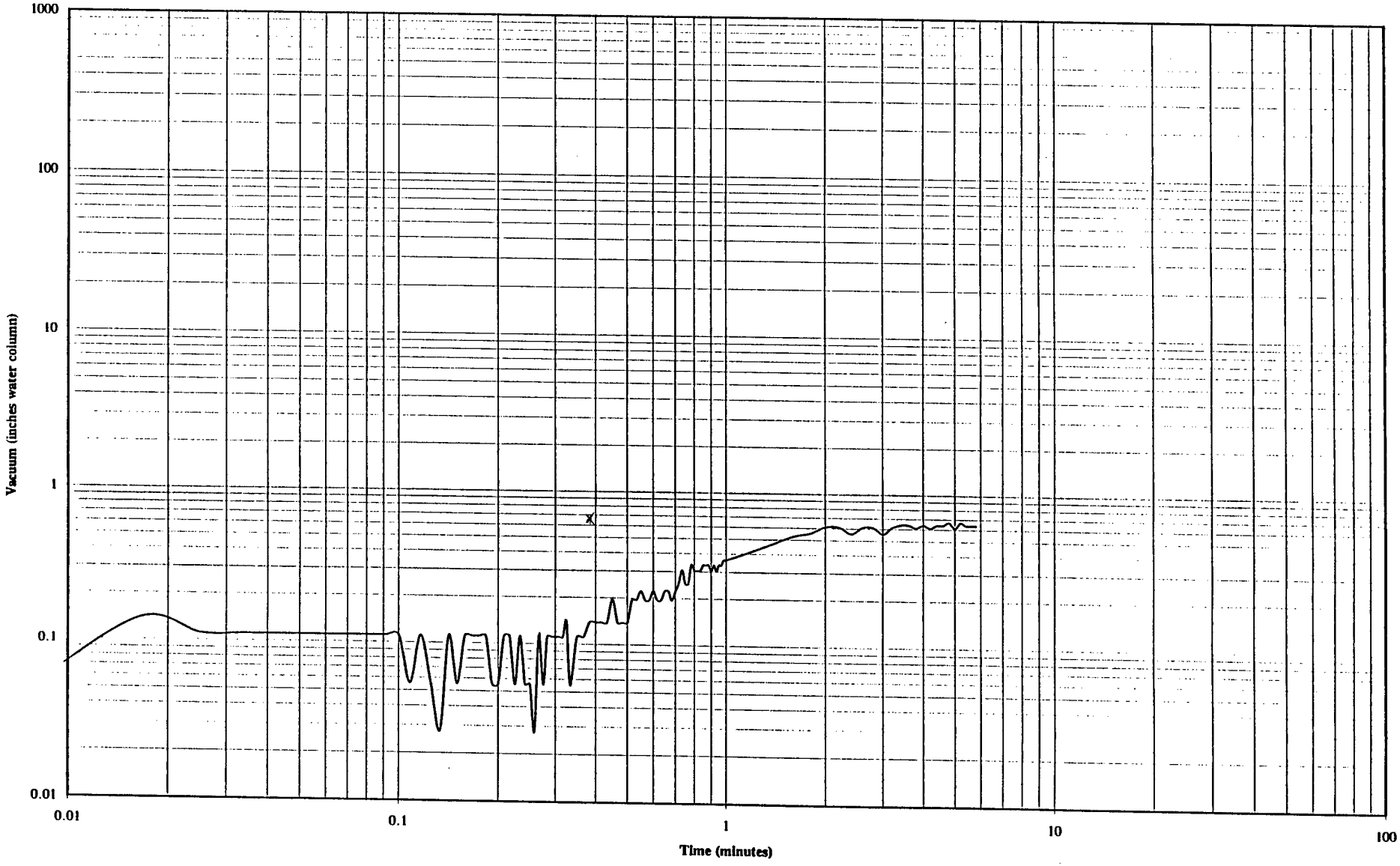
WURTSMITH AFB PILOT TESTING
SITE SS06
WELL MP5C TRANSIENT DATA



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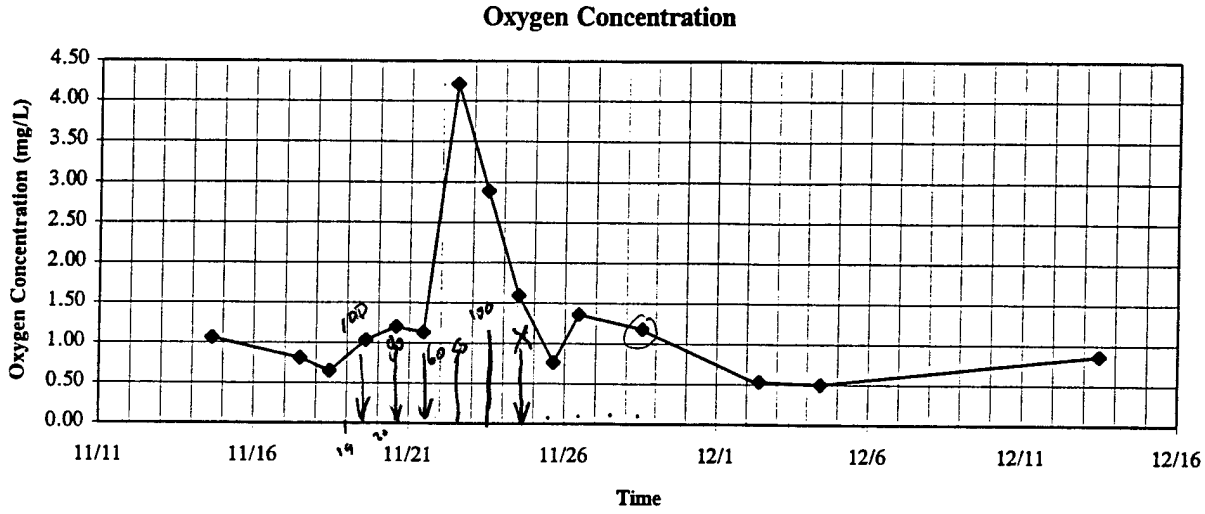
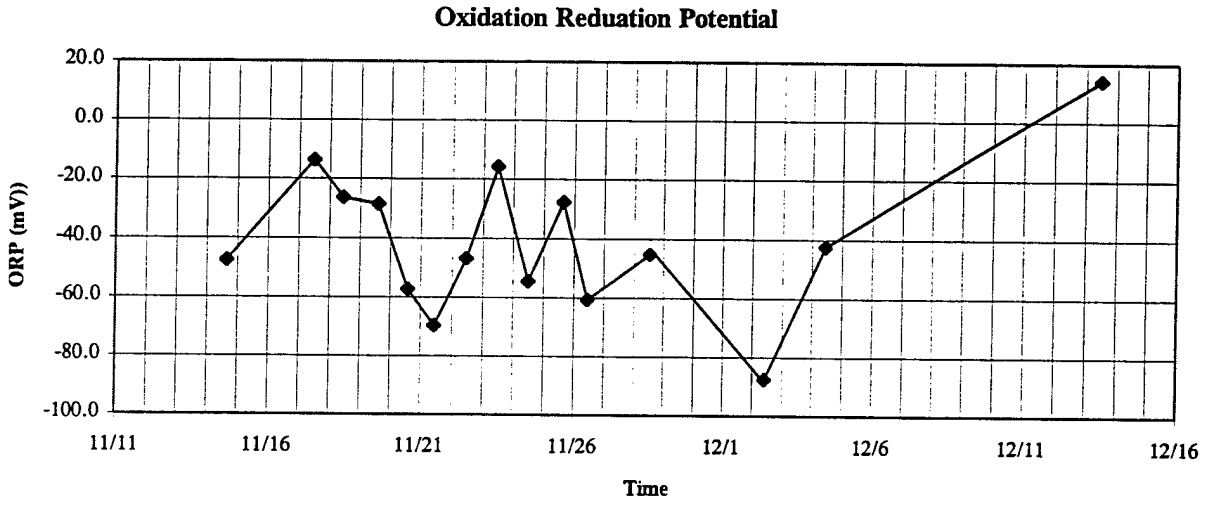
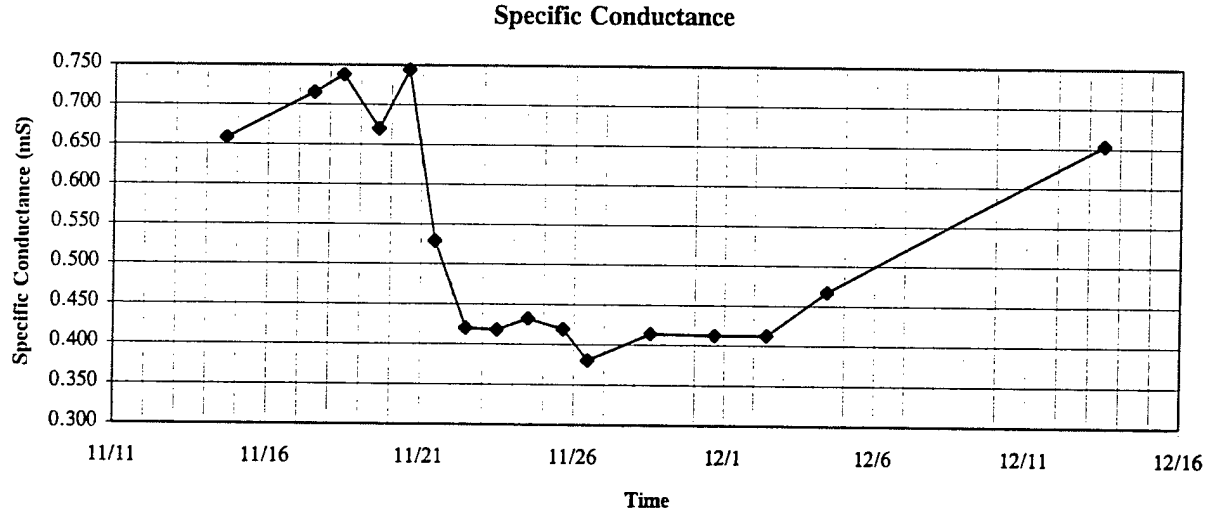
WURTSMITH PILOT TESTING
SITE SS06
VACUUM STEP TEST, NOVEMBER 12, 1997

Time	Vacuum at MP6 (inches H2O)	Flow Rate (scfm)
17:45	1.7	29.5
17:54	5.0	
17:55	5.0	49.5
18:07	5.0	48.2
18:15	10.0	
18:23	10.2	88.5
18:30	10.2	87.6
18:40	15.0	
18:50	14.6	122.4
19:13	14.5	120.4
19:21	19.1	
19:30	19.1	157.4
19:46	19.1	156.4
20:45	19.1	154.3
20:53	14.8	
20:56	14.9	121.6
21:06	14.9	121.6
21:09	10.0	
21:14	10.0	82.8
21:22	10.0	82.8
21:26	5.0	
21:31	5.0	44.6
21:57	5.0	44.6

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D





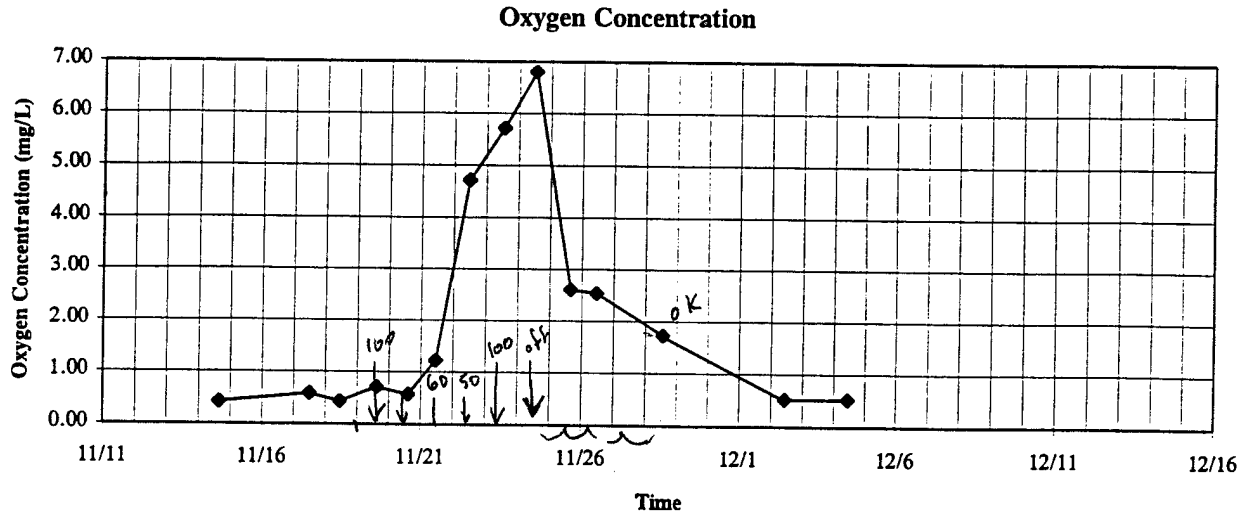


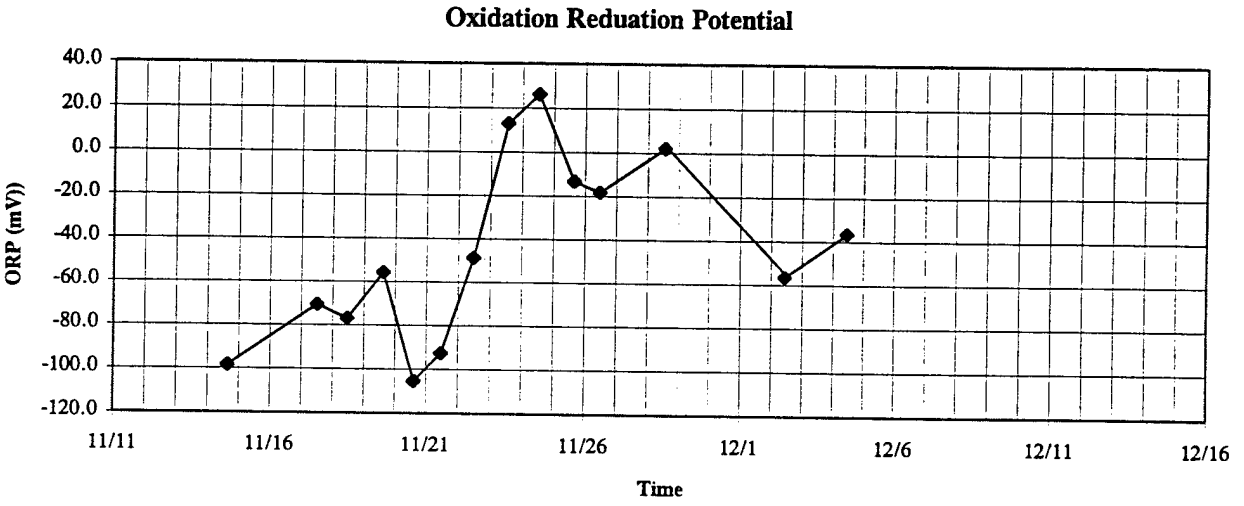
Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

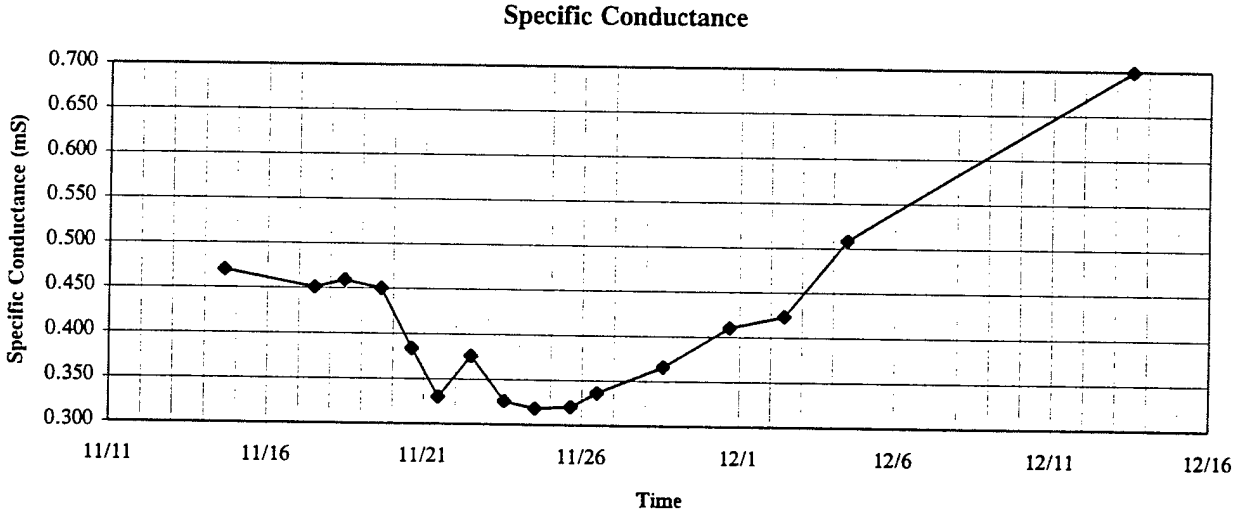
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E







Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
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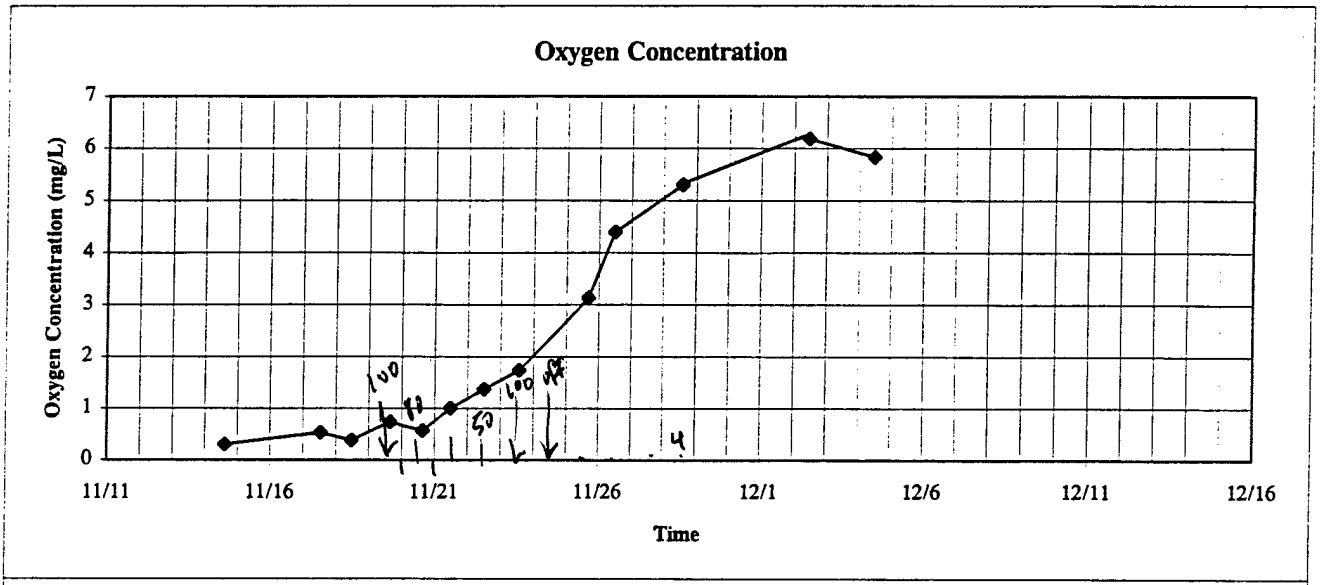
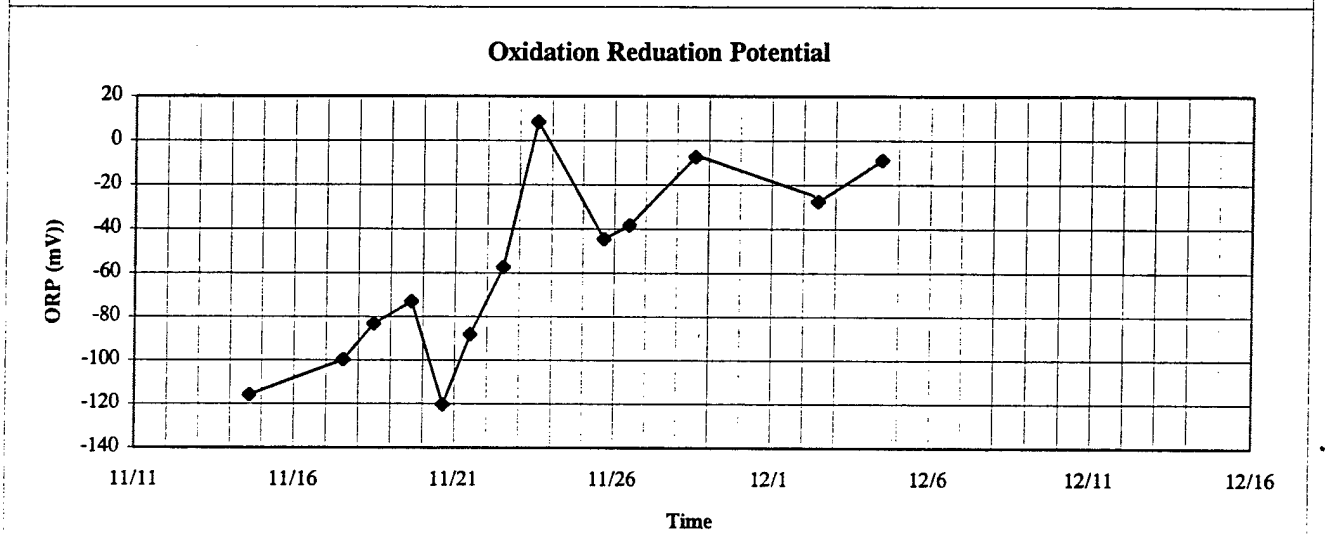
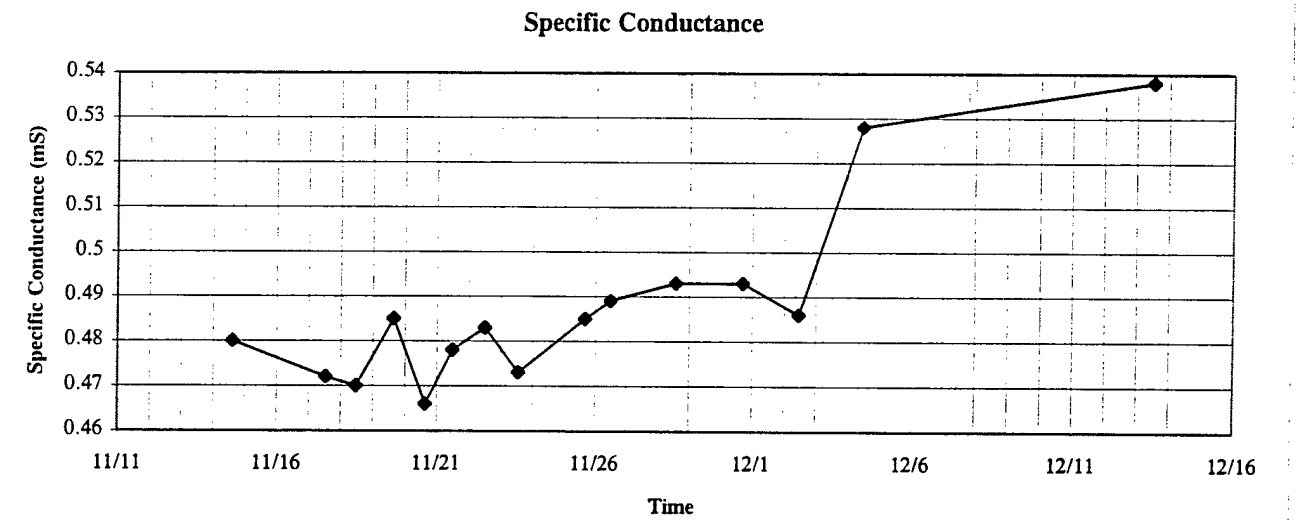
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1F







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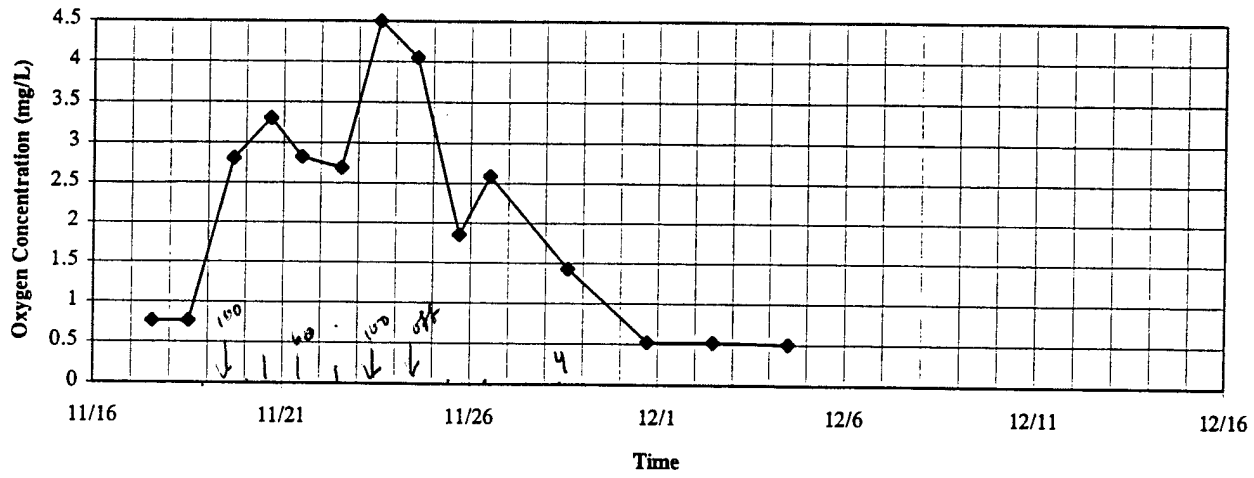
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

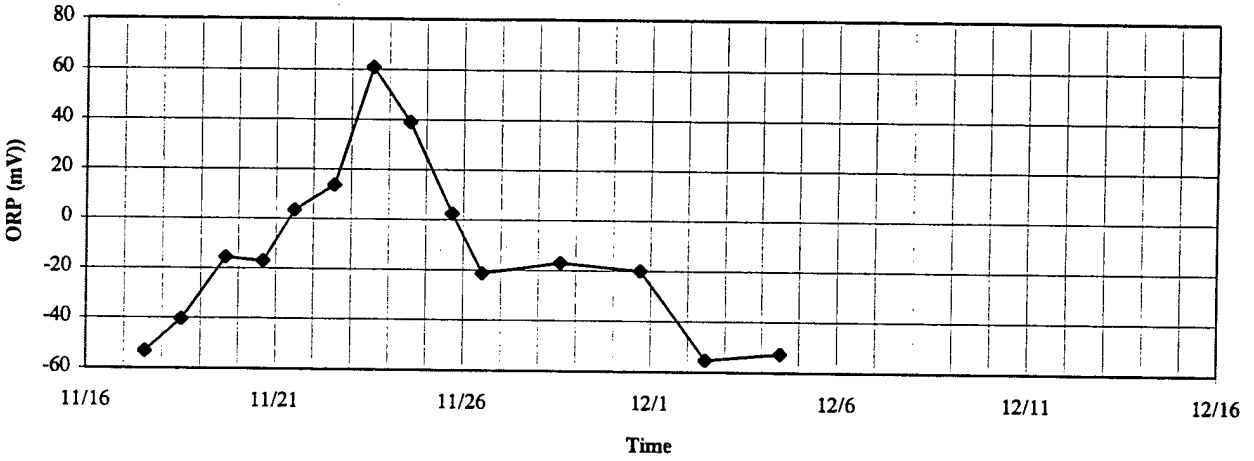
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D

19' distance
25' depth

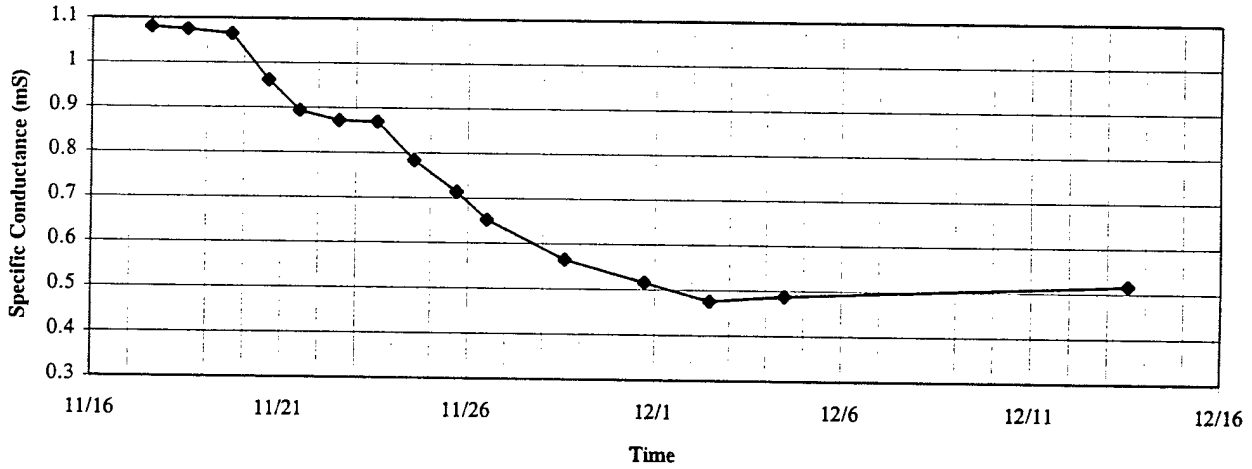
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



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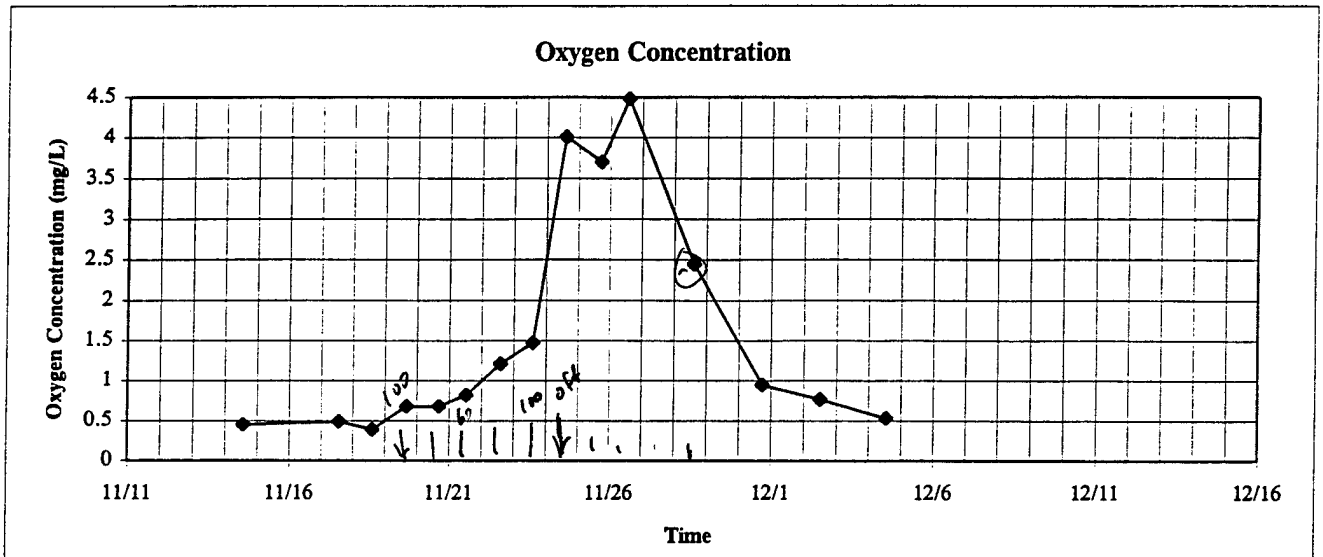
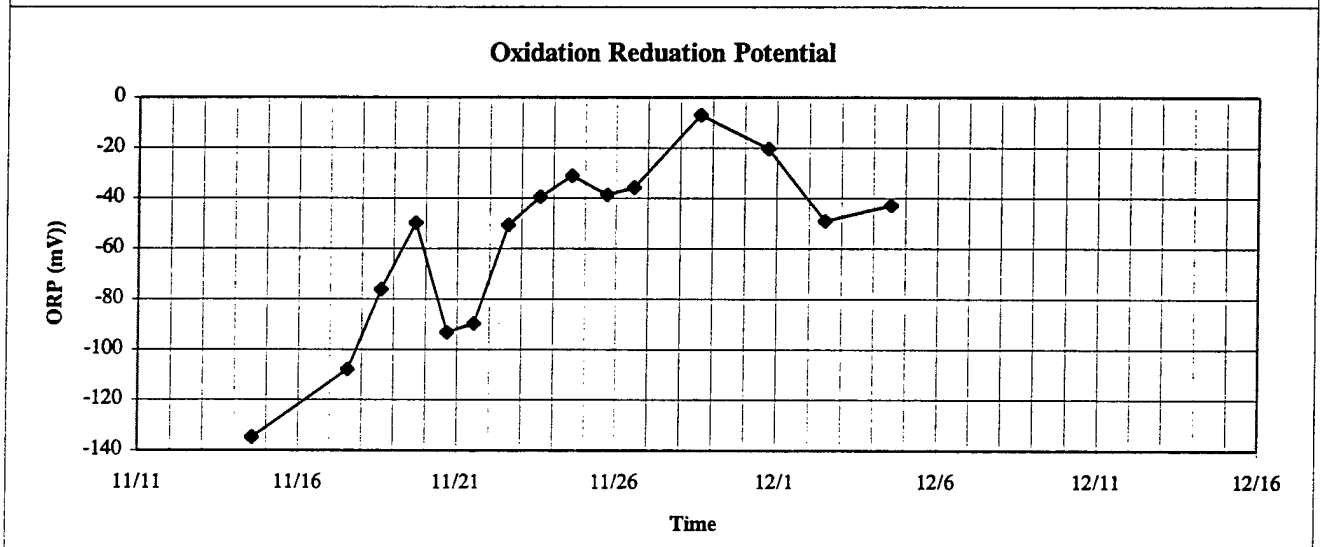
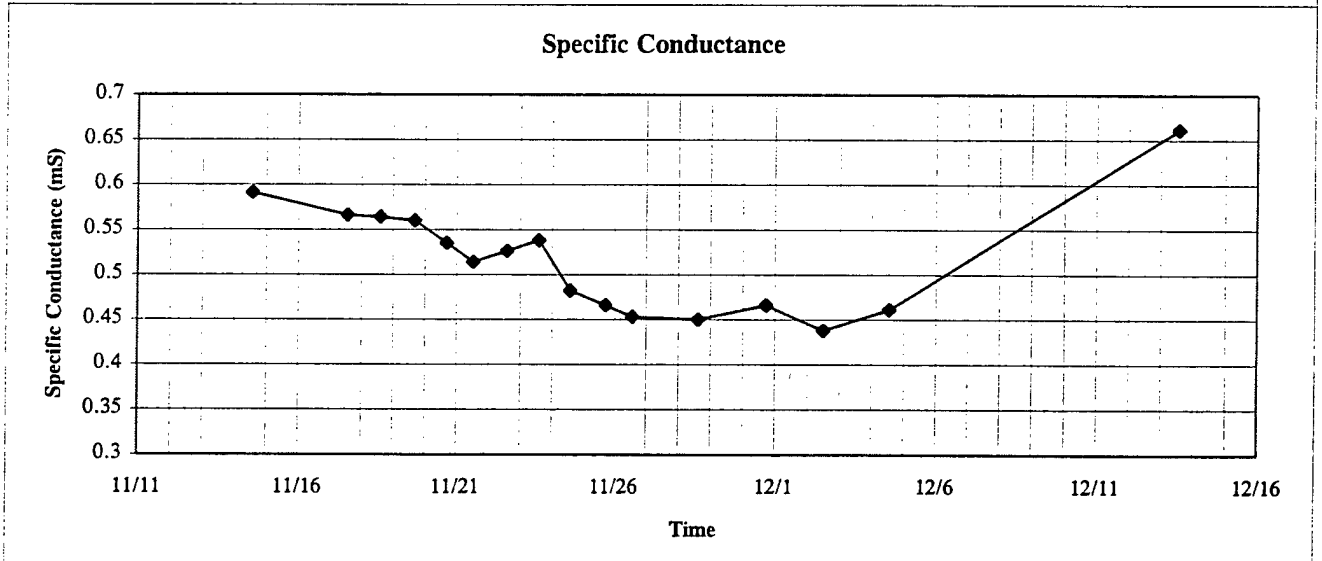
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E

13' deep
30' deep







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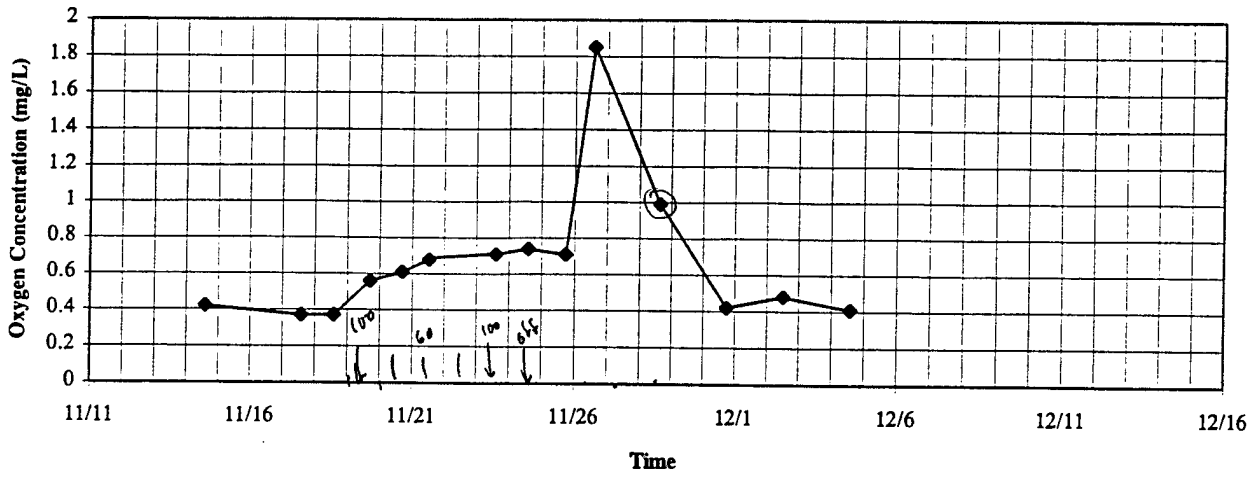
Sparge Off 11/24/97 21:30

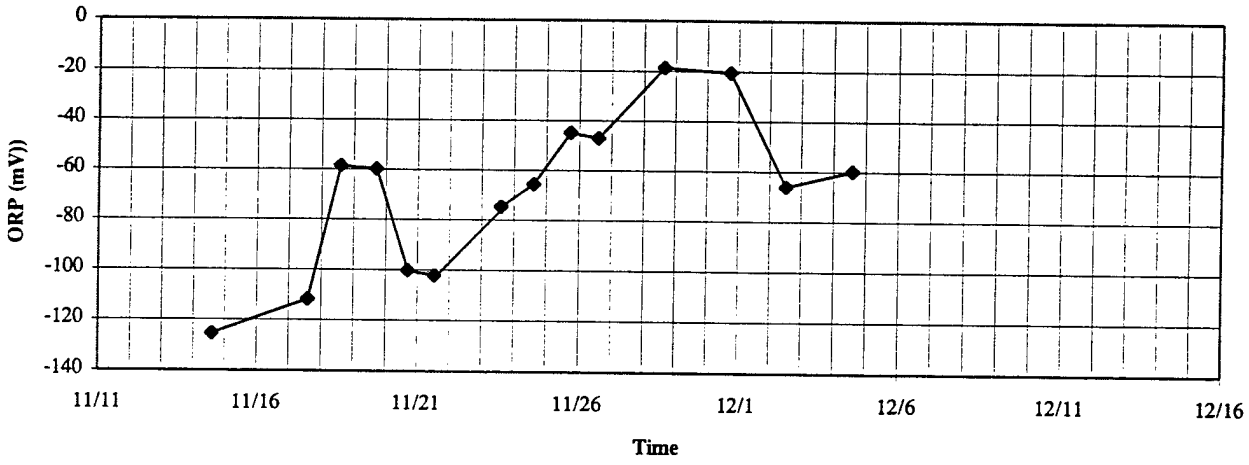
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2F

13' distance
40' depth

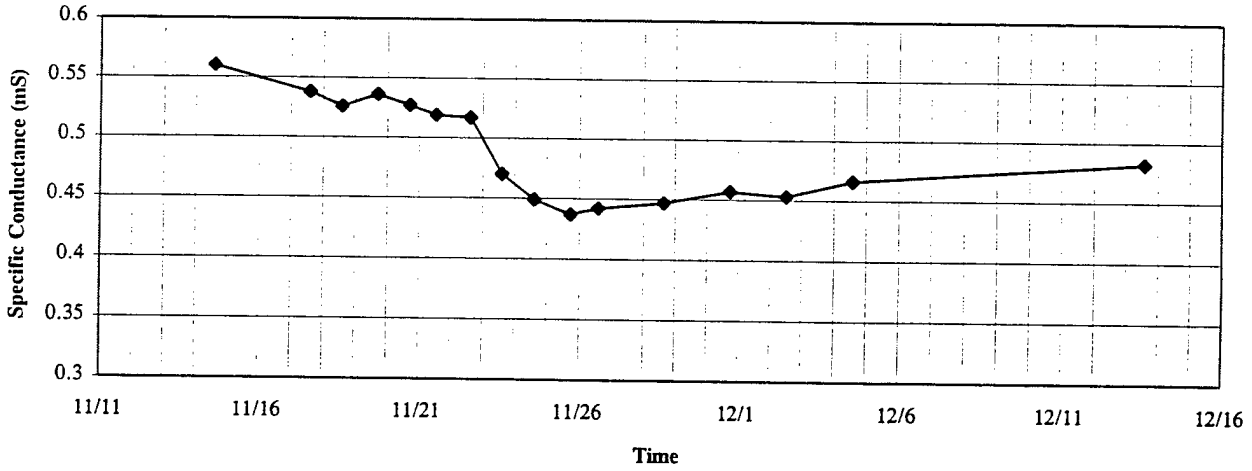
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



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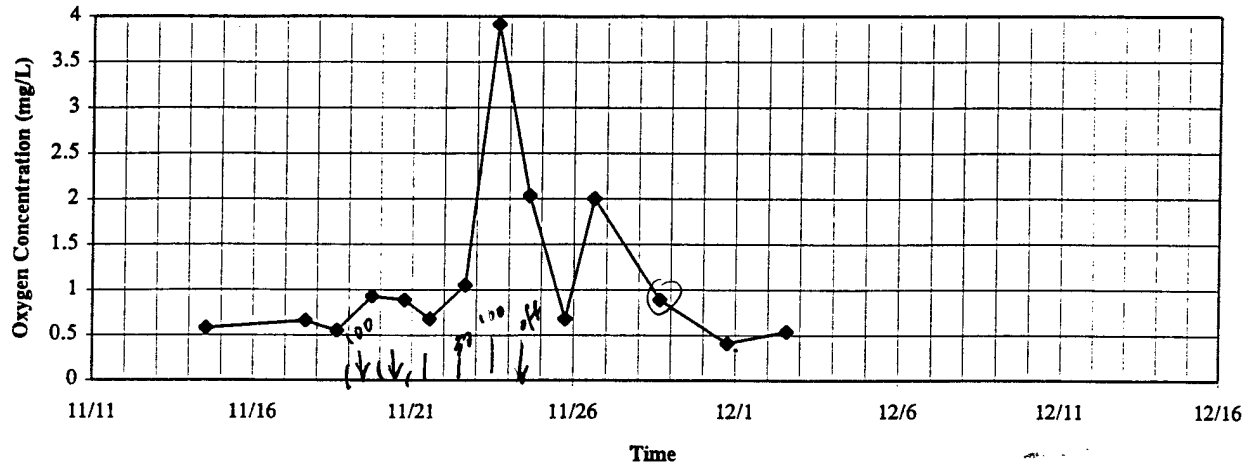
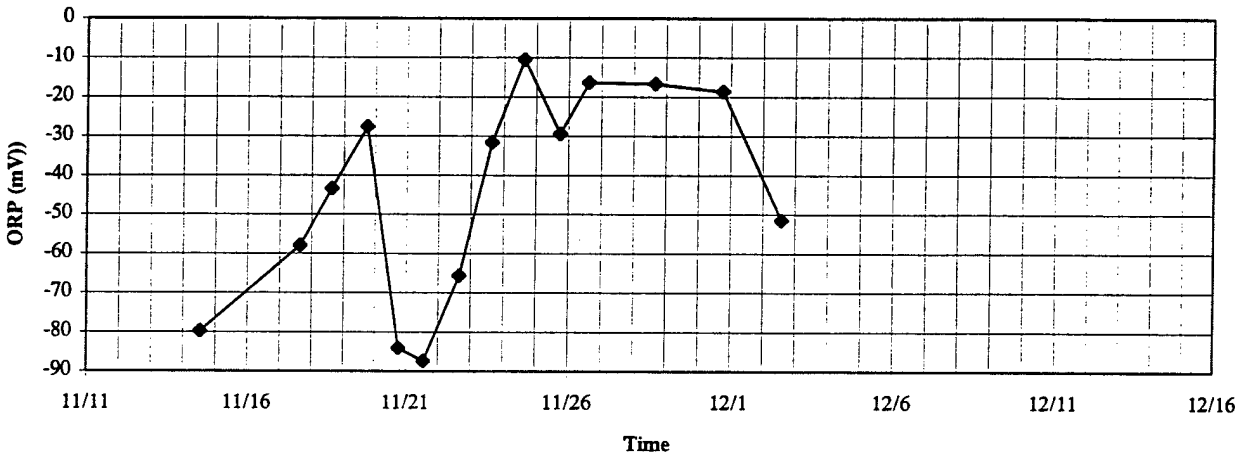
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D

25' depth
15' dist

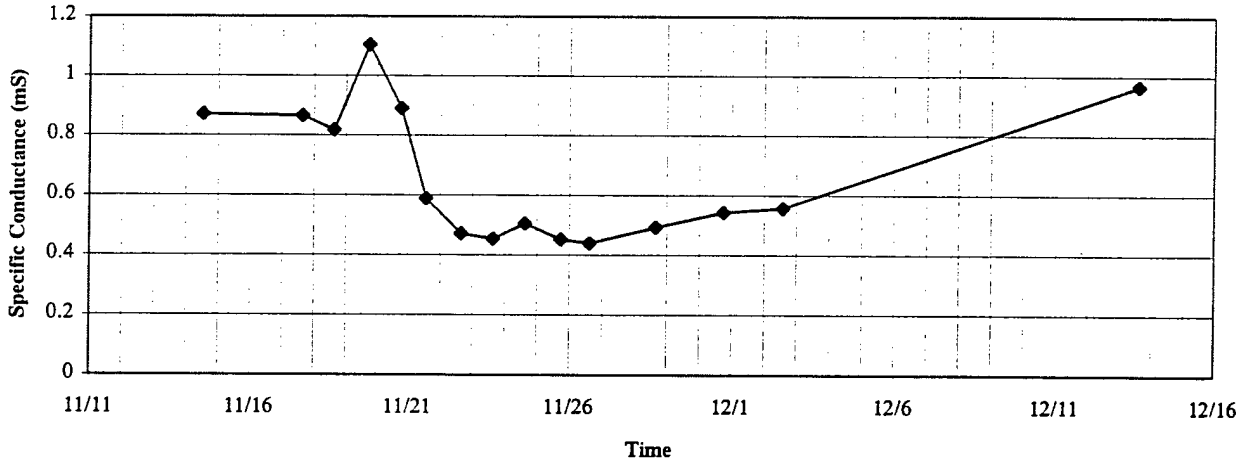
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



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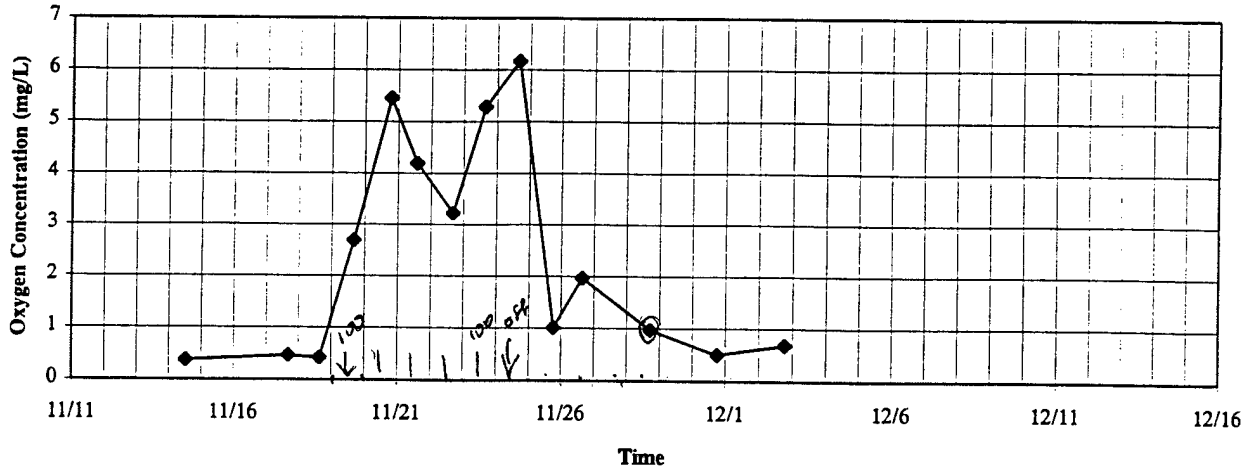
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

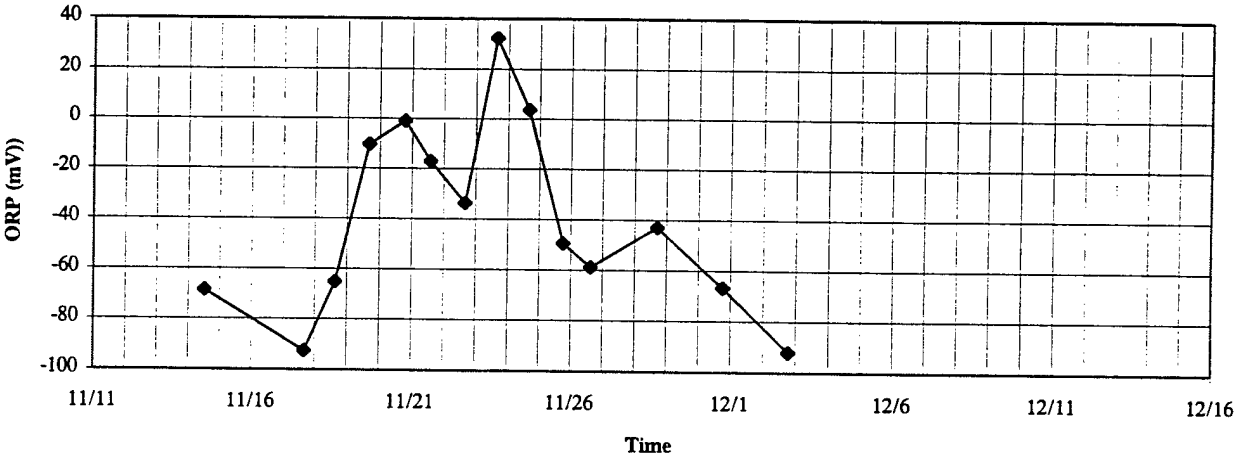
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3E

33' depth
15' dist

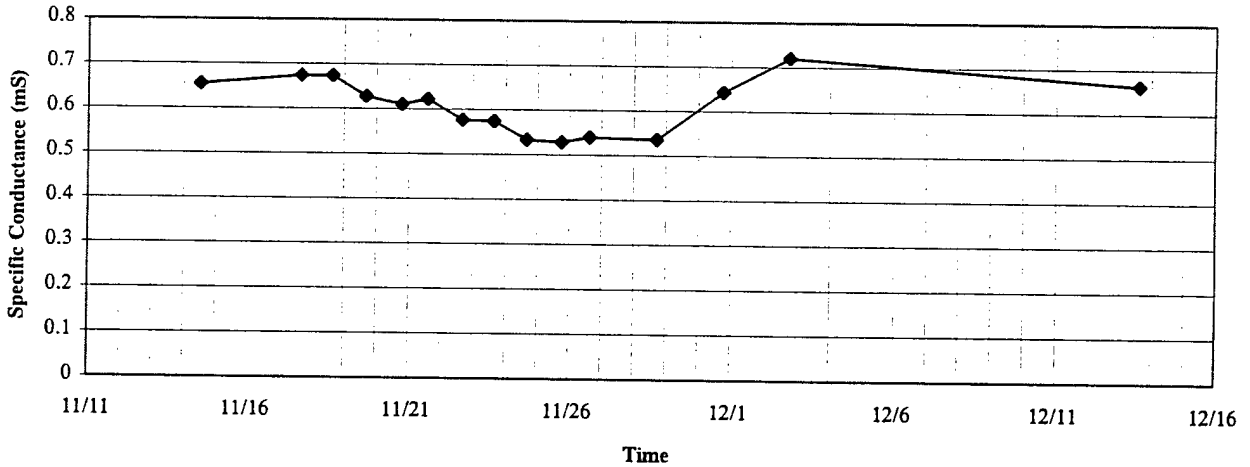
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



Air Permeability Testing on 11/12/97
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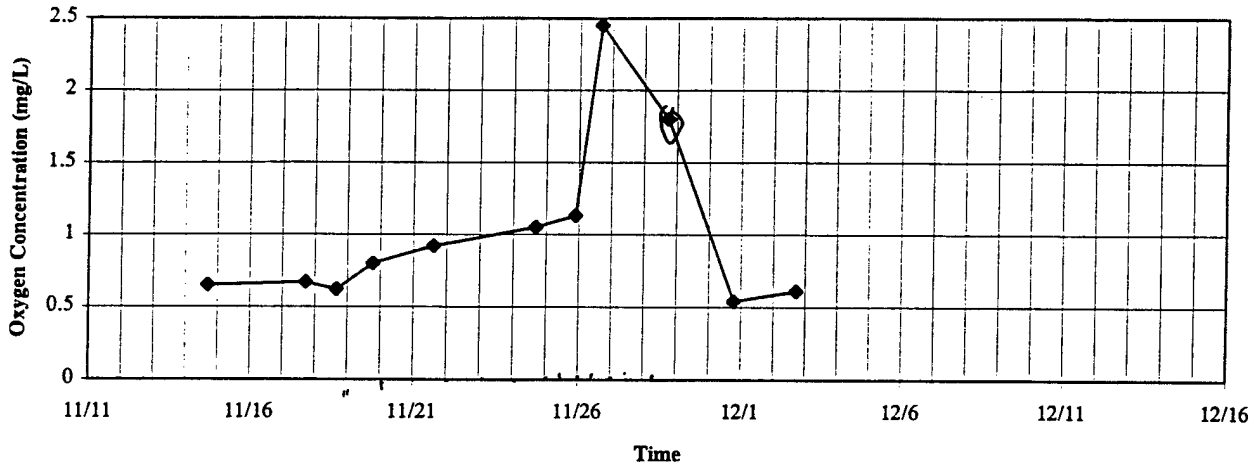
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

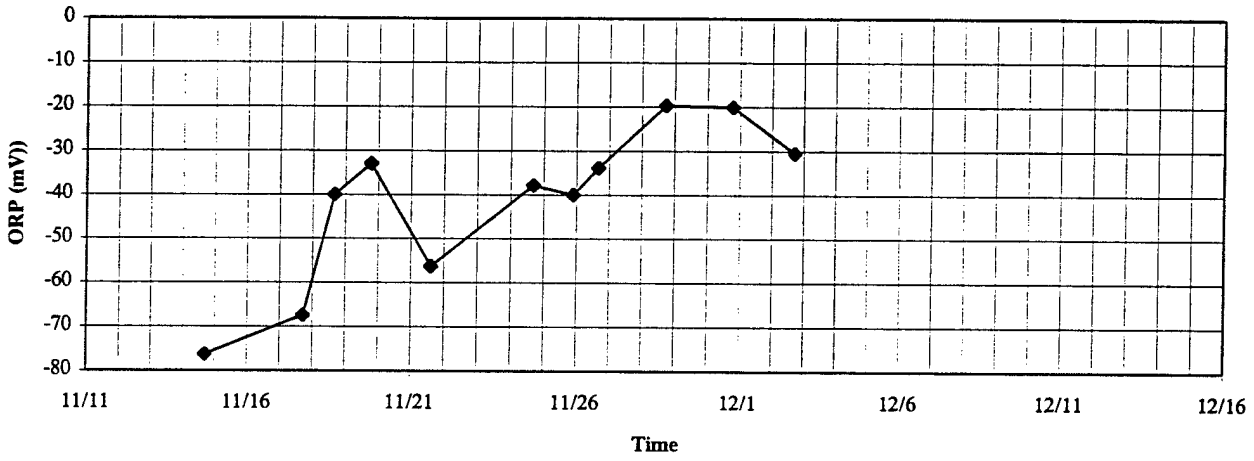
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

25' depth
12' dist.

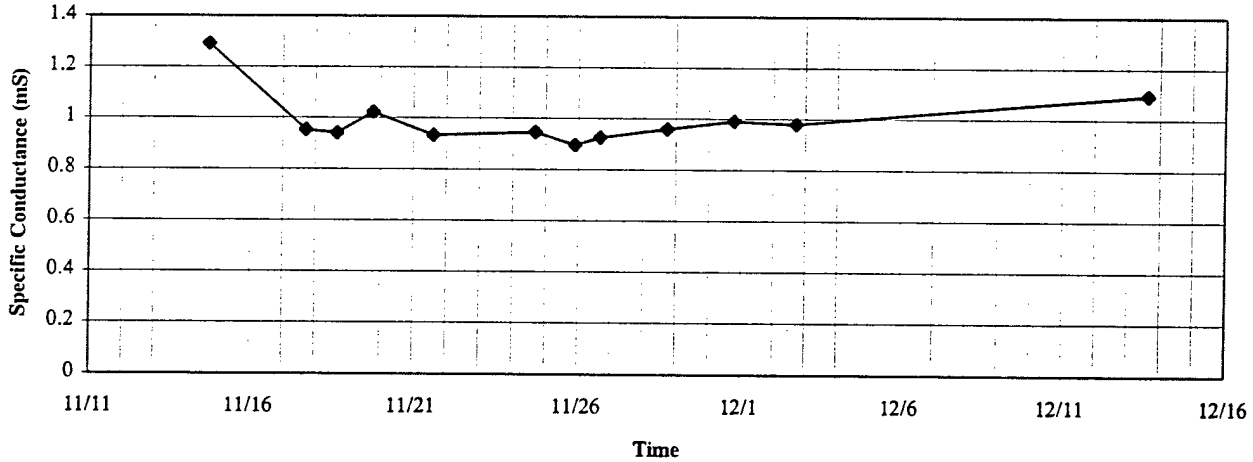
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



Air Permeability Testing on 11/12/97
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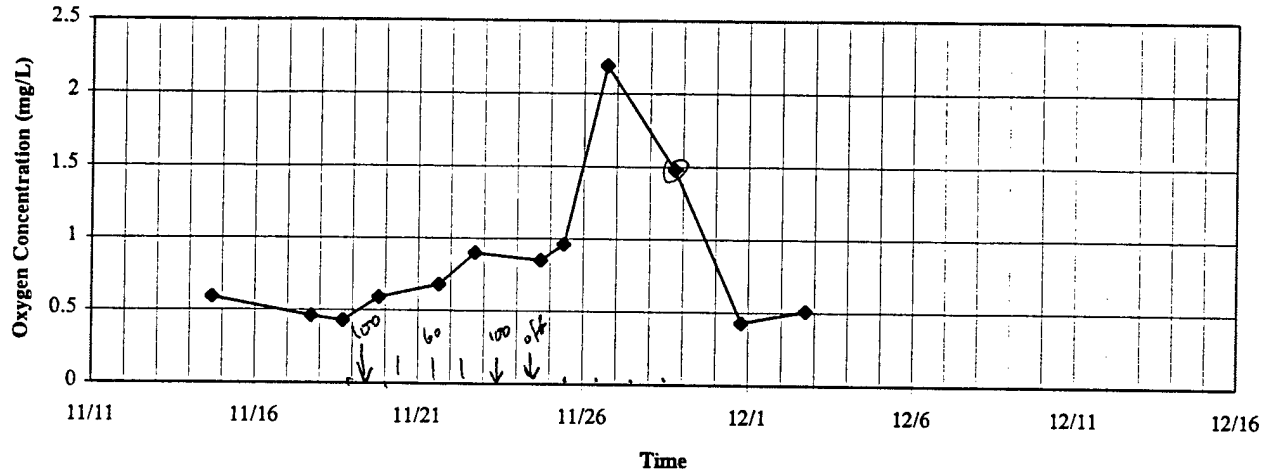
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

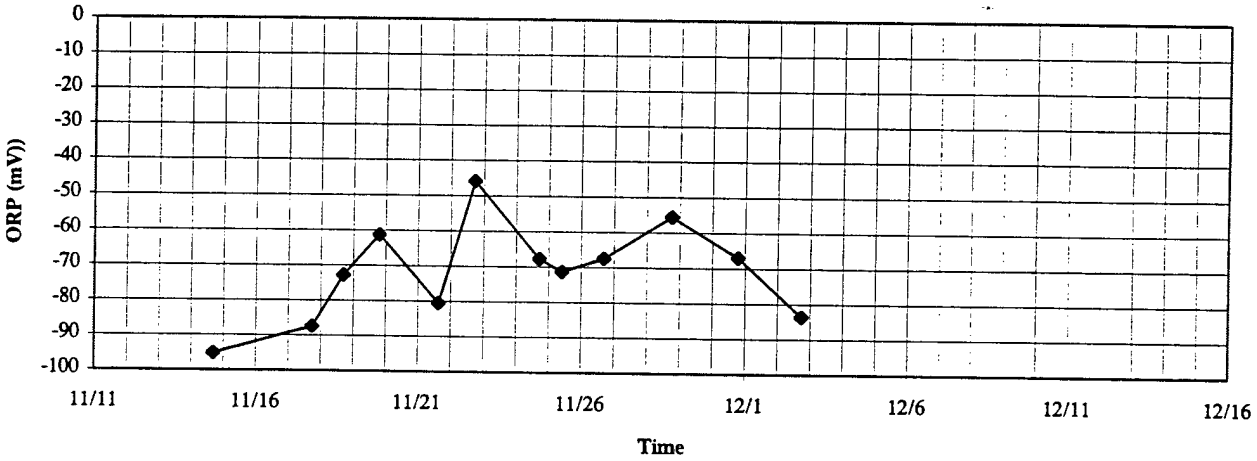
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4E

33' depth
28' dist

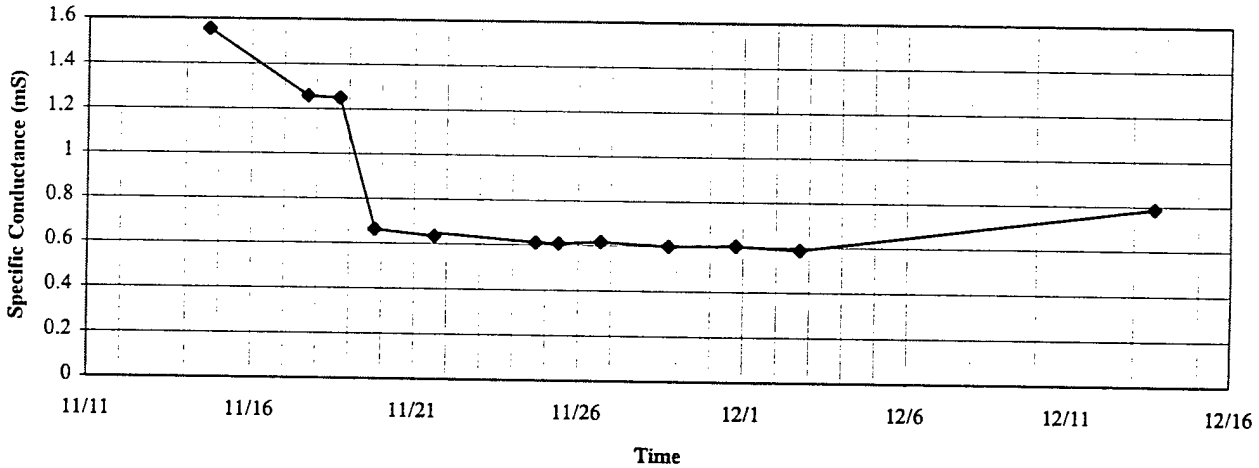
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

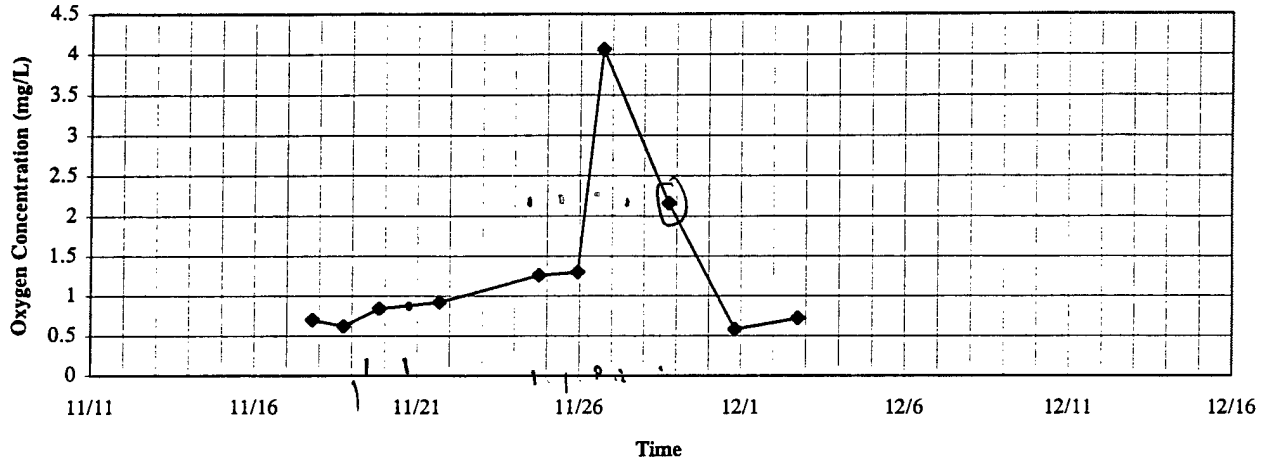
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

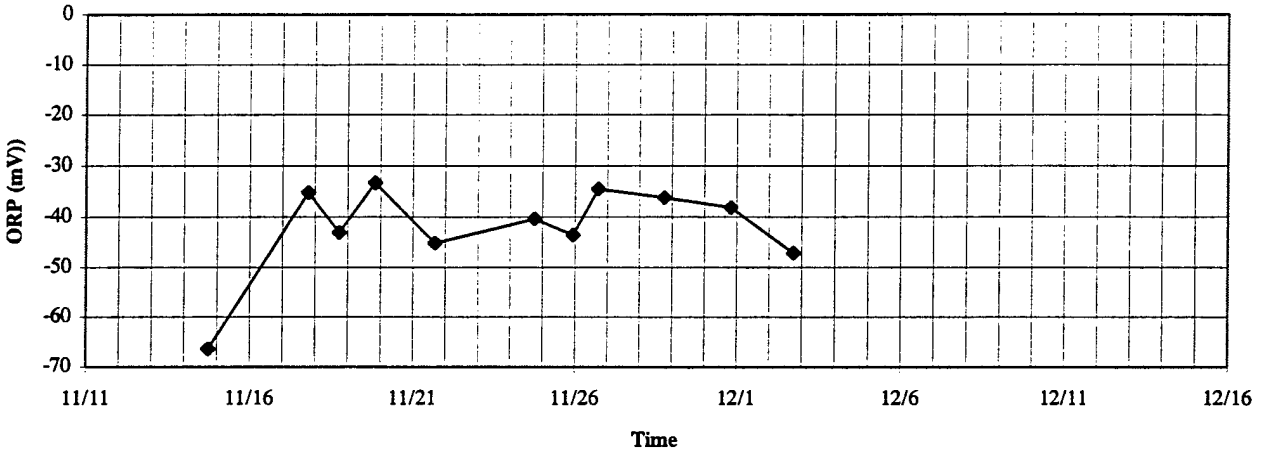
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D

40' dist
25' depth

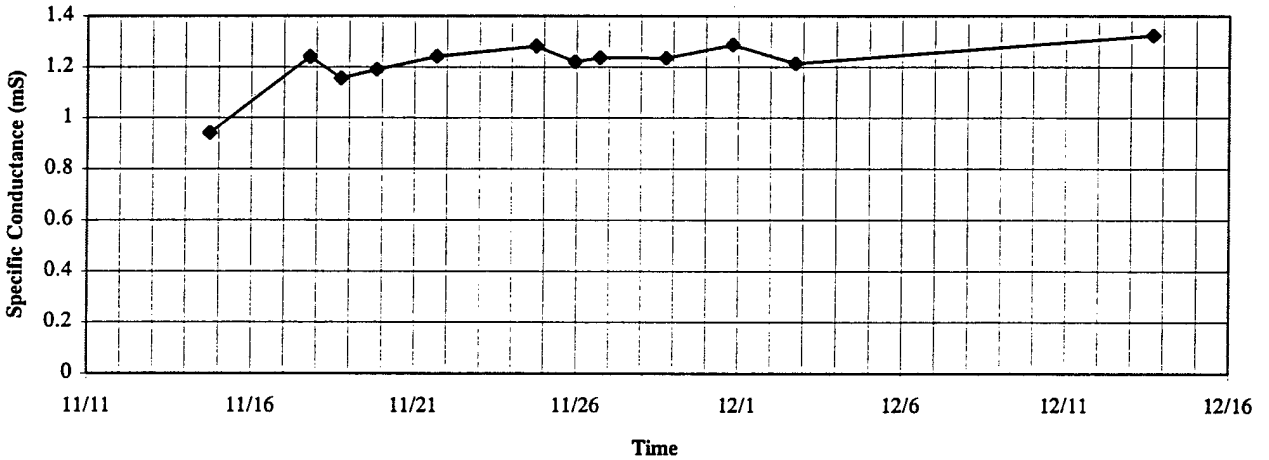
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

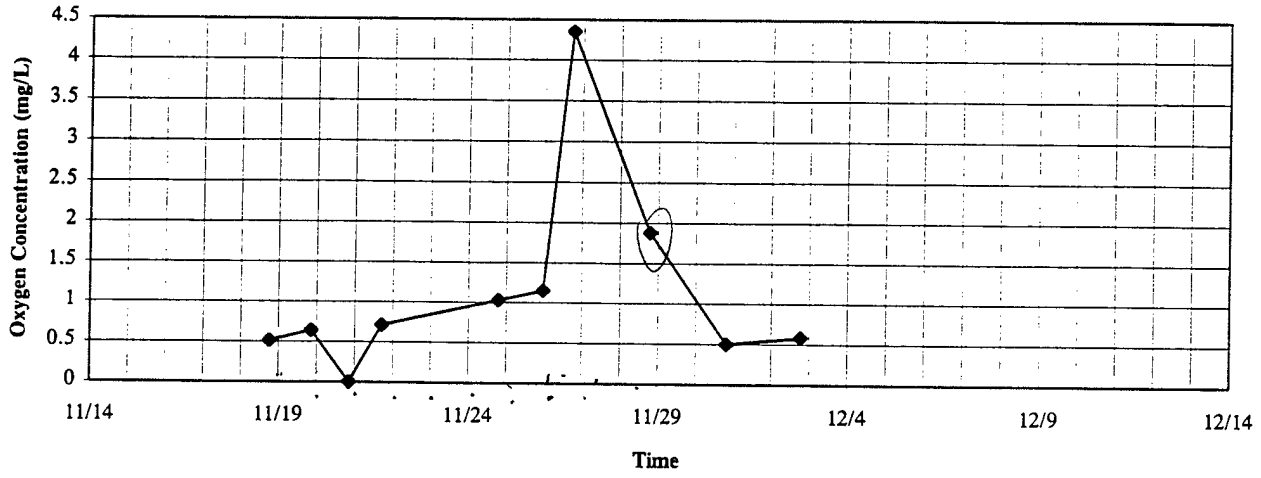
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

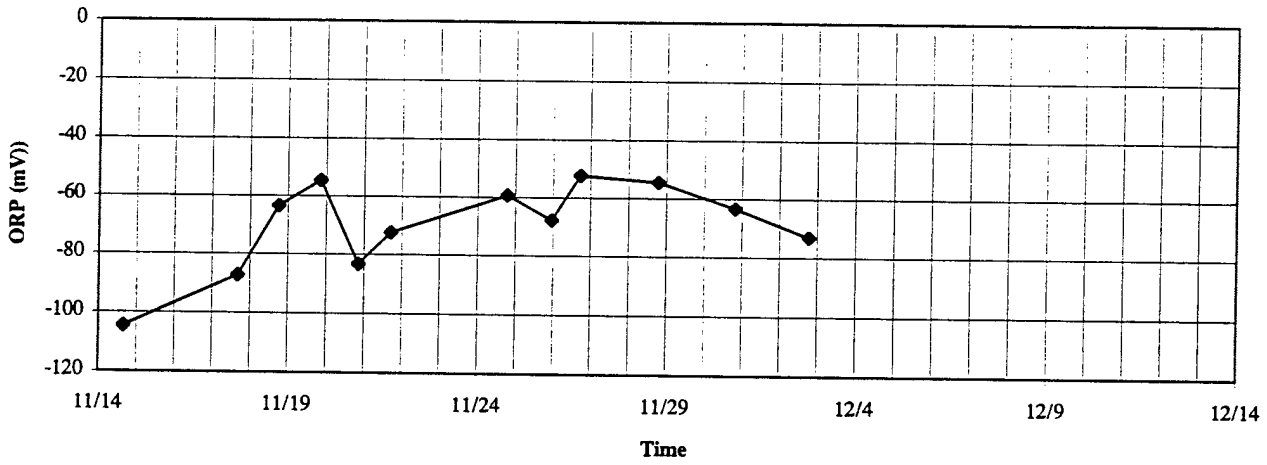
WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5E

40' dist
33' depth

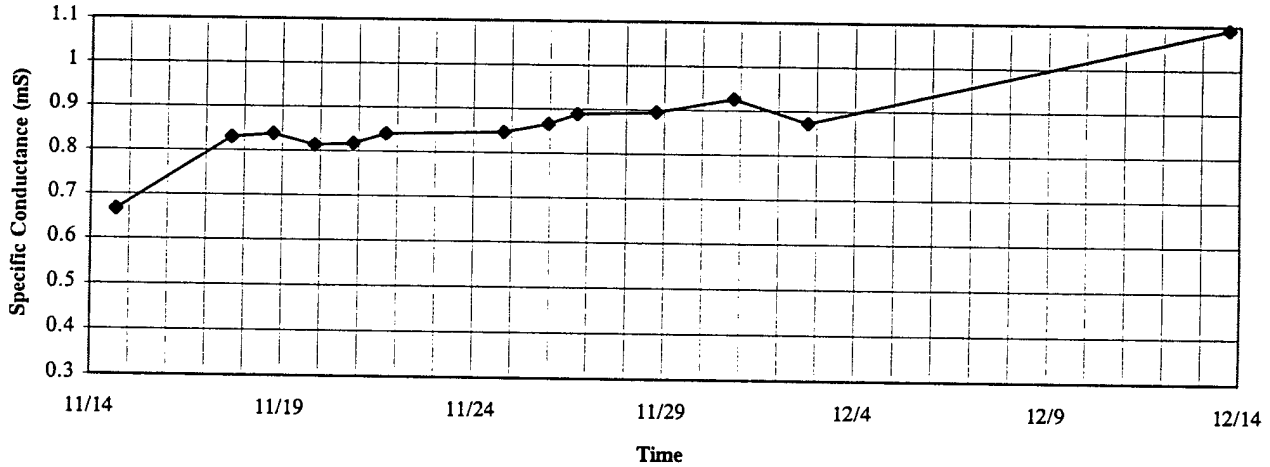
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

PROJECT NUMBER	BORING NUMBER
134853	28-SB07 Page 1

SOIL BORING LOG

PROJECT: Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 72.7 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/8/96 END : LOGGER : KROOK

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
0					Clay (CL), silt and fine sand, saturated, stiff	
0.5						
1						
1.5		1.5				Easy Drilling
2						
2.5						
3						
3.5					Silty Clay (CL), with fine sand, moist, friable, firm to stiff	
4						
4.5						
5						
5.5		4				
6						
6.5					Silty Clay (CL), with fine sand, moist, friable, firm to stiff, with decreasing fine sand with depth	
7						
7.5						OVM = 15.0 ppm. (bag)
8						
8.5					Silty Sand (SM), fine, moderately dense, moist,	
9						
9.5						
10					Sandy Silt (ML), fine sand, moderately plastic, firm, moist,	
10.5		4.5				

To: Tim Campbell 9 pgs.

PROJECT NUMBER	BORING NUMBER
134853	28-SB07 Page 2

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 72.7 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/8/96 END : LOGGER : KROOK

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft. / #/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
11					
11.5					
12					
12.5					OVM = 101.0 ppm. (bag)
13					
13.5				Silty Sand (SM), fine, moderately dense, moist.	
14					
14.5					
15					
15.5		3			
16					
16.5				Sandy Silt (ML), friable, firm, fine sand, moist	
17					
17.5					
18					OVM = 84.0 ppm. (bag)
18.5					
19				Silt (ML), with fine sand, moderately friable, moist, moderately plastic	
19.5					
20					
20.5				Silty Sand (SM), fine to medium, moderately dense, moist	
21		5			
21.5					

PROJECT NUMBER	BORING NUMBER
134853	28-SB07 Page 3

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 72.7 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/8/96 END : LOGGER : KROOK

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
22						
22.5					Silty Clay (CL), stiff to very stiff, with fine sand, moist.	Approximately SWL from B755 Piezometer
23						OVM = 262 ppm. (bag)
23.5						
24						
24.5					Silty Clay (CL), moist, friable plastic	
25						
25.5						
26		5				
26.5						
27						
27.5					Clay (CL), with some silt, very stiff, moist, little fine sand	
28						
28.5						OVM = 46.0 ppm. (bag)
29						
29.5						
30						
30.5					Silty Clay (CL), stiff, friable, moist, moderately plastic	
31		3				
31.5						
32						
32.5					Silty Sand (SM), fine to medium, loose, saturated	Potential hydropunch location

PROJECT NUMBER	BORING NUMBER
134853	28-SB07 Page 4

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 72.7 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/8/96 END : LOGGER : KROOK

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
33						OVM = 47 ppm
33.5						
34					Silty Sand and Gravel (SM-GM), well graded, moderately dense, sub-angular, saturated, grading to	OVM = 1.8 ppm. (bag)
34.5						Potential hydropunch location
35						
35.5						
36		5			Silty Clay (CL), moderately plastic, with fine sand,	
36.5						Core barrel wet
37						
37.5						
38						OVM = 1.0 ppm. (bag)
38.5					Siltstone (in tip), hard, dense	Core barrel sticking in augers while tripping out
39						
39.5					Sandy Clay (CL), stiff, plastic, fine to medium sand	
40				B755-1408		
40.5						Hole caved to 26'. Should tag bottom at 43.5'
41		4				Lost 17' of hole to caving and or heaving sands
41.5					Sandy Clay (CL), stiff, plastic, fine to medium sand, grading increasing sand	
42						
42.5					Silty Sand (SM), moderately dense, fine to medium	
43					Clay (CL), very stiff, with some fine sand	6" sand seam
43.5						Bottom tagged at 43.5'

PROJECT NUMBER	BORING NUMBER
134853	28-SB07 Page 5

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 72.7 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/8/96 END : LOGGER : KROOK

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
44						Reamed out bore hole
44.5						
45					Silty Clay (CL), stiff, friable, moist, with little fine sand	
45.5						
46		4.5				
46.5						
47						
47.5						
48					Bedrock, sandstone, competent	
48.5						
49						Refusal - rig picking up off jacks, Bottom of hole at 48.7'
49.5						
50						
50.5						
51						
51.5						
52						
52.5						
53						
53.5						
54						
54.5						

PROJECT NUMBER	BORING NUMBER
134853	28-MW01 Page 1

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI • ROUND 2 LOCATION : Building 755

ELEVATION : 74.31 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/21/96 END : LOGGER : TRUMAN

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
0					Silty Sand (SM), moist, loose, very fine sand.	
0.5						
1						Soil cuttings OVM = 0.0 ppm
1.5					Sandy Clay (CL), moist, soft, fine sand, medium plasticity.	
2						
2.5						
3		3			Clayey, gravely, sand (GC-SC), moist, medium dense, medium sand, fine gravel.	
3.5						
4						
4.5						
5		4.8			Sand (SP), dry, loose, medium to fine sand	
5.5						
6						
6.5					Clayey Silt (ML), dry, medium stiff, friable	
7						
7.5						
8						
8.5						
9						
9.5						
10		2				Soil cuttings OVM = 0.0 ppm
10.5						

PROJECT NUMBER	BORING NUMBER
134853	28-MW01 Page 2

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 74.31 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/21/96 END : LOGGER : TRUMAN

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
11					Sandy Clay (CL), moist, very stiff, thinly bedded, medium to low plasticity.	
11.5						
12						
12.5						Soil cuttings OVM = 0.0 ppm
13						
13.5						
14						
14.5						
15						
15.5						
16						
16.5						
17						
17.5						
18						
18.5						
19						
19.5						
20						Soil cuttings OVM = 0.0 ppm
20.5						
21					Gravely, Silty, Sand (SP-SM), moist, dense, medium to fine sand, fine gravel.	
21.5						

PROJECT NUMBER	BORING NUMBER
134853	28-MW01 Page 3

SOIL BORING LOG

PROJECT : Travis AFB WABOU Ri ROUND 2 LOCATION : Building 755

ELEVATION : 74.31 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/21/96 END : LOGGER : TRUMAN

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
22						
22.5						
23				B755-3711		
23.5					Gravely, Silty, Sand (SP-SM), moist, dense, medium to fine sand, fine gravel, occassional sandy silt (ML) lenses.	
24						
24.5						
25						
25.5						Water encountered at 25.3' bgs, (water rose to 21.2)
26						
26.5						
27						
27.5						
28				B755-1300		
28.5						
29						2 ounce jar soil sample taken at 29' bgs
29.5						
30		4.5				
30.5						
31						
31.5						
32						
32.5						

PROJECT NUMBER	BORING NUMBER
134853	28-MW01 Page 4

SOIL BORING LOG

PROJECT : Travis AFB WABOU RI ROUND 2 LOCATION : Building 755

ELEVATION : 74.31 DRILLING CONTRACTOR : WTRD

DRILLING METHOD AND EQUIPMENT USED : Drill Rig

WATER LEVELS : START : 3/21/96 END : LOGGER : TRUMAN

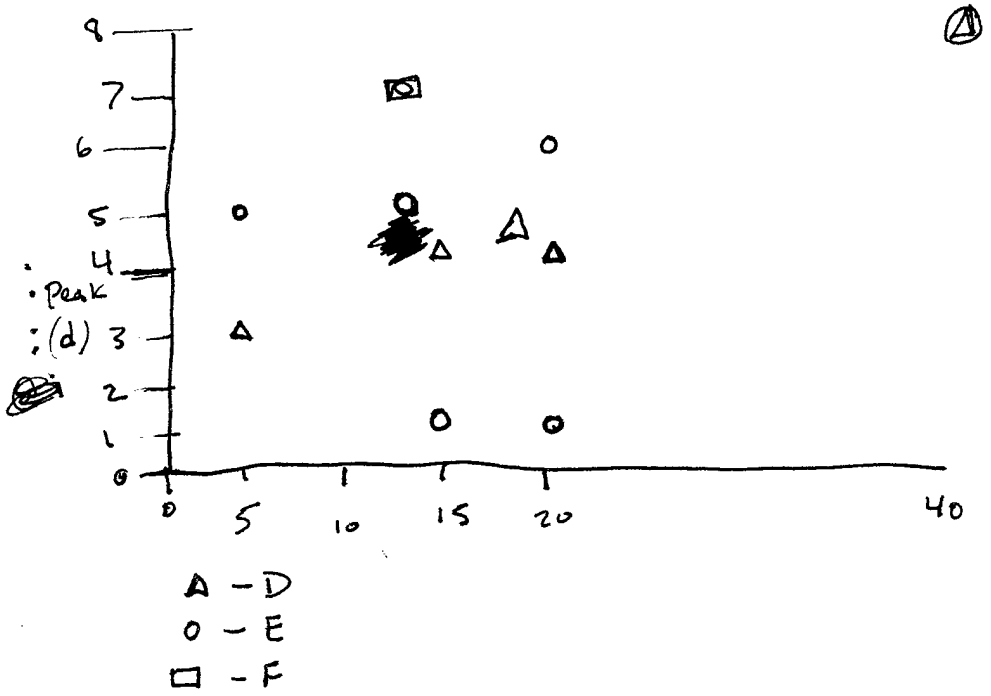
DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY ft.	#/TYPE	Sample Field ID Number	CORE DESCRIPTION	COMMENTS
					SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION.
33						
33.5						
34					Total Depth = 34.0'	
34.5						
35						
35.5						
36						
36.5						
37						
37.5						
38						
38.5						
39						
39.5						
40						
40.5						
41						
41.5						
42						
42.5						
43						
43.5						

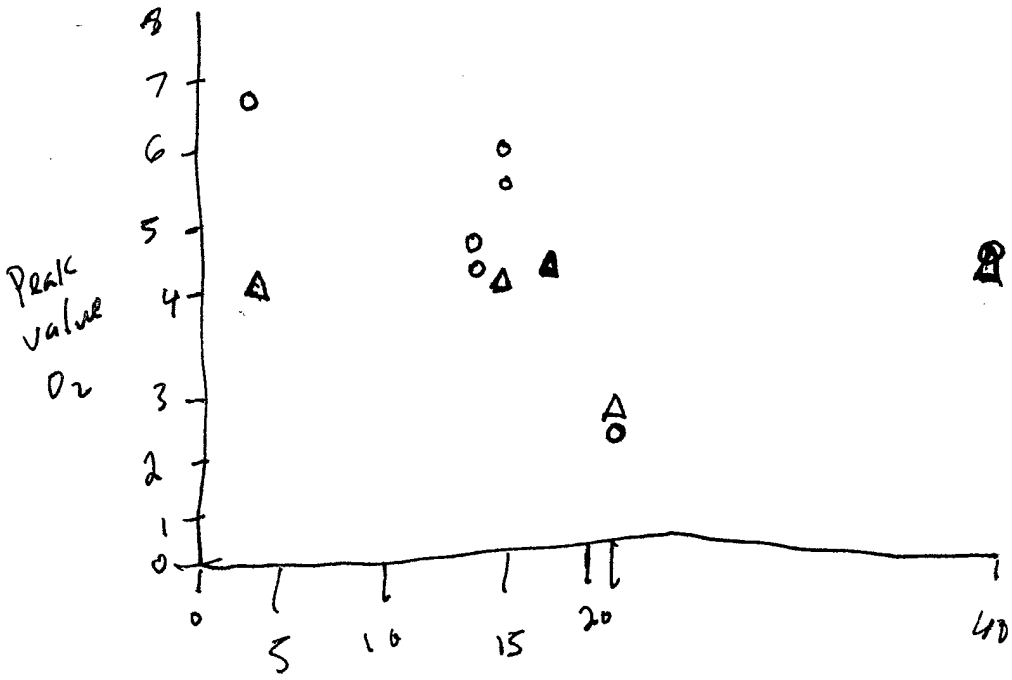
816 983 3680

TRANSACTION REPORT

Transmission
Transaction(s) completed

NO.	TX DATE/TIME	DESTINATION	DURATION	PGS.	RESULT	MODE
232	MAR. 27 15:45	816 426 5462	0° 03' 00"	009	OK	N ECM


Peak
(d)
0
1
2
3
4
5
6
7
8
0
5
10
15
20
40
D
E
F


Peak value
O2
0
1
2
3
4
5
6
7
8
0
5
10
15
20
40

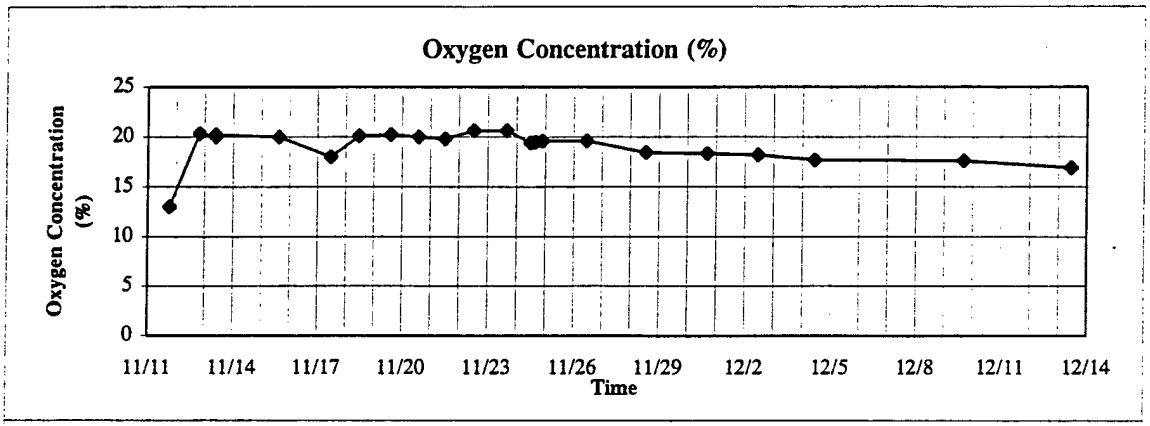
In the remedial design, the area of treatment necessary and the number of SVE and air sparge wells would be based on pilot-scale testing, the current remedial investigation results, and additional subsurface sampling as needed to verify the area of contamination. Pilot-scale testing and additional sampling may show that the remedial design only needs to include sparge wells in a few areas of peak contamination thus reducing the number of sparge wells. Laboratory and pilot-scale treatability studies would need to be conducted to better assess the effectiveness and verify the feasibility of using these technologies for contaminate removal by volatilization and biodegradation. During the laboratory biofeasibility studies, representative soil samples collected from areas containing residual-phase LNAPL should be evaluated to confirm the presence of hydrocarbon-degrading microbial populations in the soil, establish baseline levels at the site, and estimate contaminant degradation rates. Inorganic ion concentrations of ammonium, nitrogen, and phosphates, and soil pH levels would need to be evaluated to optimize and assess the need for nutrient mixtures and application rates. The pilot study would be conducted to determine the radial influence of a single air sparge well and a single vapor extraction well, sparge flow rates and pressures, soil vapor extraction flow rates and expected concentrations in the extracted vapor. The air sparge and vapor extraction well(s) installed for the pilot-scale treatability study could also be used during full-scale. The pilot study will determine if vapor-phase treatment is necessary and for how long. The cost estimate assumes that the Benzene Plant thermal off-gas treatment system can also be used to treat the biosparging vapors. This is discussed further in the Draft Final FS Report.

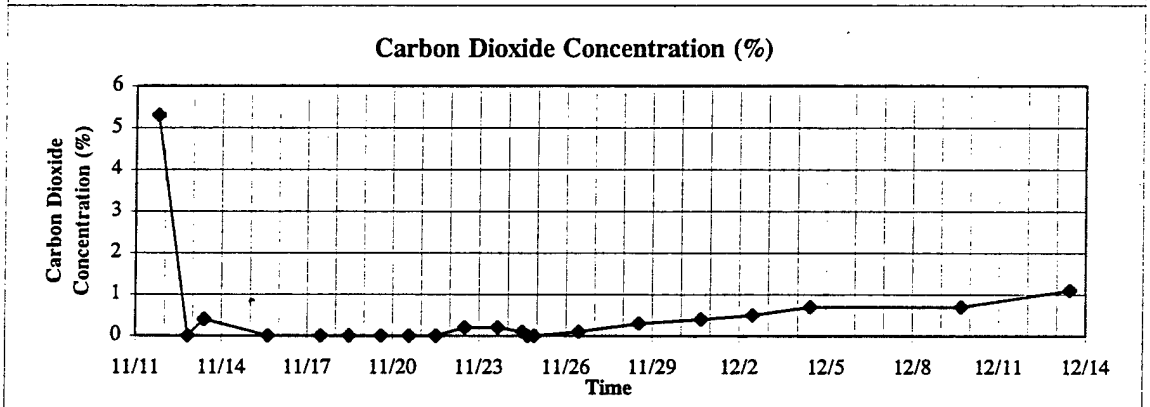
Performance monitoring and maintenance of the system would be performed on a weekly and monthly basis. Field screening of extracted vapors would be performed to assess the need for system adjustment (i.e., adjust vacuum or sparge pressures). Monthly vapor samples would be collected and submitted for laboratory analyses of VOCs, PNAs, and carbon dioxide.

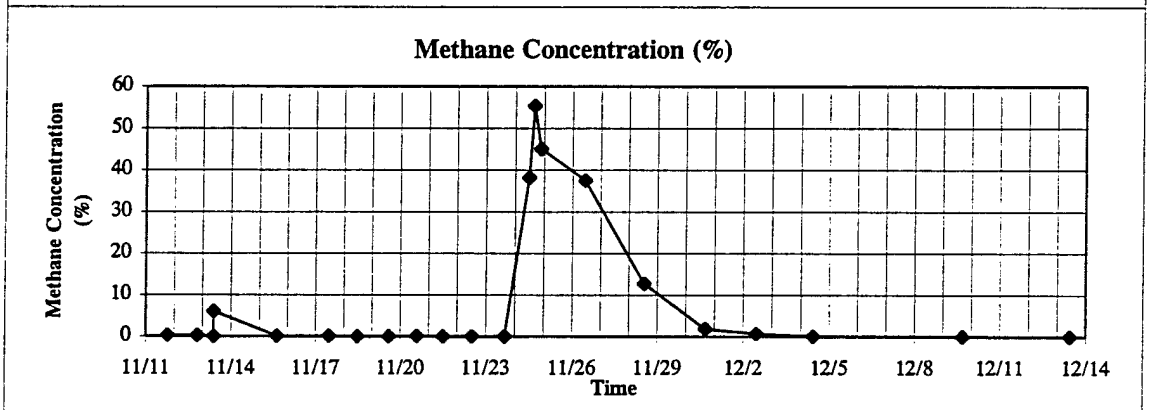
The cost estimate presented in Table 5-2 is based on the cost estimate for Alternative POL-4 presented in Table 5-10 of the FS report. The air sparging/SVE system cost estimate in Table 5-2 is different than that of Table 5-10 of the FS report because of the larger number of SVE wells. For this cost estimate these differences are accounted for by proportionally increasing the cost related to the SVE well system.

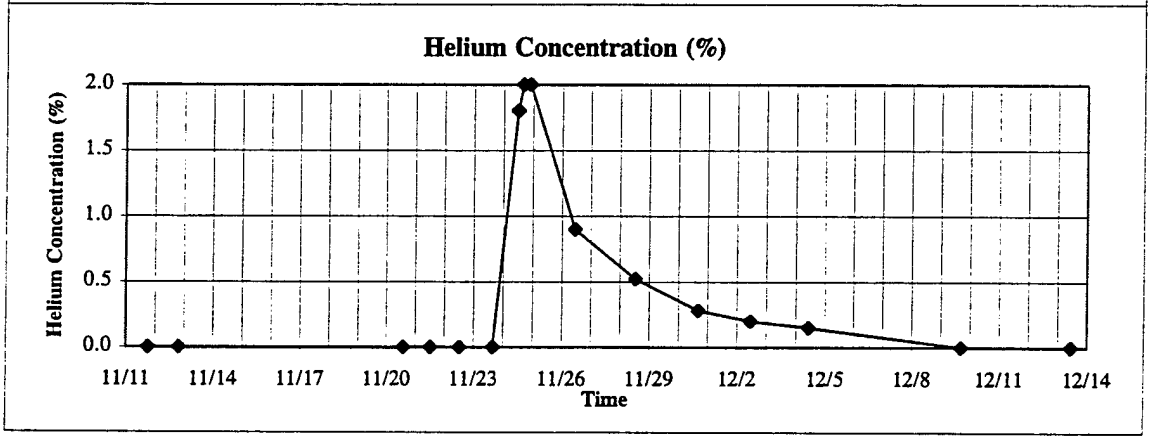
		Peak (after ___d)	@ 4 d	after ___ d after 1000% initial pump
MP1 5'	D	4.2 (3)	1.2	6.2/4.0
	E	6.8 (5)	1.8	.6/.7
	F (Rising)	6.2 (13)	5.2	.6/.8
MP2 13'	19' D 25'	4.5 (4)	1.5	3.2/.8
	E 30	4 (5) + 4.5 (7)	2.5	.6/.5
	F 40'	1.8 (7)	1	.6/.4
MP 3 15' ☆	D 25'	4 (4)	.9	.8/.6
	E 33'	5.5 (1) + 6 (5)	1	5.5/.5
MP 4 22	D 25'	2.5 (8)	1.8	.8/.7
	E 33'	2.2 (7)	1.5	.7/.5
MP 5 40'	D 25'	4.1 (8)	2.2	.9/.6
	E 33'	4.4 (8)	1.9	.8/.5

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR DATA FOR WELL MP1A



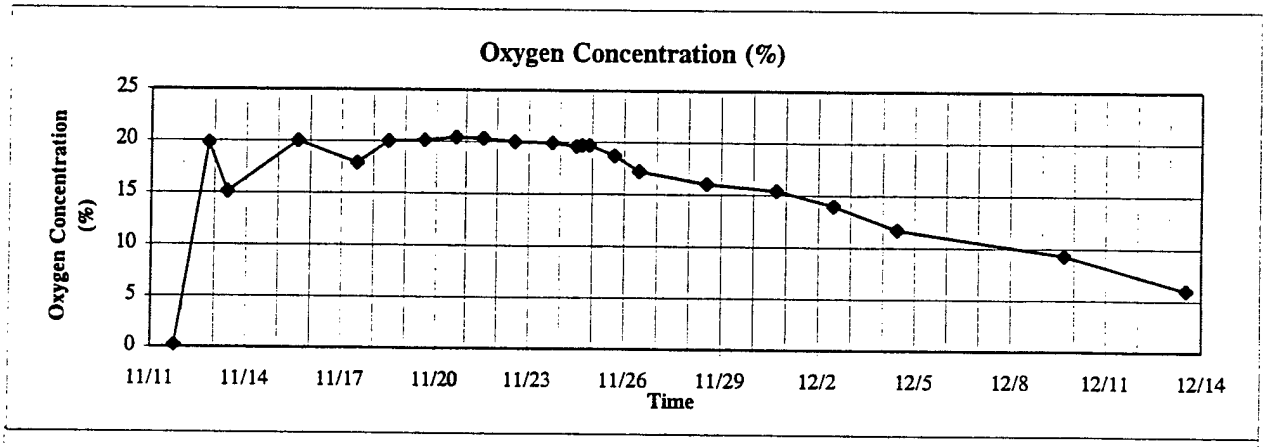


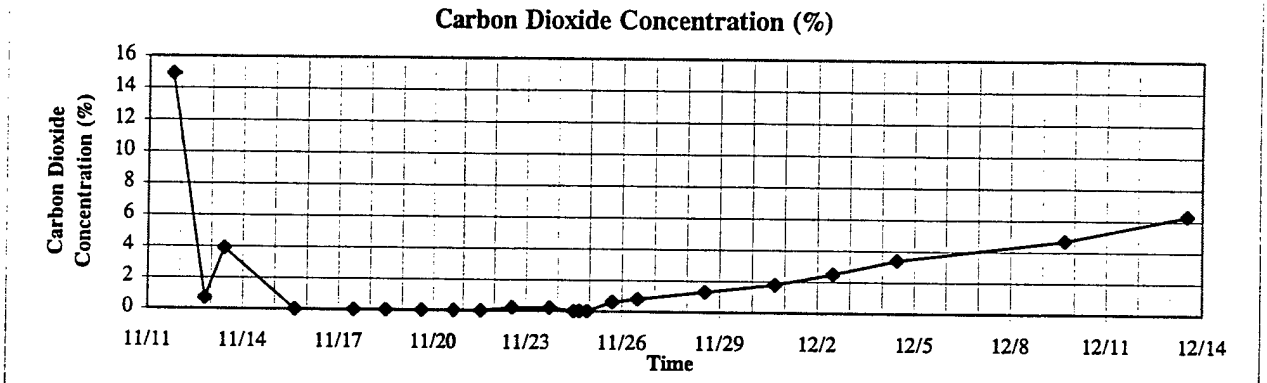


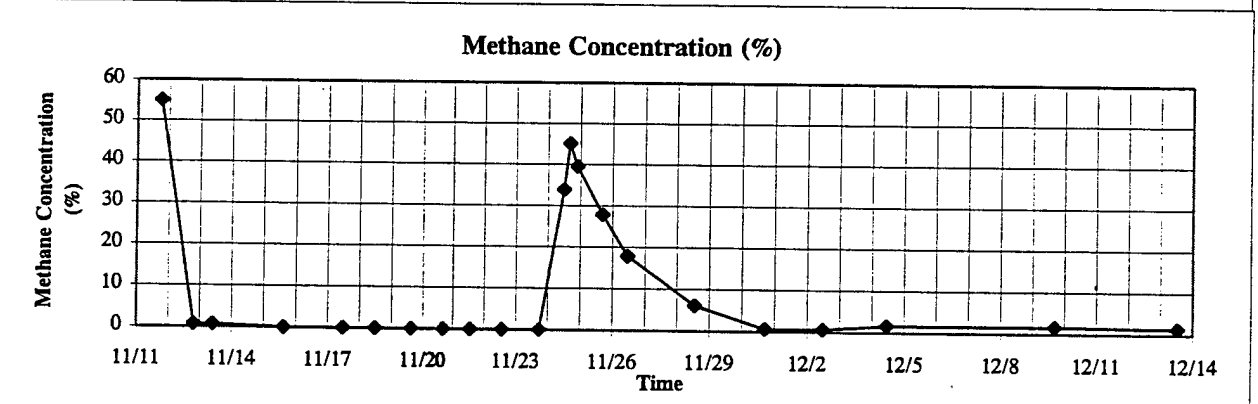


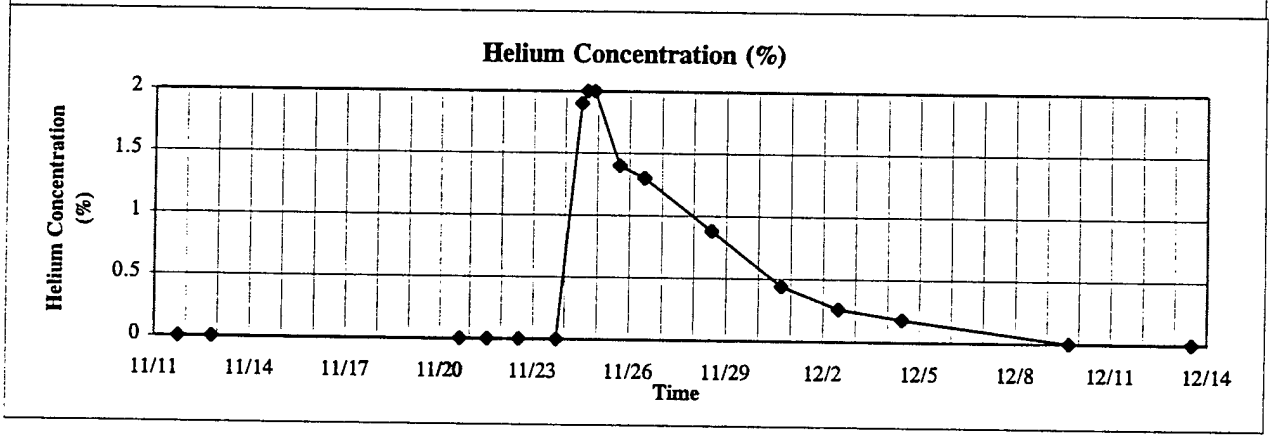
Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR DATA FOR WELL MP1B







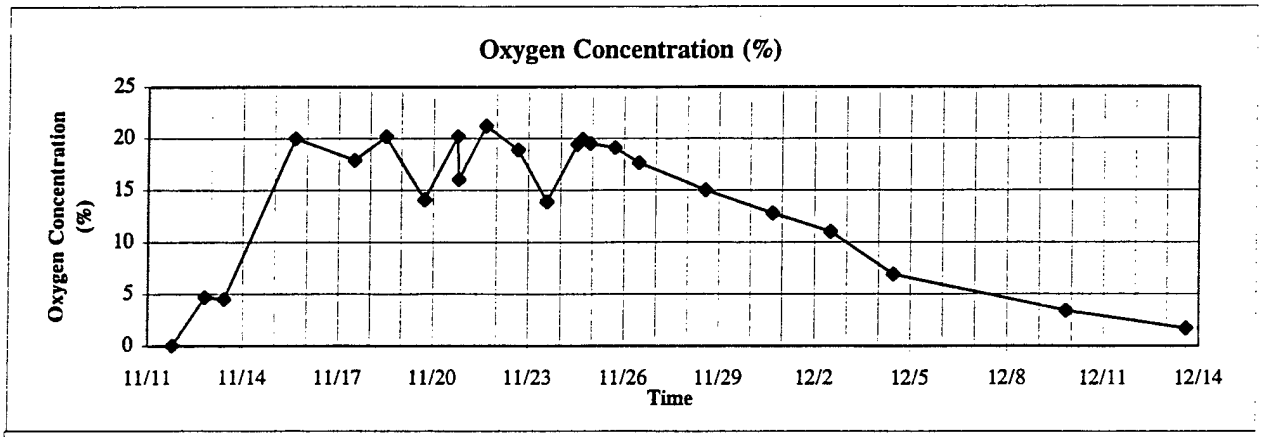


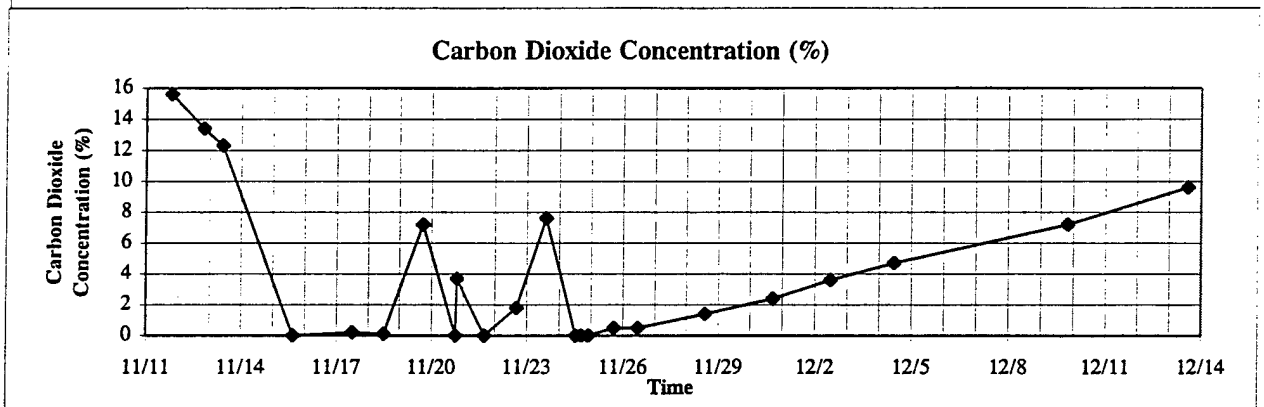
Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

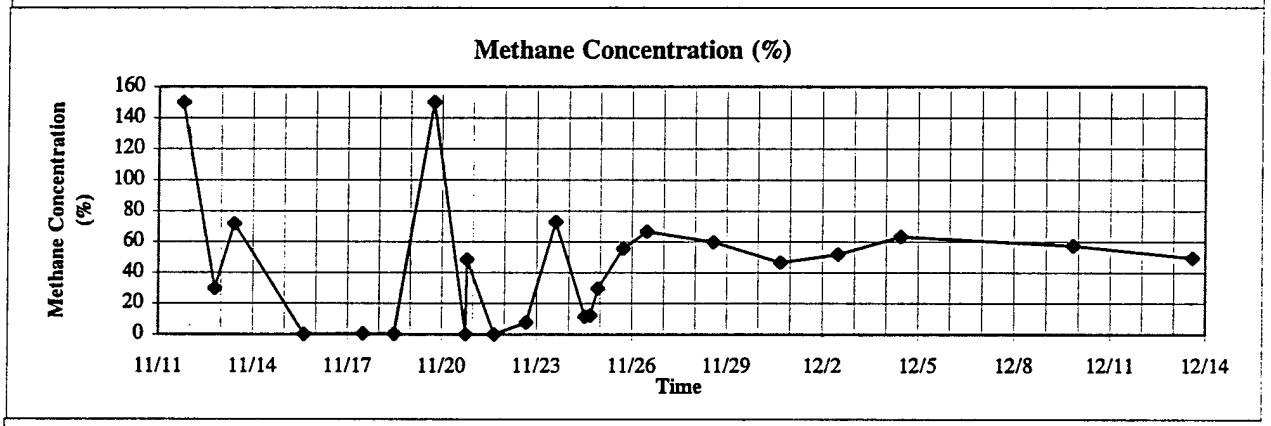
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

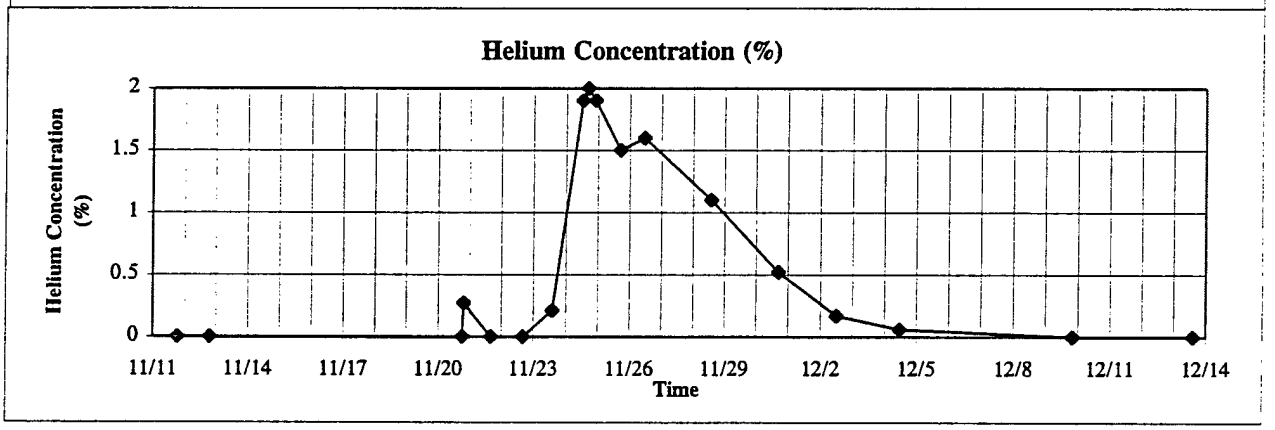
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR DATA FOR WELL MP1C









Air Permeability Testing on 11/12/97
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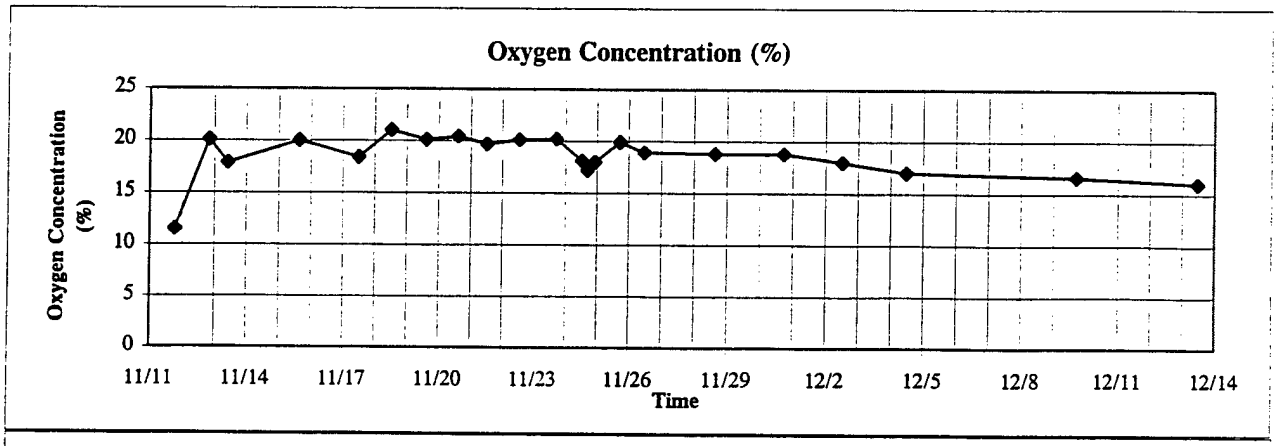
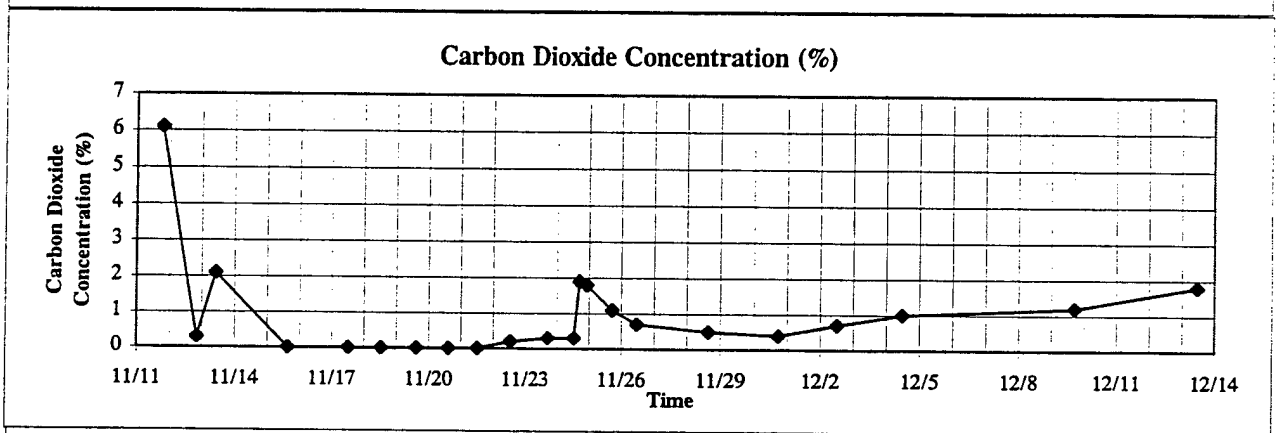
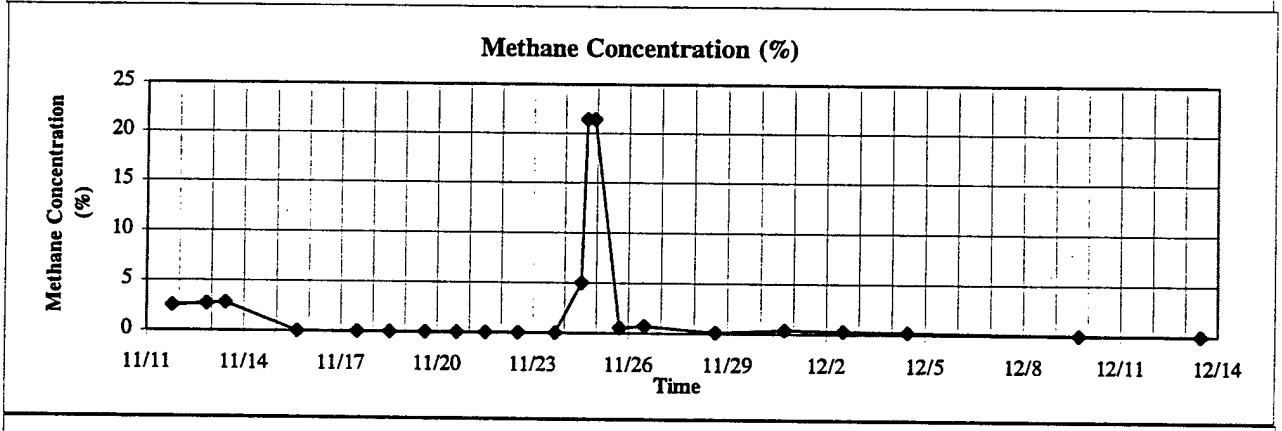
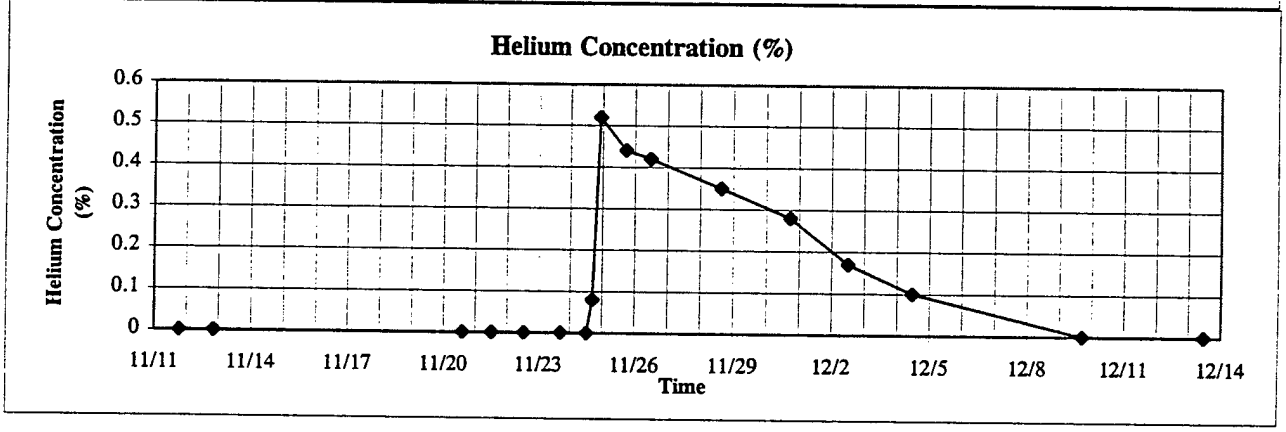
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP2A









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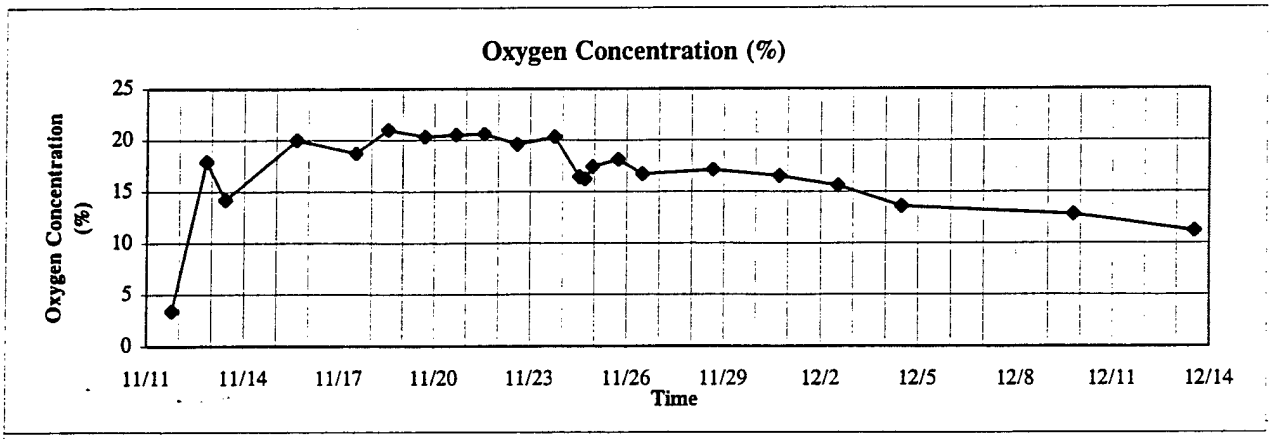
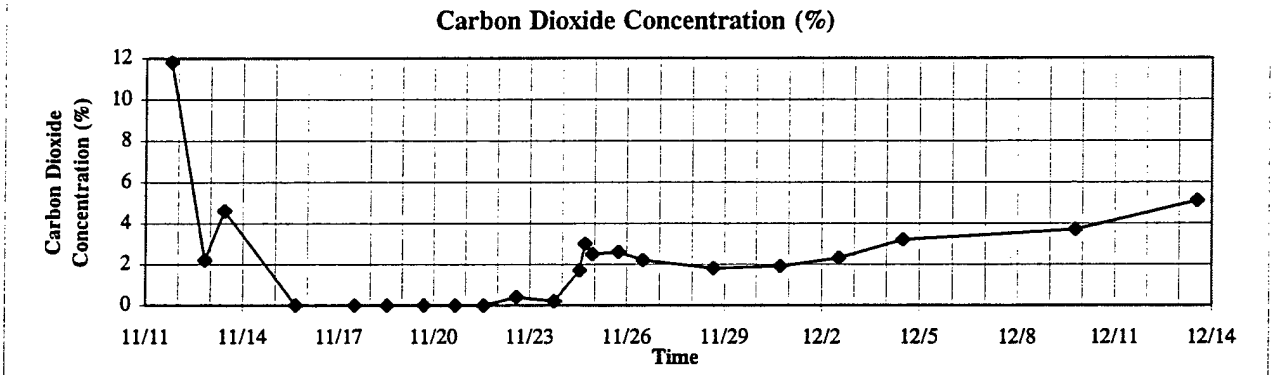
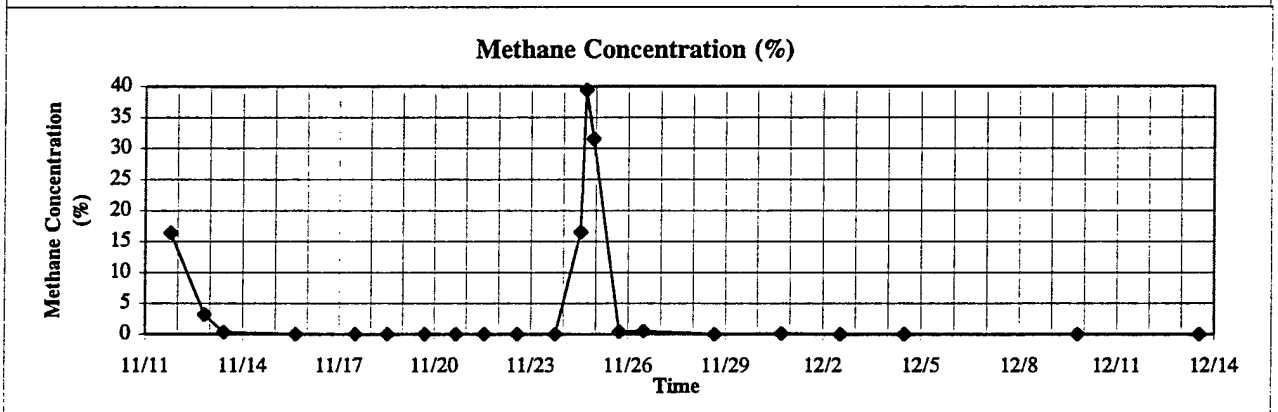
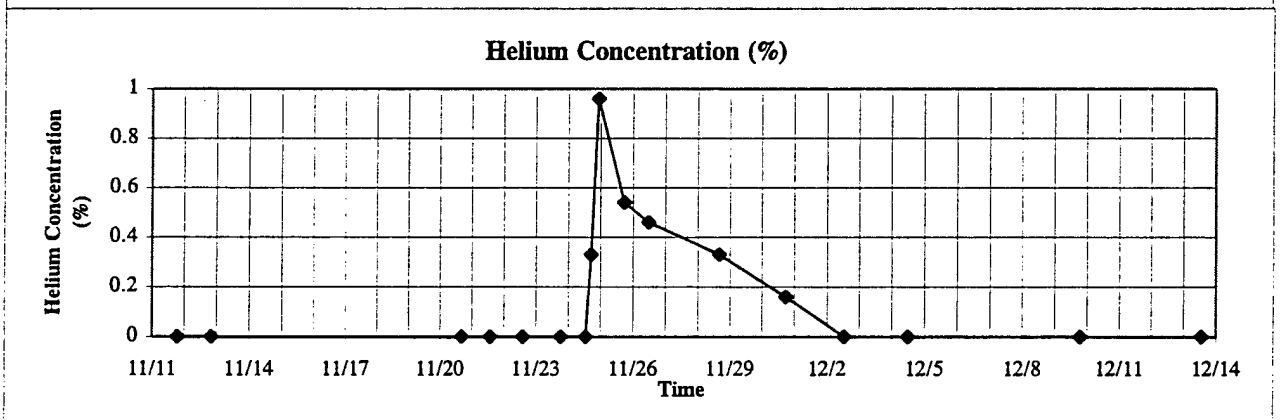
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP2B









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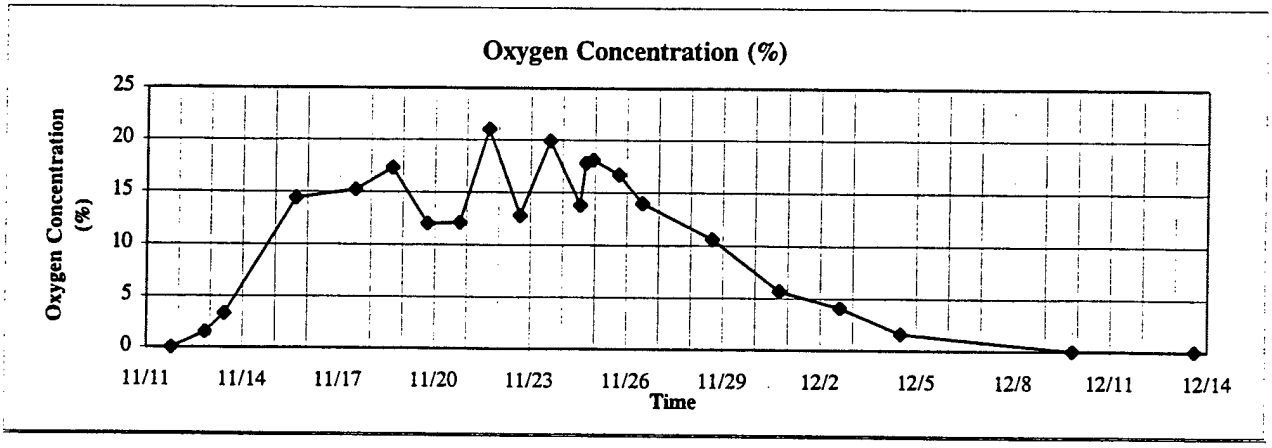
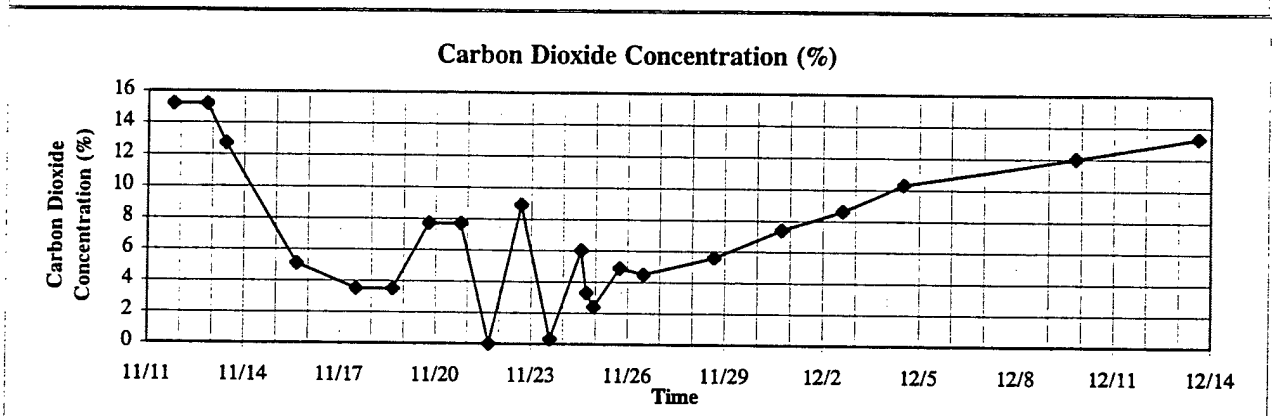
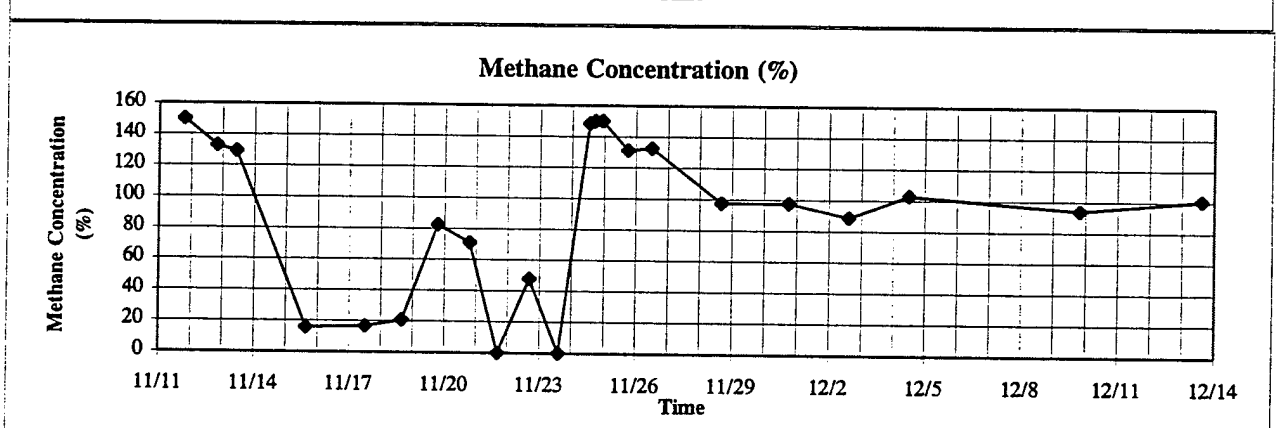
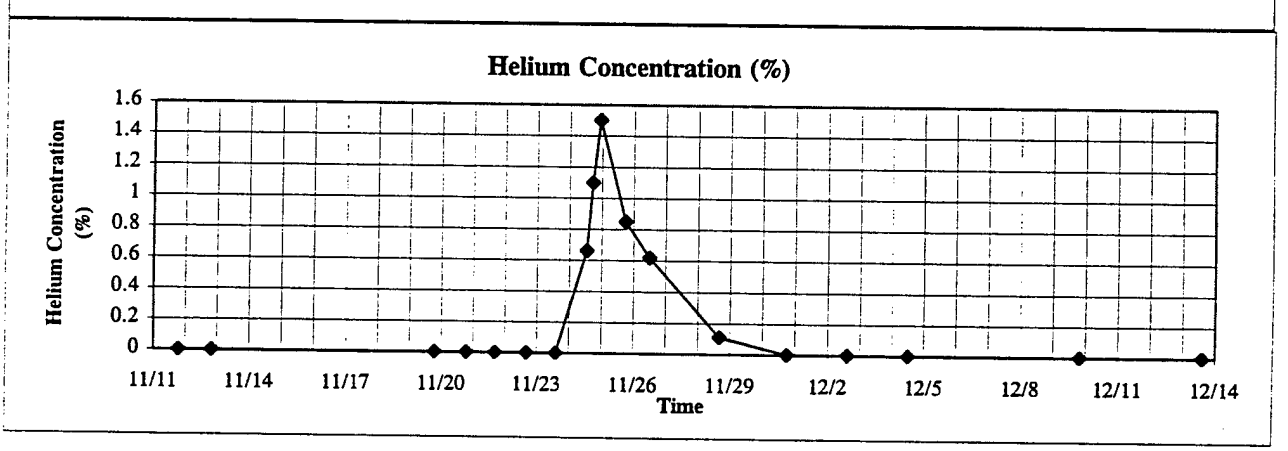
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP2C









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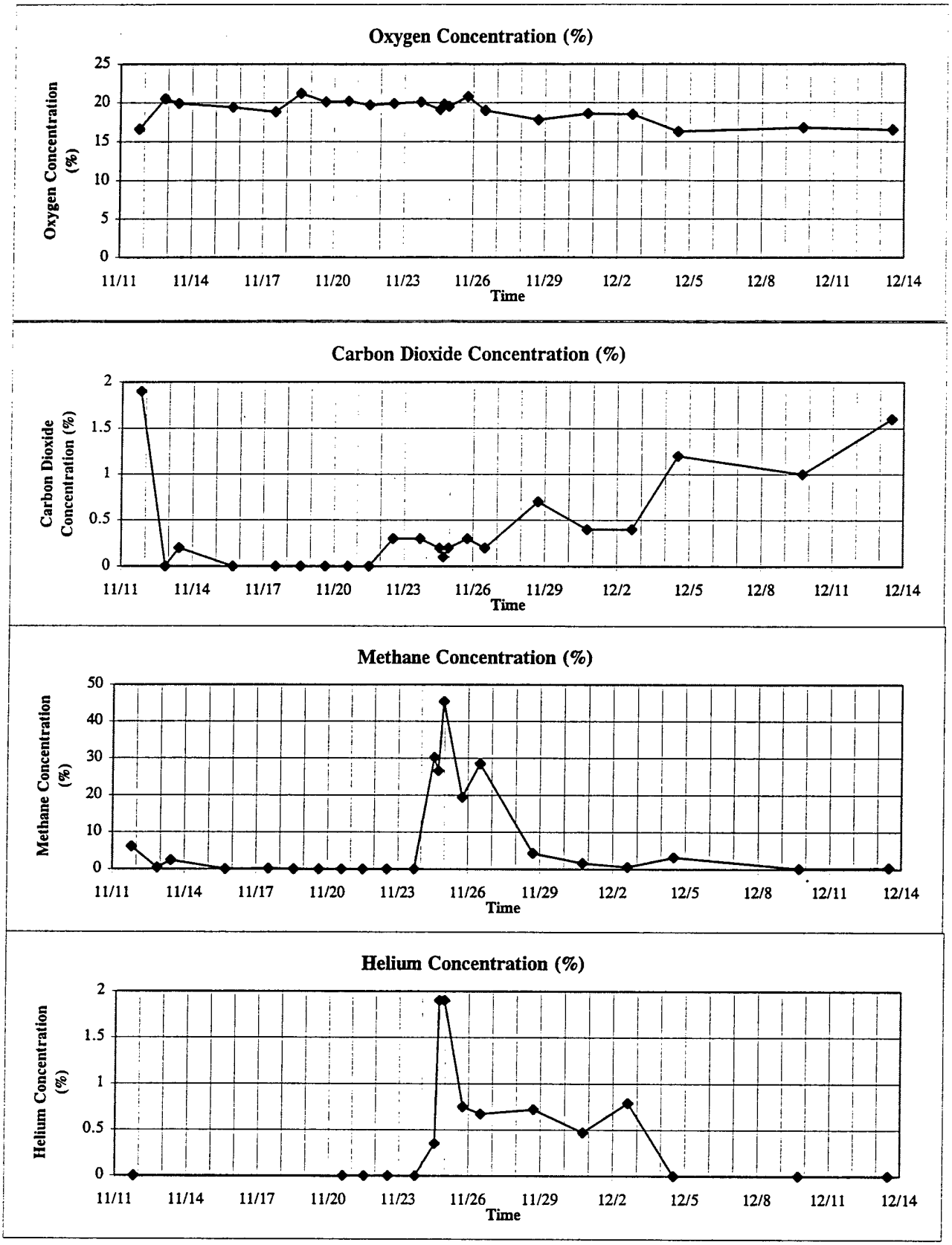
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP3A



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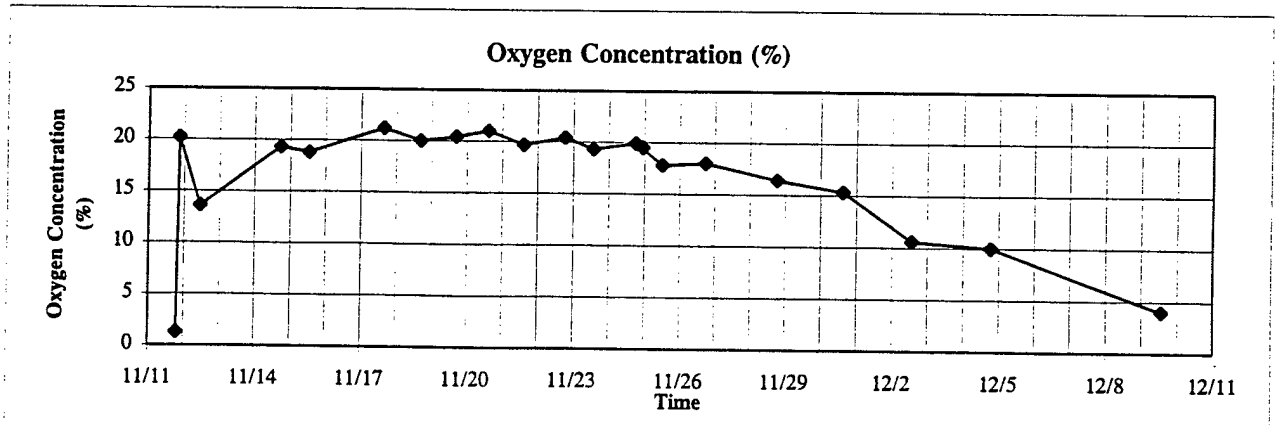
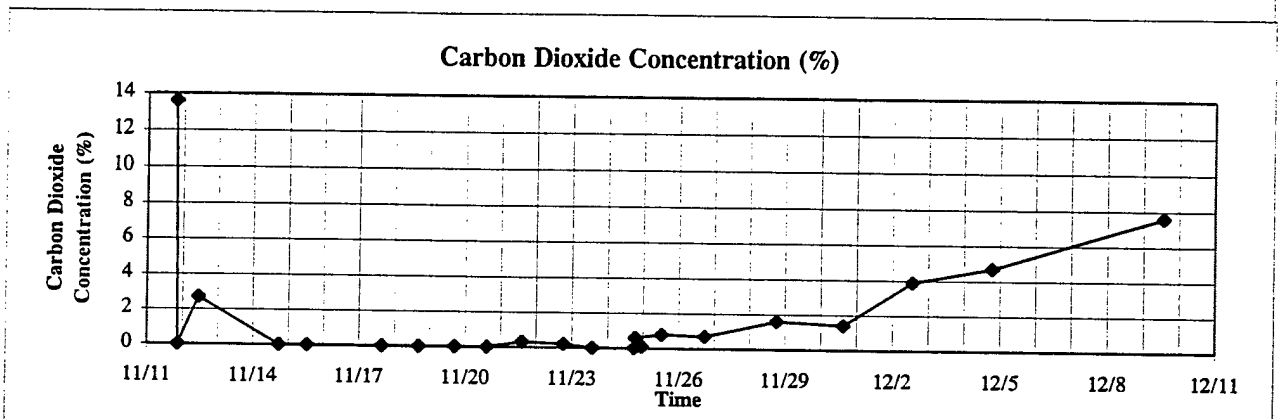
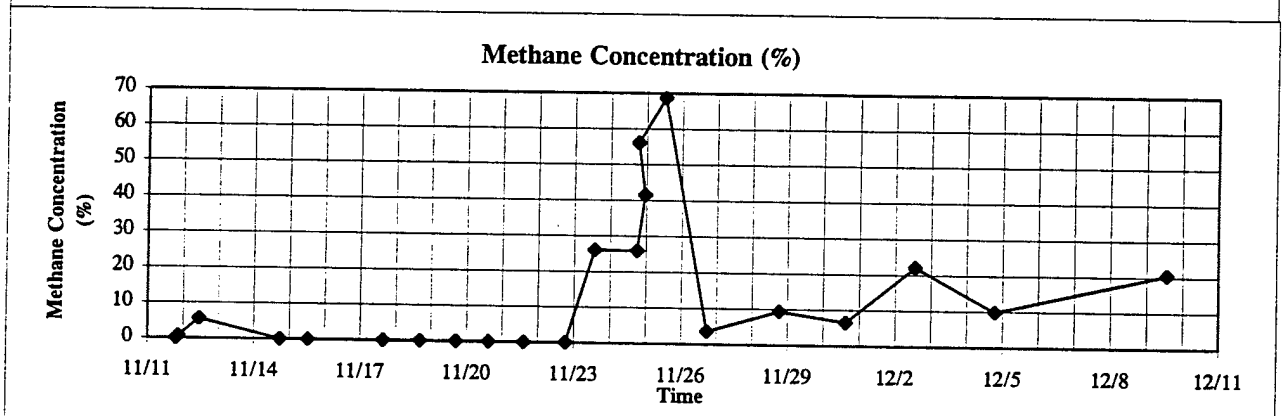
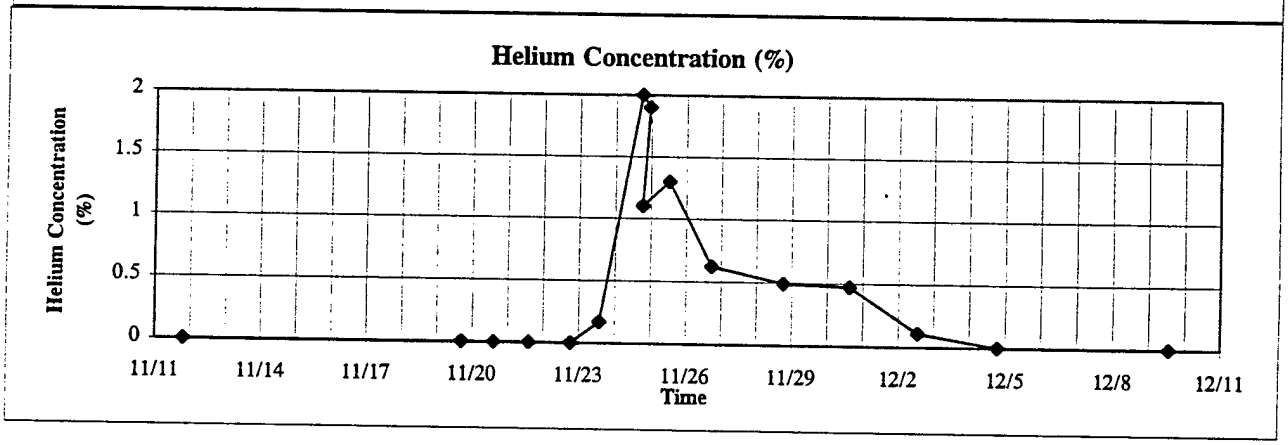
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP3B









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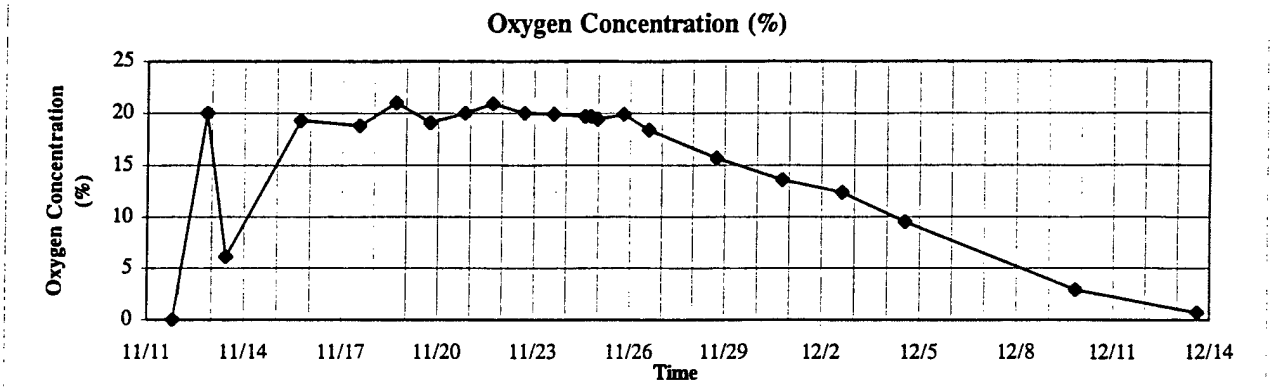
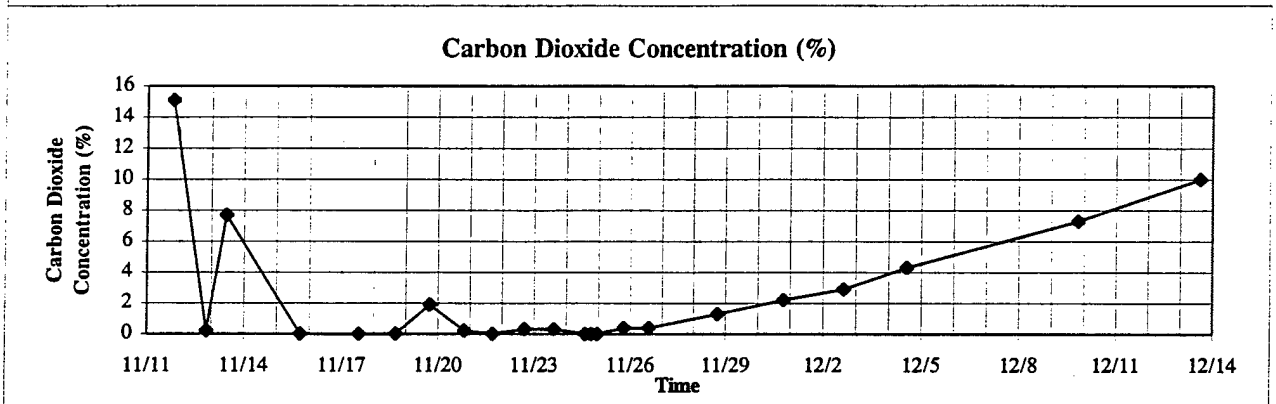
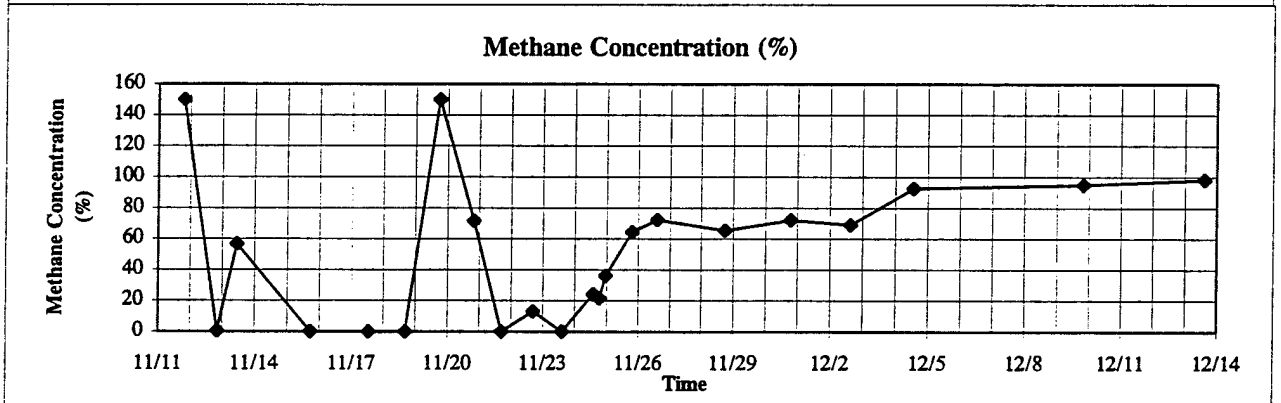
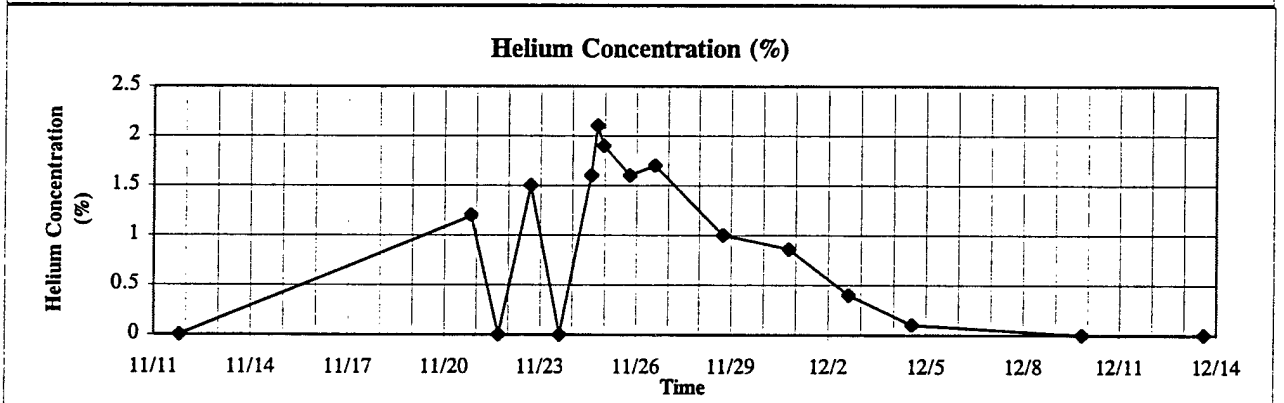
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP3C









Air Permeability Testing on 11/12/97
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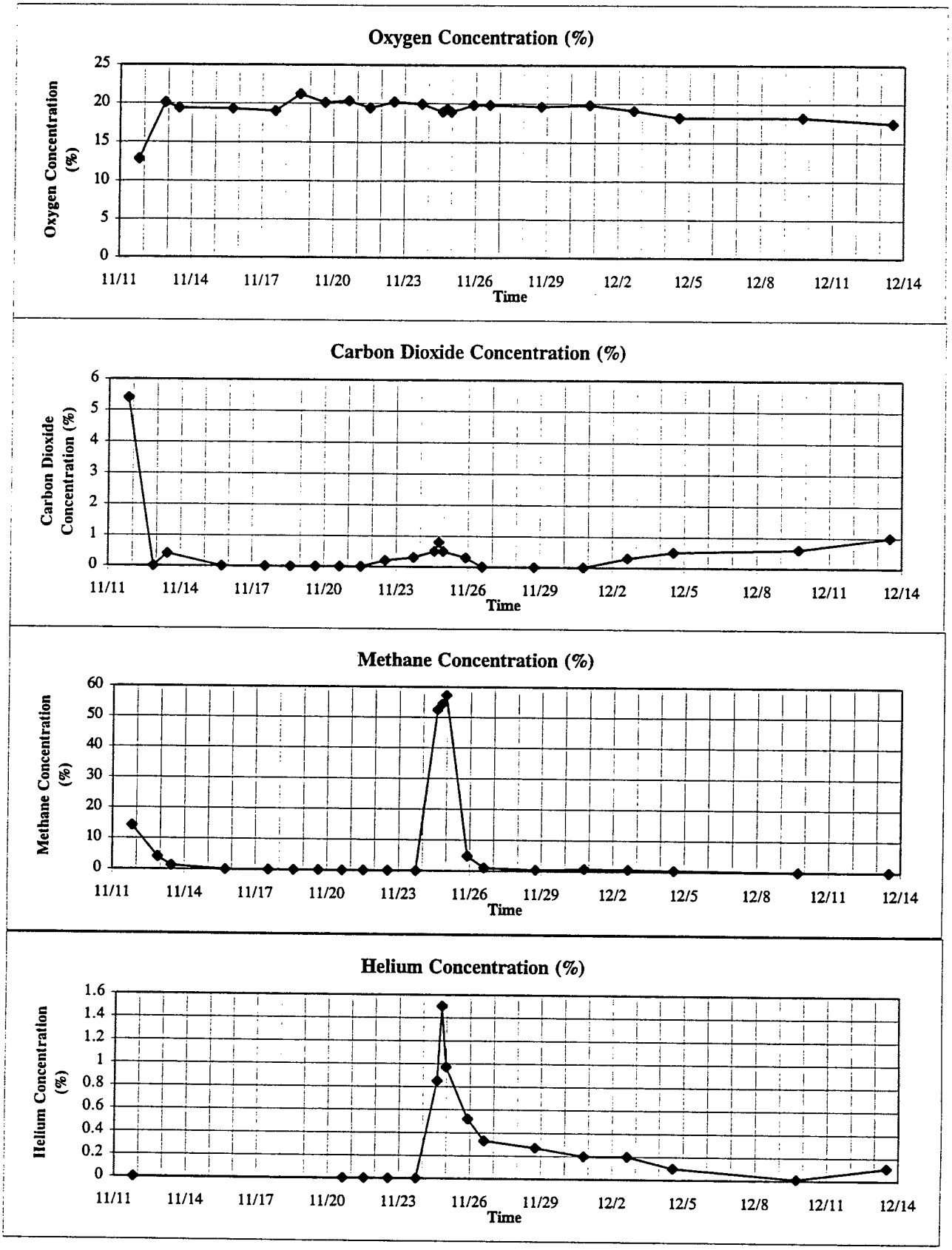
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP4A



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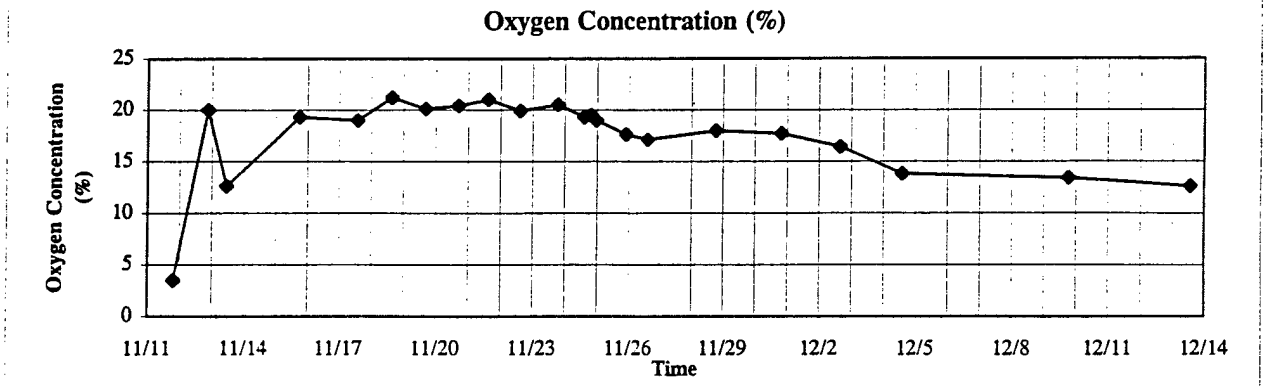
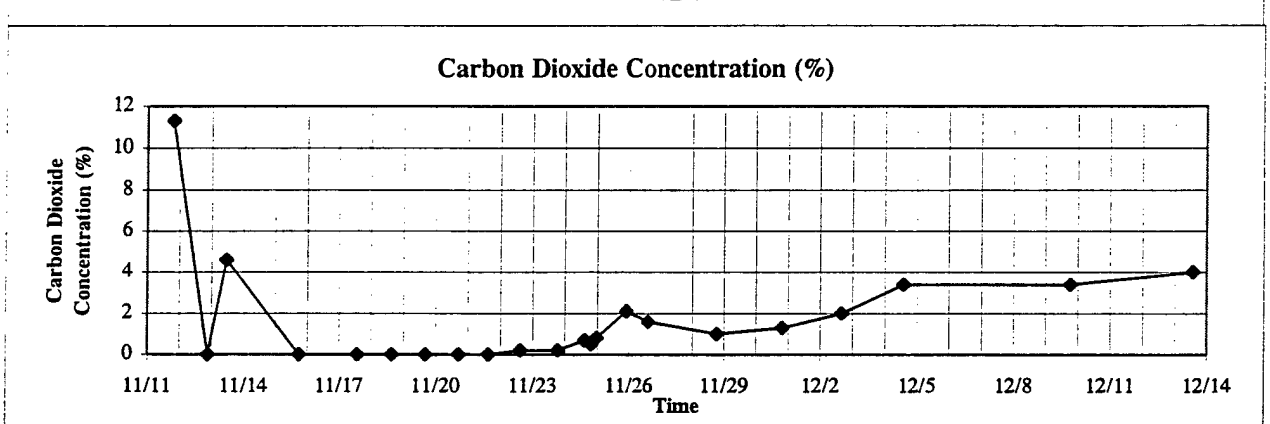
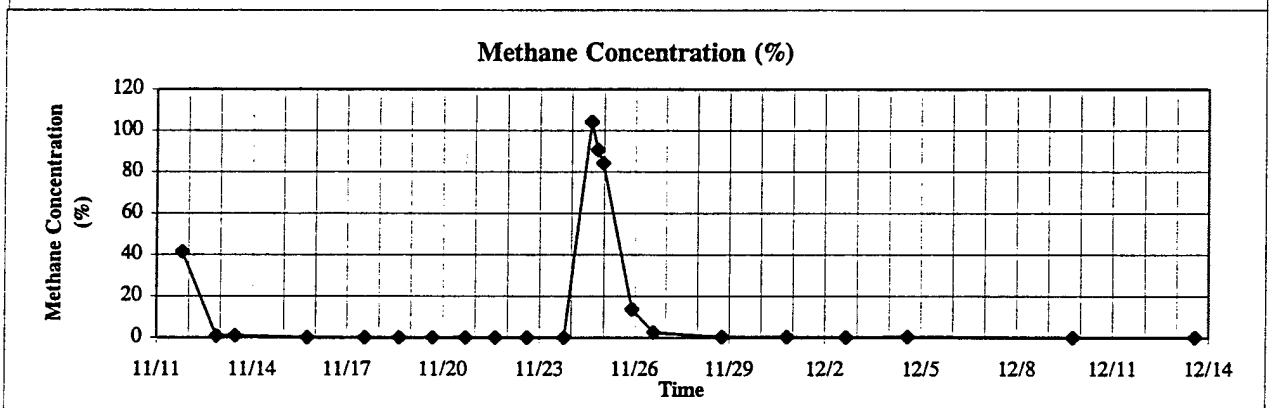
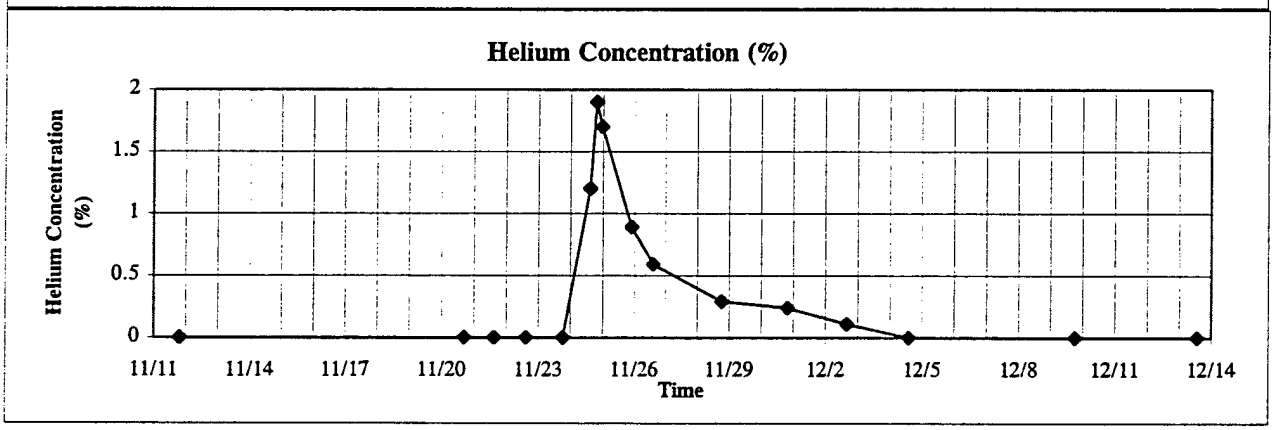
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP4B









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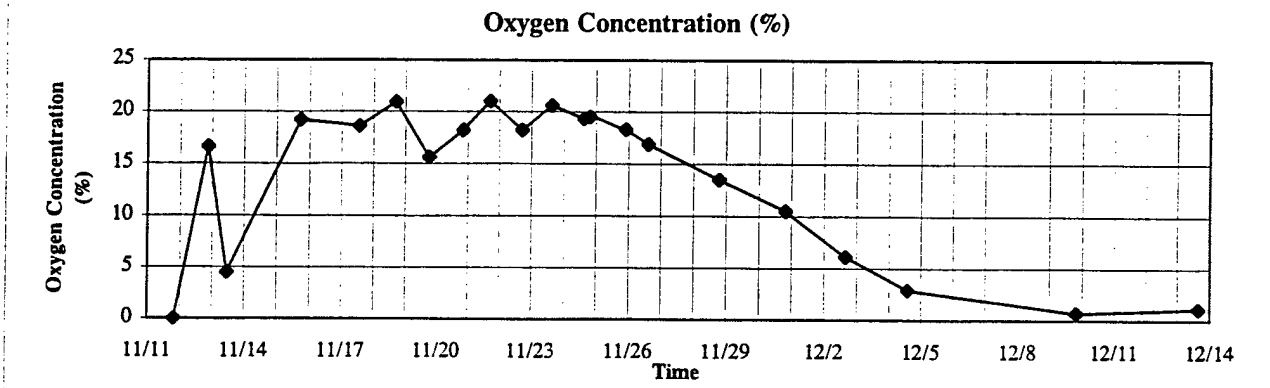
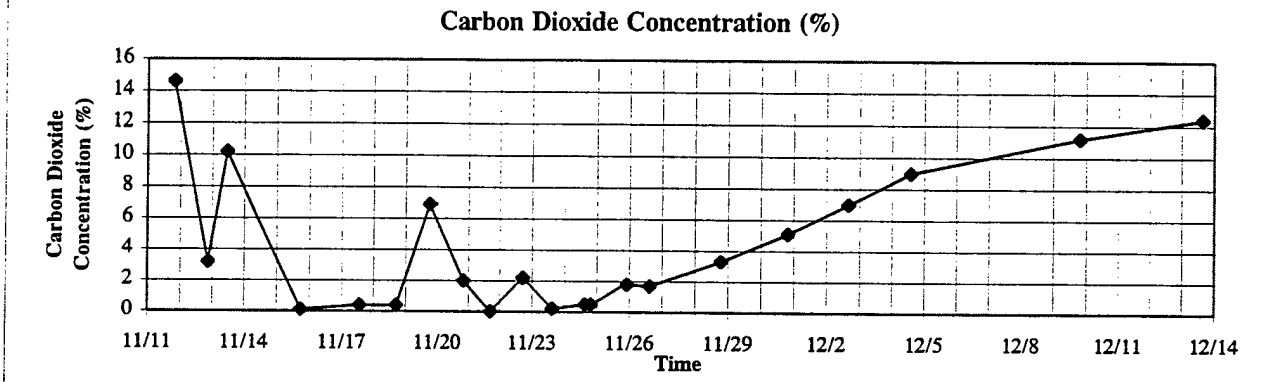
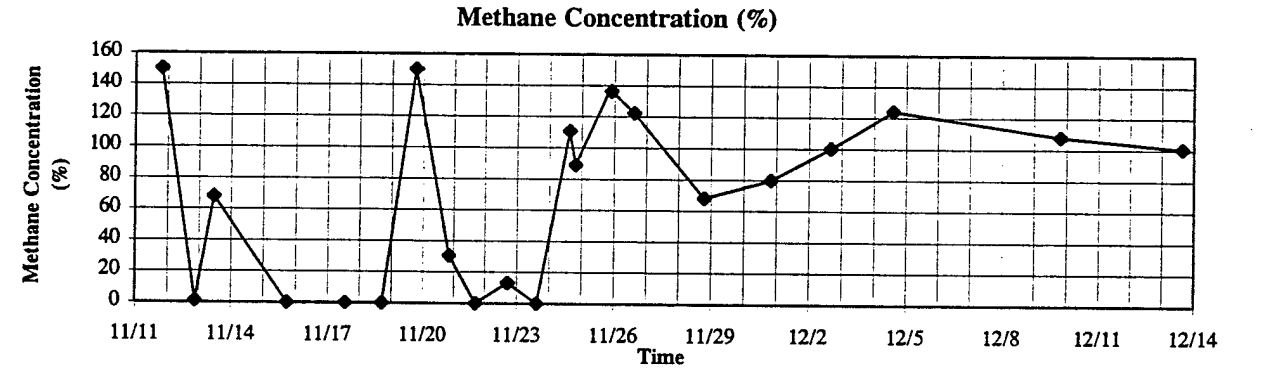
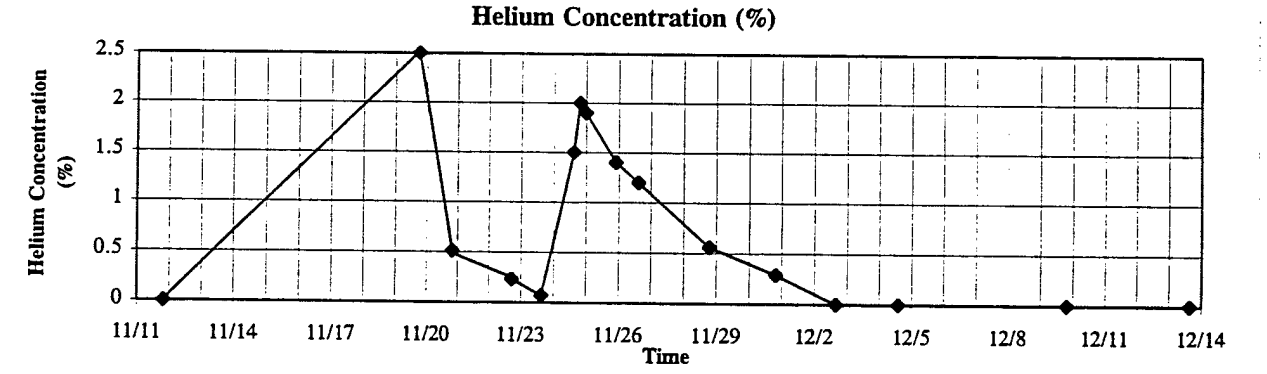
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP4C









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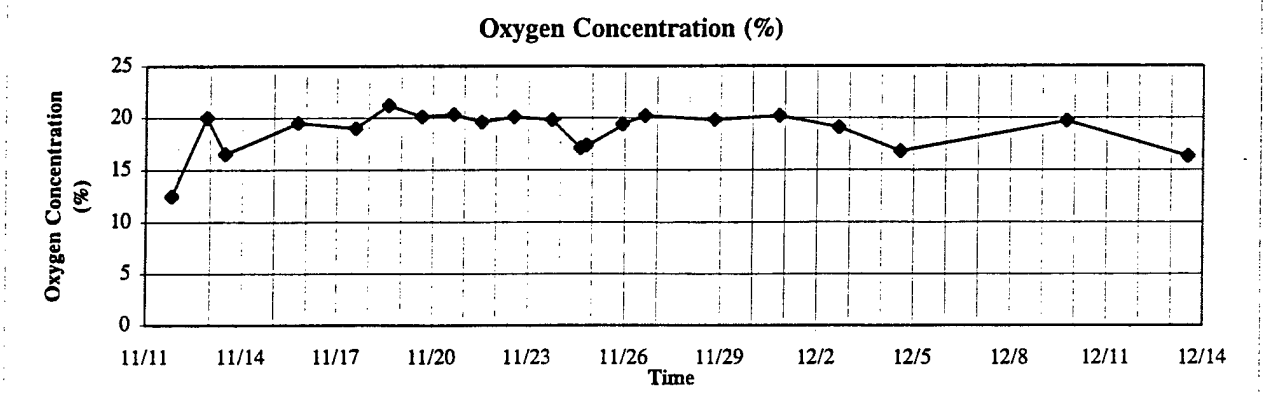
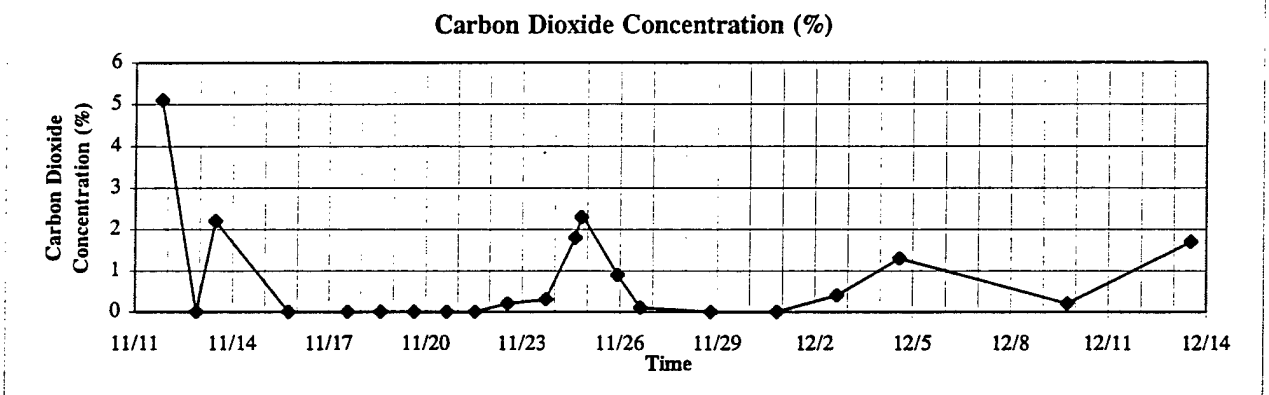
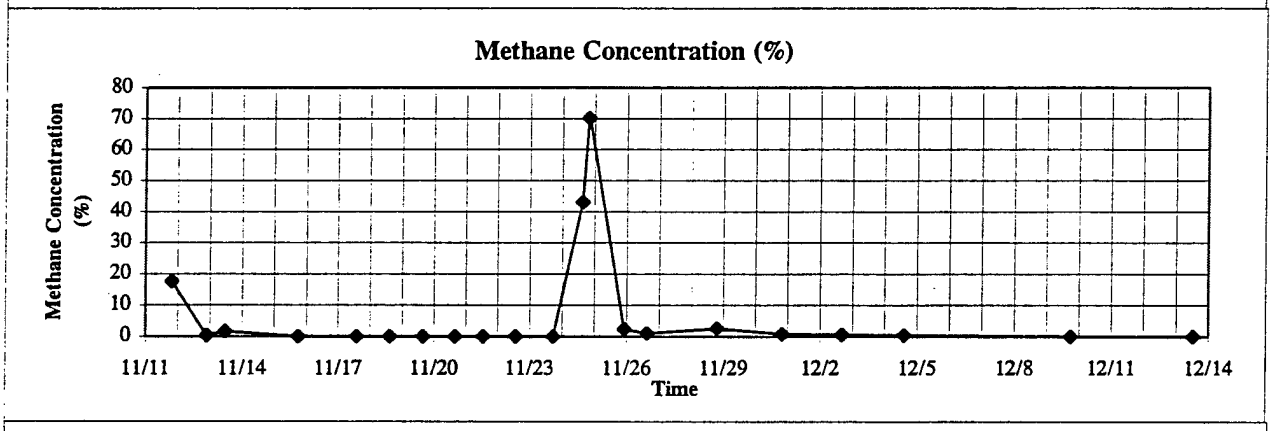
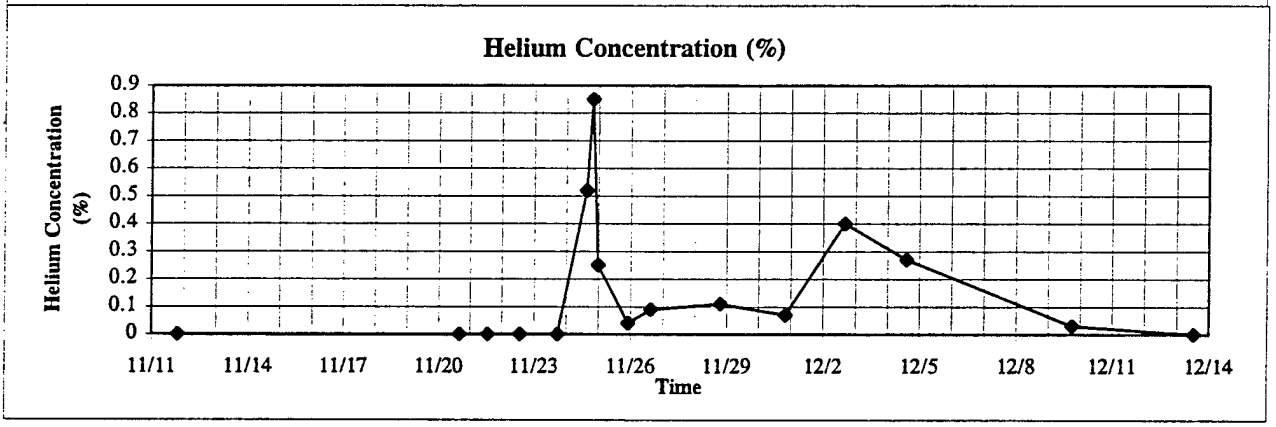
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP5A









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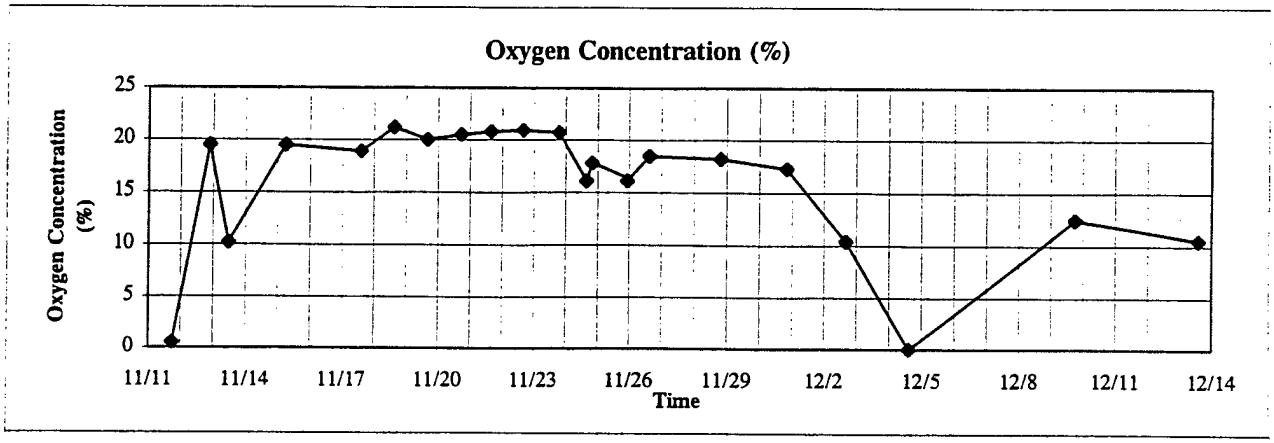
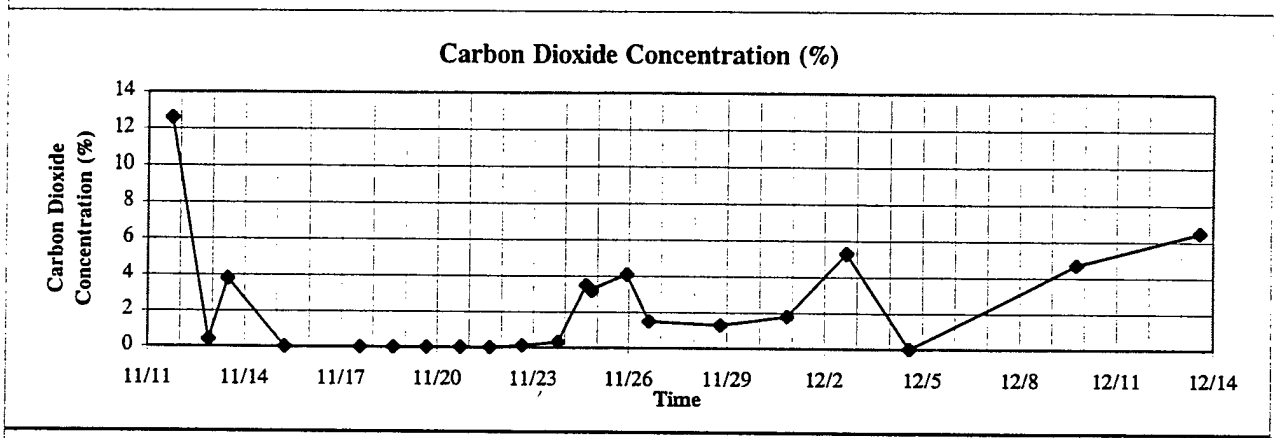
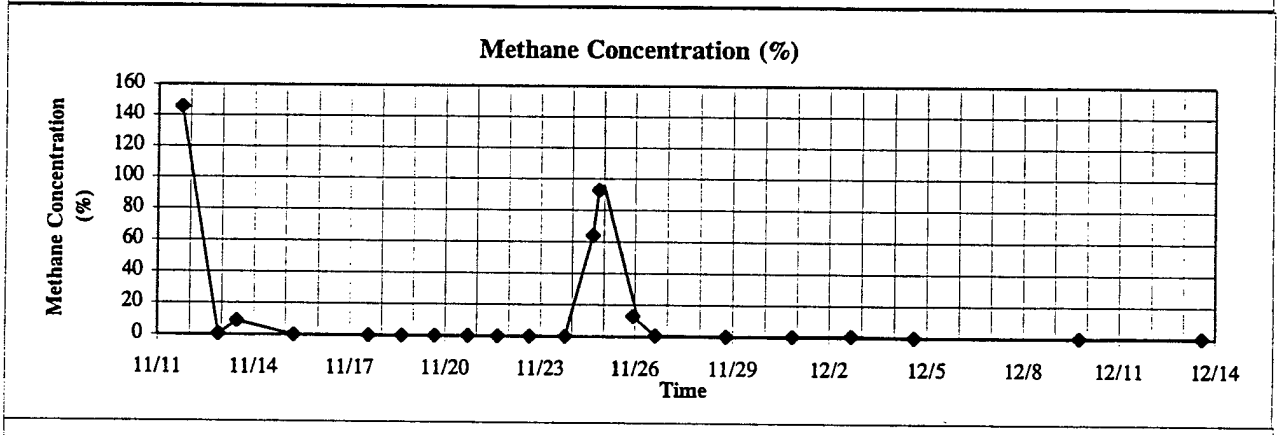
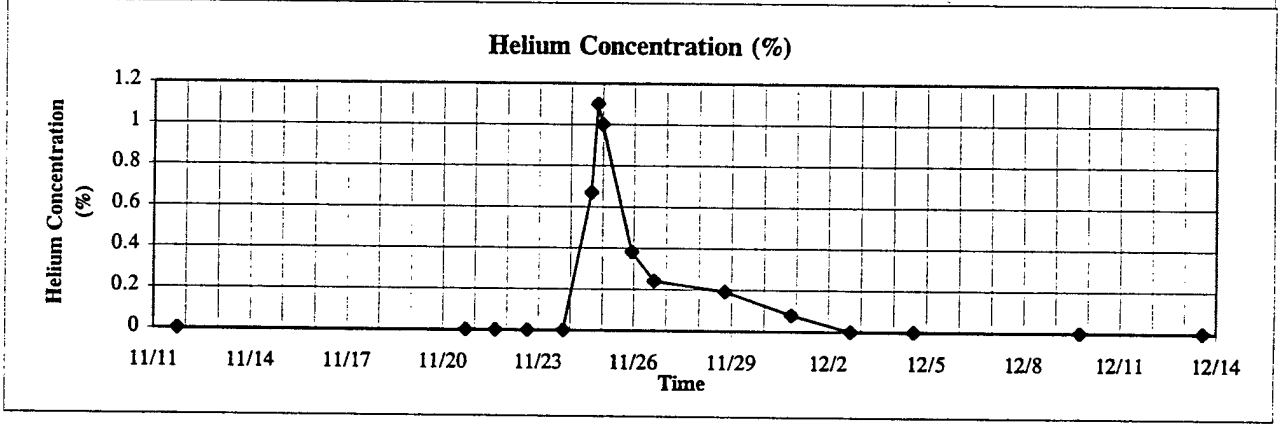
WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP5B







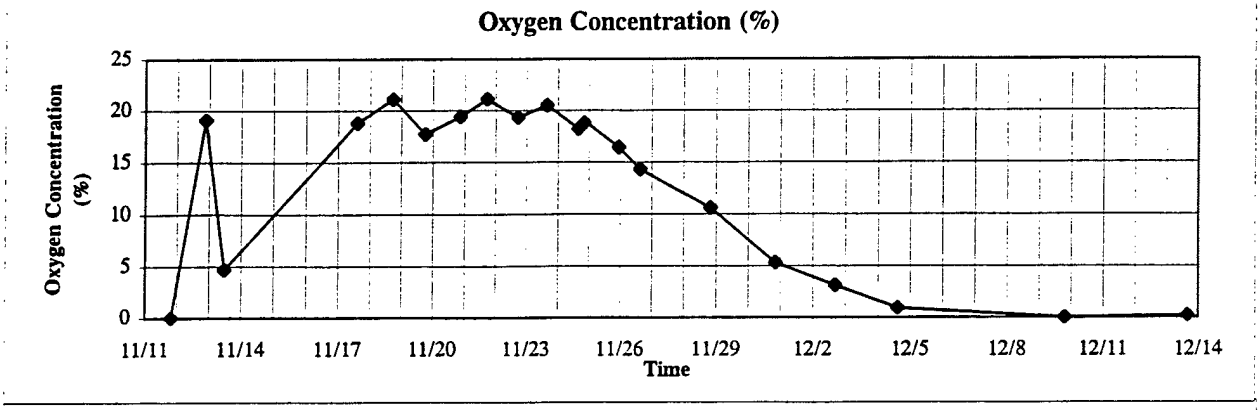


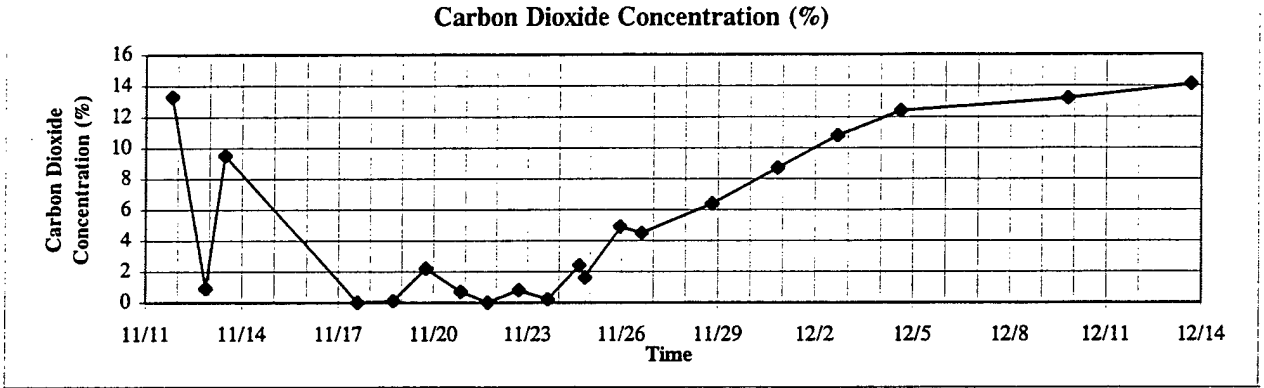
Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

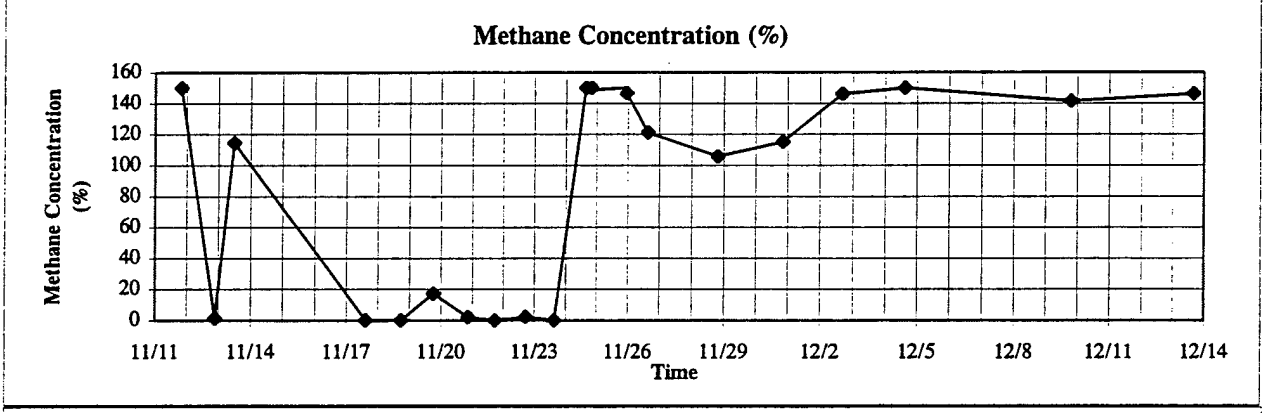
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

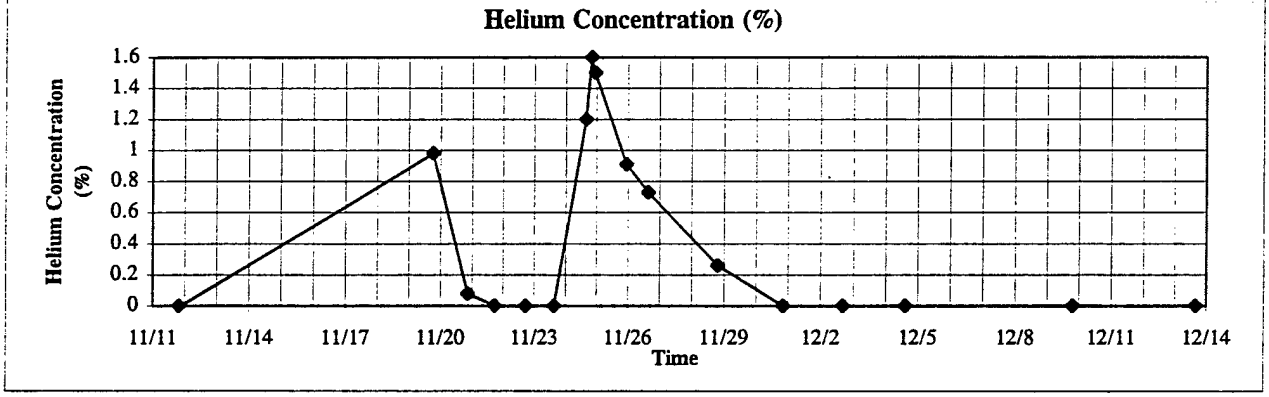
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP5C



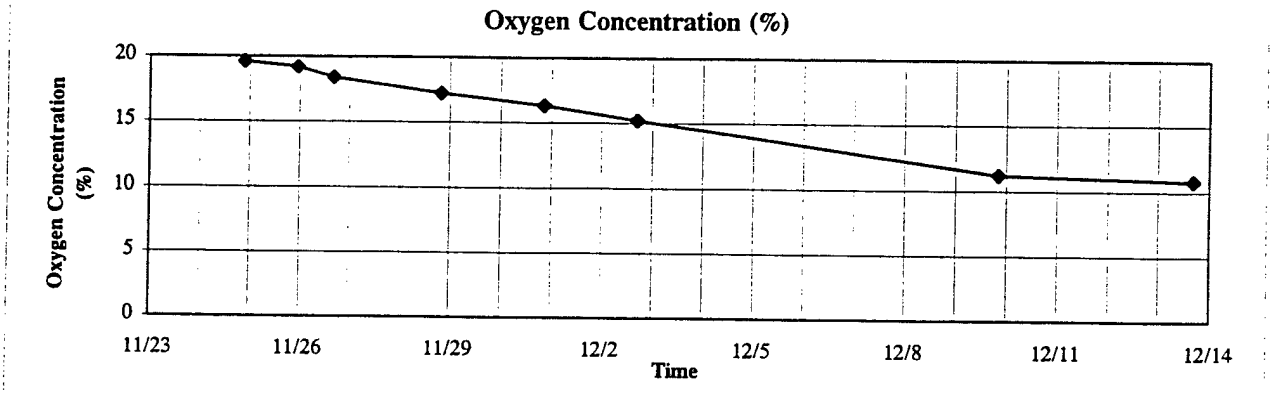


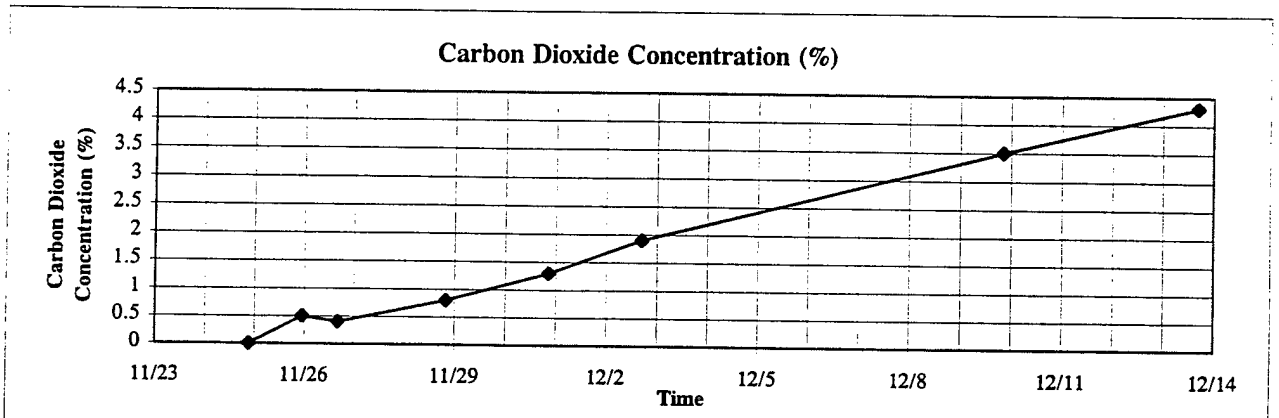


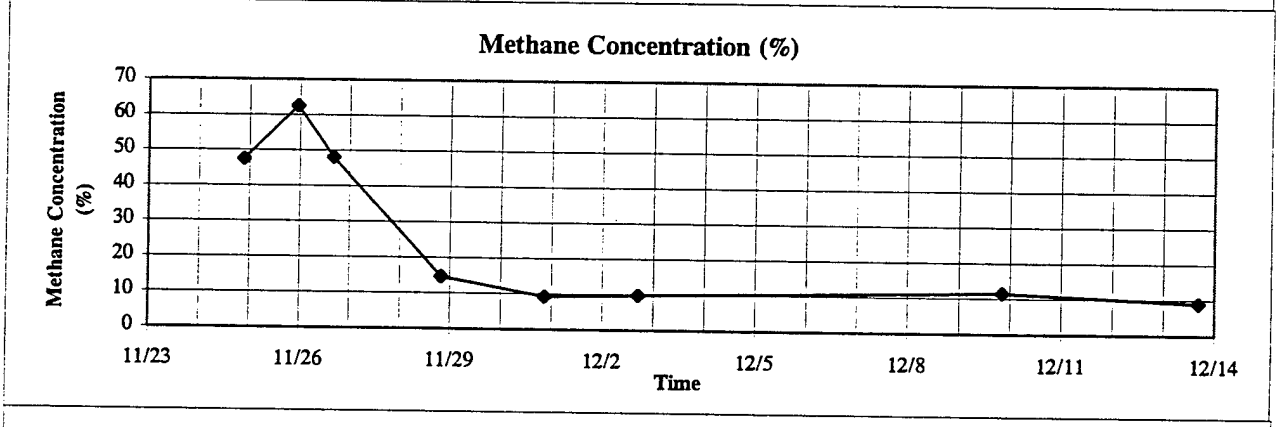


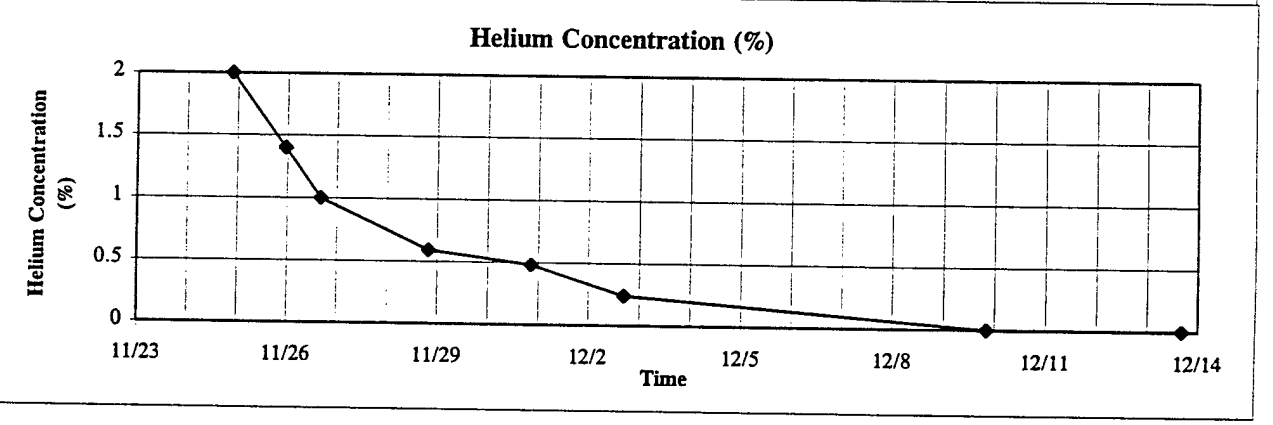
Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50
80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00
100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
SOIL VAPOR SAMPLING DATA FOR WELL MP6









Air Permeability Testing on 11/12/97
Constant Rate Extraction 11/13/97 16:00
Begin Sparge @ 100% 11/19/97 13:50

80% Pulsed Sparge 11/20/97 14:08
60% Pulsed Sparge 11/21/97 14:53
50% Pulsed Sparge 11/22/97 15:00

100% Sparge 11/23/97 16:55
SVE Off 11/24/97 10:30
Sparge Off 11/24/97 21:30

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D

Test Location SS06
Groundwater Monitoring Well MP1D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 15:53	0.427*	0.33*	5.39	6.74	9.22	1.06	-47.6	0.658*
11/17/97 12:00	0.464*	0.36*	5.91	6.65	7.00	0.81	-13.8	0.715*
11/18/97 10:55	0.478*	0.37*	8.89	6.72	5.60	0.65	-26.4	0.738*
11/19/97 14:39	0.435	0.33	8.91	6.68	8.90	1.03	-28.6	0.670
11/20/97 14:16	0.472	0.36	9.71	6.73	10.50	1.20	-57.3	0.744
11/21/97 11:02	0.342	0.26	7.78	6.89	9.50	1.13	-69.7	0.529
11/22/97 11:22	0.313	0.23	5.07	6.82	28.20	4.21	-46.9	0.420
11/23/97 11:42	0.276	0.20	5.38	6.99	16.10	2.89	-15.8	0.418
11/24/97 12:06	0.280	0.21	8.91	7.20	13.80	1.59	-54.5	0.432
11/25/97 15:31	0.271	0.20	9.93	7.35	6.80	0.76	-27.8	0.419
11/26/97 11:06	0.247	0.18	8.46	7.23	11.50	1.36	-60.7	0.380
11/28/97 13:00	0.269	0.20	10.47	7.13	10.60	1.18	-45.2	0.414
11/30/97 16:35	0.268	0.20	7.16	7.05	45**	5.47**	10**	0.412
12/2/97 10:18	0.269	0.20	7.40	7.19	4.40	0.53	-87.6	0.412
12/4/97 10:36	0.304	0.23	9.39	7.04	4.30	0.50	-42.5	0.467
12/13/97 11:54	0.424	0.28	4.83	6.98	6.80	0.86	14.1	0.653

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E

Test Location SS06
Groundwater Monitoring Well MP1E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 15:37	0.305*	0.23*	5.79	7.03	3.61	0.42	-98.5	0.470*
11/17/97 12:30	0.293*	0.22*	5.57	6.98	5.10	0.58	-70.6	0.451*
11/18/97 11:25	0.298*	0.22*	8.91	7.06	3.70	0.43	-77.0	0.459*
11/19/97 15:03	0.292	0.22	8.58	6.99	6.10	0.71	-55.8	0.450
11/20/97 14:57	0.250	0.19	9.38	7.13	5.00	0.57	-105.4	0.384
11/21/97 11:24	0.215	0.16	7.09	7.16	10.10	1.22	-92.6	0.330
11/22/97 11:47	0.244	0.18	7.24	7.09	38.80	4.71	-48.8	0.376
11/23/97 13:15	0.212	0.16	6.25	7.39	46.80	5.71	13.0	0.326
11/24/97 12:51	0.207	0.15	8.58	7.47	57.60	6.80	26.2	0.318
11/25/97 15:51	0.208	0.15	9.65	7.41	23.00	2.61	-13.2	0.320
11/26/97 11:31	0.216	0.16	7.59	7.39	21.70	2.54	-18.3	0.336
11/28/97 13:35	0.238	0.18	9.73	7.33	15.20	1.73	2.0	0.366
11/30/97 16:45	0.266	0.20	7.94	7.17	26.9**	3.19**	4.1**	0.410
12/2/97 10:45	0.274	0.20	7.82	7.15	4.30	0.52	-56.6	0.423
12/4/97 10:59	0.330	0.25	8.96	7.06	4.50	0.52	-36.5	0.508
12/13/97 12:26	0.454	0.34	5.37	6.88	11.3**	1.42**	-18.2**	0.699

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1F

Test Location SS06
Groundwater Monitoring Well MP1F

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 15:05	0.313*	0.24*	7.08	7.19	2.5	0.3	-115.9	0.480*
11/17/97 13:05	0.307*	0.23*	8.08	7.15	4.5	0.53	-99.8	0.472*
11/18/97 11:45	0.305*	0.23*	8.48	7.22	3.2	0.38	-83.3	0.470*
11/19/97 15:45	0.314	0.23	6.35	7.15	5.5	0.74	-73.1	0.485
11/20/97 15:38	0.303	0.23	8.52	7.18	4.9	0.57	-120.4	0.466
11/21/97 11:51	0.311	0.23	6.9	7.05	8.2	1	-88.1	0.478
11/22/97 12:20	0.315	0.23	6.67	6.98	11.3	1.37	-57.5	0.483
11/23/97 13:35	0.309	0.23	5.95	7.11	13.9	1.74	8.3	0.473
11/24/97 13:19	0.208**	0.15**	8.91**	7.46**	52.2**	6.03**	40.1**	0.32**
11/25/97 16:22	0.315	0.24	9.02	7.08	27.1	3.13	-44.6	0.485
11/26/97 11:51	0.313	0.23	7.79	7.09	36.9	4.39	-38.5	0.489
11/28/97 14:05	0.32	0.24	9.21	7.11	46.2	5.3	-7.5	0.493
11/30/97 17:05	0.32	0.24	7.74	7.17	75.3**	8.96**	29.9**	0.493
12/2/97 11:10	0.317	0.24	7.77	7.12	52	6.18	-27.6	0.486
12/4/97 11:27	0.343	0.26	8.43	7.14	49.9	5.83	-9	0.528
12/13/97 12:52	0.35	0.26	5.2	7.15	55.5**	7.03**	5.9**	0.538

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D

Test Location SS06
Groundwater Monitoring Well MP2D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/17/97 13:27	0.702*	0.56*	9.82	6.42	6.7	0.76	-53.2	1.08*
11/18/97 12:15	0.699*	0.55*	9.49	6.48	6.7	0.76	-40.5	1.075*
11/19/97 16:18	0.692	0.53	9.64	6.45	24.8	2.8	-15.7	1.065
11/20/97 16:12	0.626	0.48	9.57	6.56	29	3.3	-17.2	0.961
11/21/97 12:17	0.581	0.44	8.34	6.54	24.2	2.82	3.4	0.893
11/22/97 13:36	0.56	0.43	6.94	6.59	22.2	2.69	13.6	0.871
11/23/97 14:00	0.565	0.43	4.26	6.68	34.6	4.5	60.9	0.869
11/24/97 13:52	0.509	0.39	9.53	6.76	35.6	4.05	39	0.783
11/25/97 16:57	0.463	0.35	10.1	6.81	16.5	1.85	2.4	0.713
11/26/97 12:25	0.424	0.32	9.2	6.85	22.6	2.59	-21.4	0.652
11/28/97 14:25	0.368	0.27	10.17	7	12.8	1.43	-17	0.565
11/30/97 17:25	0.335	0.25	4.77	7.07	4.6	0.52	-20.1	0.516
12/2/97 11:39	0.309	0.23	8.87	7.04	4.6	0.52	-55.4	0.476
12/4/97 12:10	0.316	0.24	10.43	7.08	4.5	0.5	-52.7	0.487
12/13/97 13:14	0.336	0.25	5.11	7.12	13.4**	1.69**	-0.6**	0.516

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E

Test Location SS06
Groundwater Monitoring Well MP2E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 13:55	0.384*	0.3*	8.21	6.95	3.8	0.45	-134.8	0.591*
11/17/97 13:50	0.367*	0.28*	8.86	6.95	4.2	0.49	-108	0.566*
11/18/97 14:51	0.368*	0.28*	8.79	7.03	3.2	0.39	-76.3	0.564*
11/19/97 16:45	0.364	0.27	9.06	6.92	5.9	0.68	-49.8	0.56
11/20/97 16:48	0.347	0.26	8.61	6.98	5.7	0.68	-93.3	0.535
11/21/97 12:46	0.333	0.25	8.4	6.98	6.9	0.82	-89.7	0.514
11/22/97 14:12	0.338	0.25	6.98	7.05	10.1	1.21	-50.7	0.526
11/23/97 14:21	0.351	0.26	4.41	7.04	11.3	1.47	-39.4	0.538
11/24/97 14:22	0.314	0.23	8.35	7.1	34.2	4.01	-31.1	0.482
11/25/97 17:27	0.305	0.23	9.52	7.13	32.4	3.7	-38.7	0.466
11/26/97 14:01	0.295	0.22	8.67	7.17	38.5	4.48	-35.8	0.453
11/28/97 15:00	0.291	0.2	9.49	7.21	21.6	2.45	-7	0.45
11/30/97 17:45	0.303	0.23	4.19	7.21	8.3	0.95	-20.4	0.466
12/2/97 12:05	0.284	0.21	8.45	7.17	6.5	0.77	-49	0.438
12/4/97 13:22	0.299	0.22	9.73	7.2	4.6	0.53	-42.9	0.461
12/13/97 13:37	0.429	0.32	5.38	7.04	12.1**	1.52**	-4.6**	0.661

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2F

Test Location SS06
Groundwater Monitoring Well MP2F

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 14:35	0.364*	0.28*	6.49	7.1	3.6	0.42	-125.5	0.56
11/17/97 14:30	0.349*	0.27	7.96	7.1	3.2	0.37	-111.9	0.538
11/18/97 14:21	0.342*	0.26	8.43	7.18	3.2	0.37	-58.6	0.526
11/19/97 17:14	0.348	0.26	8.62	7.1	4.8	0.56	-59.9	0.536
11/20/97 17:05	0.341	0.25	7.82	7.15	5.1	0.61	-100.3	0.527
11/21/97 13:05	0.337	0.25	7.58	7.09	5.7	0.68	-102.3	0.519
11/22/97 14:46	0.336	0.25	6.66	7.05**	34.7**	4.24**	-46.8**	0.517
11/23/97 14:52	0.306	0.23	4	7.14	5.5	0.71	-74.7	0.47
11/24/97 14:47	0.292	0.222	7.78	7.15	6.2	0.74	-65.6	0.449
11/25/97 17:48	0.285	0.21	8.55	7.18	6.1	0.71	-44.9	0.437
11/26/97 14:24	0.288	0.21	8.61	7.21	15.9	1.85	-47	0.442
11/28/97 15:50	0.29	0.22	9.31	7.25	8.7	0.99	-18.7	0.447
11/30/97 18:00	0.297	0.22	8.63	7.24	3.6	0.42	-20.6	0.457
12/2/97 12:51	0.294	0.22	8.43	7.19	4.1	0.48	-66.2	0.453
12/4/97 14:17	0.305	0.23	9.85	7.24	3.6	0.41	-59.9	0.466
12/13/97 14:11	0.314	0.23	5.27	7.24	7.4**	0.93**	-25.2**	0.482

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D

Test Location SS06
Groundwater Monitoring Well MP3D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 13:10	0.567*	0.45*	10.83	6.46	5.2	0.58	-79.8	0.871*
11/17/97 15:34	0.562*	0.44*	9.56	6.52	5.7	0.66	-58	0.865*
11/18/97 15:20	0.531*	0.41*	9.31	6.62	4.8	0.55	-43.4	0.818*
11/19/97 18:03	0.718	0.55	9.3	6.43	8.1	0.93	-27.6	1.104
11/20/97 18:39	0.579	0.44	9.09	6.91	7.7	0.89	-84.1	0.89
11/21/97 13:34	0.382	0.29	8.15	7.11	5.8	0.68	-87.4	0.588
11/22/97 15:49	0.308	0.23	7.23	7.21	8.7	1.05	-65.7	0.471
11/23/97 15:29	0.293	0.22	5.34	7.41	31.1	3.91	-31.6	0.453
10/24/97 15:18	0.328	0.24	8.71	7.43	17.5	2.03	-10.5	0.504
11/25/97 18:08	0.293	0.22	9.32	7.2	5.9	0.68	-29.4	0.452
11/26/97 14:51	0.284	0.21	9.41	7.25	17.5	2	-16.4	0.439
11/28/97 16:10	0.318	0.24	9.56	7.21	7.8	0.89	-16.7	0.491
11/30/97 18:15	0.353	0.26	9.41	7.18	3.6	0.41	-18.6	0.542
12/2/97 14:23	0.361	0.27	8.77	7.07	4.8	0.54	-51.5	0.556
12/13/97 14:36	0.628	0.48	5.39	6.89	10.7**	1.35**	-13.7**	0.966

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3E

Test Location SS06
Groundwater Monitoring Well MP3E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 12:48			9.85	6.84	3.2	0.37	-68.6	0.654*
11/17/97 16:40	0.437*	0.67*	9.03	6.91	4	0.46	-92.6	0.673*
11/18/97 15:42	0.437*	0.64*	8.83	6.97	3.6	0.42	-65.2	0.673*
11/19/97 16:32	0.408	0.31	9.68	6.83	23.7	2.69	-10.4	0.627
11/20/97 19:02	0.396	0.3	8.87	6.92	47.2	5.45	-0.9	0.61
11/21/97 14:11	0.404	0.3	7.1	6.88	34.8	4.19	-17.1	0.622
11/22/97 16:36	0.37	0.28	6.36	6.99	26.1	3.22	-33.7	0.576
11/23/97 15:48	0.371	0.28	4.22	6.95	40.5	5.28	32.2	0.574
11/24/97 16:10	0.345	0.26	6.56	6.98	50.2	6.16	3.6	0.533
11/25/97 18:37	0.344	0.26	8.86	6.95	8.7	1.01	-49.5	0.528
11/26/97 15:25	0.35	0.26	8.8	6.97	16.9	1.97	-58.9	0.539
11/28/97 17:20	0.347	0.26	8.86	7.05	8.3	0.97	-43	0.535
11/30/97 18:30	0.418	0.31	9	7.06	4.3	0.5	-66.8	0.642
12/2/97 18:50	0.468	0.35	8.06	6.97	6.1	0.68	-92.1	0.72
12/13/97 15:00	0.429	0.32	7.53	6.93	11.4**	1.36**	-29.7**	0.662

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

Test Location SS06
Groundwater Monitoring Well MP4D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 17:15	0.836*	0.66*	9.48	6.55	5.3	0.65	-76.3	1.29*
11/17/97 17:20	0.619*	0.49*	9.66	6.58	5.5	0.67	-67.5	0.953*
11/18/97 16:25	0.608*	0.48*	8.84	6.64	5.3	0.62	-40	0.94*
11/19/97 19:00	0.662	0.51	9.89	6.56	7	0.8	-33	1.022
11/20/97 19:25	0.394**	0.3**	7.44**	7.92**	106.5**	12.8**	-73.7**	0.606**
11/21/97 14:53	0.604	0.46	7.42	6.6	7.7	0.92	-56.3	0.932
11/22/97 17:08	0.396**	0.3**	5.79**	6.87**	11.9**	1.45**	-52.4**	0.615**
11/24/97 16:45	0.614	0.47	7.19	6.69	8.7	1.05	-37.9	0.945
11/25/97 21:58	0.58	0.44	9.25	6.81	9.8	1.13	-40	0.896
11/26/97 16:25	0.602	0.46	8.19	6.67	20.5	2.45	-33.9	0.925
11/28/97 17:50	0.623	0.48	9.6	6.64	15.8	1.8	-19.7	0.959
11/30/97 18:55	0.644	0.49	9.84	6.63	4.8	0.54	-20.1	0.991
12/2/97 17:23	0.635	0.49	8.6	6.51	5.3	0.61	-30.5	0.979
12/13/97 15:28	0.711	0.54	5.55	6.61	15.1**	1.88**	-2**	1.094

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4E

Test Location SS06
Groundwater Monitoring Well MP4E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 16:52	0.536*	0.42*	9.01	6.82	4.9	0.59	-95.2	1.554*
11/17/97 17:50	0.422*	0.33*	8.5	6.81	4	0.46	-87.5	1.257*
11/18/97 17:07	0.43*	0.33*	8.08	6.88	3.7	0.43	-72.8	1.249*
11/19/97 19:30	0.43	0.32	9.37	6.81	5.2	0.59	-61.3	0.662
11/20/97 19:48	0.388**	0.29**	5.61**	8.34**	110.6**	13.89**	15.1**	0.596**
11/21/97 15:35	0.412	0.31	6.5	6.8	5.6	0.68	-80.6	0.634
11/22/97 17:45	0.553**	0.42**	6.55	6.78	7.4	0.9	-45.9	0.857**
11/24/97 17:26	0.395	0.3	6.95	6.82	7	0.85	-67.8	0.611
11/25/97 10:19	0.396	0.3	8.61	6.86	8.3	0.96	-71.4	0.608
11/26/97 16:50	0.401	0.3	8.27	6.83	18.7	2.19	-67.5	0.617
11/28/97 18:15	0.389	0.29	8.62	6.87	12.7	1.48	-55.6	0.599
11/30/97 19:10	0.392	0.29	8.9	6.87	3.7	0.43	-67	0.604
12/2/97 17:45	0.383	0.29	7.77	6.81	4.3	0.51	-83.6	0.588
12/13/97 15:57	0.511	0.39	6.44	6.76	19.3**	1.58**	-35.6**	0.786

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D

Test Location SS06
Groundwater Monitoring Well MP5D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 17:40	0.610*	0.9*	8.63	6.63	6.46	0.78	-66.4	.941*
11/17/97 19:03	0.806*	1.2*	6.84	6.51	5.8	0.7	-35.2	1.240*
11/18/97 17:49	0.751*	1.12*	9.68	6.56	5.4	0.62	-43.1	1.155*
11/19/97 19:59	0.773	0.6	10.31	6.49	7.4	0.84	-33.3	1.189
11/20/97 20:15	0.385**	0.29**	4.15**	8.47**	110.7**	14.43**	39.3**	0.591**
11/21/97 16:25	0.809	0.62	6.55	6.48	7.5	0.92	-45.2	1.241
11/22/97 18:09	0.562**	0.41**	5.05**	7.57**	112.5**	11.1**	-106.2**	**0.882
11/24/97 18:14	0.834	0.64	8.22	6.5	10.7	1.26	-40.4	1.281
11/25/97 22:47	0.792	0.61	9.2	6.51	11.4	1.3	-43.6	1.22
11/26/97 17:15	0.804	0.62	9	6.51	35.3	4.06	-34.5	1.236
11/28/97 18:30	0.801	0.62	4.6	6.52	19.1	2.16	-36.2	1.235
11/30/97 19:35	0.836	0.65	9.8	6.52	5.1	0.58	-38.2	1.287
12/2/97 18:11	0.787	0.61	9.04	6.45	6.2	0.72	-47.2	1.214
12/13/97 16:17	0.851	0.66	6.26	6.5	16.5**	2.03**	-14.8**	1.323

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

WURTSMITH AFB PILOT TESTING
SITE SS06
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5E

Test Location SS06
Groundwater Monitoring Well MP 5-E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/14/97 15:55	0.433*	0.33*	8.75	6.82	0.58		-104.6	0.666*
11/17/97 16:22	0.540*	0.44*	8.55	6.79	0.51		-87.3	0.829*
11/18/97 18:25	0.543*	0.42*	7.57	6.87	4.3	0.51	-63.5	0.837*
11/19/97 20:32	0.529	0.4	8.26	6.82	5.4	0.64	-54.6	0.813
11/20/97 20:37	0.529	0.4	8.88	6.92	34.1	3.89**	-83.3	0.817
11/21/97 17:00	0.546	0.41	5.21	6.79	5.6	0.71	-72.4	0.839
11/22/97 18:36	0.409**	0.39**	5.22**	7.15**	34.6**	4.59**	-35.8**	0.639**
11/24/97 18:59	0.55	0.42	6.86	6.8	8.4	1.03	-59.4	0.846
11/25/97 23:15	0.563	0.43	8.38	6.79	9.8	1.15	-67.8	0.865
11/26/97 17:40	0.572	0.43	8.18	6.77	37	4.35	-52.3	0.888
11/28/97 19:00	0.581	0.44	7.99	6.79	15.9	1.88	-54.5	0.894
11/30/97 19:45	0.603	0.46	8.47	6.78	4.3	0.5	-63.3	0.926
12/2/97 18:38	0.564	0.43	8.11	6.73	4.9	0.58	-73.1	0.872
12/13/97 16:39	0.71	0.54	5.13	6.69	14.7**	1.85**	-28.2**	1.091

* Data corrected based on a calibration error.
** Data not used in plots due to data collection error.

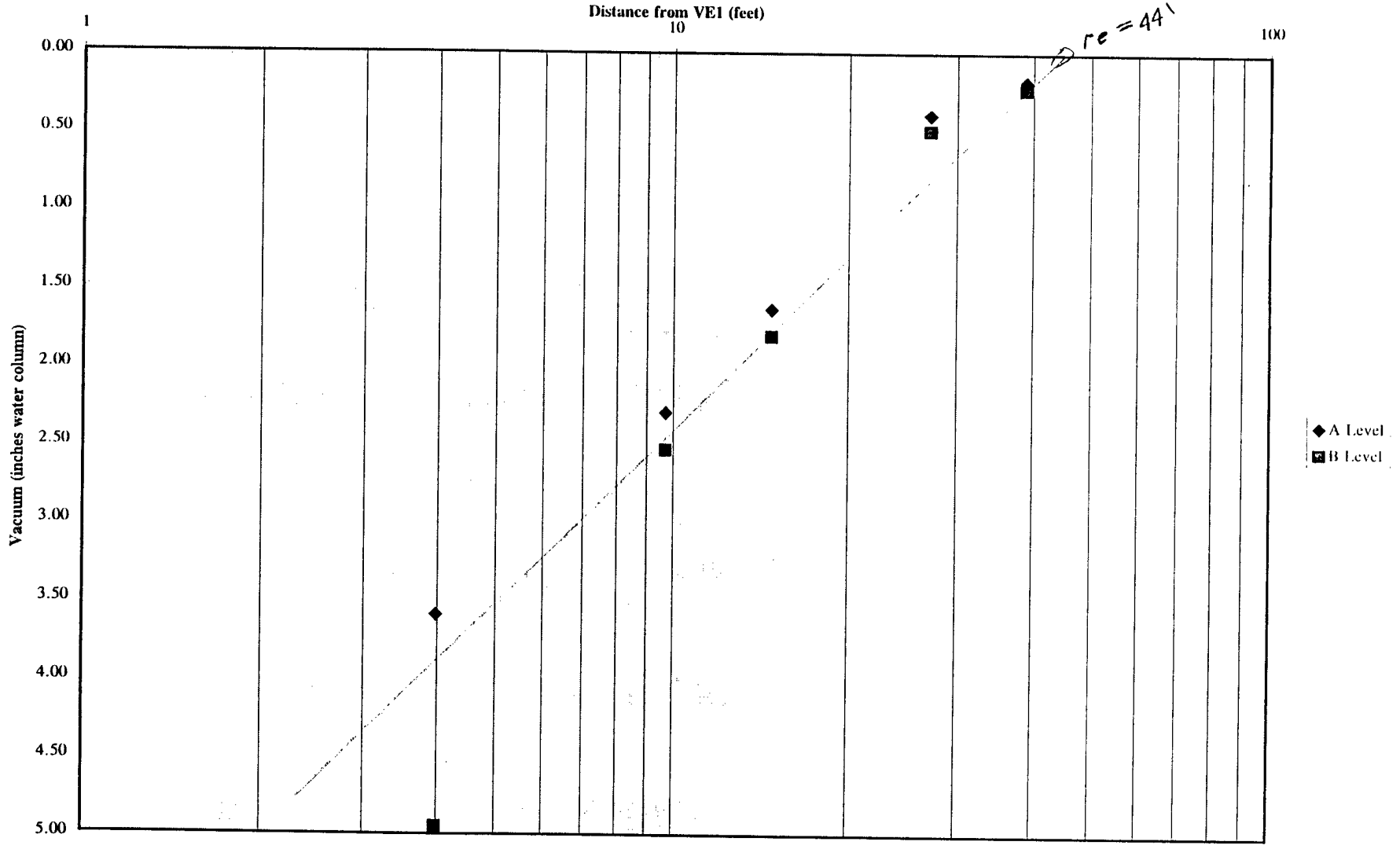
APPENDIX C

PILOT TEST DATA AND ANALYSES FOR SITE SS-08A

WURTSMITH AFB PILOT TESTING
SITE SS08A
STEADY STATE SOIL PERMEABILITY CALCULATIONS
EFFECTIVE RADIUS METHOD

SS08Aeq1	n or b (ft)	P_{atm} (psi)	Q_v (scfm)	P_{atm}-P* (in. H_2O)	P_{atm}-P (ft H_2O)	r (ft)	r_e (ft)	μ (kg/m,sec)	Air temp. °F	k_a (m^2)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1	11.92	14.17	152	19.2	8.12	5.11	54	1.76E-05	46	6.20E-11	62.8	3.47	0.05	149.92
MP2	12.29	14.17	152	19.2	6.01	10.25	54	1.76E-05	46	5.71E-11	57.8	3.20	0.05	138.08
MP3	12.4	14.17	152	19.2	3.92	15.64	54	1.76E-05	46	6.45E-11	65.3	3.62	0.06	156.05
MP4	12.58	14.17	152	19.2	1.78	24.27	54	1.76E-05	46	9.01E-11	91.3	5.05	0.08	218.03
MP5	12.79	14.17	152	19.2	1.35	40.6	54	1.76E-05	46	4.17E-11	42.2	2.34	0.04	100.79

WURTSMITH AFB PILOT TESTING
SITE SS08B
STEADY STATE DISTANCE PLOT



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1/21/98

WURTSMITH AFB PILOT TESTING
SITE SSO8A
STEADY STATE SOIL PERMEABILITY CALCULATIONS
TWO WELL METHOD

Observation Well Pair	Steady State Vacuum at Well 1	Steady State Vacuum at Well 2	r_1 (ft)	r_2 (ft)	P_{atm}-P* (in. H_2O)	Q_v (scfm)	μ (kg/m,sec)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1-MP2	8.12	6.01	5.11	10.25	19.2	152.00	1.76E-05	70.8	3.92	5.96E-02	1.69E+02
MP1-MP3	8.12	3.92	5.11	15.64	19.2	152.00	1.76E-05	35.2	1.95	2.96E-02	8.40E+01
MP1-MP4	8.12	1.78	5.11	24.27	19.2	152.00	1.76E-05	51.6	2.86	4.35E-02	1.23E+02
MP1-MP5	8.12	1.35	5.11	40.6	19.2	152.00	1.76E-05	63.7	3.53	5.37E-02	1.52E+02
MP2-MP3	6.01	3.92	10.25	15.64	19.2	152.00	1.76E-05	42.3	2.34	3.56E-02	1.01E+02
MP2-MP4	6.01	1.78	10.25	24.27	19.2	152.00	1.76E-05	42.2	2.34	3.56E-02	1.01E+02
MP2-MP5	6.01	1.35	10.25	40.6	19.2	152.00	1.76E-05	60.7	3.36	5.12E-02	1.45E+02
MP3-MP4	3.92	1.78	15.64	24.27	19.2	152.00	1.76E-05	42.2	2.34	3.56E-02	1.01E+02
MP3-MP5	3.92	1.35	15.64	40.6	19.2	152.00	1.76E-05	76.3	4.22	6.43E-02	1.82E+02
MP4-MP5	1.78	1.35	24.27	40.6	19.2	152.00	1.76E-05	241.5	13.37	2.03E-01	5.77E+02

WURTSMITH AFB PILOT TESTING
SITE SS08A
STEADY STATE SOIL PERMEABILITY CALCULATIONS
PSEUDO STEADY STATE METHOD

Observation Well Pair	Steady State Vacuum at Well 1	Steady State Vacuum at Well 2	r_1 (m)	r_2 (m)	Q_v (m^3/min)	μ (kg/m,sec)	k_a (m^2)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1-MP2	8.12	6.01	1.56	3.12	4.30	1.76E-05	1.10E-11	11.13	0.62	5.20E-04	1.47
MP1-MP3	8.12	3.92	1.56	4.77	4.30	1.76E-05	8.80E-12	8.92	0.49	4.16E-04	1.18
MP1-MP4	8.12	1.78	1.56	7.40	4.30	1.76E-05	8.06E-12	8.16	0.45	3.81E-04	1.08
MP1-MP5	8.12	1.35	1.56	12.37	4.30	1.76E-05	9.96E-12	10.09	0.56	4.71E-04	1.33
MP2-MP3	6.01	3.92	3.12	4.77	4.30	1.76E-05	6.61E-12	6.69	0.37	3.12E-04	0.89
MP2-MP4	6.01	1.78	3.12	7.40	4.30	1.76E-05	6.62E-12	6.70	0.37	3.13E-04	0.89
MP2-MP5	6.01	1.35	3.12	12.37	4.30	1.76E-05	1.06E-11	10.70	0.59	4.99E-04	1.42
MP3-MP4	3.92	1.78	4.77	7.40	4.30	1.76E-05	6.63E-12	6.72	0.37	3.13E-04	0.89
MP3-MP5	3.92	1.35	4.77	12.37	4.30	1.76E-05	1.20E-11	12.14	0.67	5.67E-04	1.61
MP4-MP5	1.78	1.35	7.40	12.37	4.30	1.76E-05	3.81E-11	38.54	2.13	1.80E-03	5.10

WURTSMITH AFB PILOT TESTING
SITE SS08A
TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Well	W(u,r/B)	1/u	r/B	Vacuum (in H2O)	Time (min)	r (ft)	ka (darcies)	Kw (cm/sec)	Kw (ft/day)	na	K'w (cm/sec)
MP1A	1	1	0.62	3.10	0.19	5.11	34.90	2.94E-02	83.3	3.5	5.49E-03
MP1B	1	1	0.62	5.60	0.12	5.11	19.30	1.63E-02	46.1	1.24	3.04E-03
MP2A	1	1	0.62	4.90	0.11	10.25	22.10	1.86E-02	52.7	0.32	8.36E-04
MP2B	1	1	0.87	6.00	0.22	10.25	18.00	1.52E-02	43	0.52	1.39E-03
MP3B	1	1	1.13	6.10	0.41	15.64	17.71	1.49E-02	42.3	0.42	9.89E-04
MP4A	1	1	1.39	2.90	1.01	24.27	37.30	3.14E-02	89	0.89	1.31E-03
MP4B	1	1	1.13	2.90	0.47	24.27	37.30	3.14E-02	89	0.42	8.64E-04

Vapor extraction rate = 152 scfm
u=1.8E-5 kg/m sec^2
Patm = 14.35 psi
m = 12.69 ft

WURTSMITH AFB PILOT TESTING
SITE SS08A
STEADY STATE SOIL PERMEABILITY CALCULATIONS
EFFECTIVE RADIUS METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1

Assume: Steady state conditions ($u < 0.01$)
One dimensional flow

Equation:

$$k_a = \frac{Q_v P^* \mu}{pi\ b} \cdot \frac{\ln(r_e/r)}{P^2 - P_{atm}^2}$$

where:

Q_v	=	volumetric flow rate (L^3/T)
P^*	=	absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)
P	=	absolute pressure at the observation well. (M/LT^2)
P_{atm}	=	atmosphere pressure (absolute) dury test (M/LT^2)
μ	=	dynamic viscosity of soil gas (M/LT)
pi	=	3.1415926
b	=	Aquifer thickness (L)
r_e	=	radius of pressure influence (L)
r	=	Distance from VE1 to observation well (L)
k_a	=	apparent air permeability (L^2)

Input:	Q_v =	152.00 scfm	=	0.071731	m^3/sec
	P_{atm} =	28.86 in Hg	=	97714.63	kg/m sec^2
	P*diff =	19.20 in H_20	=	4780.67	kg/m sec^2
at 46F	μ =	1.76E-05 kg/m sec			
	b =	11.92 feet	=	3.633216	m
	r_e =	54 feet	=	16.4592	m
	r =	5.11 feet	=	1.557528	m
	P diff =	8.12 in H2O	=	2021.825	kg/m sec^2
Calculated:	P* =	92933.96 kg/m sec^2			
	P =	95692.8 kg/m sec^2			
	k_a =	6.2E-11 m^2	=	62.75398	darcies
	K_a =	3.474688 cm/sec			
	K_w =	5.29E-02 cm/sec	=	149.9227	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08A
STEADY STATE SOIL PERMEABILITY CALCULATIONS
TWO WELL STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume: Steady state conditions (u < 0.01)
One dimensional flow

Equation: $$k_a = \frac{Q_v P^* \mu}{pi\ b} \cdot \frac{\ln(r_2/r_1)}{P_2^2 - P_1^2}$$

where:

Q_v =	volumetric flow rate (L^3/T)
P* =	absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)
μ =	dynamic viscosity of soil gas (M/LT)
pi =	3.1415926
b =	Aquifer thickness (L)
r_1 =	distance to observation well no. 1 (L)
r_2 =	distance to observation well no. 2 (L)
P_1 =	absolute pressure at well no. 1 (M/LT^2)
P_2 =	absolute pressure at well no. 2 (M/LT^2)
k_a =	apparent air permeability (L^2)

Input:

Q_v =	152.00 scfm	=	0.071731	m^3/sec
P_{atm} =	28.86 in Hg	=	97714.63	kg/m sec^2
P*diff =	19.20 in H20	=	4780.67	kg/m sec^2
at 46F μ =	1.76E-05 kg/m sec			
b =	12.105 feet	=	3.689604	m
r_1 =	5.11 feet	=	1.557528	m
r_2 =	10.25 feet	=	3.1242	m
P_1 diff =	8.12 in H_2O	=	2021.825	kg/m sec^2
P_2 diff =	6.01 in H_2O	=	1496.449	kg/m sec^2

Calculated:

P* =	92933.96 kg/m sec^2		
P_1 =	95692.8 kg/m sec^2		
P_2 =	96218.18 kg/m sec^2		
k_a =	6.99E-11 m^2	=	70.75443 darcies
K_a =	3.917673 cm/sec		
K_w =	5.96E-02 cm/sec	=	169.0362 ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08A
STEADY STATE SOIL PERMEABILITY CALCULATIONS
PSEUDO STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume: steady state conditions
One dimensional flow

Equation: $k_a = \frac{Q_v \mu}{4 \pi b} \frac{\ln(r_2/r_1)}{P_2 - P_1}$

where:
- Q_v = volumetric flow rate (L^3/T)
- μ = dynamic viscosity of soil gas (M/LT)
- pi = 3.1415926
- b = Aquifer thickness (L)
- r_1 = distance to observation well no. 1 (L)
- r_2 = distance to observation well no. 2 (L)
- P_1 = absolute pressure at well no. 1 (M/LT^2)
- P_2 = absolute pressure at well no. 2 (M/LT^2)
- k_a = apparent air permeability (L^2)

Input:

Q_v =	152.00 scfm	=	0.071731	m^3/sec
P_{atm} =	28.86 in Hg	=	97714.63	kg/m sec^2

Temp (F): 46

μ =	1.76E-05 kg/m sec		
b =	12.105 feet	=	3.689604 m
r_1 =	5.11 feet	=	1.557528 m
r_2 =	10.25 feet	=	3.1242 m
P_1 diff =	8.12 in H_2O	=	2021.825 kg/m sec^2
P_2 diff =	6.01 in H_2O	=	1496.449 kg/m sec^2

Calculated:

P_1 =	95692.8 kg/m sec^2		
P_2 =	96218.18 kg/m sec^2		
k_a =	1.1E-11 m^2	=	11.13439 darcies
K_a =	0.616511 cm/sec		
K_w =	9.38E-03 cm/sec	=	26.60067 ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08A
TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Transient Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Well MP1A

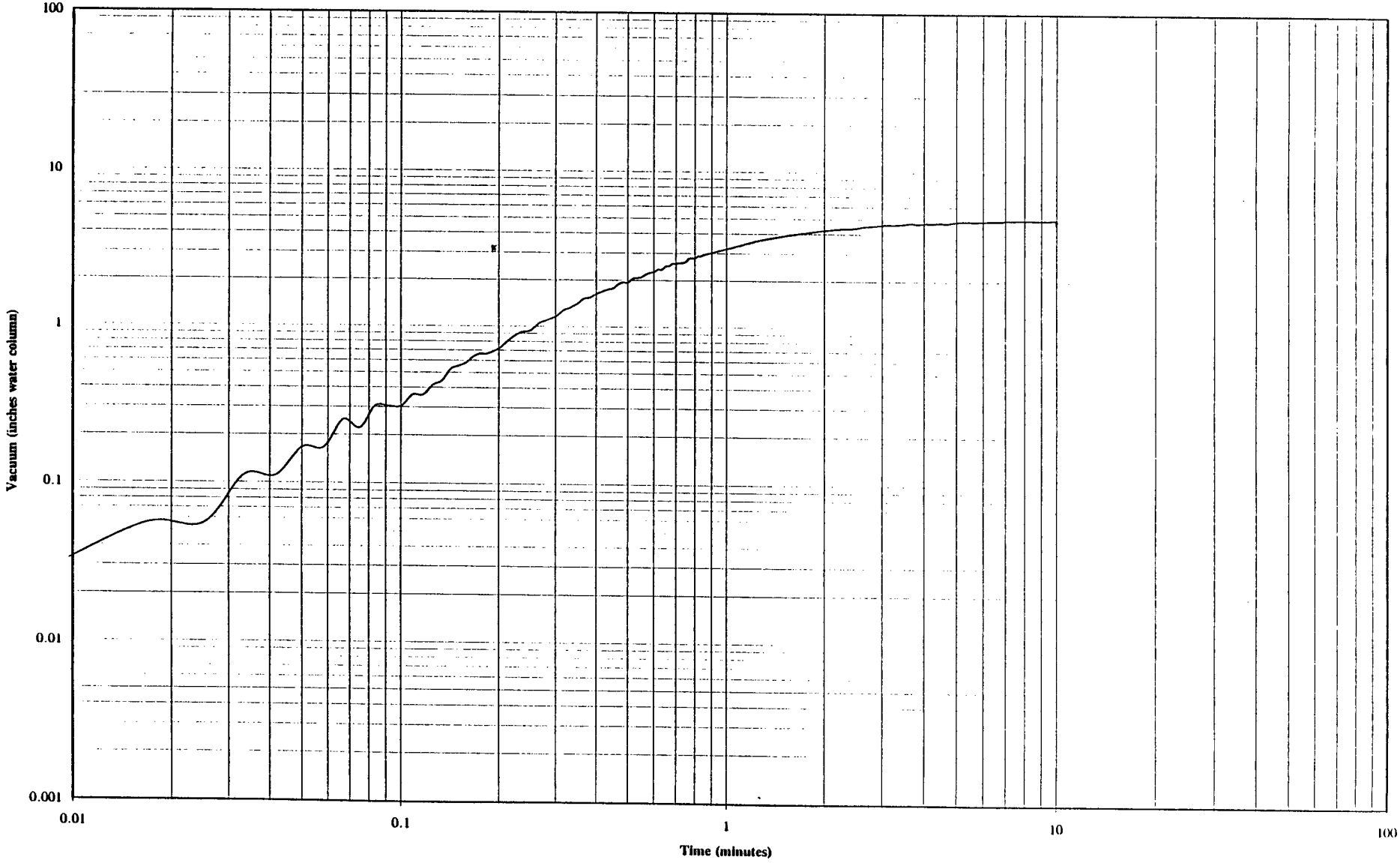
Assume: One dimensional flow

Equations: $ka = \frac{Qv\ u}{4\ pi\ b} \frac{W(u/B)}{(P - Patm)}$ $na = \frac{4\ ka\ (P\text{-}Patm)\ t\ u}{r^2\ u}$ $B^2 = \frac{Kr\ m\ m'}{K'}$

where:
- Qv = volumetric flow rate (L^3/T)
- P-Patm = guage vacuum obtained at match point (H2O")
- *u* = dynamic viscosity of soil gas (M/LT)
- pi = 3.1415926
- b = vadose zone thickness (L)
- (u, r/B) = leaky well function (obtained from type curve match point)
- 1/u = obtained from match point on type curve
- t = time obtained from type curve match point
- Patm = absolute atmospheric pressure
- ka = apparent air permeability (L^2)
- Kr = vadose zone conductivity (L^2/T)
- K' = surface seal conductivity (L^2/T)
- r/B = type curve value
- m = vadose zone thickness (L)
- m' = surface seal thickness (L)

Input:	Qv =	152 scfm	=	0.071731	m^3/sec
	(P-Patm)=	3.1 in H20	=	771.9	kg/m sec^2
	u =	1.80E-05 kg/m sec			
	b =	12.69 feet	=	3.867912	m
	W(u,r/B) =	1			
	u=	1			
	r/B =	0.62 (from matching curve)			
	t =	0.19 minutes	=	11.4	seconds
	Patm =	14.35 psi	=	98907.38	kg/msec^2
	r=	5.11 feet	=	1.55855	m
	m' =	1 feet	=	0.305	m
Calculated:	ka =	3.44E-11 m^2	=	34.86	darcies
	Ka =	1.93 cm/sec			
	Kw =	2.94E-02 cm/sec	=	83.27	ft/day
	na =	3.549843			
	B =	8.24			
	K' =	5.49E-03 cm/sec	=	15.56	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP1A TRANSIENT DATA



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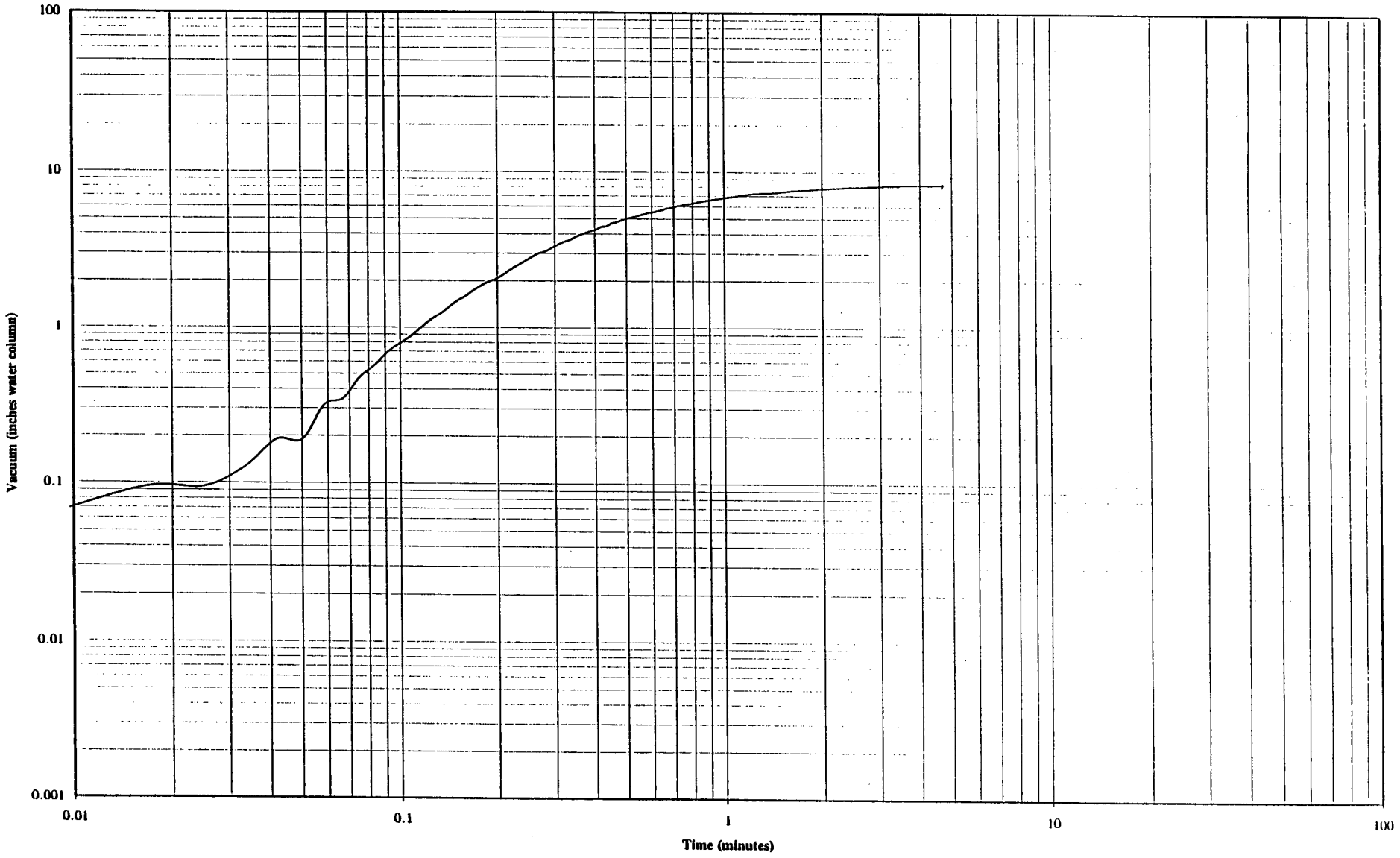
WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP1B TRANSIENT DATA



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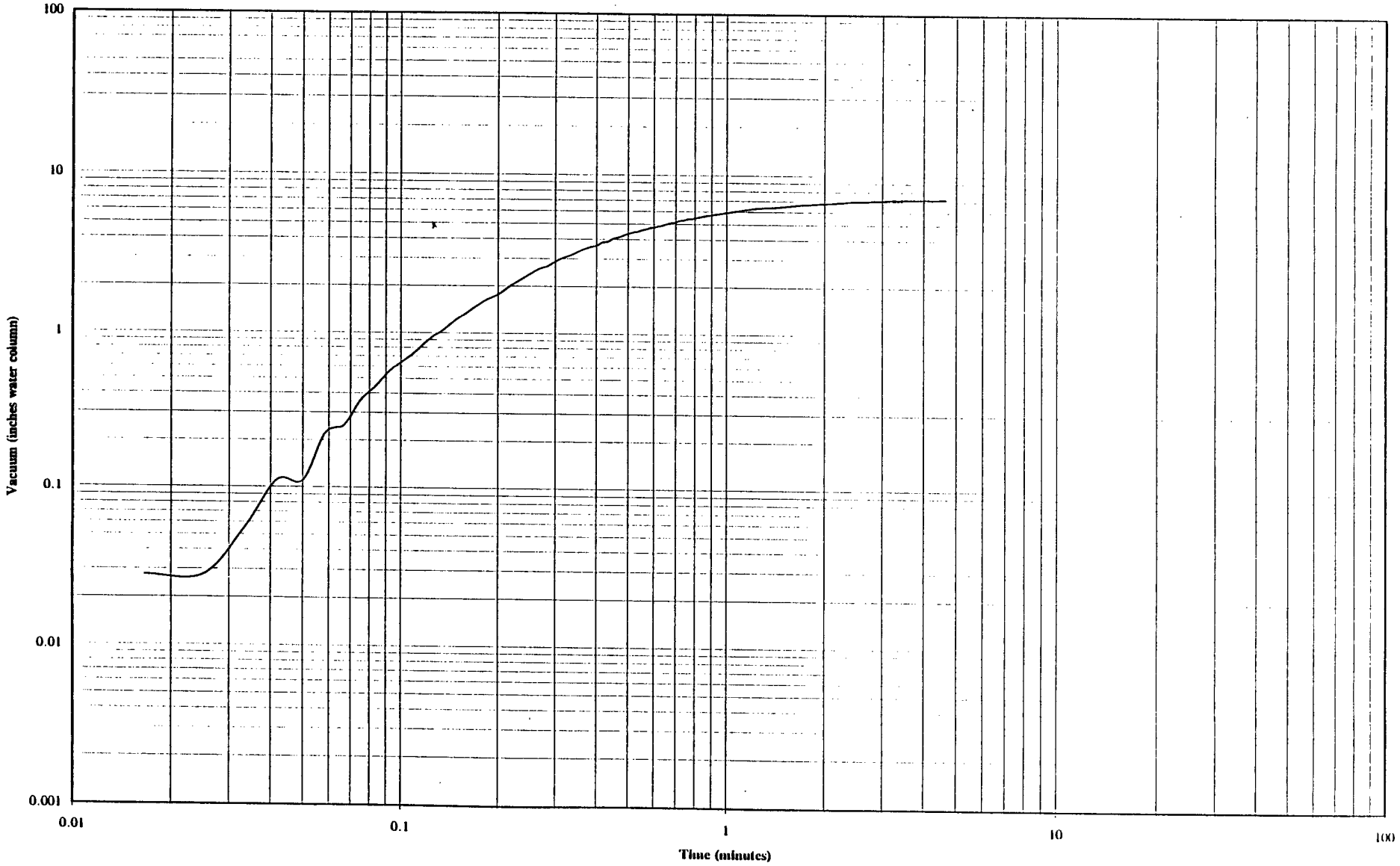
WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP2A TRANSIENT DATA



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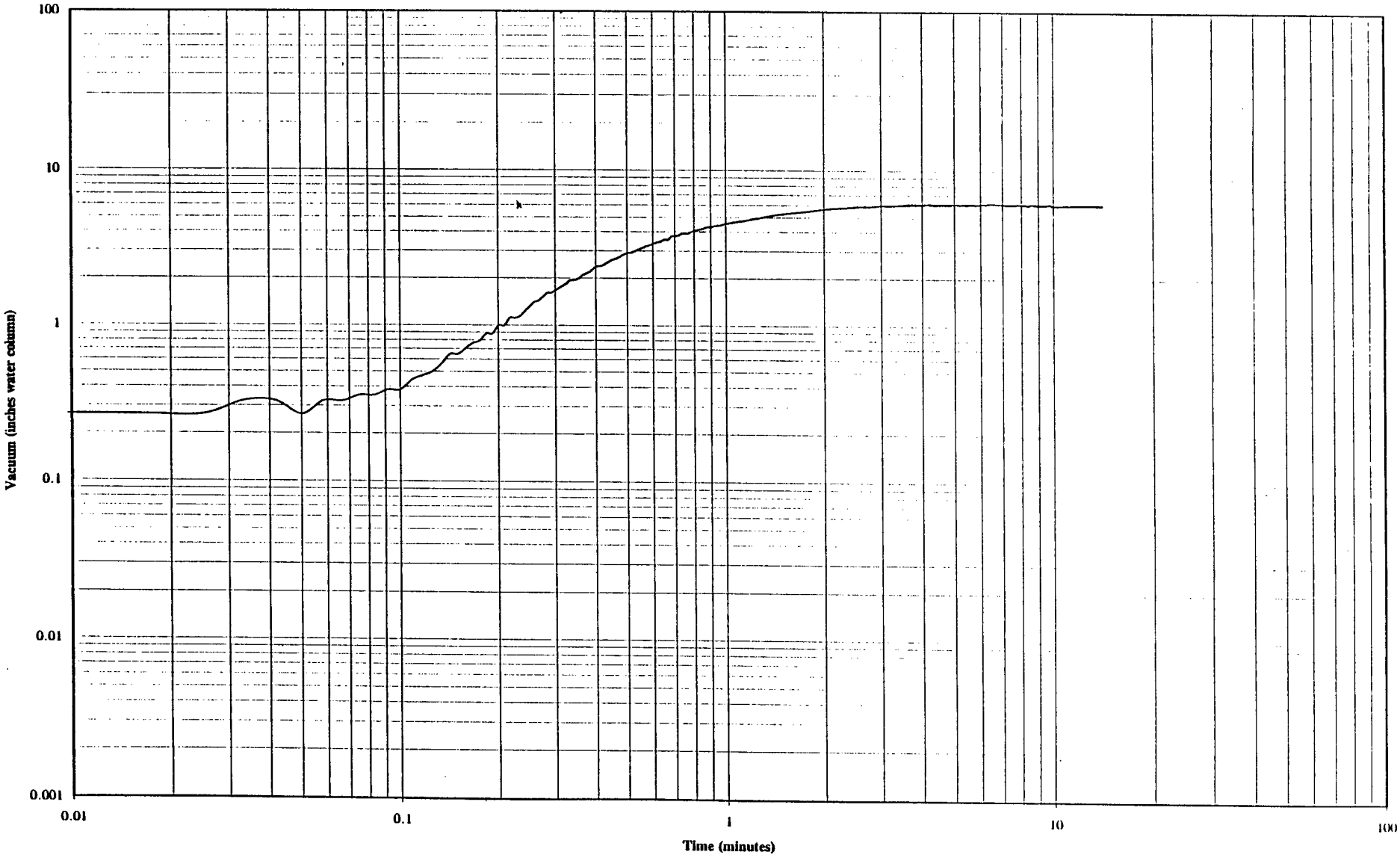
WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP2B TRANSIENT DATA



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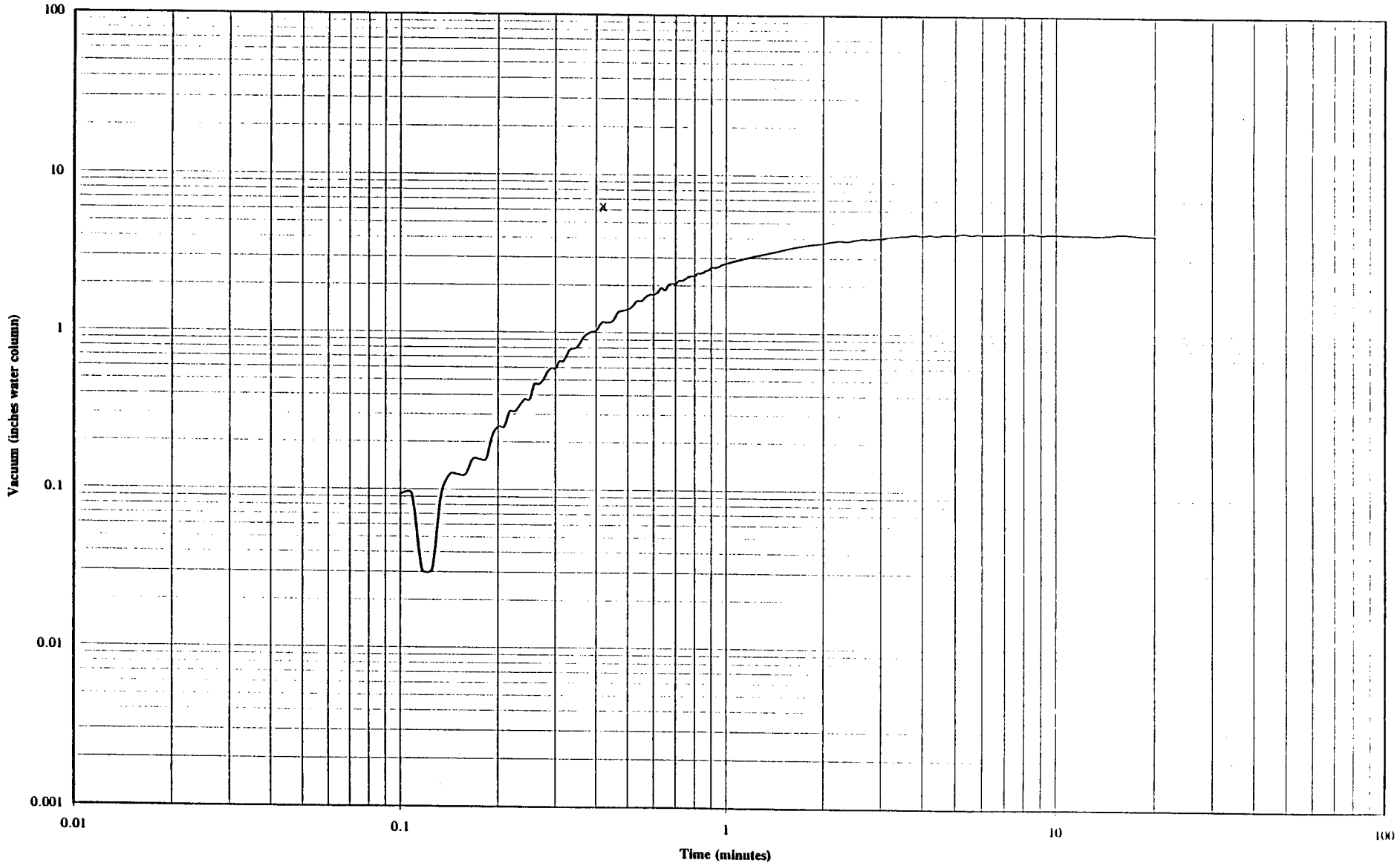
WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP3B TRANSIENT DATA



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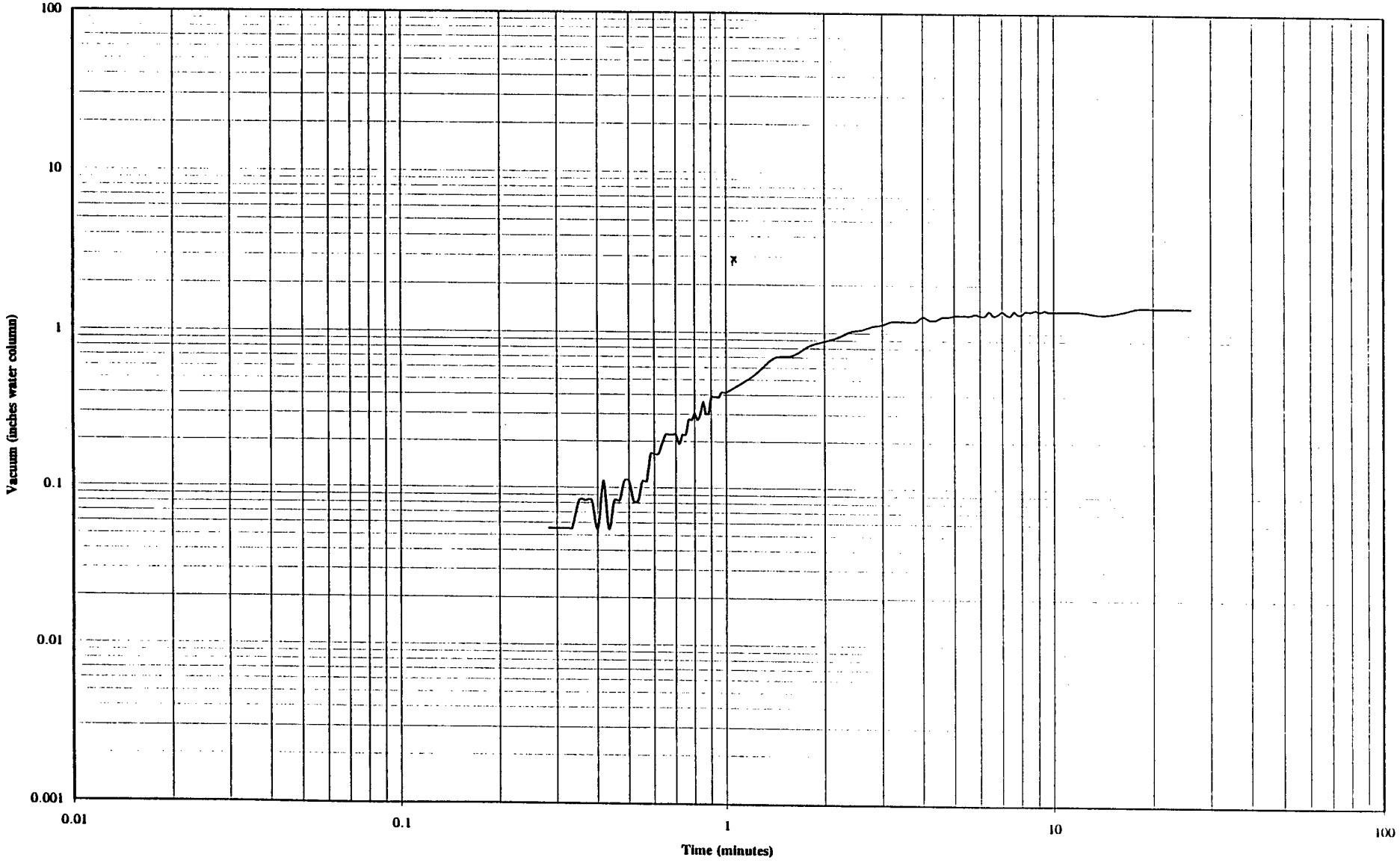
WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP4A TRANSIENT DATA



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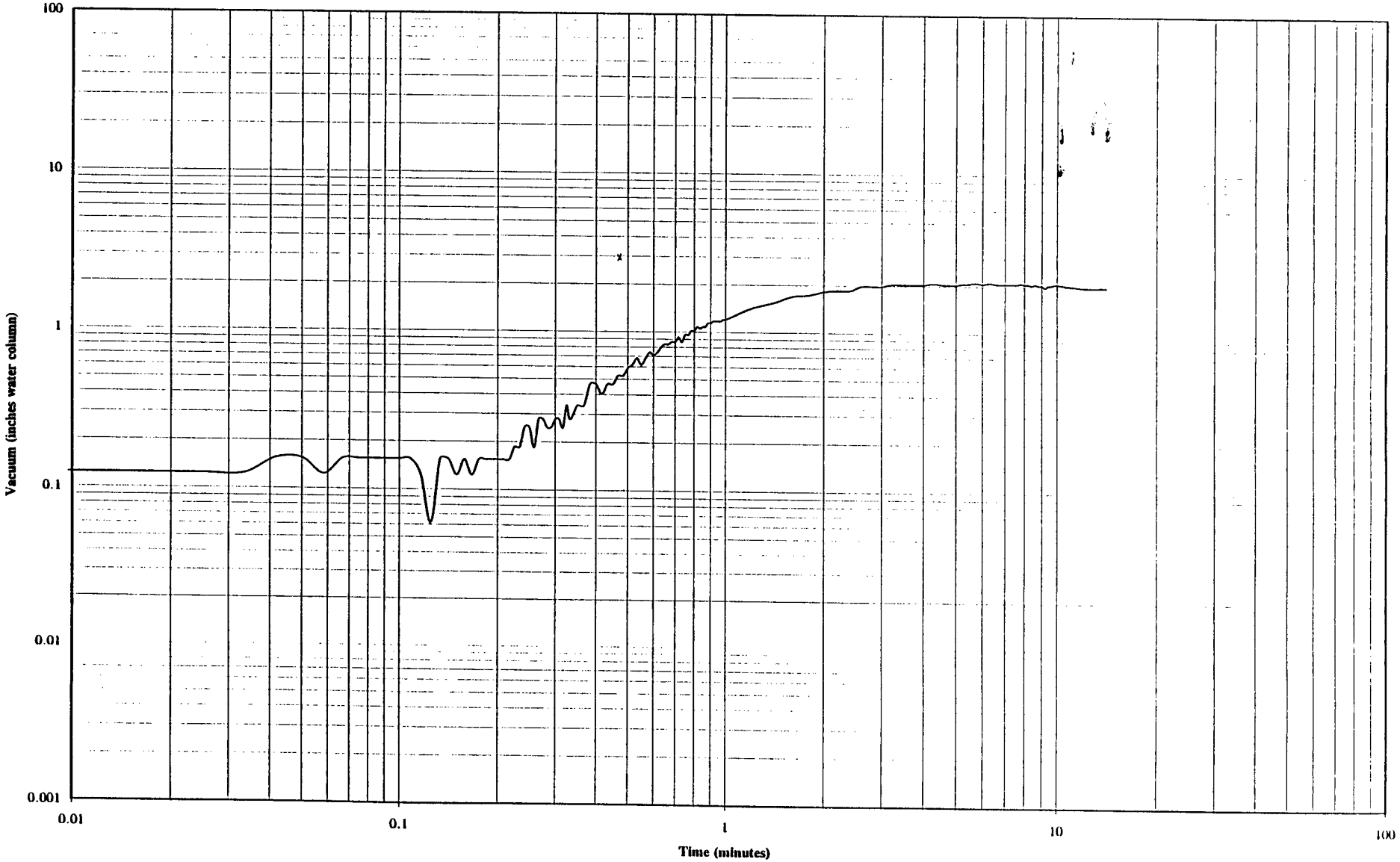
WURTSMITH AFB PILOT TESTING
SITE SS08A
WELL MP4B TRANSIENT DATA



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WURTSMITH PILOT TESTING
SITE SS08A
VACUUM EXTRACTION STEP TEST
November 25, 1997

STEP TEST (UP)

TIME	MP6 Vacuum (in H20)	Flow Rate (scfm)
16:45	Start Step Test	
16:51	3.10	29.30
16:56	3.00	29.30
17:00	3.00	29.30
17:02	5.00	
17:03	5.10	44.80
17:05	5.00	42.90
17:07	5.10	43.30
17:09	7.50	
17:11	7.50	63.90
17:13	7.60	63.60
17:15	7.50	61.00
17:17	7.50	61.00
17:18	10.00	
17:19	10.00	79.50
17:21	10.10	79.90
17:23	12.50	
17:24	12.50	98.40
17:25	12.50	98.30
17:27	12.50	98.30
17:28	15.00	
17:36	15.10	120.40
17:37	15.10	119.60
17:39	15.10	118.90
17:40	17.50	
17:43	17.50	139.20
17:45	17.50	136.90
17:47	17.50	134.70
17:49	17.50	134.80
17:50	20.00	
17:52	20.00	153.10
17:54	20.00	152.00
17:57	20.00	152.10
17:59	20.00	152.10
18:00	22.50	
18:03	22.50	170.30
18:05	22.50	169.80
18:07	22.50	170.00

STEP TEST (DOWN)

TIME	MP6 Vacuum (in H20)	Flow Rate (scfm)
18:12	20.00	
18:15	20.00	148.10
18:17	20.00	150.10
18:19	20.00	149.70
18:21	20.00	149.70
18:22	17.50	
18:24	17.50	128.50
18:26	17.50	131.20
18:28	17.50	131.60
18:30	17.50	131.20
18:32	15.00	
18:33	15.00	110.20
18:35	15.00	114.50
18:37	15.00	113.70
18:43	16.00	113.40
18:44	12.50	
18:47	12.50	95.00
18:49	12.50	95.00
18:51	12.50	95.00
18:52	10.00	
18:54	10.00	77.00
18:56	10.00	76.80
18:59	10.00	76.00
19:00	7.50	
19:01	7.50	55.40
19:03	7.50	57.70
19:05	7.50	57.70
19:06	5.00	
19:08	5.00	37.10
19:10	5.00	38.00
19:12	5.00	37.10
19:13	2.50	
19:14	2.50	22.30
19:16	2.50	20.70
19.18	2.50	20.70

End of Step Test

WURTSMITH PILOT TESTING
SITE SS08A
VACUUM EXTRACTION STEP TEST
November 25, 1997

STEP TEST (UP)

TIME	MP6 Vacuum (in H20)	Flow Rate (scfm)
16:45	Start Step Test	
16:51	3.10	29.30
16:56	3.00	29.30
17:00	3.00	29.30
17:02	5.00	
17:03	5.10	44.80
17:05	5.00	42.90
17:07	5.10	43.30
17:09	7.50	
17:11	7.50	63.90
17:13	7.60	63.60
17:15	7.50	61.00
17:17	7.50	61.00
17:18	10.00	
17:19	10.00	79.50
17:21	10.10	79.90
17:23	12.50	
17:24	12.50	98.40
17:25	12.50	98.30
17:27	12.50	98.30
17:28	15.00	
17:36	15.10	120.40
17:37	15.10	119.60
17:39	15.10	118.90
17:40	17.50	
17:43	17.50	139.20
17:45	17.50	136.90
17:47	17.50	134.70
17:49	17.50	134.80
17:50	20.00	
17:52	20.00	153.10
17:54	20.00	152.00
17:57	20.00	152.10
17:59	20.00	152.10
18:00	22.50	
18:03	22.50	170.30
18:05	22.50	169.80
18:07	22.50	170.00

STEP TEST (DOWN)

TIME	MP6 Vacuum (in H20)	Flow Rate (scfm)
18:12	20.00	
18:15	20.00	148.10
18:17	20.00	150.10
18:19	20.00	149.70
18:21	20.00	149.70
18:22	17.50	
18:24	17.50	128.50
18:26	17.50	131.20
18:28	17.50	131.60
18:30	17.50	131.20
18:32	15.00	
18:33	15.00	110.20
18:35	15.00	114.50
18:37	15.00	113.70
18:43	16.00	113.40
18:44	12.50	
18:47	12.50	95.00
18:49	12.50	95.00
18:51	12.50	95.00
18:52	10.00	
18:54	10.00	77.00
18:56	10.00	76.80
18:59	10.00	76.00
19:00	7.50	
19:01	7.50	55.40
19:03	7.50	57.70
19:05	7.50	57.70
19:06	5.00	
19:08	5.00	37.10
19:10	5.00	38.00
19:12	5.00	37.10
19:13	2.50	
19:14	2.50	22.30
19:16	2.50	20.70
19.18	2.50	20.70

End of Step Test

APPENDIX D

PILOT TEST DATA AND ANALYSES FOR SITE SS-08B

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL VAPOR EXTRACTION/AIR SPARGING SYSTEM DATA

Date	12/2/97	12/2/97	12/3/97	12/3/97	12/4/97	12/4/97	12/5/97	12/5/97	12/5/97	12/6/97	12/7/97	12/7/97	12/8/97	12/8/97	12/9/97	12/9/97	12/10/97	12/10/97	12/11/97	12/11/97
Time	2145	2215	822	1410	1910	1125	1945	835	1610	1240	1030	1530	1000	1600	930	1500	1030	1600	1700	2300
MP1A ("H2IO)	3.62	3.61	3.53	3.50	3.60	3.52		3.22	3.21	2.74	1.39	1.21	1.84	1.81	1.81	1.72	1.68	1.67	1.67	1.64
MP1B ("H2O)	5.19	5.06	4.89	4.88	4.95	4.81		3.61	3.66	1.68	1.40	1.30	2.42	2.32	2.34	1.91	1.82	1.84	1.91	1.91
MP2A ("H2O)	2.23	2.19	2.14	21.80	2.30	2.17		1.91	1.99	1.05	0.76	0.79	1.47	1.09	1.12	1.07	1.04	1.02	1.04	1.04
MP2B ("H2O)	2.72	2.63	2.55	2.59	2.54	2.50		2.23	2.29	1.25	0.88	0.89	1.38	1.89	1.32	1.23	1.22	1.22	1.23	1.22
MP3A ("H2O)	1.64	1.54	1.51	1.55	1.64	1.51		1.30	1.39	0.75	0.60	0.54	0.84	0.81	0.78	0.73	0.72	0.71	0.75	0.71
MP3B ("H2O)	1.82	1.71	1.67	1.70	1.81	1.69		1.49	1.48	0.78	0.66	0.58	0.93	0.89	0.87	0.81	0.79	0.79	0.83	0.75
MP4A ("H2O)	0.46	0.37	0.33	0.36	0.40	0.39		0.30	0.29	0.13	0.10	0.13	0.17	0.18	0.18	0.10	0.12	0.12	0.16	0.10
MP4B ("H2O)	0.55	0.46	0.41	0.45	0.50	0.46		0.37	0.36	0.15	0.13	0.16	0.21	0.23	0.23	0.12	0.16	0.16	0.21	0.15
MP5A ("H2O)	0.16	0.15	0.11	0.17	0.18	0.16		0.13	0.11	0.03	0.09	0.06	0.10	0.09	0.07	0.03	0.05	0.04	0.11	0.05
MP5B ("H2O)	0.21	0.20	0.16	0.20	0.23	0.19		0.18	0.15	0.07	0.10	0.08	0.12	0.11	0.09	0.08	0.07	0.06	0.14	0.70
MP6 ("H2O)	13.50	13.78	13.90	13.99	14.14	14.10	14.19	14.02	13.98	7.95	6.04	5.79	7.90	7.85	7.80	7.80	7.70	7.62	7.64	7.66
VE1 ("H2O)	15.54	15.90	15.98	16.15	16.30		16.44	16.22	16.22	8.91	6.80	6.60	8.87	8.84	8.85	8.79	8.70	8.67	8.65	8.68
Blower Vacuum ("H2O)	30*	30*	29.40	30.30	29.90	30.40	30.00	30.12	30.20	13.83	10.31	9.02	13.36	13.30	13.36	13.17	13.10	13.17	13.13	13.24
SVE Flow Rate (scfm)	175.10	174.75	173.59	172.83	171.17	171.14	170.96	171.74	170.91	105.21	92.33	86.98	105.39	108.61	105.96	105.92	109.23	107.41	108.11	109.61
Blower Pressure ("H2O)			11.40	10.52	10.53	10.45	10.43	10.45	10.95	4.45	3.40	2.81	4.50	4.52	4.50	4.42	4.45	4.45	4.47	4.46
Carbon Pressure ("H20)	10.30	10.15	10.15	10.02	10.15	9.95	9.95	9.95	9.95	3.95	3.09	4.15	4.05	4.17	4.10	4.10	4.12	4.15	4.17	4.20
Sparge Pressure (psi)							12.3	7.8	7.0	8.7	9.7	10.0	13*	13.5*	17*	17*	20*	23*	>30*	>30*
Sparge He %							1.90	1.80	1.80	1.60	1.80	1.80	1.80	1.80	1.80	1.80	1.60	1.60	1.70	2.10
VE Blower Temp (F)			29.0	30.0	29.0	29.0	29.0	27.5												
Sparge Temp (F)							128	124	114	110	112	120	120	120	114	122	112	112	120	118
Extracted Vapor Temp (F)	45.0	45.0	45.0	45.0	44.0	43.5			42.8	42.8	41.0	41.0	42.8	42.8	41.0	41.0	42.8	42.8	64.4*	59*
Sparge Flow Rate (cfm)							15.00	-	-	15.50	15.50	15.00	14.50	15.00	15.00	15.00	15.00	15.00	13.00	13.00
Helium Flow Rate (units)							130.00	130.00	130.00	128.00	125.00	125.00	130.00	130.00	130.00	130.00	130.00	130.00	140.00	135.00
SF6 Flow Rate (units)							40.00	40.00	40.00	40.00	40.00	11.00	38.00	38.00	37.00	25.00	40.00	40.00	80.00	80.00
Helium Pressure (psi)									400.00	2200.00	750.00	600.00	1300.00	1100.00	500.00	400.00	1700.00	1500.00	750.00	550.00
SF6 Pressure (psi)									150.00	145.00	40.00	0.00	150.00	180.00	180.00	190.00	180.00	175.00	120 psi	110.00
Sparge On Pulse							10	10	10	10	10	5	5	5	5	5	5	5	5	5
Sparge Off Pulse							0	0	0	0	0	5	5	5	5	5	5	5	5	5
Pre-Carbon PID (ppm)	3.30	3.40	0-1.0	1.0-3.2	~1.0	-	1.60	1.20												
Post-Carbon PID (ppm)	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00												
Ambient Temperature								30° F	30° F	30° F	25° F		30° F	35° F	28° F	32° F	32° F		25° F	23° F
Weather Conditions					Rain			Clear	Windy Clear	Snow Cloudy	Clear to Cloudy	Clear to Cloudy	Cloudy	Clear	Cloudy	Cloudy	Cloudy		Cloudy	Cloudy
Ground Cover					Wet			Sl. snow	None	None	None	None	None	None	None	None	None		None	None

Constant rate vapor extraction began on 12/2/97 at 21:35.
Constant rate air sparging began on 12/4/97 at 16:00.
Vapor extraction rate decreased on 12/6/97 at 11:30.
Pulsed rate sparging started on 12/7/97 at 15:30 (50% on 50% off).
Vapor extraction and air sparging ended on 12/11/97 at 2330.

WURTSMITH AFB PILOT TESTING
SITE SS08B
STEADY STATE SOIL PERMEABILITY CALCULATIONS
EFFECTIVE RADIUS METHOD

SS08Beq1	n or b (ft)	P_{atm} (psi)	Q_v (scfm)	P_{atm}-P* (in. H_2O)	P_{atm}-P (ft H_2O)	r (ft)	r_e (ft)	μ (kg/m,sec)	Air temp. °F	k_a (m^2)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1	15	14.25	175.2	13.8	4.21	3.98	44	1.76E-05	45	1.12E-10	113.8	6.30	0.10	271.94
MP2	15	14.25	175.2	13.8	2.15	9.71	44	1.76E-05	45	1.38E-10	139.8	7.74	0.12	333.98
MP3	15	14.25	175.2	13.8	1.59	14.82	44	1.76E-05	45	1.34E-10	136.0	7.53	0.11	325.01
MP4	15	14.25	175.2	13.8	0.37	27.16	44	1.76E-05	45	2.55E-10	258.8	14.33	0.22	618.23
MP5	15	14.25	175.2	13.8	0.14	38.91	44	1.76E-05	45	1.72E-10	174.2	9.65	0.15	416.23

WURTSMITH AFB PILOT TESTING
SITE SSO8B
STEADY STATE SOIL PERMEABILITY CALCULATIONS
TWO WELL METHOD

Observation Well Pair	Steady State Vacuum at Well 1	Steady State Vacuum at Well 2	r_1 (ft)	r_2 (ft)	P_{atm}-P* (in. H_2O)	Q_v (scfm)	μ (kg/m,sec)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1-MP2	4.21	2.15	3.98	9.71	13.8	175	1.76E-05	86.6	4.79	7.30E-02	2.07E+02
MP1-MP3	4.21	1.59	3.98	14.82	13.8	175	1.76E-05	68.0	3.77	5.73E-02	1.63E+02
MP1-MP4	4.21	0.37	3.98	27.16	13.8	175	1.76E-05	99.8	5.53	8.41E-02	2.38E+02
MP1-MP5	4.21	0.14	3.98	38.91	13.8	175	1.76E-05	111.7	6.19	9.42E-02	2.67E+02
MP2-MP3	2.15	1.59	9.71	14.82	13.8	175	1.76E-05	150.5	8.33	1.27E-01	3.60E+02
MP2-MP4	2.15	0.37	9.71	27.16	13.8	175	1.76E-05	115.0	6.37	9.69E-02	2.75E+02
MP2-MP5	2.15	0.14	9.71	38.91	13.8	175	1.76E-05	137.4	7.61	1.16E-01	3.28E+02
MP3-MP4	1.59	0.37	14.82	27.16	13.8	175	1.76E-05	98.7	5.47	8.32E-02	2.36E+02
MP3-MP5	1.59	0.14	14.82	38.91	13.8	175	1.76E-05	132.3	7.33	1.12E-01	3.16E+02
MP4-MP5	0.37	0.14	27.16	38.91	13.8	175	1.76E-05	310.3	17.18	2.61E-01	7.41E+02

WURTSMITH AFB PILOT TESTING
SITE SS08B
STEADY STATE SOIL PERMEABILITY CALCULATIONS
PSEUDO STEADY STATE METHOD

Observation Well Pair	Steady State Vacuum at Well 1	Steady State Vacuum at Well 2	r_1 (m)	r_2 (m)	Q_v (m^3/min)	μ (kg/m,sec)	k_a (m^2)	k_a (darcies)	K_a (cm/sec)	K_w (cm/sec)	K_w (ft/day)
MP1-MP2	4.21	2.15	1.21	2.96	4.96	1.76E-05	1.34E-11	13.56	0.75	6.33E-04	1.79
MP1-MP3	4.21	1.59	1.21	4.52	4.96	1.76E-05	1.55E-11	15.72	0.87	7.34E-04	2.08
MP1-MP4	4.21	0.37	1.21	8.28	4.96	1.76E-05	1.55E-11	15.67	0.87	7.31E-04	2.07
MP1-MP5	4.21	0.14	1.21	11.86	4.96	1.76E-05	1.73E-11	17.55	0.97	8.19E-04	2.32
MP2-MP3	2.15	1.59	2.96	4.52	4.96	1.76E-05	2.34E-11	23.65	1.31	1.10E-03	3.13
MP2-MP4	2.15	0.37	2.96	8.28	4.96	1.76E-05	1.79E-11	18.10	1.00	8.45E-04	2.39
MP2-MP5	2.15	0.14	2.96	11.86	4.96	1.76E-05	2.41E-11	24.43	1.35	1.14E-03	3.23
MP3-MP4	1.59	0.37	4.52	8.28	4.96	1.76E-05	1.54E-11	15.56	0.86	7.26E-04	2.06
MP3-MP5	1.59	0.14	4.52	11.86	4.96	1.76E-05	2.06E-11	20.86	1.15	9.73E-04	2.76
MP4-MP5	0.37	0.14	8.28	11.86	4.96	1.76E-05	4.83E-11	48.97	2.71	2.28E-03	6.48

WURTSMITH AFB PILOT TESTING
SITE SS08B
TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Well	W(u,r/B)	1/u	r/B	Vacuum (match point)	Time (match point)	r (ft)	Ka (darcies)	Kw (cm/sec)	Kw (ft/day)	na	K'w (cm/sec)
MP1A	1	1	0.62	3.1	0.011	5.11	40.10	3.38E-02	95.80	0.24	7.46E-03
MP1B	1	1	0.62	4.3	0.013	5.11	28.90	2.44E-02	69.00	0.2	5.38E-03
MP2B	1	1	1.91	11.0	0.120	10.25	11.30	9.52E-03	27.00	0.18	4.96E-03
MP3A	1	1	1.65	5.6	0.165	15.64	22.20	1.87E-02	53.00	0.21	3.12E-03
MP3B	1	1	1.91	8.5	0.190	15.64	14.60	1.23E-02	34.90	0.16	2.76E-03
MP4A	1	1	3.19	8.1	0.730	24.27	15.30	1.29E-02	36.70	0.27	3.35E-03
MP4B	1	1	3.19	10.5	0.730	24.27	11.80	9.97E-03	28.30	0.21	2.58E-03

Air injection rate = 206.6 scfm
u = 1.8E-5 kg/m sec^2
Patm = 14.35 psi
m = 15 feet

WURTSMITH AFB PILOT TESTING
SITE SS08B
STEADY STATE SOIL PERMEABILITY CALCULATIONS
EFFECTIVE RADIUS METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1

Assume: Steady state conditions ($u < 0.01$)
One dimensional flow

Equation:
$$k_a = \frac{Q_v P^* \mu}{pi\ b} \cdot \frac{\ln(r_e/r)}{P^2 - P_{atm}^2}$$

where:

Q_v	=	volumetric flow rate (L^3/T)
P^*	=	absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)
P	=	absolute pressure at the observation well. (M/LT^2)
P_{atm}	=	atmosphere pressure (absolute) dury test (M/LT^2)
μ	=	dynamic viscosity of soil gas (M/LT)
pi	=	3.1415926
b	=	Aquifer thickness (L)
r_e	=	radius of pressure influence (L)
r	=	Distance from VE1 to observation well (L)
k_a	=	apparent air permeability (L^2)

Input:	Q_v =	175.20 scfm	=	0.082679	m^3/sec
	P_{atm} =	29.03 in Hg	=	98266.3	kg/m sec^2
	P*diff =	13.80 in H_20	=	3436.107	kg/m sec^2
at 46F	μ =	1.76E-05 kg/m sec			
	b =	15 feet	=	4.572	m
	r_e =	44 feet	=	13.4112	m
	r =	3.98 feet	=	1.213104	m
	P diff =	4.21 in H_2O	=	1048.262	kg/m sec^2
Calculated:	P* =	94830.19 kg/m sec^2			
	P =	97218.04 kg/m sec^2			
	k_a =	1.12E-10 m^2	=	113.8281	darcies
	K_a =	6.302663 cm/sec			
	K_w =	9.59E-02 cm/sec	=	271.9416	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08B
STEADY STATE SOIL PERMEABILITY CALCULATIONS
TWO WELL STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume: Steady state conditions (u < 0.01)
One dimensional flow

Equation: $$k_a = \frac{Q_v P^* \mu}{pi\ b} \cdot \frac{\ln(r_2/r_1)}{P_2^2 - P_1^2}$$

where:

Q_v =	volumetric flow rate (L^3/T)	
P* =	absolute pressure at the point of flow measurement, adjusted for well loss (M/LT^2)	
μ =	dynamic viscosity of soil gas (M/LT)	
pi =	3.1415926	
b =	Aquifer thickness (L)	
r_1 =	distance to observation well no. 1 (L)	
r_2 =	distance to observation well no. 2 (L)	
P_1 =	absolute pressure at well no. 1 (M/LT^2)	
P_2 =	absolute pressure at well no. 2 (M/LT^2)	
k_a =	apparent air permeability (L^2)	

Input:	Q_v =	175.20 scfm	=	0.082679	m^3/sec
	P_{atm} =	29.03 in Hg	=	98266.3	kg/m sec^2
	P*diff =	13.80 in H_20	=	3436.107	kg/m sec^2
at 46F	μ =	1.76E-05 kg/m sec			
	b =	15 feet	=	4.572	m
	r_1 =	3.98 feet	=	1.213104	m
	r_2 =	9.71 feet	=	2.959608	m
	P_1 diff =	4.21 in H_2O	=	1048.262	kg/m sec^2
	P_2 diff =	2.15 in H_2O	=	535.3355	kg/m sec^2
Calculated:	P* =	94830.19 kg/m sec^2			
	P_1 =	97218.04 kg/m sec^2			
	P_2 =	97730.96 kg/m sec^2			
	k_a =	8.55E-11 m^2	=	86.58088	darcies
	K_a =	4.793983 cm/sec			
	K_w =	7.30E-02 cm/sec	=	206.8464	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08B
STEADY STATE SOIL PERMEABILITY CALCULATIONS
PSEUDO STEADY STATE METHOD

Steady State Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
Theoretical basis for these calculations is provided in USACE Soil Vapor Extraction and Bioventing Manual, Chapter 2

MP1-MP2

Assume: steady state conditions
One dimensional flow

Equation: $k_a = \frac{Q_v \mu}{4 \pi b} \frac{\ln(r_2/r_1)}{P_2 - P_1}$

where:
- Q_v = volumetric flow rate (L^3/T)
- μ = dynamic viscosity of soil gas (M/LT)
- pi = 3.1415926
- b = Aquifer thickness (L)
- r_1 = distance to observation well no. 1 (L)
- r_2 = distance to observation well no. 2 (L)
- P_1 = absolute pressure at well no. 1 (M/LT^2)
- P_2 = absolute pressure at well no. 2 (M/LT^2)
- k_a = apparent air permeability (L^2)

Input:

Q_v =	175.20 scfm	=	0.082679	m^3/sec
P_{atm} =	29.03 in Hg	=	98266.3	kg/m sec^2

Temp (F) 45

μ =	1.76E-05 kg/m sec			
b =	15 feet	=	4.572	m
r_1 =	3.98 feet	=	1.213104	m
r_2 =	9.71 feet	=	2.959608	m
P_1 diff =	4.21 in H_2O	=	1048.262	kg/m sec^2
P_2 diff =	2.15 in H_2O	=	535.3355	kg/m sec^2

Calculated:

P_1 =	97218.04 kg/m sec^2			
P_2 =	97730.96 kg/m sec^2			
k_a =	1.34E-11 m^2	=	13.56388	darcies
K_a =	0.751032 cm/sec			
K_w =	1.14E-02 cm/sec	=	32.40485	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08B
TRANSIENT TEST CALCULATIONS BASED ON TYPE CURVE MATCHES

Transient Solution for One Dimensional Radial Flow
Soil Vapor Extraction Pilot Testing
MP1A

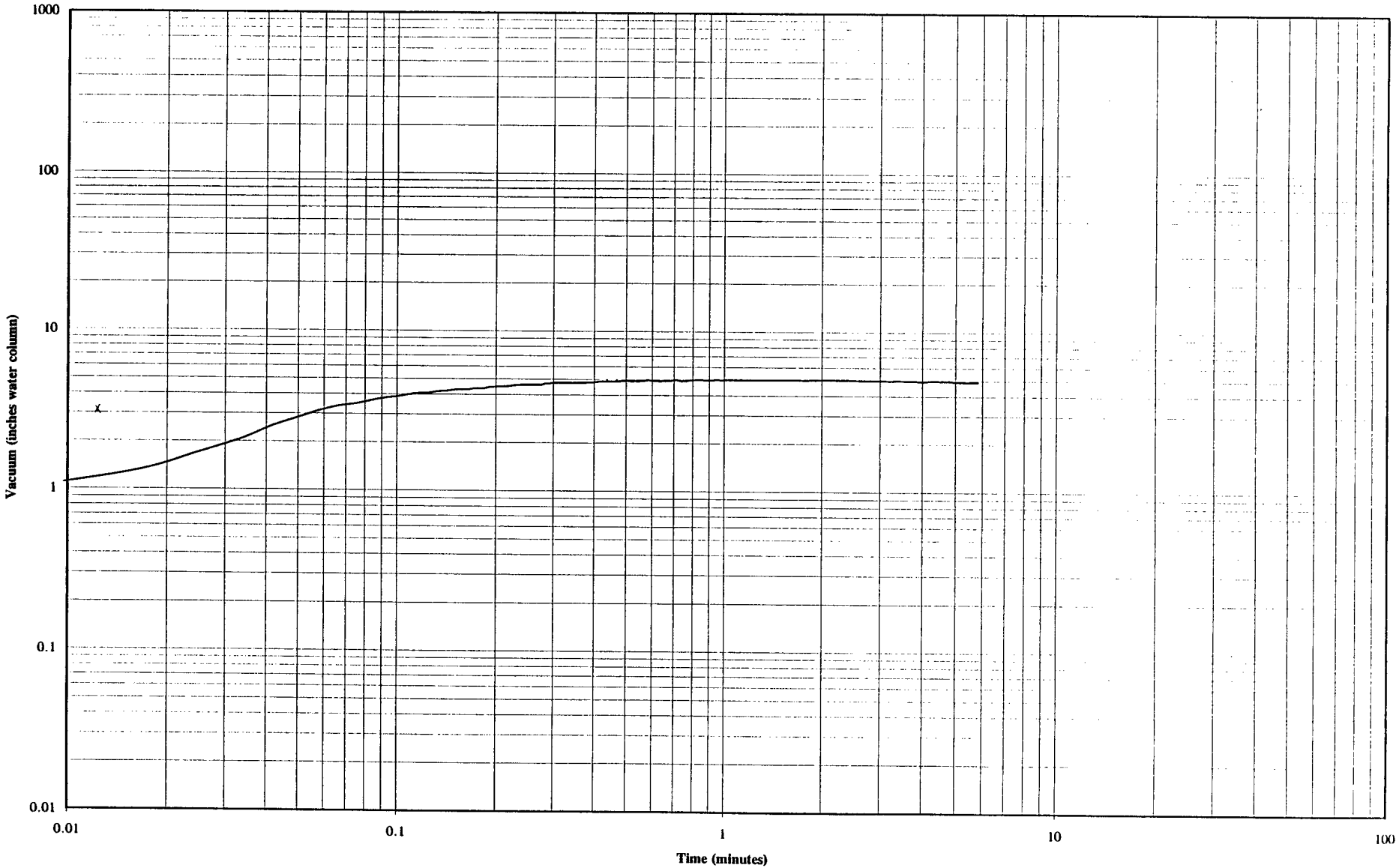
Assume: One dimensional flow

Equations: $ka = \frac{Qv\ u}{4\ pi\ b} \frac{W(u/B)}{(P - Patm)}$ $na = \frac{4\ ka\ (P\text{-}Patm)\ t\ u}{r^2\ u}$ $B^2 = \frac{Kr\ m\ m'}{K'}$

where:
- Qv = volumetric flow rate (L^3/T)
- P-Patm = guage vacuum obtained at match point (H2O")
- *u* = dynamic viscosity of soil gas (M/LT)
- pi = 3.1415926
- b = vadose zone thickness (L)
- (u, r/B) = leaky well function (obtained from type curve match point)
- 1/u = obtained from match point on type curve
- t = time obtained from type curve match point
- Patm = absolute atmospheric pressure
- ka = apparent air permeability (L^2)
- Kr = vadose zone conductivity (L^2/T)
- K' = surface seal conductivity (L^2/T)
- r/B = type curve value
- m = vadose zone thickness (L)
- m' = surface seal thickness (L)

Input:	Qv =	206.6	scfm	=	0.097497	m^3/sec
	(P-Patm)=	3.1	in H20	=	771.9	kg/m sec^2
	u =	1.80E-05	kg/m sec			
	b =	15	feet	=	4.572	m
	W(u,r/B) =	1				
	u=	1				
	r/B =	0.62	(from matching curve)			
	t =	0.011	minutes	=	0.66	seconds
	Patm =	14.35	psi	=	98907.38	kg/msec^2
	r=	5.11	feet	=	1.55855	m
	m' =	1	feet	=	0.305	m
Calculated:	ka =	3.96E-11	m^2	=	40.08	darcies
	Ka =	2.22	cm/sec			
	Kw =	3.38E-02	cm/sec	=	95.75	ft/day
	na =	0.236323				
	B =	8.24				
	K' =	7.46E-03	cm/sec	=	21.14	ft/day

WURTSMITH AFB PILOT TESTING
SITE SS08B
WELL MP1A TRANSIENT DATA



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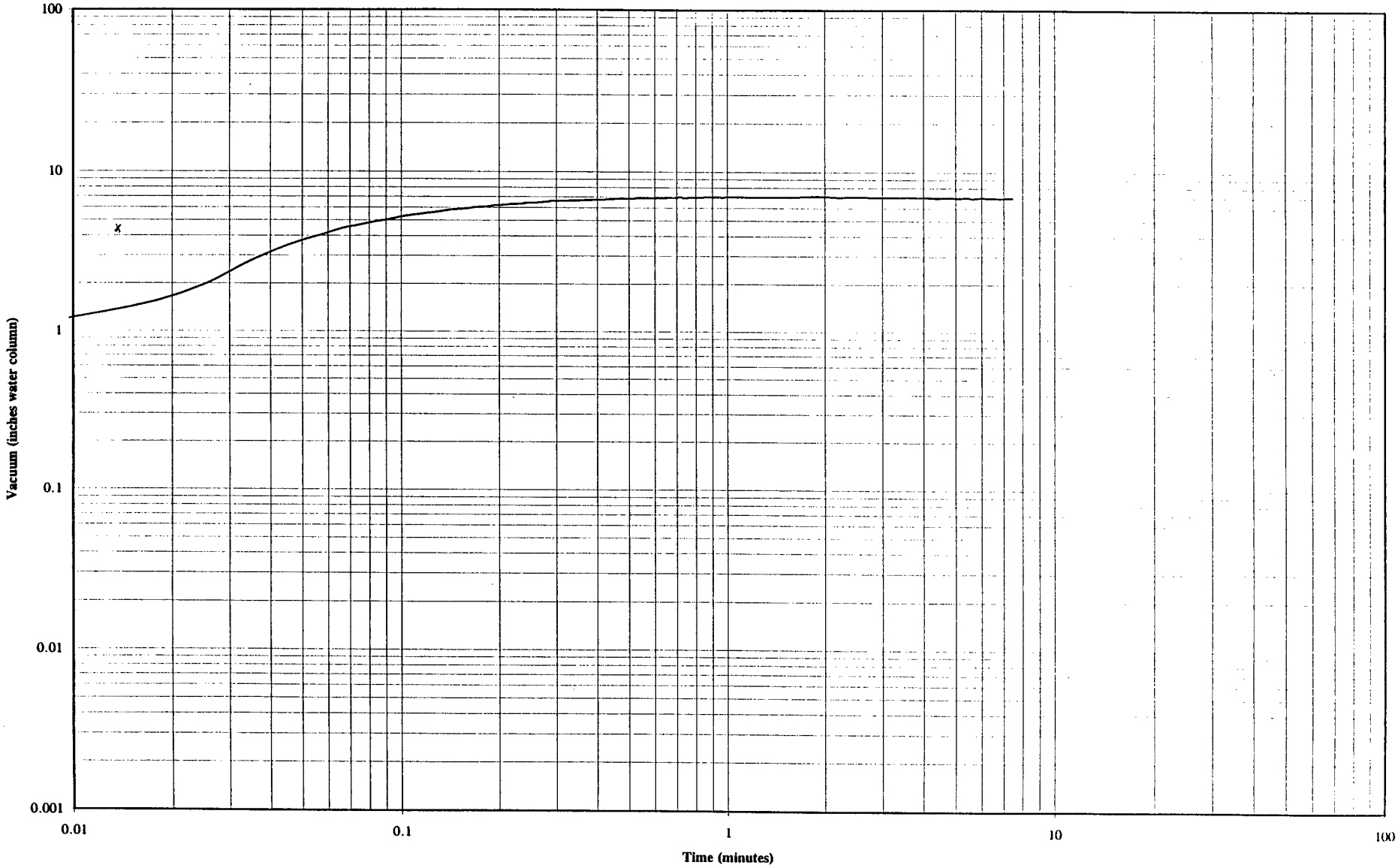
WURTSMITH AFB PILOT TESTING
SITE SS08B
WELL MP1B TRANSIENT DATA



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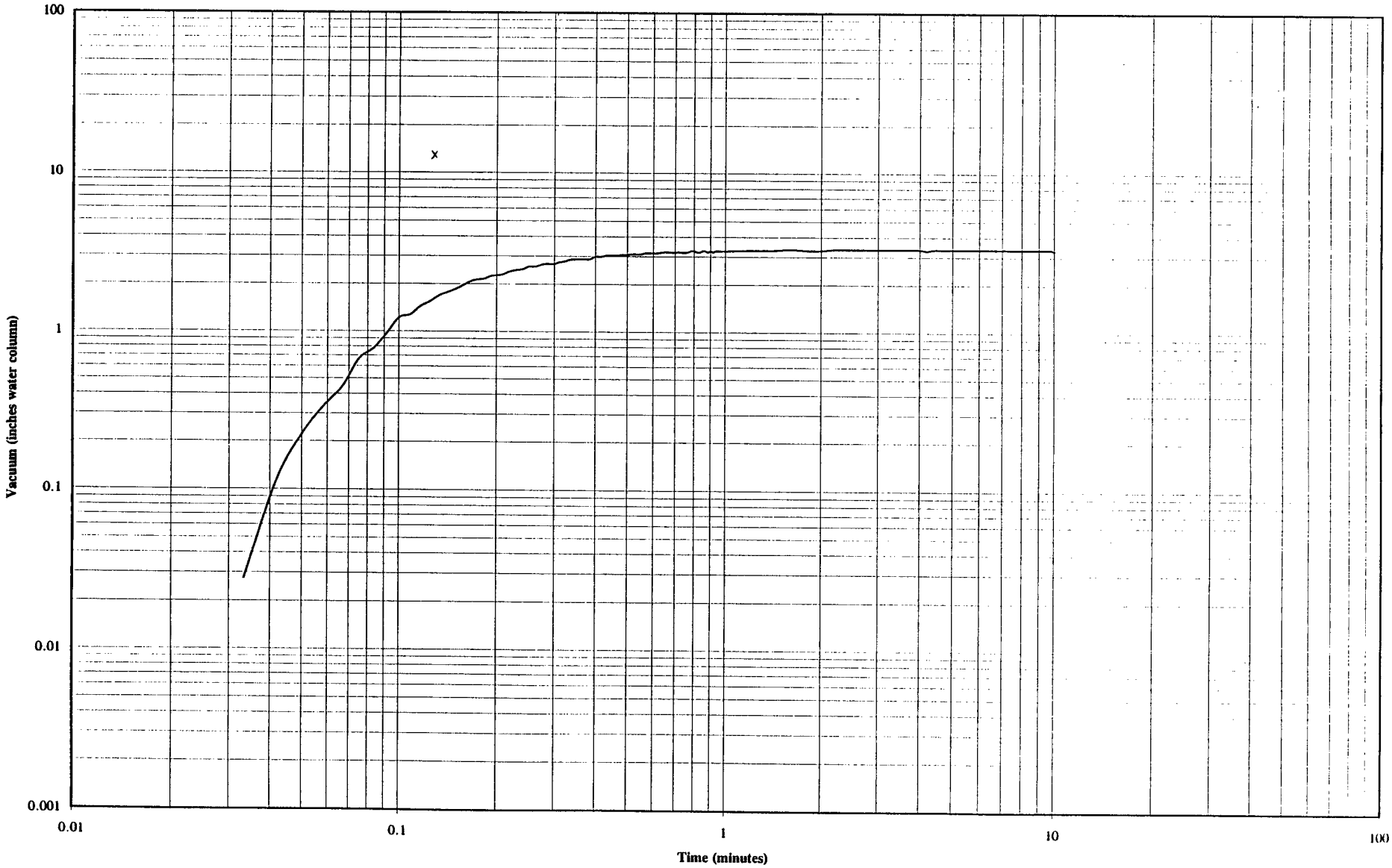
WELL MP2B TRANSIENT DATA



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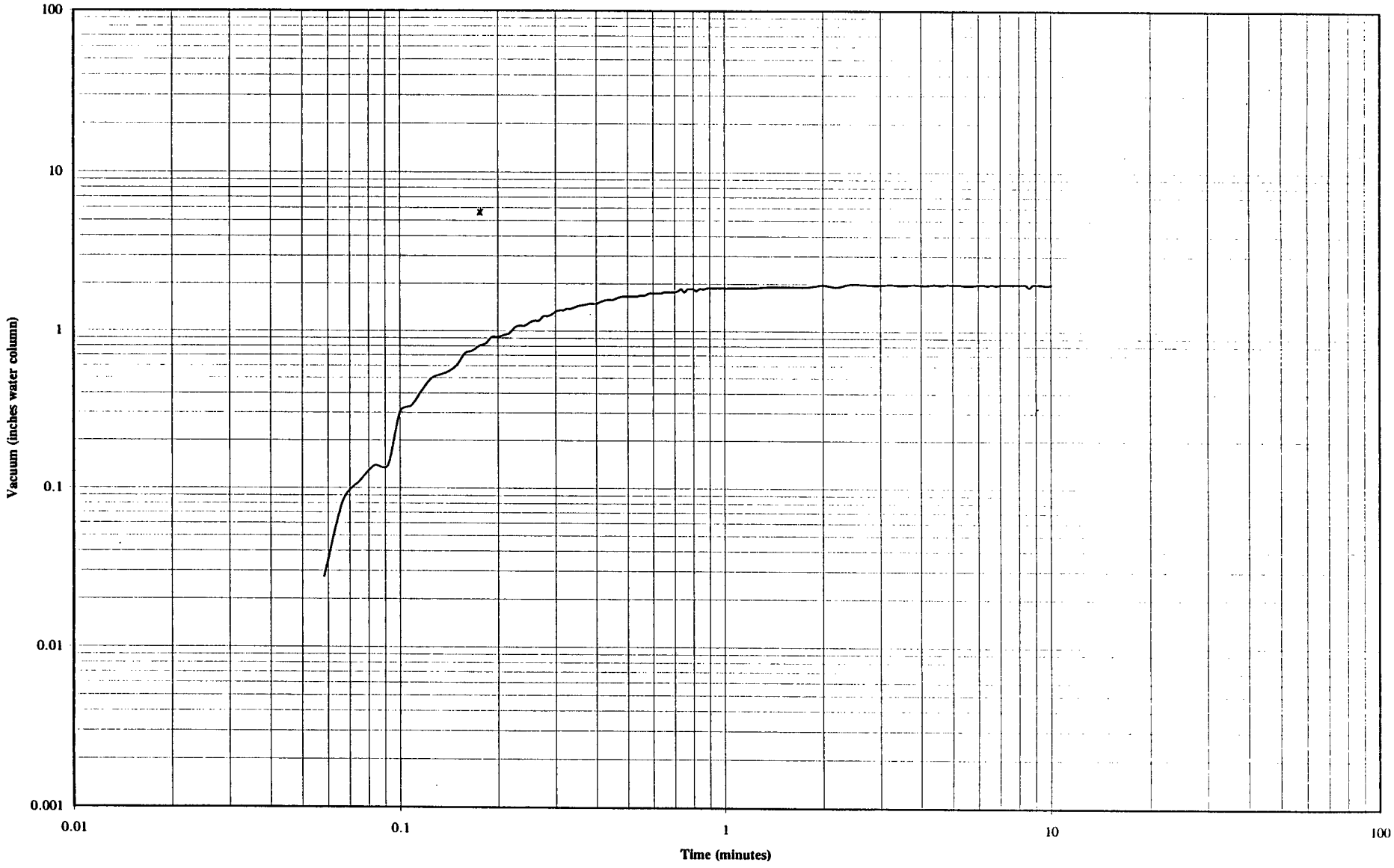
WURTSMITH AFB PILOT TESTING
SITE SS08B
WELL MP3A TRANSIENT DATA



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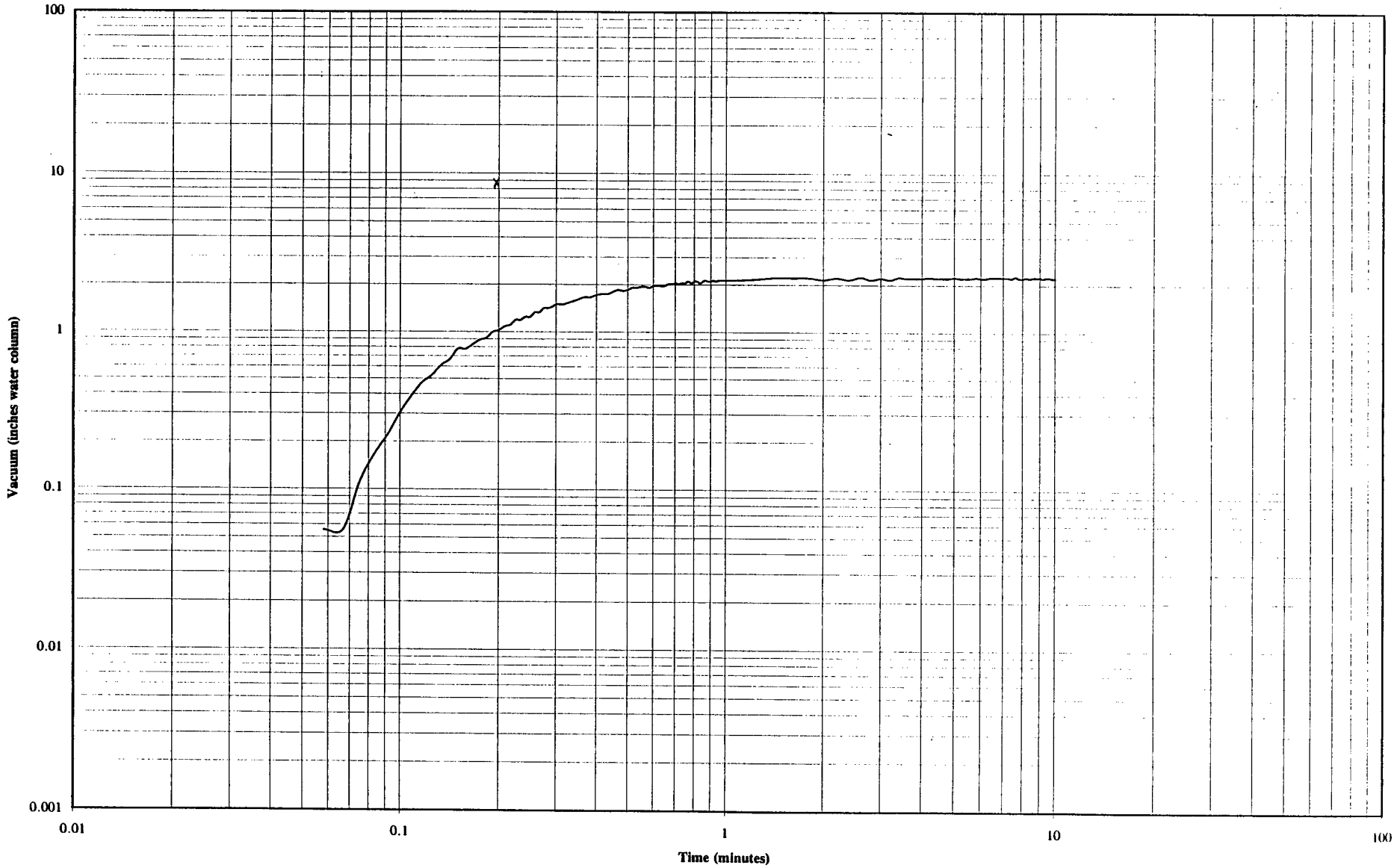
SITE SS08B
WELL MP3B TRANSIENT DATA



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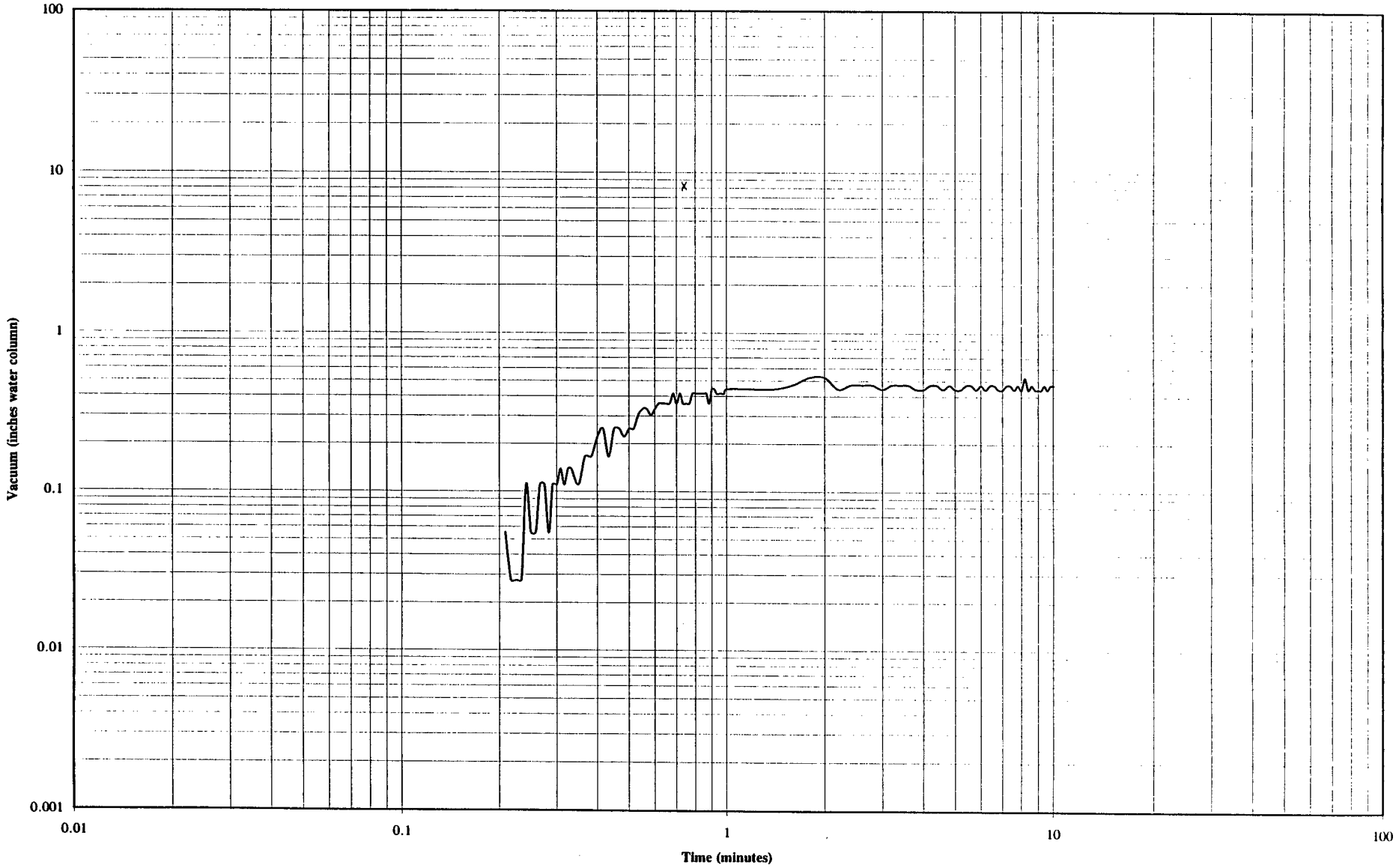
WURTSMITH AFB PILOT TESTING
SITE SS08B
WELL MP4A TRANSIENT DATA



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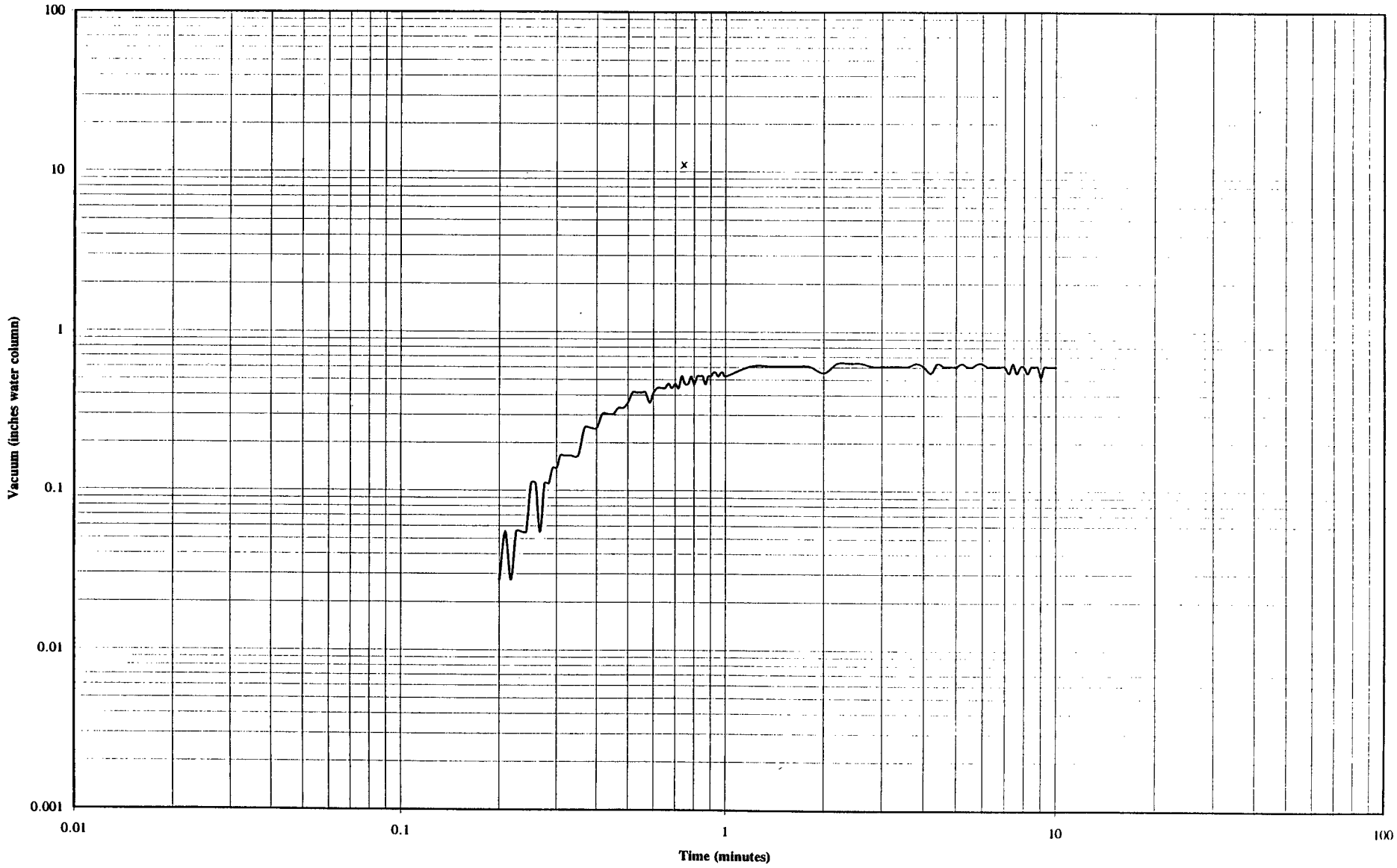
SITE SS08B
WELL MP4B TRANSIENT DATA



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WURTSMITH PILOT TESTING
SITE SSO8B
VACUUM AND PRESSURE STEP TESTS
December 2, 1997

VACUUM STEP TEST (UP)

Time	MP6 Vacuum (in H2O)	Flow Rate (scfm)
11:05	start test	
11:21	2.5	34.7
11:23	2.5	35.6
11:25	2.5	35.6
11:26	5.0	
11:27	5.0	65.4
11:29	5.0	65.4
11:31	5.0	65.4
11:32	7.5	
11:33	7.5	95.8
11:34	7.5	95.8
11:36	7.5	96.0
11:39	10.0	
11:41	10.0	121.3
11:43	10.0	121.3
11:45	10.0	121.3
11:46	12.5	
11:47	12.5	151.0
11:49	12.5	150.2
11:51	12.5	150.5
11:43	15.0	
11:55	15.0	178.0
11:57	15.0	177.1
11:59	15.9	177.3
12:00	16.4	
12:03	16.4	192.3
12:05	16.4	192.3
12:07	16.4	192.4

VACUUM STEP TEST (DOWN)

Time	MP6 Vacuum (in H2O)	Flow Rate (scfm)
12:10	15.0	
12:12	15.0	175.8
12:14	15.0	175.5
12:16	15.0	175.5
12:17	12.5	
12:19	12.5	147.5
12:21	12.5	146.4
12:23	12.5	146.9
12:26	10.0	
12:27	10.0	117.6
12:29	10.0	117.3
12:31	10.0	117.3
12:32	7.5	
12:34	7.5	89.0
12:36	7.5	89.6
12:38	7.5	89.0
12:40	5.0	
12:41	5.0	59.0
12:43	5.0	59.0
12:45	5.0	59.2
12:46	2.5	
12:48	2.5	31.6
12:50	2.5	30.6
12:52	2.5	31.1

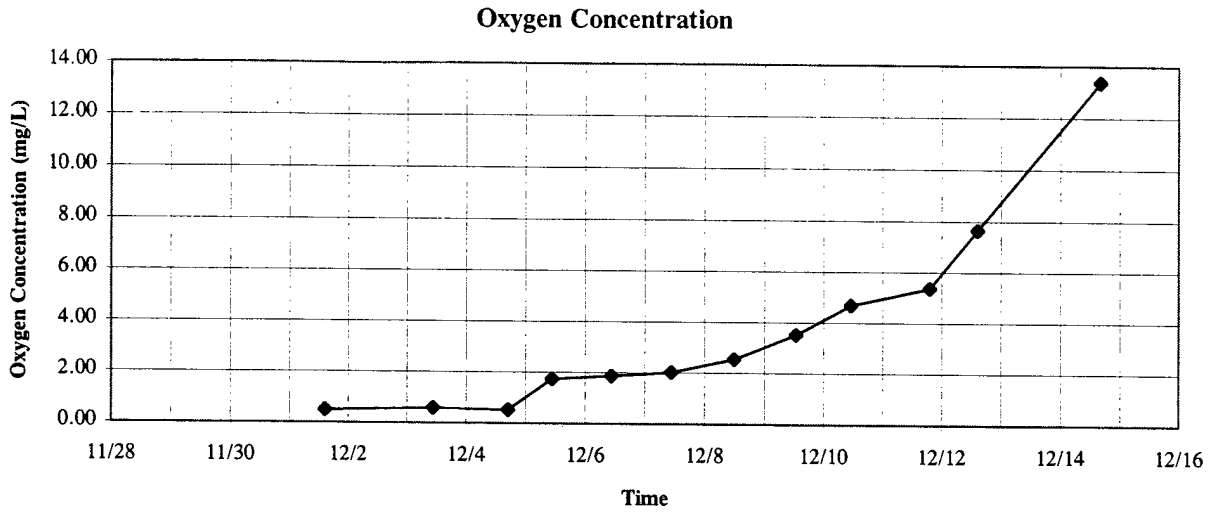
end of vacuum step test

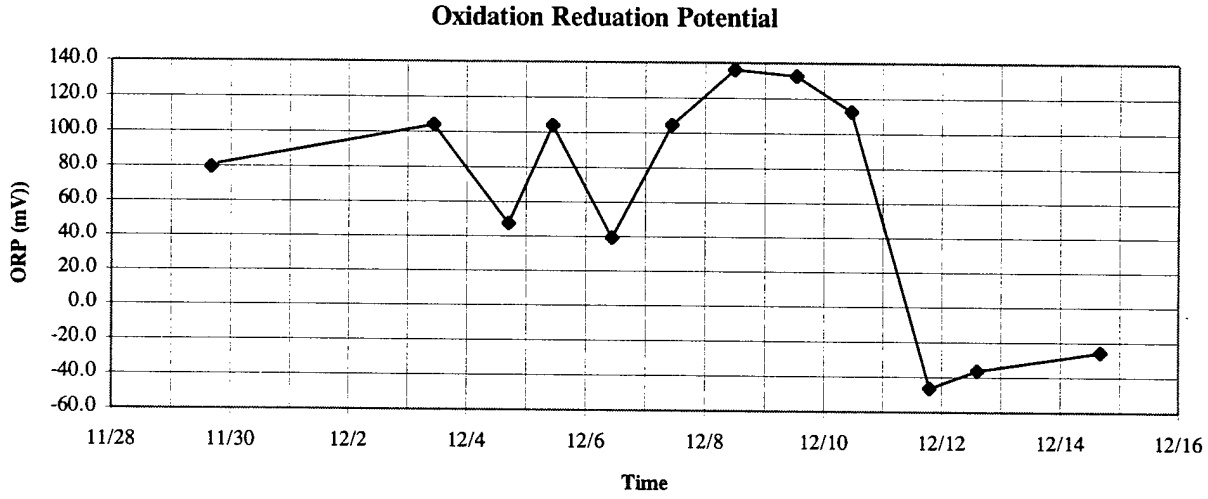
PRESSURE STEP TEST (UP)

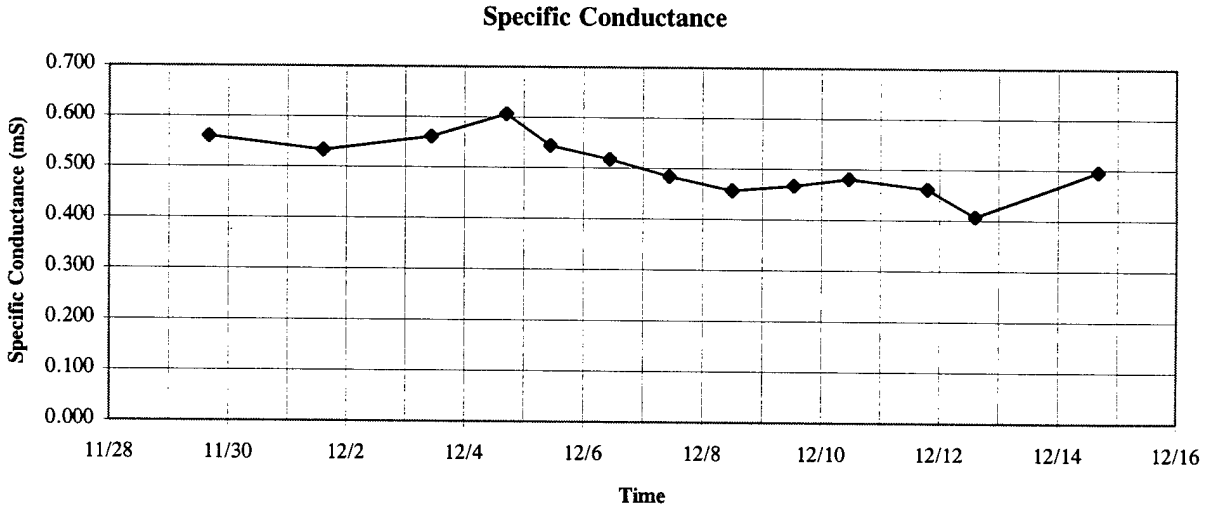
Time	MP6 Pressure (in H2O)	Flow Rate (scfm)
14:21	5.0	63.7
14:23	5.0	63.7
14:25	5.0	64.2
14:26	10.0	
14:28	10.0	122.6
14:30	10.0	122.3
14:32	10.0	122.7
14:34	15.0	
14:36	15.0	180.4
14:38	15.0	180.4
14:40	15.0	180.6
14:41	17.3	
14:42	17.3	204.0
14:46	17.3	204.0
14:48	17.3	203.8

End of pressure step test

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1C





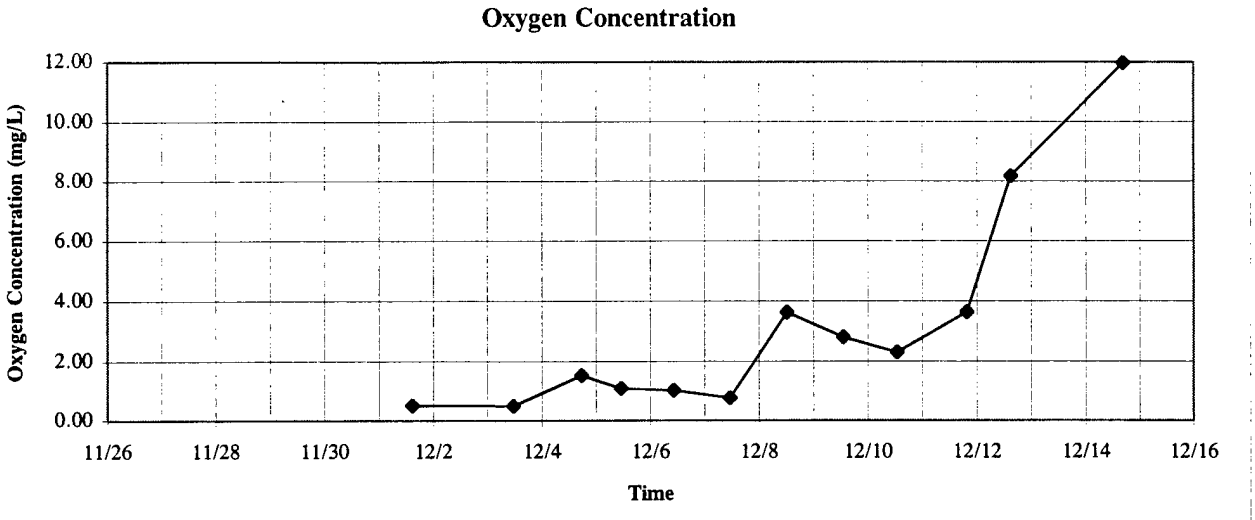


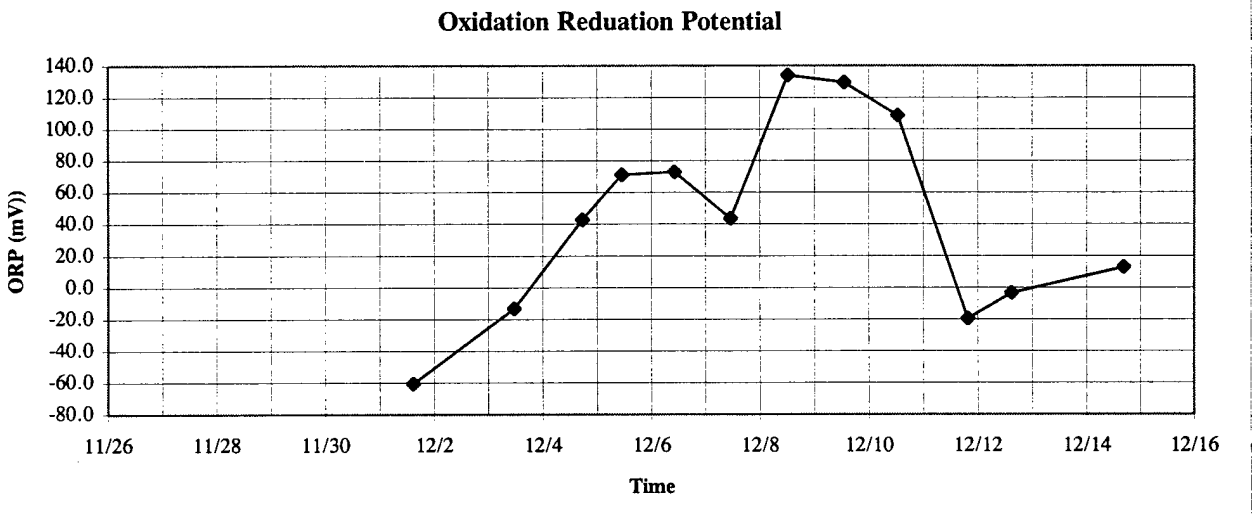
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

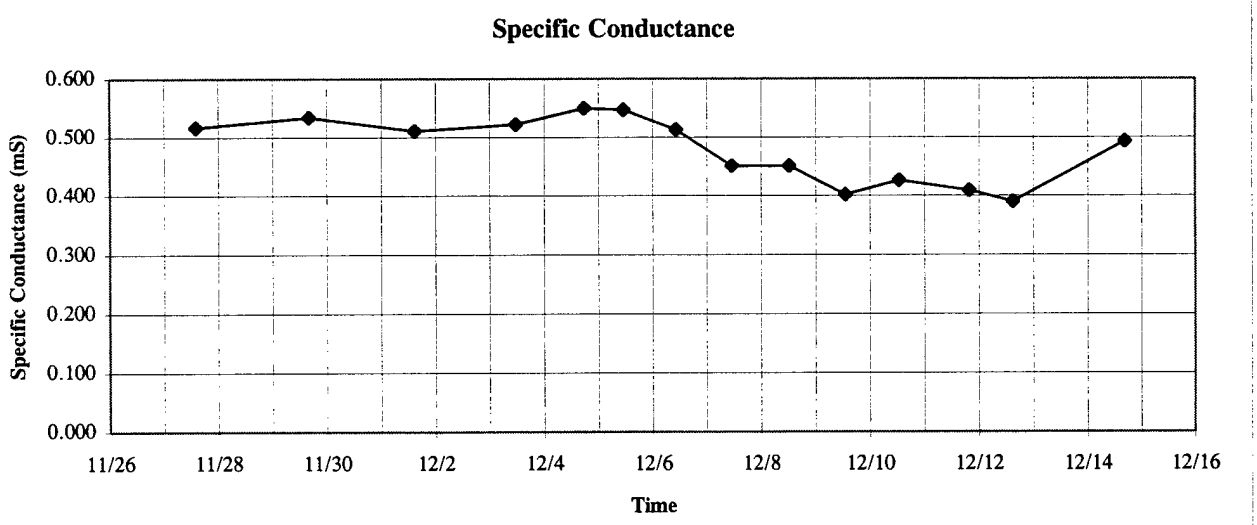
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D





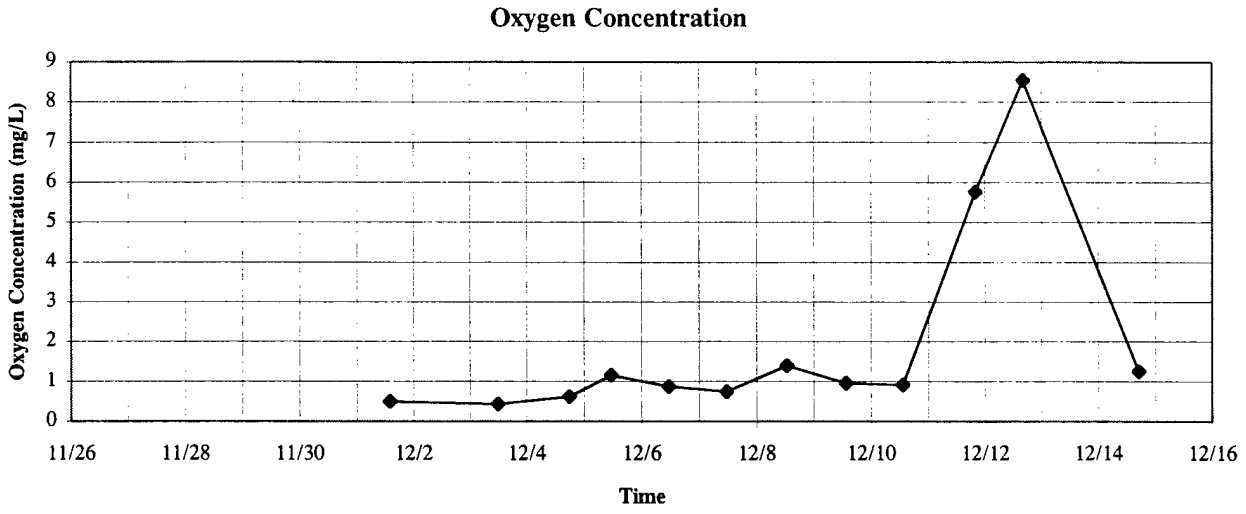


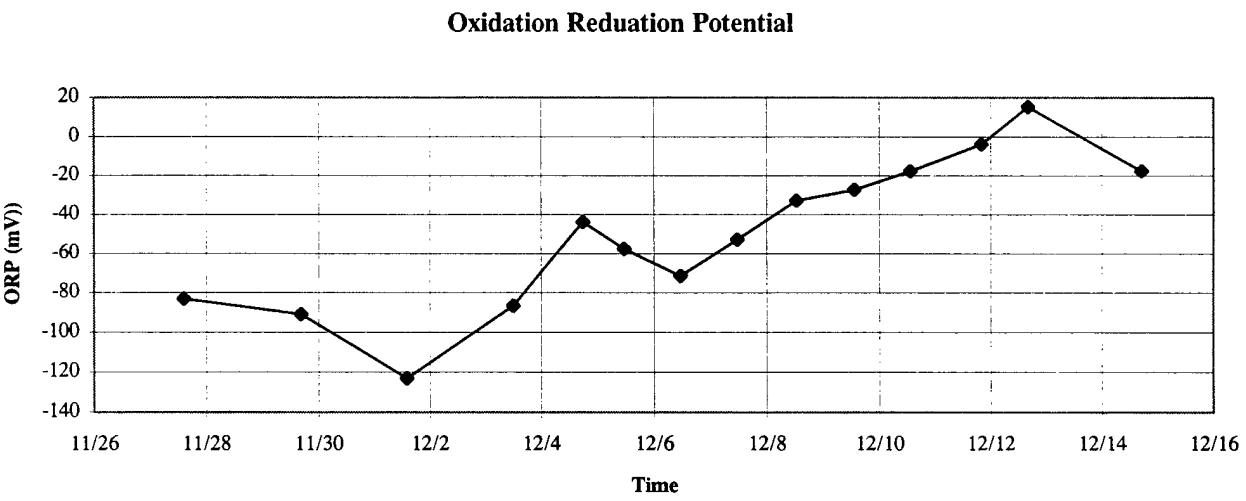
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

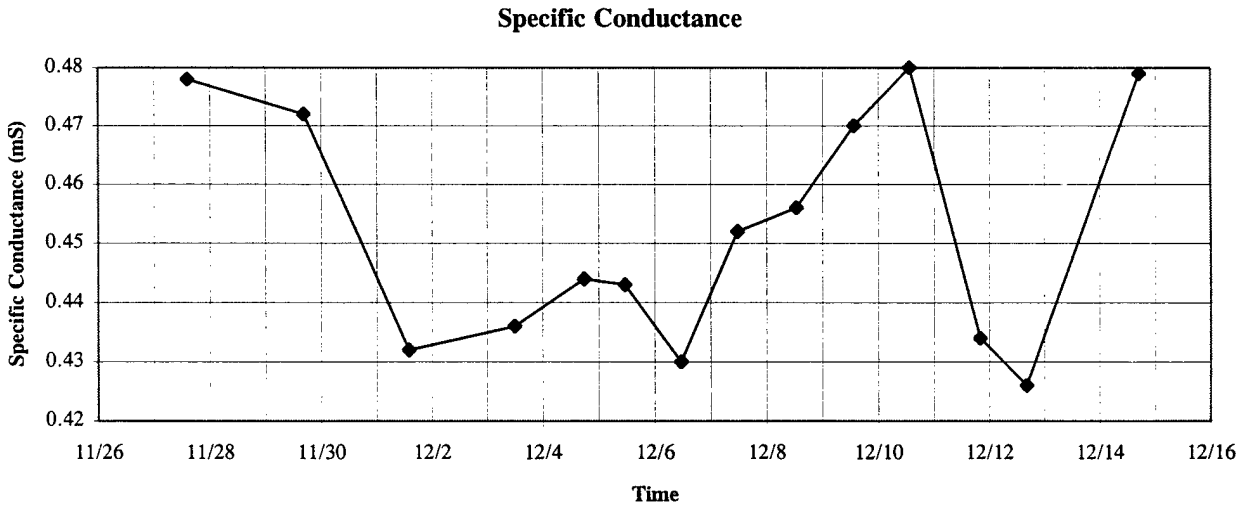
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E





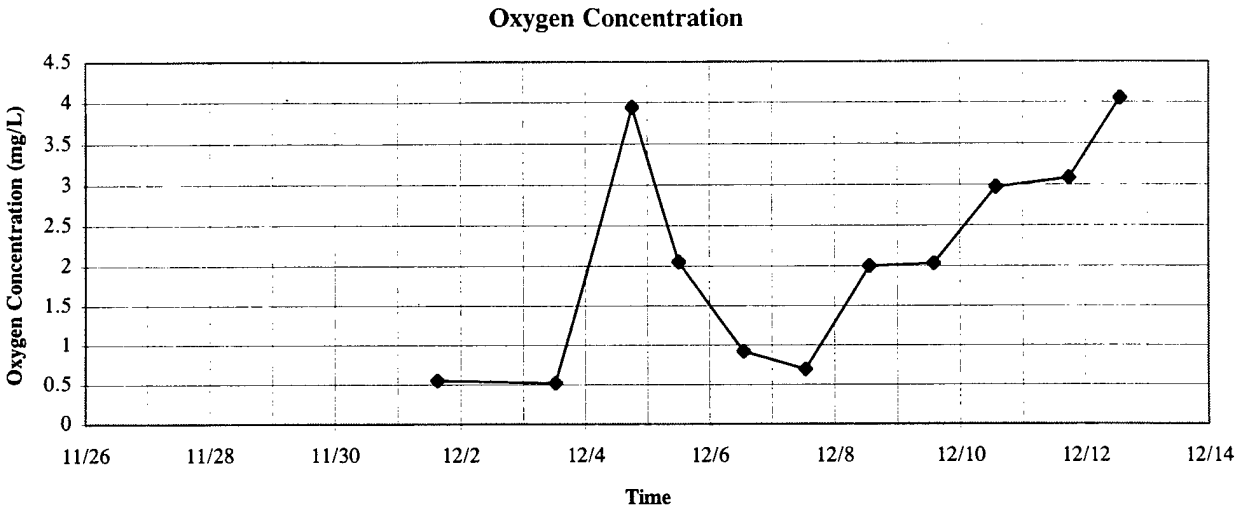


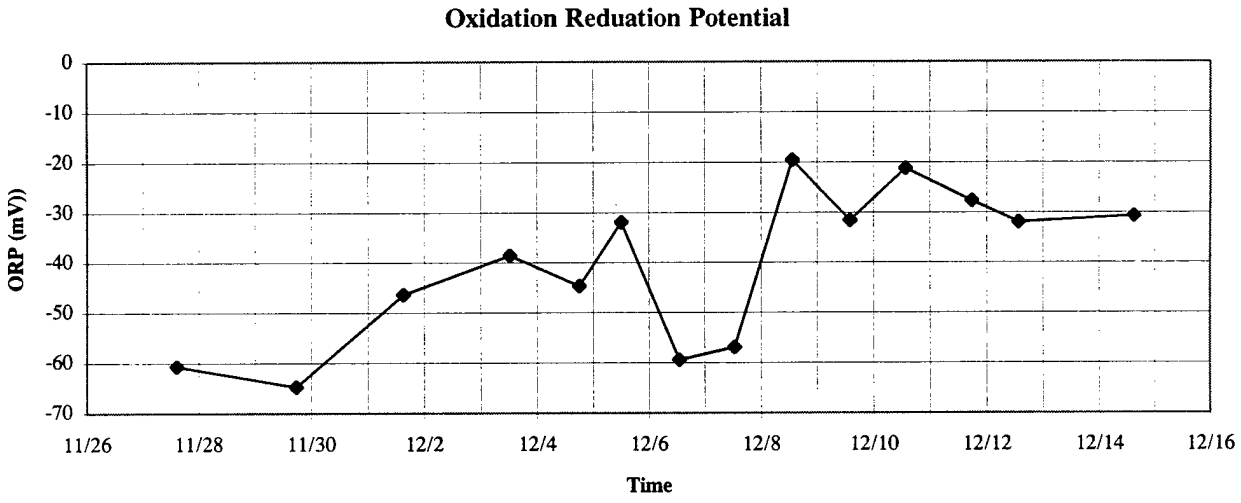
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

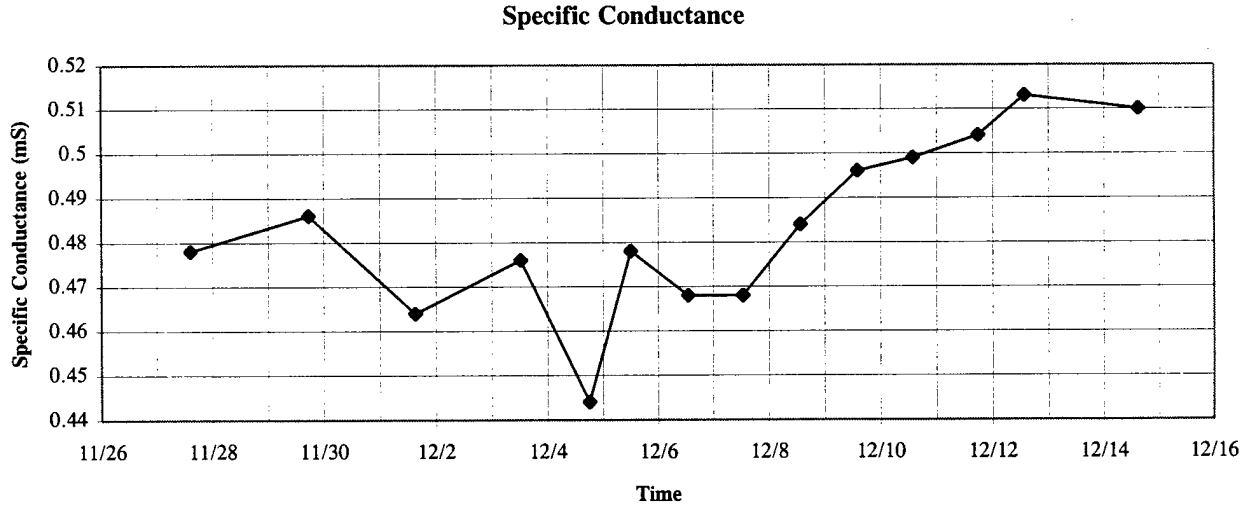
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2C





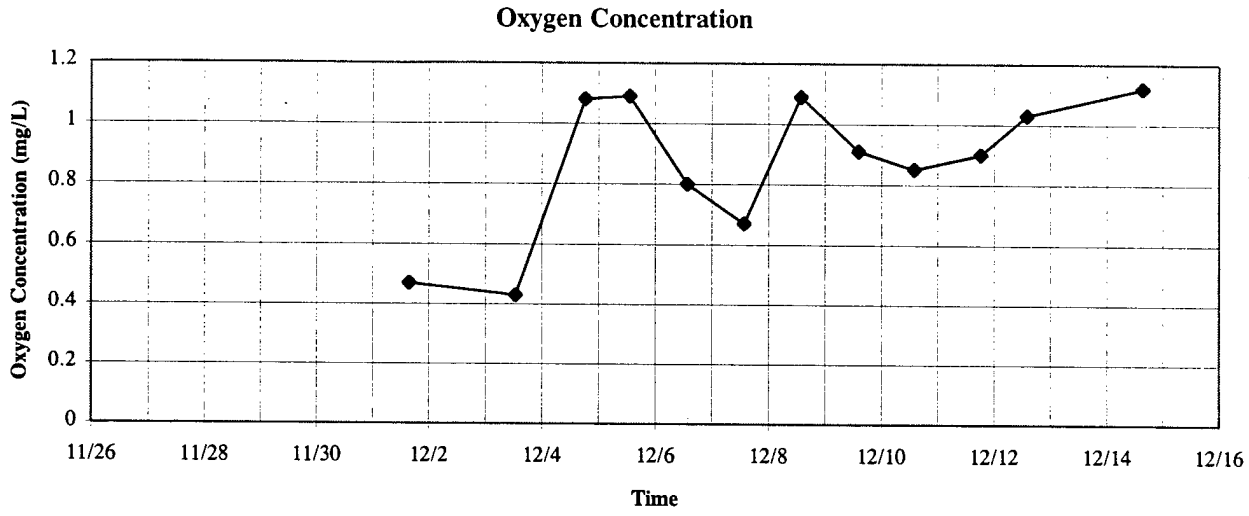


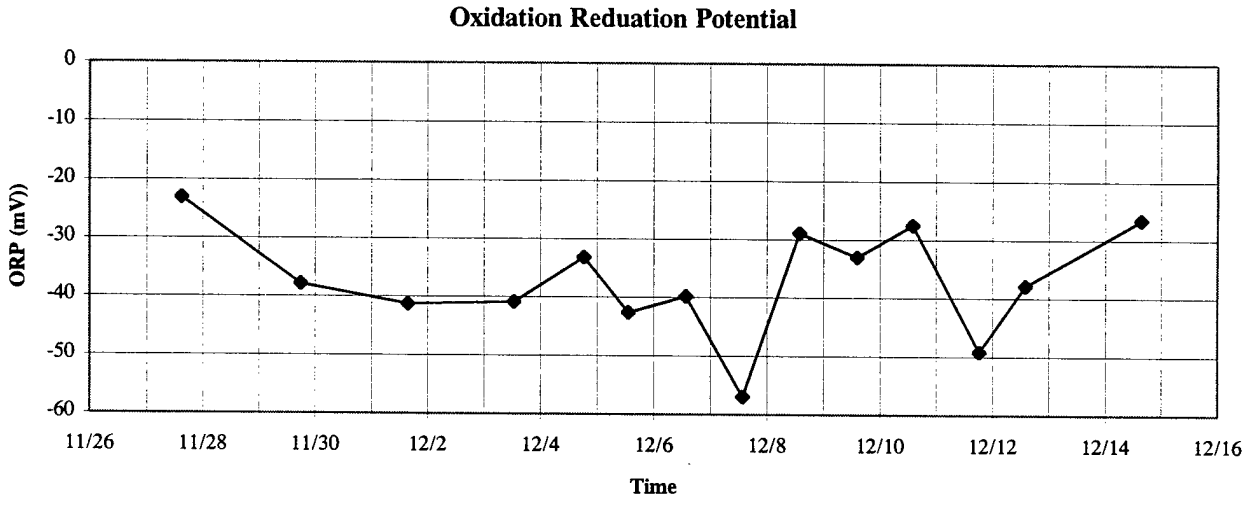
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

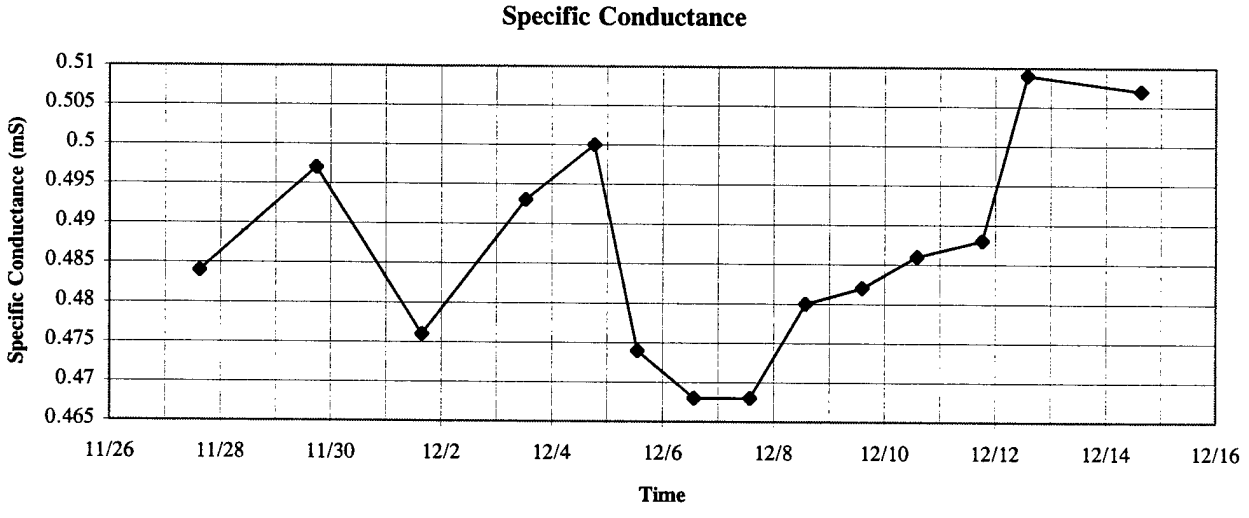
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D





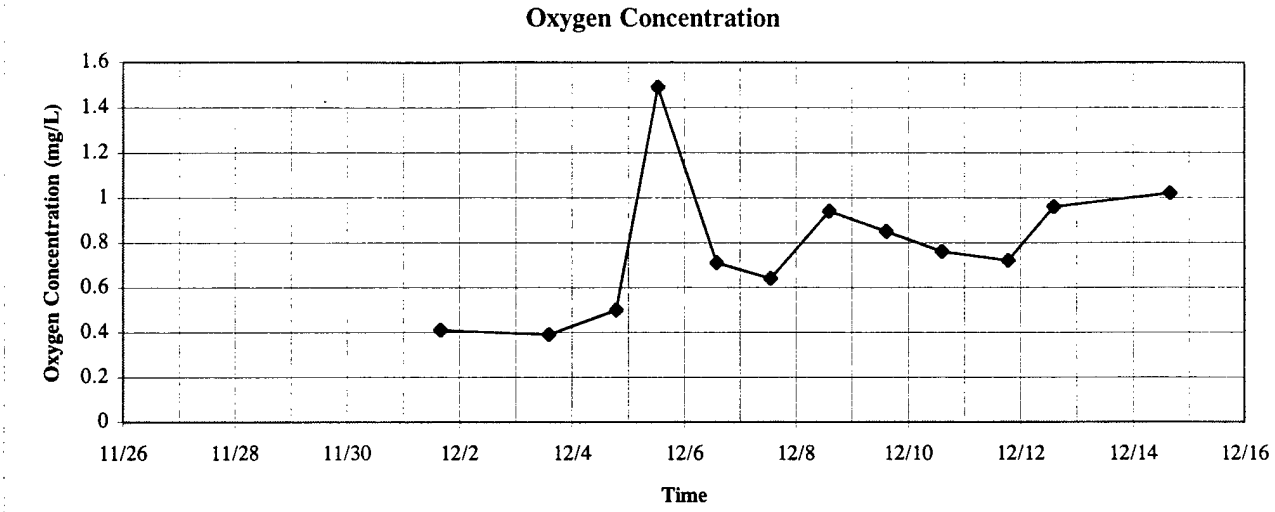


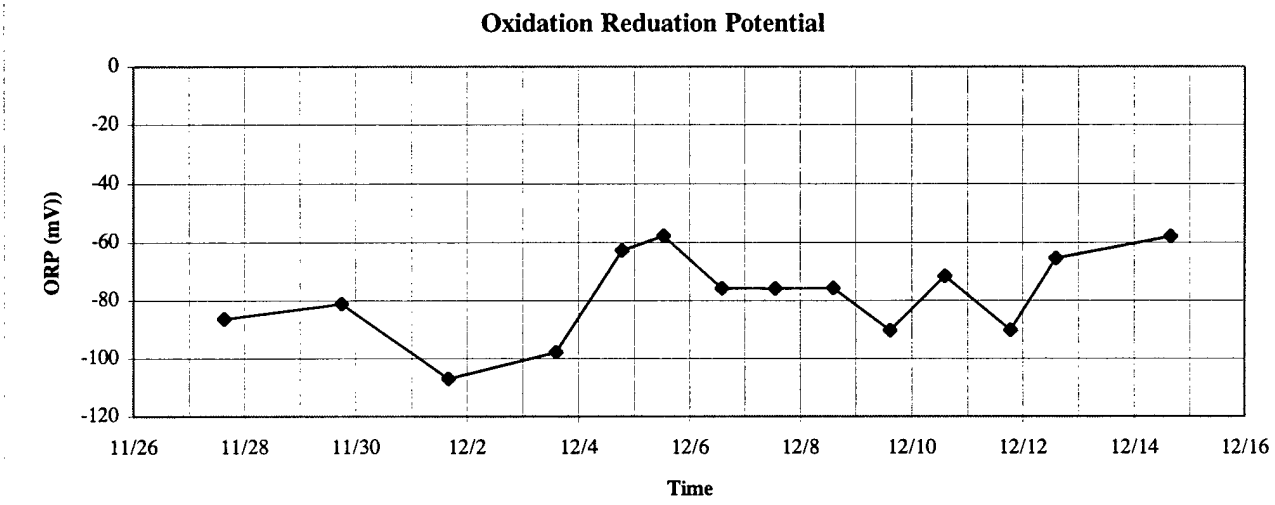
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

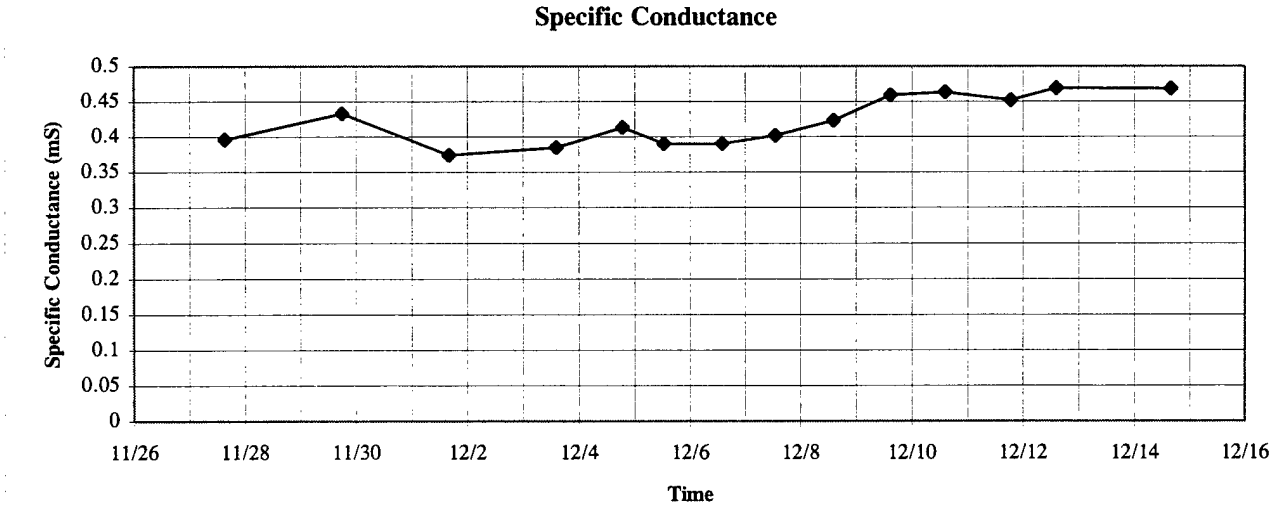
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E







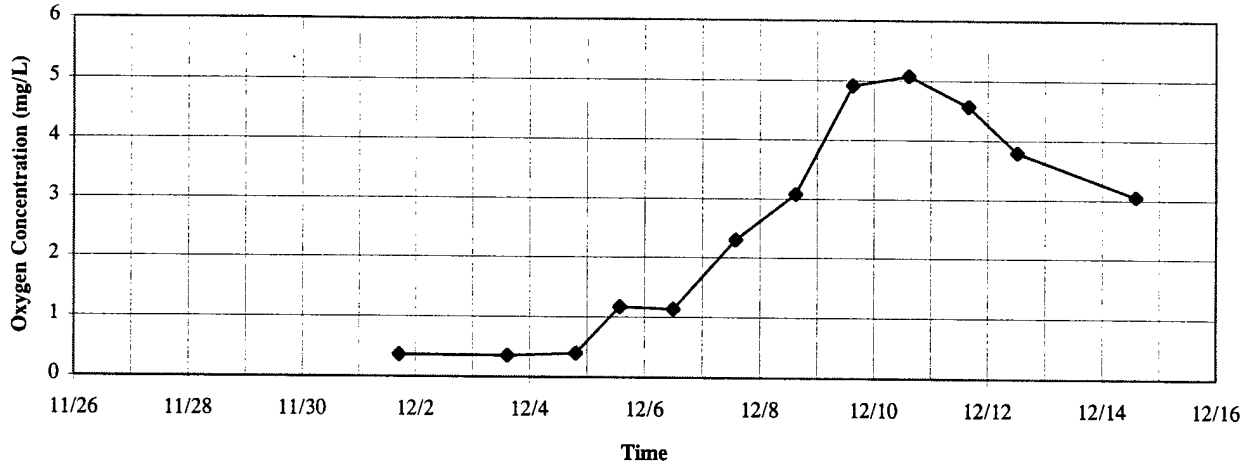
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

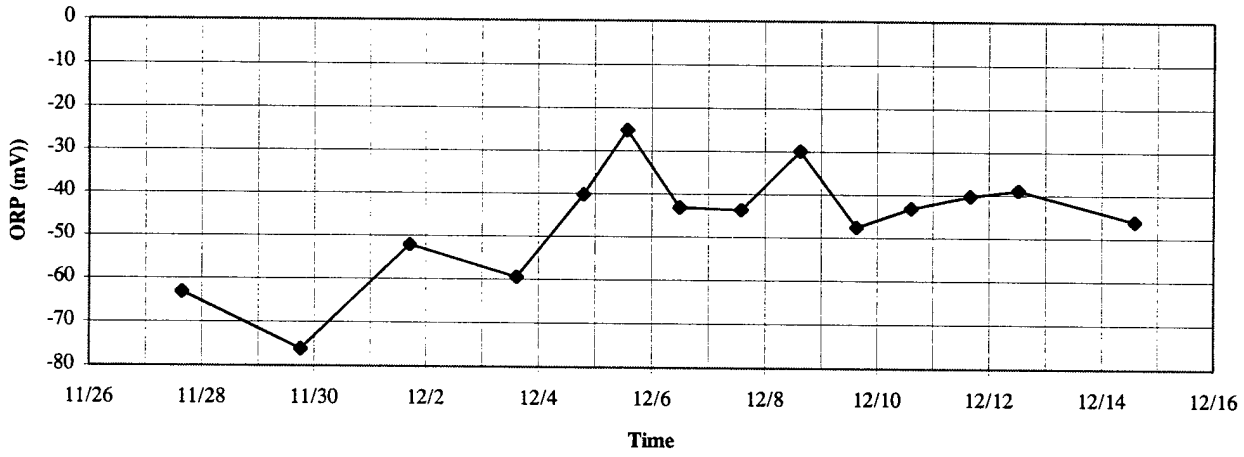
50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3C

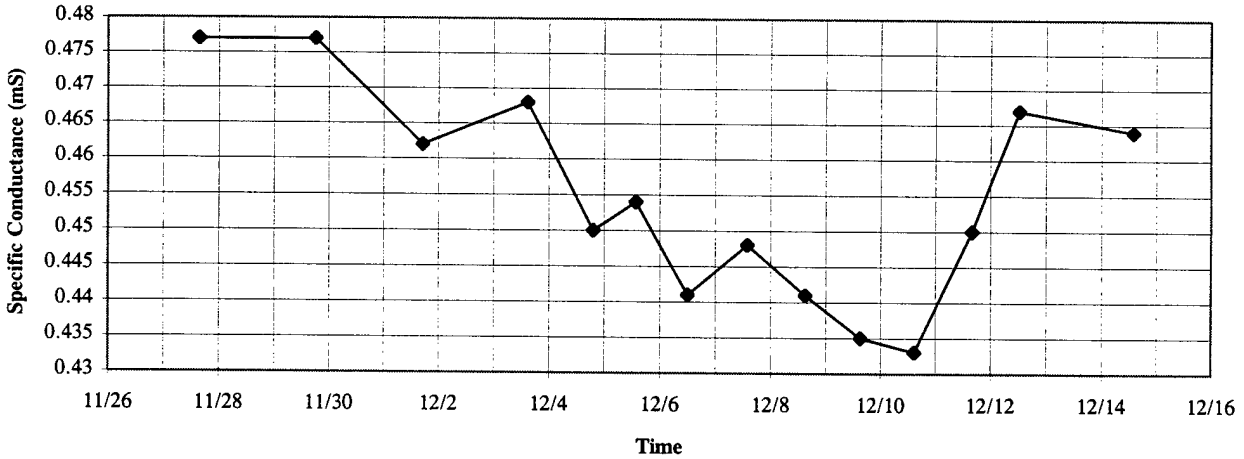
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance

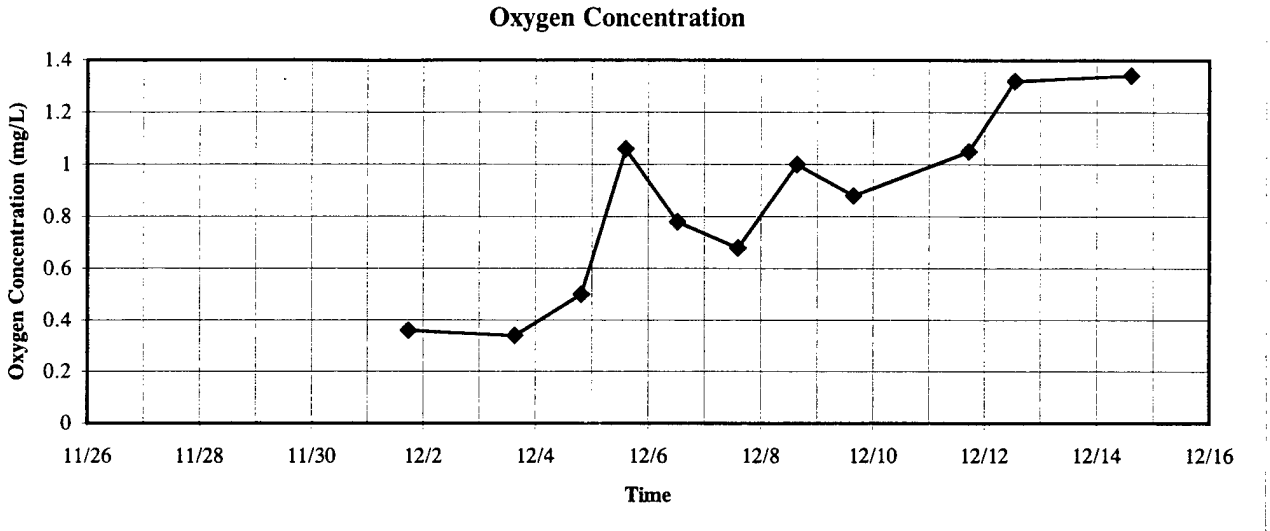


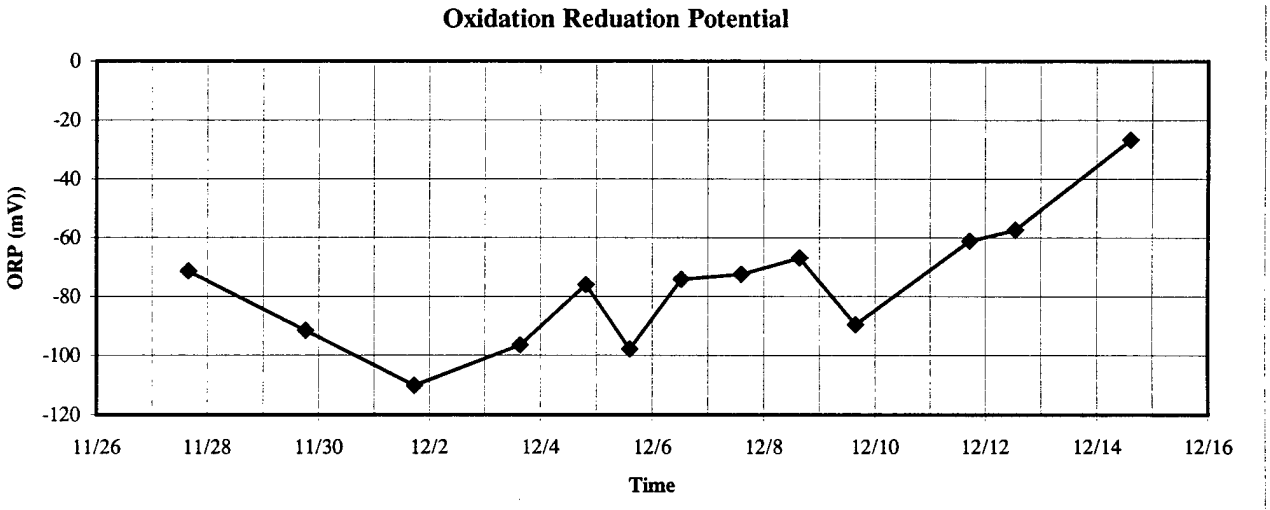
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

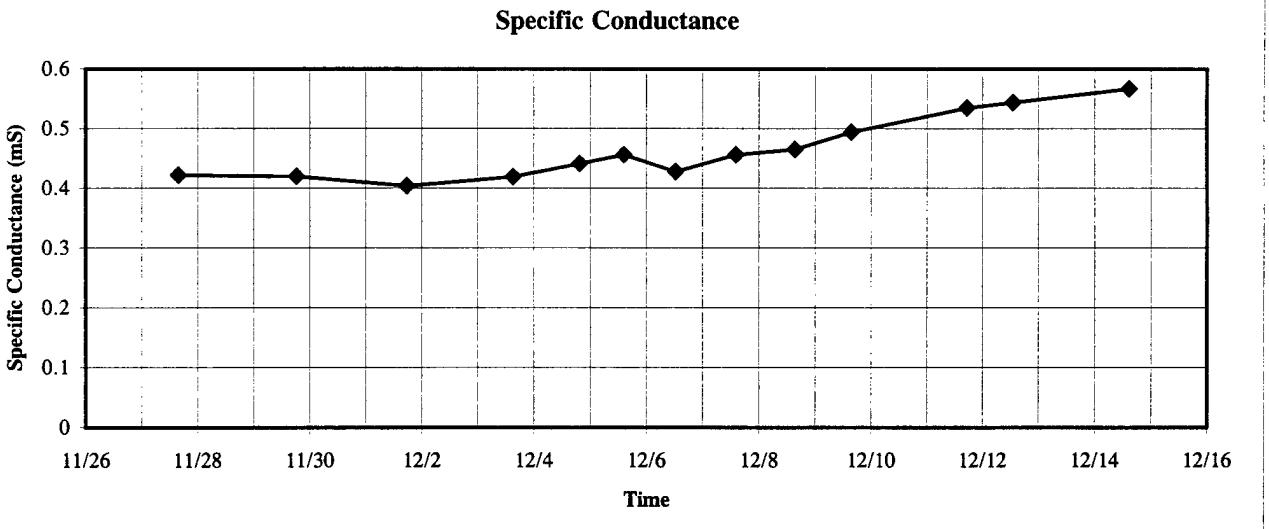
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D



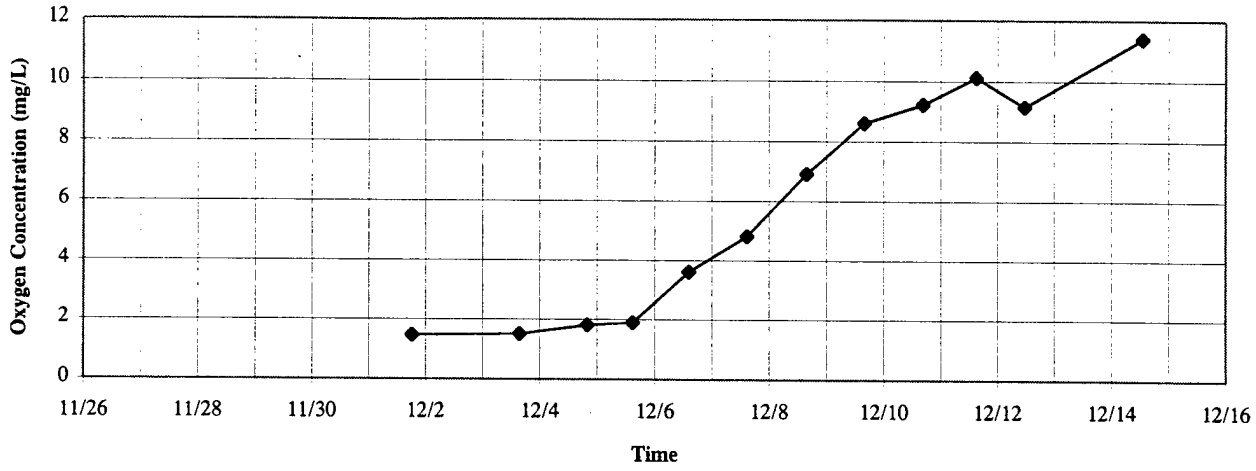




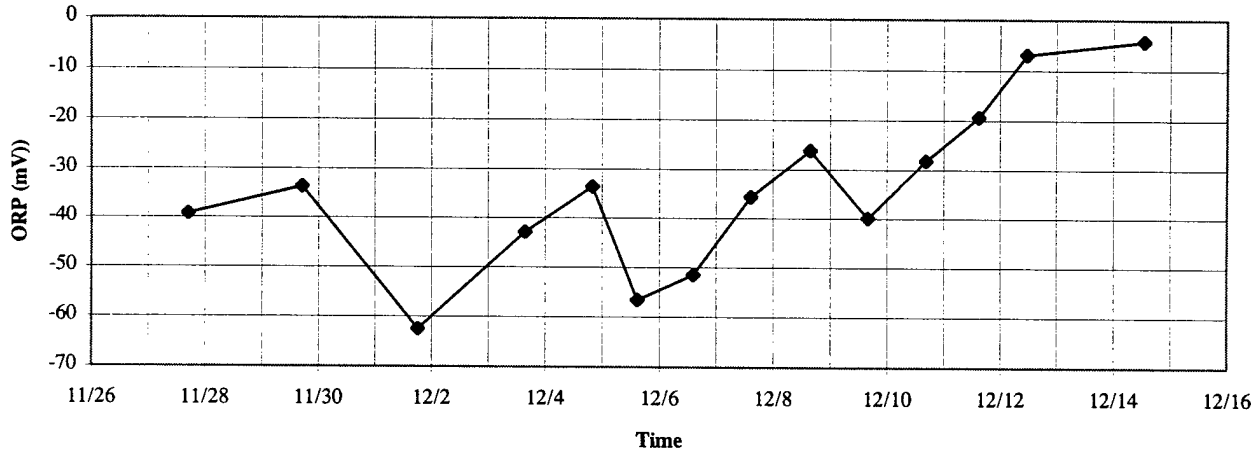
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00
50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4C

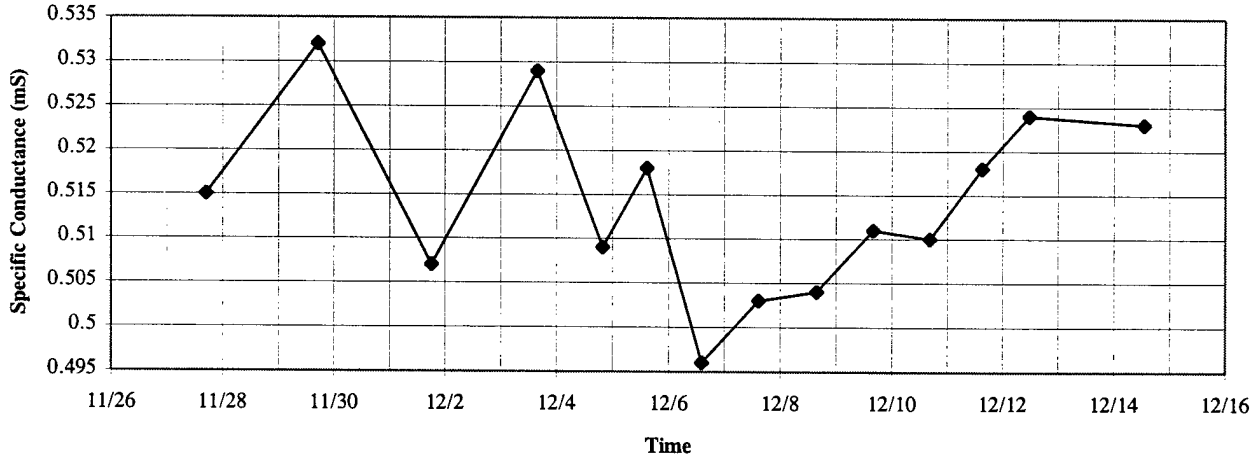
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



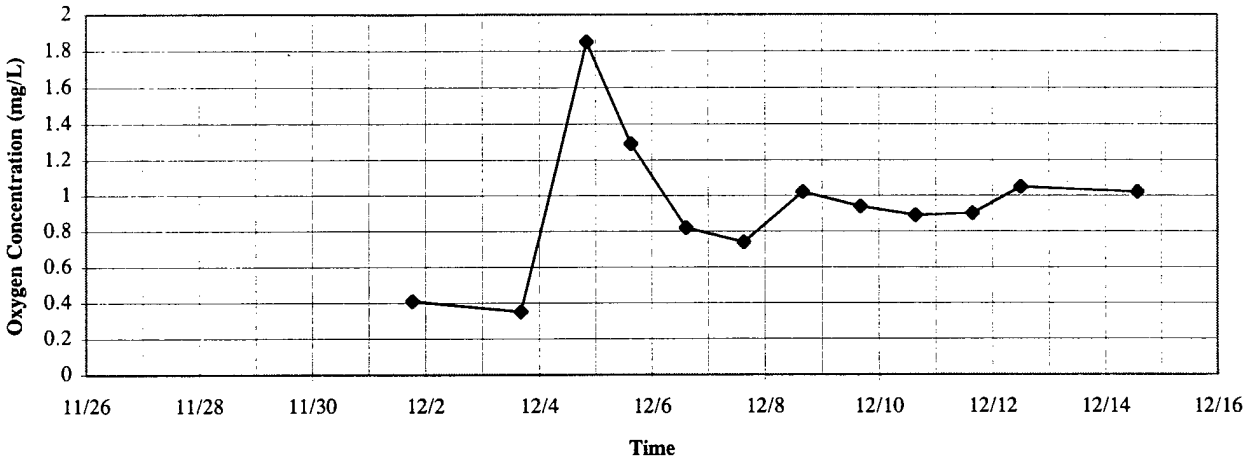
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

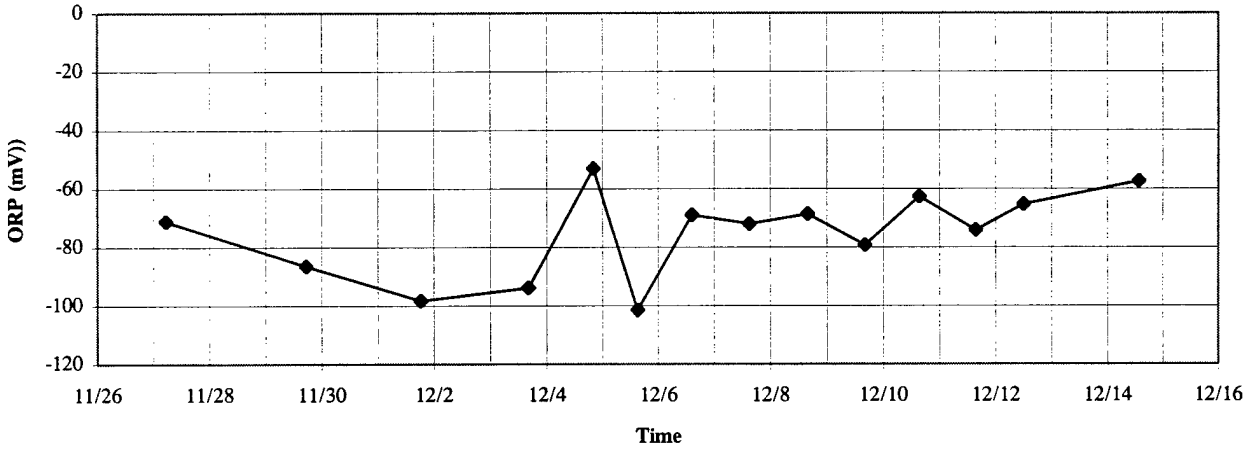
50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

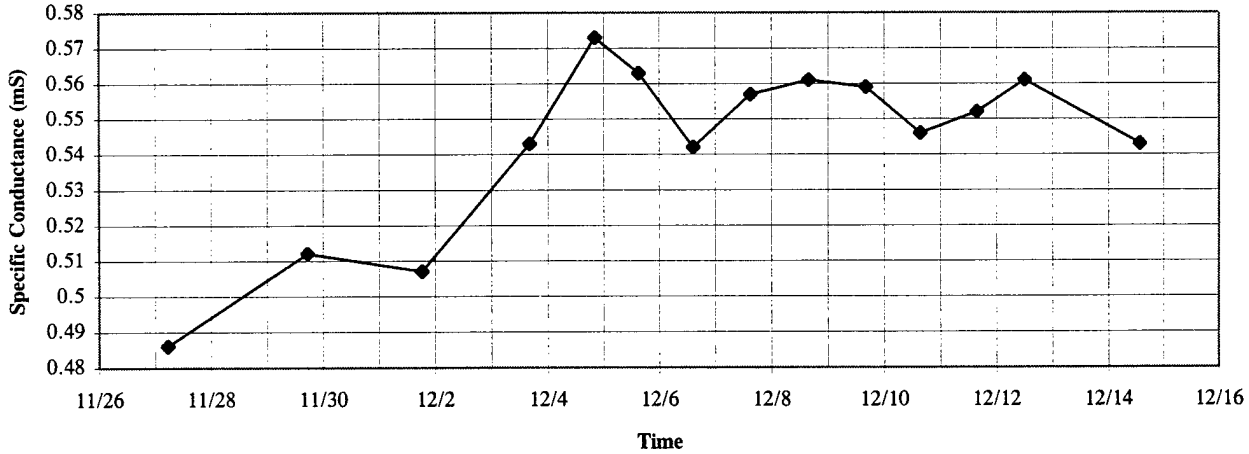
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance

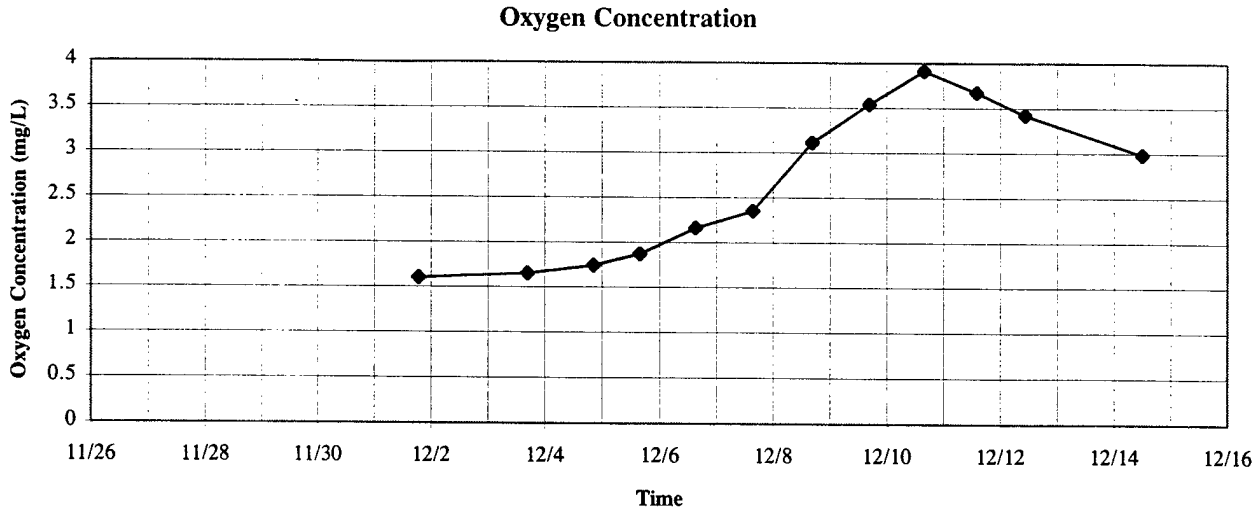


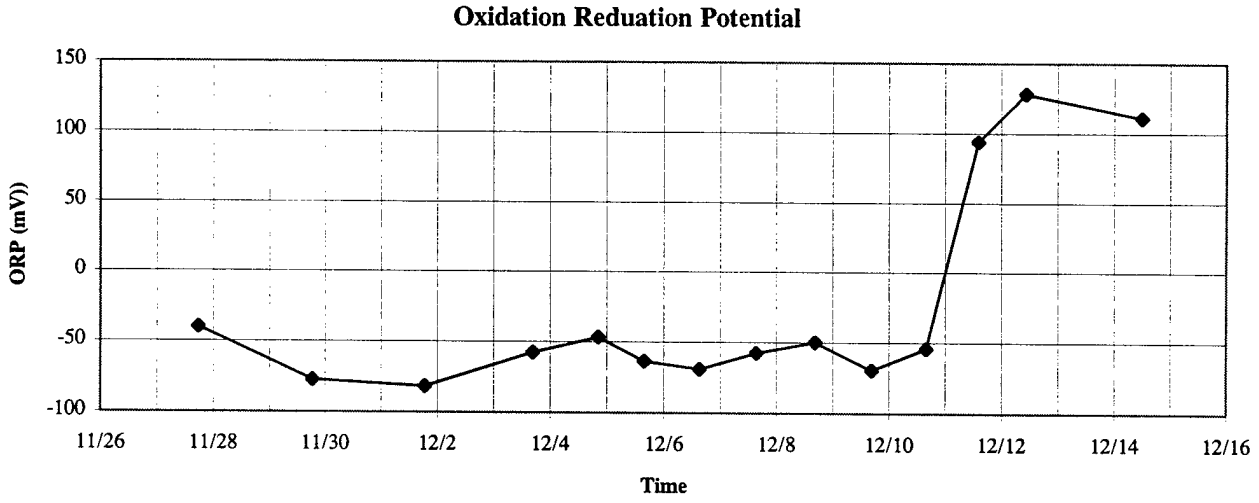
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

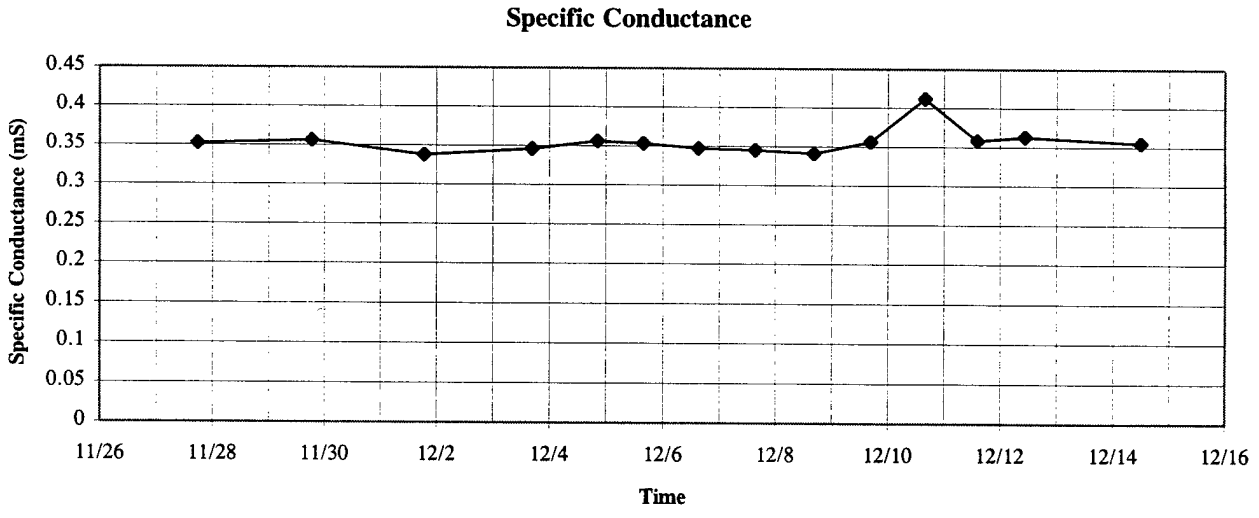
SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5C







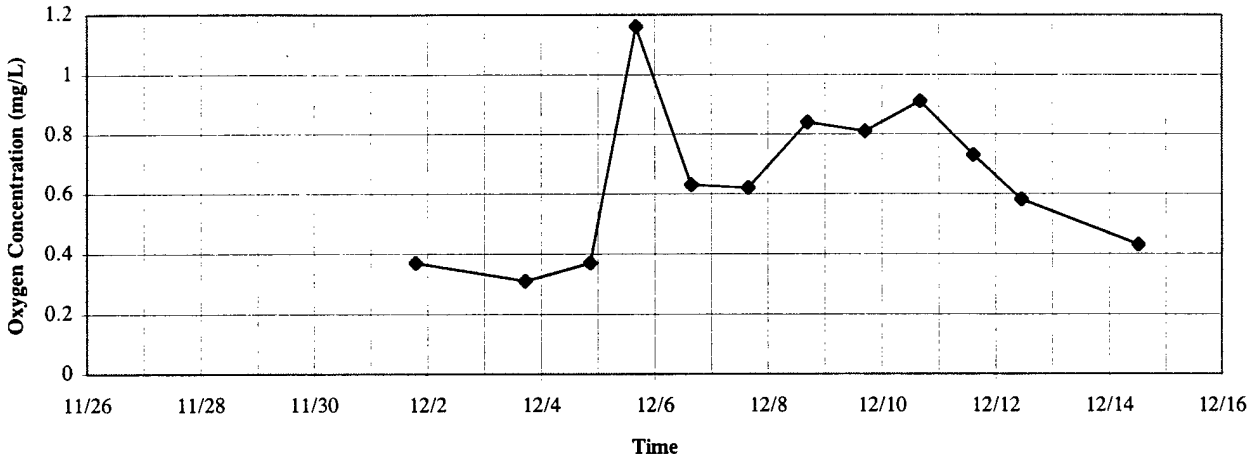
Air Permeability Testing on 12/2/97
Steady State Extraction 12/2-11/97

SVE on 12/2/97 21:35
Sparge on 12/4/97 16:00

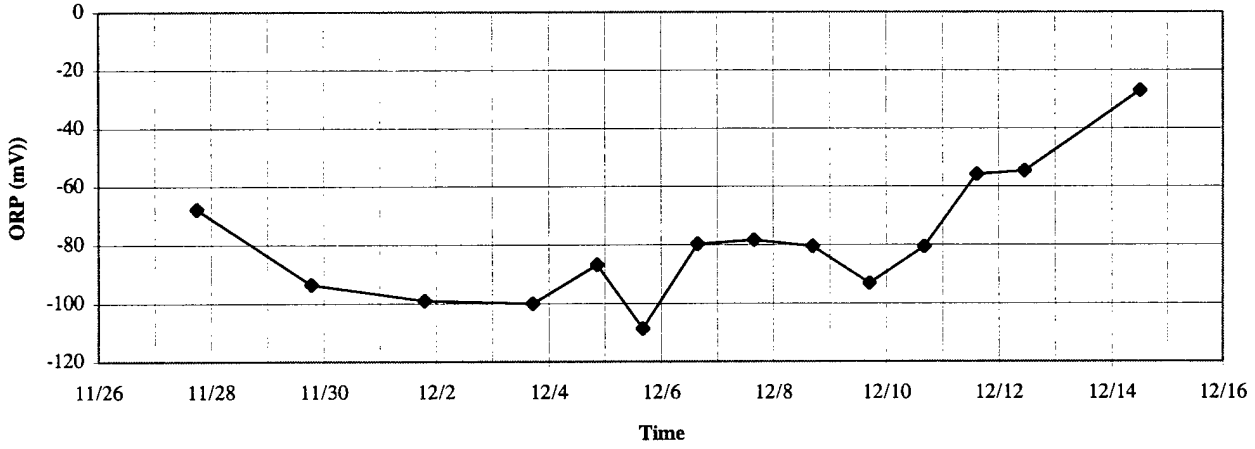
50% Pulsed Sparge 12/7/97 15:30
Sparge and SVE off 12/11/97 23:30

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D

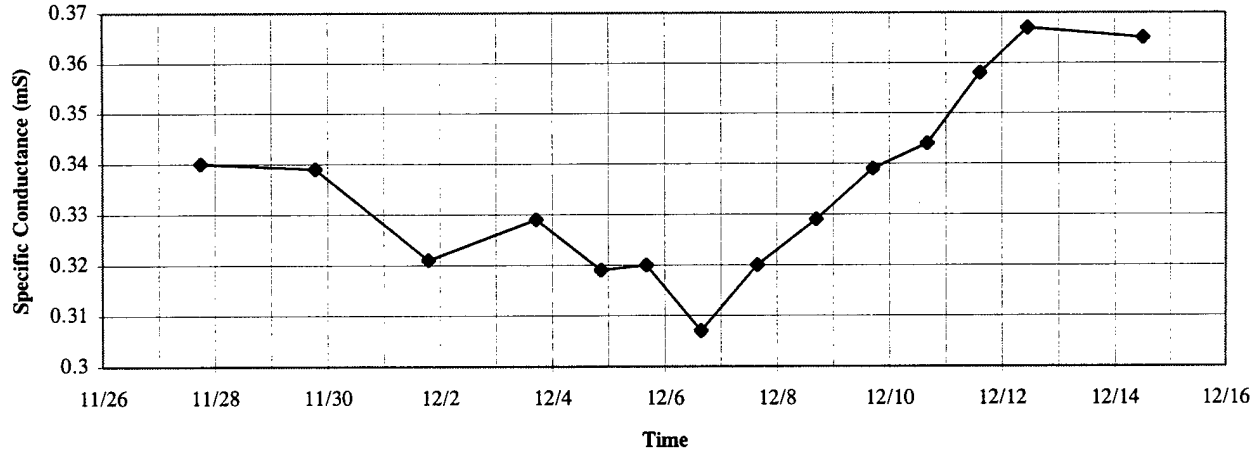
Oxygen Concentration



Oxidation Reduation Potential



Specific Conductance



Air Permeability Testing on 12/2/97

Steady State Extraction 12/2-11/97

SVE on 12/2/97 21:35

Sparge on 12/4/97 16:00

50% Pulsed Sparge 12/7/97 15:30

Sparge and SVE off 12/11/97 23:30

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2/6/98

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1C

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/29/97 16:05	0.364	0.27	10.62	7.21	11.6*	1.29*	79.4	0.560
12/1/97 14:28	0.345	0.26	9.07	7.29	4.2	0.49	-85.2*	0.533
12/3/97 10:40	0.364	0.27	10.04	7.20	5.2	0.58	104.2	0.561
12/4/97 16:57	0.393	0.30	9.80	7.34	4.5	0.51	47.3	0.606
12/5/97 10:41	0.354	0.27	8.42	7.28	14.9	1.74	104.1	0.544
12/6/97 10:43	0.336	0.25	8.00	7.21	15.7	1.86	39.2	0.517
12/7/97 10:40	0.312	0.23	7.29	7.18	16.7	2.02	104.5	0.484
12/8/97 11:55	0.296	0.22	8.33	7.16	21.6	2.54	136.0	0.457
12/9/97 12:50	0.305	0.23	8.70	7.21	30.2	3.52	132.6	0.467
12/10/97 11:10	0.311	0.23	7.13	7.38	38.4	4.69	112.7	0.481
12/11/97 19:13	0.303	0.23	8.45	7.45	46.1	5.37	-46.6	0.461
12/12/97 14:35	0.265	0.20	8.37	7.46	65.2	7.64	-36.4	0.407
12/14/97 16:13	0.323	0.24	9.04	7.46	115.9	13.36	-25.8	0.496

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 14:05	0.366	0.25	9.60	7.15	15*	1.71*	75.9*	0.517
11/29/97 16:15	0.347	0.26	10.20	7.12	10.9*	1.23*	80.2*	0.534
12/1/97 14:43	0.332	0.25	8.97	7.12	4.3	0.50	-60.6	0.511
12/3/97 11:32	0.340	0.25	9.58	7.12	4.3	0.49	-13.3	0.522
12/4/97 17:35	0.355	0.26	5.38	7.23	12.6	1.52	42.7	0.550
12/5/97 11:01	0.355	0.27	9.01	7.11	9.4	1.08	71.1	0.547
12/6/97 10:22	0.334	0.25	7.60	7.00	8.6	1.02	72.9	0.513
12/7/97 11:10	0.294	0.22	7.30	7.13	6.3	0.76	43.5	0.451
12/8/97 12:25	0.293	0.22	8.47	7.21	31.1	3.63	134.0	0.451
12/9/97 13:10	0.262	0.19	8.53	7.31	23.8	2.80	129.5	0.402
12/10/97 12:55	0.277	0.21	7.01	7.41	19.0	2.30	108.7	0.426
12/11/97 19:38	0.265	0.21	8.54	7.34	31.5	3.64	-19.6	0.409
12/12/97 14:55	0.254	0.19	8.24	7.38	69.4	8.17	-3.5	0.390
12/14/97 16:35	0.321	0.24	8.82	7.35	103.4	11.97	12.8	0.493

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP1E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 14:26	0.311	0.23	9.10	7.19	12.7*	1.46*	-83.2	0.478
11/29/97 16:30	0.307	0.23	9.75	7.13	9.3*	1.06*	-91.0	0.472
12/1/97 14:03	0.281	0.21	8.61	7.19	4.2	0.49	-123.1	0.432
12/3/97 11:58	0.284	0.21	9.26	7.20	3.7	0.43	-86.7	0.436
12/4/97 17:56	0.289	0.21	9.23	6.61	5.6	0.61	-43.8	0.444
12/5/97 11:20	0.287	0.21	7.56	7.06	9.6	1.15	-57.7	0.443
12/6/97 11:19	0.279	0.21	7.57	7.06	7.3	0.87	-71.6	0.430
12/7/97 11:30	0.295	0.22	7.08	7.04	6.1	0.74	-52.9	0.452
12/8/97 12:50	0.296	0.22	7.43	6.99	11.6	1.39	-32.8	0.456
12/9/97 13:30	0.304	0.23	8.40	7.00	8.1	0.95	-27.3	0.470
12/10/97 13:20	0.312	0.23	7.20	7.06	7.5	0.91	-17.8	0.480
12/11/97 20:03	0.282	0.21	10.41	7.36	37.9	5.76	-3.9	0.434
12/12/97 16:15	0.259	0.19	9.49	7.48	75.6	8.54	15.3	0.426
12/14/97 17:00	0.311	0.22	8.71	7.15	10.7	1.25	-17.6	0.479

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2C

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 14:40	0.310	0.23	10.05	7.31	13.9*	1.57*	-60.7	0.478
11/29/97 17:35	0.316	0.24	10.42	7.32	9.2*	1.02*	-64.8	0.486
12/1/97 15:13	0.301	0.22	8.87	7.28	4.7	0.55	-46.4	0.464
12/3/97 12:26	0.309	0.23	9.91	7.33	4.6	0.52	-38.6	0.476
12/4/97 18:14	0.288	0.21	8.42	7.04	33.7	3.94	-44.7	0.444
12/5/97 12:11	0.311	0.23	4.48	7.29	15.8	2.05	-31.9	0.478
12/6/97 13:10	0.304	0.23	8.16	7.29	7.8	0.92	-59.4	0.468
12/7/97 12:50	0.305	0.23	7.25	7.14	5.8	0.69	-56.9	0.468
12/8/97 13:25	0.315	0.23	7.90	7.24	17.4	2.00	-19.6	0.484
12/9/97 14:00	0.321	0.24	8.94	7.25	17.5	2.03	-31.6	0.496
12/10/97 13:45	0.325	0.24	7.46	7.25	24.8	2.97	-21.2	0.499
12/11/97 17:47	0.327	0.24	10.52	7.27	27.6	3.08	-27.7	0.504
12/12/97 13:30	0.335	0.25	7.69	7.25	34.1	4.05	-31.9	0.513
12/14/97 15:00	0.332	0.25	8.80	7.25	38.5	4.47	-30.7	0.510

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 14:55	0.314	0.23	9.51	7.18	13*	1.49*	-23.1	0.484
11/29/97 17:50	0.324	0.24	9.91	7.18	8.2*	0.92*	-37.9	0.497
12/1/97 15:36	0.308	0.23	9.36	7.13	4.1	0.47	-41.3	0.476
12/3/97 12:45	0.320	0.24	9.72	7.17	3.8	0.43	-40.9	0.493
12/4/97 18:27	0.325	0.24	7.48	7.10	9.1	1.08	-33.2	0.500
12/5/97 13:15	0.308	0.23	8.56	7.19	9.4	1.09	-42.6	0.474
12/6/97 13:35	0.305	0.23	8.04	7.19	6.8	0.80	-39.8	0.468
12/7/97 13:45	0.303	0.23	7.26	7.17	5.6	0.67	-57.0	0.468
12/8/97 13:50	0.312	0.23	7.77	7.09	9.2	1.09	-28.9	0.480
12/9/97 14:20	0.313	0.23	8.88	7.16	7.9	0.91	-33.0	0.482
12/10/97 14:05	0.315	0.24	7.59	7.16	7.1	0.85	-27.5	0.486
12/11/97 18:19	0.319	0.24	9.50	7.15	7.9	0.90	-49.2	0.488
12/12/97 13:55	0.331	0.25	8.28	7.09	8.7	1.03	-37.9	0.509
12/14/97 15:22	0.329	0.25	8.59	7.10	9.6	1.12	-26.6	0.507

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP2E

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 15:20	0.258	0.19	9.21	7.27	9.7*	1.11*	-86.3	0.396
11/29/97 18:00	0.282	0.21	9.68	7.23	7.3*	0.83*	-81.1	0.433
12/1/97 16:00	0.242	0.18	8.79	7.23	3.5	0.41	-107.1	0.374
12/3/97 14:14	0.251	0.19	6.95	7.32	3.2	0.39	-97.9	0.385
12/4/97 18:49	0.268	0.20	8.51	6.99	4.3	0.50	-62.7	0.413
12/5/97 12:41	0.253	0.19	4.09	7.23	13.1	1.49	-57.7	0.390
12/6/97 14:00	0.254	0.19	7.71	7.23	6.0	0.71	-75.8	0.390
12/7/97 13:15	0.262	0.19	6.56	7.20	5.3	0.64	-75.9	0.402
12/8/97 14:25	0.274	0.20	7.68	7.17	7.9	0.94	-75.6	0.423
12/9/97 14:45	0.299	0.22	8.22	7.15	7.3	0.85	-90.3	0.459
12/10/97 14:25	0.299	0.22	7.44	7.15	6.3	0.76	-71.5	0.463
12/11/97 18:49	0.295	0.22	8.96	8.99	6.3	0.72	-90.2	0.452
12/12/97 14:15	0.306	0.23	7.55	7.18	8.1	0.96	-65.4	0.469
12/14/97 15:52	0.304	0.23	8.60	7.20	8.7	1.02	-57.9	0.468

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3C

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 15:40	0.309	0.23	10.31	7.38	11.4*	1.28*	-63.2	0.477
11/29/97 18:10	0.310	0.23	10.43	7.37	7.3*	0.81*	-76.2	0.477
12/1/97 17:09	0.300	0.22	9.20	7.36	3.1	0.36	-52.1	0.462
12/3/97 14:43	0.304	0.23	9.84	7.41	3.1	0.35	-59.5	0.468
12/4/97 19:20	0.293	0.22	9.61	7.37	3.5	0.39	-40.2	0.450
12/5/97 13:48	0.295	0.22	7.82	7.39	9.8	1.17	-25.2	0.454
12/6/97 11:59	0.287	0.21	8.09	7.32	9.6	1.13	-43.2	0.441
12/7/97 14:00	0.292	0.22	7.63	7.35	19.3	2.30	-43.7	0.448
12/8/97 15:00	0.287	0.21	8.39	7.35	26.3	3.08	-29.9	0.441
12/9/97 15:05	0.282	0.21	8.51	7.32	42.0	4.91	-47.6	0.435
12/10/97 14:50	0.281	0.21	7.86	7.32	42.7	5.07	-43.2	0.433
12/11/97 16:00	0.293	0.22	7.10	7.31	37.8	4.57	-40.3	0.450
12/12/97 12:25	0.303	0.23	9.05	7.32	32.9	3.79	-38.9	0.467
12/14/97 14:10	0.302	0.23	7.39	7.34	25.4	3.05	-46.1	0.464

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP3D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 15:45	0.274	0.20	9.43	7.19	9.7*	1.11*	-71.3	0.422
11/29/97 18:20	0.273	0.20	10.07	7.20	6.9*	0.78*	-91.6	0.420
12/1/97 17:39	0.262	0.19	8.64	7.18	3.1	0.36	-110.2	0.404
12/3/97 15:12	0.272	0.20	9.46	7.24	3.0	0.34	-96.5	0.419
12/4/97 19:33	0.286	0.21	8.83	7.17	4.3	0.50	-75.9	0.441
12/5/97 14:24	0.296	0.22	7.58	7.16	8.9	1.06	-97.9	0.456
12/6/97 12:30	0.278	0.21	8.03	7.10	6.6	0.78	-74.1	0.428
12/7/97 14:20	0.296	0.22	7.99	7.09	5.7	0.68	-72.4	0.456
12/8/97 15:20	0.303	0.23	8.08	7.05	8.5	1.00	-66.8	0.465
12/9/97 15:30	0.321	0.24	8.53	7.04	7.6	0.88	-89.5	0.494
12/10/97 15:10	0.286	0.21	6.11	7.34	47.5	5.89	-15.5	0.441
12/11/97 17:12	0.347	0.26	9.49	7.01	9.2	1.05	-61.1	0.535
12/12/97 13:03	0.355	0.27	7.92	7.00	11.2	1.32	-57.3	0.544
12/14/97 14:35	0.369	0.28	6.92	7.02	11.0	1.34	-26.6	0.567

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4C

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 17:00	0.335	0.25	9.77	7.38	30.1*	3.41*	-39.2	0.515
11/29/97 17:05	0.346	0.26	10.03	7.37	15.2*	1.71*	-33.7	0.532
12/1/97 18:11	0.328	0.25	8.94	7.35	12.7	1.47	-62.5	0.507
12/3/97 15:41	0.341	0.26	8.80	7.41	13.0	1.51	-42.9	0.529
12/4/97 19:58	0.329	0.25	9.24	7.27	15.8	1.81	-33.6	0.509
12/5/97 14:48	0.337	0.25	8.04	7.37	16.0	1.90	-56.6	0.518
12/6/97 14:20	0.322	0.24	8.14	7.31	30.6	3.61	-51.5	0.496
12/7/97 14:45	0.326	0.24	7.70	7.33	40.4	4.81	-35.6	0.503
12/8/97 15:40	0.327	0.24	7.81	7.32	58.1	6.91	-26.2	0.504
12/9/97 15:55	0.331	0.25	8.01	7.33	72.7	8.60	-39.9	0.511
12/10/97 16:30	0.330	0.25	7.71	7.34	77.4	9.23	-28.2	0.510
12/11/97 15:07	0.335	0.25	6.56	7.30	82.6	10.11	-19.4	0.518
12/12/97 11:30	0.341	0.26	9.10	7.32	79.5	9.15	-6.9	0.524
12/14/97 12:59	0.340	0.25	8.67	7.32	98.0	11.39	-4.3	0.523

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP4D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 5:20	0.315	0.24	9.61	7.15	18.2*	2.04*	-71.1	0.486
11/29/97 17:20	0.333	0.25	9.90	7.16	8.3*	0.94*	-86.4	0.512
12/1/97 18:27	0.330	0.25	8.18	7.14	3.5	0.41	-98.3	0.507
12/3/97 16:21	0.353	0.26	8.63	7.22	3.0	0.35	-93.9	0.543
12/4/97 20:15	0.373	0.28	4.72	7.13	14.7	1.85	-53.1	0.573
12/5/97 15:15	0.366	0.27	7.79	7.16	10.9	1.29	-101.5	0.563
12/6/97 14:40	0.355	0.27	8.25	7.08	6.9	0.82	-69.0	0.542
12/7/97 15:05	0.360	0.27	7.95	7.10	6.2	0.74	-72.0	0.557
12/8/97 15:55	0.364	0.27	7.75	7.08	8.6	1.02	-68.6	0.561
12/9/97 16:15	0.363	0.27	8.13	7.07	8.0	0.94	-79.2	0.559
12/10/97 15:30	0.354	0.26	6.81	7.07	7.3	0.89	-62.7	0.546
12/11/97 15:35	0.358	0.27	7.35	7.05	7.5	0.90	-74.1	0.552
12/12/97 11:58	0.363	0.27	9.26	7.07	9.1	1.05	-65.3	0.561
12/14/97 13:45	0.353	0.26	8.79	7.08	8.8	1.02	-57.4	0.543

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5C

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 17:35	0.229	0.17	10.11	7.52	30*	3.38*	-40.3	0.352
11/29/97 18:35	0.232	0.17	10.53	7.48	13.6*	1.51*	-77.2	0.356
12/1/97 18:44	0.219	0.16	9.21	7.50	13.9	1.60	-81.9	0.338
12/3/97 16:48	0.225	0.17	9.55	7.58	14.5	1.65	-57.8	0.346
12/4/97 20:33	0.232	0.17	9.81	7.51	15.3	1.74	-47.0	0.356
12/5/97 15:48	0.230	0.17	8.25	7.56	15.9	1.87	-63.8	0.353
12/6/97 15:10	0.226	0.17	8.74	7.46	18.6	2.16	-69.3	0.347
12/7/97 15:25	0.224	0.17	8.29	7.53	20.0	2.35	-57.8	0.345
12/8/97 16:25	0.221	0.16	8.52	7.50	26.6	3.11	-50.2	0.341
12/9/97 16:35	0.233	0.17	8.40	7.48	30.3	3.54	-69.7	0.356
12/10/97 15:50	0.269	0.20	4.84	7.22	30.5	3.91	-54.3	0.412
12/11/97 14:11	0.232	0.17	8.54	7.35	31.5	3.67	94.1	0.358
12/12/97 10:35	0.236	0.17	10.12	7.36	30.4	3.42	128.3	0.363
12/14/97 11:57	0.231	0.17	7.31	7.28	24.7	2.98	111.2	0.355

* Data value abnormal due to error in collection or recording.

WURTSMITH AFB PILOT TESTING
SITE SS08B
GROUNDWATER FIELD PARAMETER DATA FOR WELL MP5D

Time	Total Dissolved Solids (g/L)	Salinity	Temp (C)	pH	DO (%)	DO (mg/L)	ORP (mv)	Specific Conductance (mS)
11/27/97 17:55	0.221	0.02	9.88	7.26	21.9*	2.47*	-67.8	0.340
11/29/97 18:50	0.220	0.16	10.03	7.33	6*	0.68*	-93.6	0.339
12/1/97 19:06	0.208	0.15	9.12	7.32	3.2	0.37	-99.1	0.321
12/3/97 17:18	0.214	0.16	9.84	7.38	2.8	0.31	-100.0	0.329
12/4/97 20:49	0.207	0.15	9.41	7.34	3.2	0.37	-86.8	0.319
12/5/97 16:15	0.203	0.15	7.98	7.36	9.8	1.16	-108.7	0.320
12/6/97 15:35	0.200	0.15	8.14	7.34	5.3	0.63	-79.8	0.307
12/7/97 15:40	0.208	0.15	8.17	7.35	5.2	0.62	-78.3	0.320
12/8/97 16:50	0.213	0.16	8.38	7.31	7.1	0.84	-80.5	0.329
12/9/97 16:55	0.221	0.16	7.94	7.31	6.8	0.81	-93.1	0.339
12/10/97 16:10	0.224	0.17	7.69	7.28	7.6	0.91	-80.6	0.344
12/11/97 14:40	0.233	0.17	8.18	7.14	6.2	0.73	-55.9	0.358
12/12/97 11:02	0.239	0.18	9.42	7.17	5.1	0.58	-54.7	0.367
12/14/97 12:24	0.238	0.18	8.73	7.13	3.7	0.43	-27.0	0.365

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP1A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 14:05	20.40	0.00	0.00	0.00	162
11/29/97 16:05	20.30	0.00	0.00	0.00	9.5
12/1/97 14:11	20.30	0.10	0.00		18
12/3/97 10:36	20.20	0.00	0.00		5.4
12/4/97 16:54	20.60	0.00	0.00	0.00	3.5-5.9
12/5/97 9:36	20.40	0.00	0.00	0.00	3.5
12/6/97 10:25	20.30	0.00	0.00	0.00	2.4
12/7/97 10:40	20.40	0.00	0.00	0.00	0.5
12/8/97 11:45	20.60	0.00	0.00	0.00	0.9
12/9/97 12:35	20.20	0.00	0.00	0.00	0.7
12/10/97 11:55	20.40	0.00	0.00	0.00	2.4
12/11/97 17:13	20.30	0.00	0.00	0.00	2.8
12/12/97 9:23	20.20	0.00	0.00	0.15	4.8
12/14/97 10:50	20.40	0.00	0.00	0.17	4.8

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP1B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 16:26	20.40	0.00	0.00	0.00	120.00
11/29/97 16:15	20.20	0.00	0.00	0.00	5.70
12/1/97 14:24	20.30	0.20	0.00		14.00
12/3/97 10:56	20.10	0.00	0.00		3.20
12/4/97 17:37	19.90	0.20	0.00	0.91	4.30
12/5/97 9:59	19.80	0.00	0.00	1.50	3.00
12/6/97 10:35	20.30	0.00	0.00	0.00	2.00
12/7/97 10:55	20.00	0.00	0.00	1.70	0.30
12/8/97 12:05	20.10	0.00	0.00	1.10	0.90
12/9/97 12:45	20.00	0.00	0.00	1.00	0.70
12/10/97 12:55	20.40	0.00	0.00	0.85	0.00
12/11/97 17:40	19.90	0.00	0.00	0.98	1.5-1.9
12/12/97 9:45	19.90	0.00	0.00	0.61	3.80
12/14/97 11:14	19.80	0.00	0.00	0.17	2.50

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP2A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 14:40	20.40	0.00	0.00	0.00	109.00
11/29/97 17:20	20.00	0.00	0.00	0.00	7.60
12/1/97 14:35	20.60	0.20	0.00		10.00
12/3/97 11:11	20.10	0.00	0.00		1.0-3.2
12/4/97 17:53	20.50	0.00	0.00	0.00	5.30
12/5/97 10:16	20.20	0.00	0.00	0.00	4.60
12/6/97 10:55	20.50	0.00	0.00	0.00	1.10
12/7/97 11:20	20.20	0.00	0.00	0.00	0.10
12/8/97 12:15	20.40	0.00	0.00	0.00	0.60
12/9/97 12:55	20.20	0.00	0.00	0.00	0.30
12/10/97 13:10	20.60	0.00	0.00	0.00	0.00
12/11/97 18:00	20.10	0.00	0.00	0.00	2.40
12/12/97 10:19	20.20	0.00	0.00	0.01	1.9-2.4
12/14/97 11:39	20.10	0.00	0.00	0.01	2.50

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP2B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 14:50	20.40	0.00	0.00	0.00	101.70
11/29/97 17:25	20.00	0.00	0.00	0.00	9.50
12/1/97 14:49	20.10	0.20	0.00		6.00
12/3/97 11:24	20.10	0.10	0.00		1.00
12/4/97 18:12	20.40	0.10	0.00	0.00	3.90
12/5/97 10:30	20.00	0.00	0.00	0.00	5.20
12/6/97 11:36	20.70	0.00	0.00	0.00	0.80
12/7/97 12:45	20.40	0.00	0.00	0.00	0.50
12/8/97 12:30	20.40	0.00	0.00	0.00	0.60
12/9/97 12:55	20.20	0.00	0.00	0.00	0.70
12/10/97 13:20	20.60	0.00	0.00	0.00	0.00
12/11/97 18:21	20.00	0.00	0.00	0.00	1.90
12/12/97 10:39	19.90	0.00	0.00	0.05	2.40
12/14/97 11:56	20.00	0.00	0.00	0.05	1.10

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP3A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:00	20.40	0.00	0.00	0.00	109.20
11/29/97 17:35	19.80	0.10	0.00	0.00	11.40
12/1/97 15:02	19.80	0.20	0.00		10.00
12/3/97 11:45	20.50	0.00	0.00		1.00
12/4/97 18:26	20.50	0.00	0.00	0.00	5.60
12/5/97 10:43	20.10	0.00	0.00	0.00	5.80
12/6/97 12:05	20.80	0.00	0.00	0.00	0.60
12/7/97 12:55	20.20	0.00	0.00	0.00	0.30
12/8/97 12:45	20.50	0.00	0.00	0.00	0.90
12/9/97 13:10	20.30	0.00	0.00	0.00	0.30
12/10/97 13:35	20.80	0.00	0.00	0.00	0.00
12/11/97 18:38	20.10	0.00	0.00	0.00	1.90
12/12/97 10:53	20.10	0.00	0.00	0.00	1.9-1.4
12/14/97 12:26	20.10	0.00	0.00	0.00	1.80

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP3B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:10	20.30	0.00	0.00	0.00	116.00
12/29/97 17:45	19.90	0.10	0.00	0.00	7.60
12/1/97 15:18	20.10	0.20	0.00		6.00
12/3/97 12:07	20.50	0.00	0.00		1.00
12/4/97 18:42	20.50	0.00	0.00	0.00	5.70
12/5/97 10:55	20.10	0.00	0.00	0.00	6.10
12/6/97 12:15	20.70	0.00	0.00	0.00	0.60
12/7/97 13:05	20.10	0.00	0.00	0.00	0.30
12/8/97 13:00	20.50	0.00	0.00	0.00	0.60
12/9/97 13:20	20.40	0.00	0.00	0.00	0.30
12/10/97 13:50	20.80	0.00	0.00	0.00	0.00
12/11/97 19:00	20.00	0.00	0.00	0.00	1.50
12/12/97 11:12	20.00	0.00	0.00	0.05	1.9-1.4
12/14/97 12:54	20.10	0.00	0.00	0.04	1.80

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP4A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:15	20.40	0.00	0.00	0.00	98.00
11/29/97 10:25	20.20	0.00	0.00	0.00	5.70
12/1/97 15:32	20.10	0.20	0.00		8.00
12/3/97 12:29	20.50	0.00	0.00		1.00
12/4/97 19:16	20.60	0.00	0.00	0.00	4.40
12/5/97 11:12	20.40	0.00	0.00	0.00	1.70
12/6/97 13:05	20.70	0.00	0.00	0.00	0.40
12/7/97 13:25	20.20	0.00	0.00	0.00	0.30
12/8/97 13:15	20.50	0.00	0.00	0.00	0.60
12/9/97 13:45	20.30	0.00	0.00	0.00	0.3-0.7
12/10/97 14:05	20.80	0.00	0.00	0.00	0.00
12/11/97 19:19	20.10	0.00	0.00	0.00	1.10
12/12/97 11:40	20.20	0.00	0.00	0.00	1.40
12/14/97 13:10	20.10	0.00	0.00	0.05	1.10

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP4B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 15:40	20.40	0.10	0.00	0.00	91.00
11/29/97 16:45	19.80	0.10	0.00	0.00	9.50
12/1/97 15:46	20.20	0.20	0.00		8.00
12/3/97 12:39	20.40	0.00	0.00		1.00
12/4/97 19:25	20.60	0.00	0.00	0.00	3.80
12/5/97 11:24	0.00	0.00	0.00	1.20	SJ
12/6/97 13:30	20.70	0.00	0.00	0.00	0.40
12/7/97 13:40	20.30	0.00	0.00	0.00	0.30
12/8/97 13:27	20.60	0.00	0.00	0.00	0.3-0.6
12/9/97 13:56	20.40	0.00	0.00	0.00	0.30
12/10/97 14:20	20.80	0.00	0.00	0.00	0.00
12/11/97 19:37	20.00	0.00	0.00	0.00	0.20
12/12/97 12:21	20.20	0.00	0.00	0.05	1.90
12/14/97 13:00	20.00	0.00	0.00	0.10	1.10

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP5A

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 16:50	20.30	0.00	0.00	0.00	83.90
11/29/97 18:00	20.00	0.00	0.00	0.00	13.30
12/1/97 16:04	20.80	0.00	0.00		6.00
12/3/97 14:19	20.20	0.00	0.00		9.80
12/4/97 19:52	20.60	0.00	0.00	0.00	3.20
12/5/97 11:41	20.80	0.00	0.00	0.00	0.90
12/6/97 13:50	20.70	0.00	0.00	0.00	0.60
12/7/97 13:55	20.30	0.00	0.00	0.00	0.30
12/8/97 13:46	20.60	0.00	0.00	0.00	0.60
12/9/97 14:05	20.40	0.00	0.00	0.00	0.30
12/10/97 14:35	20.80	0.00	0.00	0.00	0.00
12/11/97 19:53	20.00	0.00	0.00	0.00	1.50
12/12/97 13:04	20.20	0.00	0.00	0.00	0.90
12/14/97 14:21	20.00	0.00	0.00	0.00	1.80

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP5B

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/27/97 16:36	20.30	0.00	0.00	0.00	83.90
11/29/97 18:10	20.00	0.00	0.00	0.00	19.00
12/1/97 17:03	20.80	0.20	0.00		2.00
12/3/97 14:40	20.10	0.00	0.00		5.40
12/4/97 20:19	20.70	0.00	0.00	0.00	1.50
12/5/97 12:07	20.80	0.00	0.00	0.00	0.60
12/6/97 14:05	20.70	0.00	0.00	0.00	0.60
12/7/97 14:15	20.50	0.00	0.00	0.00	0.30
12/8/97 14:05	20.70	0.00	0.00	0.00	0.30
12/9/97 14:20	20.40	0.00	0.00	0.00	0.30
12/10/97 14:55	20.80	0.00	0.00	0.00	0.00
12/11/97 20:10	19.90	0.00	0.00	0.00	2.40
12/12/97 13:26	20.00	0.00	0.00	0.00	0.90
12/14/97 14:54	19.90	0.00	0.00	0.00	1.1-1.8

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR WELL MP6

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
11/29/97 18:35	20.10	0.00	0.00	0.00	11.40
12/1/97 17:22	20.60	0.20	0.00		2.00
12/6/97 14:15	20.70	0.00	0.00	0.00	16.50
12/7/97 14:30	20.60	0.00	0.00	0.00	6.70
12/8/97 14:20	20.70	0.00	0.00	0.00	4.50
12/9/97 14:35	20.50	0.00	0.00	0.00	3.50
12/10/97 15:10	20.70	0.00	0.00	0.00	2.40
12/11/97 20:22	20.00	0.00	0.00	0.00	1.10
12/12/97 13:47	20.00	0.00	0.00	0.09	2.80
12/14/97 15:18	20.10	0.00	0.00	0.08	4.0-4.8

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR VAPOR IN

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
12/5/97 12:37	20.70	0.00	0.00	0.17	0.60
12/6/97 14:35	20.60	0.00	0.00	0.18	1.10
12/7/97 14:50	20.60	0.00	0.00	0.25	0.50
12/8/97 14:35	20.70	0.00	0.00	0.13	0.60
12/9/97 14:50	20.50	0.00	0.00	0.11	0.30
12/10/97 15:25	20.70	0.00	0.00	0.11	0.00

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR VAPOR OUT

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
12/5/97 13:40	20.50	0.00	0.00	0.18	0.20
12/6/97 14:50	20.70	0.00	0.00	0.18	0.90
12/7/97 15:10	20.70	0.00	0.00	0.26	0.30
12/8/97 14:45	20.70	0.00	0.00	0.13	0.6-0.3
12/9/97 15:00	20.60	0.00	0.00	0.12	0.30
12/10/97 15:45	20.80	0.00	0.00	0.12	0.00

WURTSMITH AFB PILOT TESTING
SITE SS08B
SOIL GAS FIELD PARAMETER DATA FOR AIR ONLY

Date	%O2	%CO2	%CH4	%Helium	PID (ppm)
12/5/97 13:49	20.70	0.00	0.00	0.00	0.20
12/6/97 15:15	20.80	0.00	0.00	0.00	0.40
12/7/97 15:45	20.80	0.00	0.00	0.00	0.10
12/8/97 14:55	20.80	0.00	0.00	0.00	0.30
12/9/97 15:10	20.70	0.00	0.00	0.00	0.00
12/10/97 16:05	20.80	0.00	0.00	0.00	0.00

WURTSMITH PILOT TESTING
SS08
VOC RESULTS FROM SUMMA CANNISTER SAMPLING

Sample Name:		SVE Sample Port 1		SVE Sample Port 1 Duplicate		SVE Sample Port 1	
Sample Date:		**12/4/97**		**12/4/97**		**12/10/97**	
Sample Time:		**11:20**		**11:20**		**16:30**	
Target Compounds	**Units**						
Freon 11	ppb v/v	**5.4**		**6.3**		ND<2.0	
Freon113	ppb v/v	**7.7**	J	ND<4.0		ND<2.0	
Methylene Chloride	ppb v/v	ND<2.0		ND<4.0		**1.2**	J
2-Butanone	ppb v/v	**4.4**	J	ND<20.0		ND<10.0	
4-Methyl-2-Pentanone	ppb v/v	**1.6**	J	ND<8.0		ND<4.0	
Ethylbenzene	ppb v/v	**2.5**		**2.5**		ND<2.0	
m,p-Xylene	ppb v/v	**6.8**		**5.2**		ND<2.0	
4-Ethyl Toluene	ppb v/v	**2.3**		ND<4.0		ND<2.0	
1,3,5-Trimethylbenzene	ppb v/v	**1.8**	J	ND<4.0		ND<2.0	
1,2,4-Trimethylbenzene	ppb v/v	**7.8**		**11**		**1.5**	J
Tentatively Identified							
1-Ethyl-2-methylcyclopentane	ppb v/v	10	NJ				
2-Methylhexane	ppb v/v	25	N	31	NJ		
2-Methylpentane	ppb v/v	13	N	18	NJ		
3-Methylhexane	ppb v/v	31	NJ				
4-Methylheptane	ppb v/v			39	NJ		
Butyl cyclohexane	ppb v/v	13	NJ				
C6 Unsaturated Hydrocarbon	ppb v/v	19	J	23	J		
C7 Unsaturated Hydrocarbon	ppb v/v					3.3	J
C8 Hydrocarbon	ppb v/v					3.8	J
C8 Hydrocarbon (3)	ppb v/v	54.6	J	75	J		
C8 Unsaturated Hydrocarbon	ppb v/v			12	J		
C9 Hydrocarbon	ppb v/v			17	J		
C10 Hydrocarbon	ppb v/v	8.8	J				
C10 Unsaturated Hydrocarbon	ppb v/v			24	J		
C11 Hydrocarbon	ppb v/v	12	J	16	J		
Cyclopentane	ppb v/v					3.0	NJ
Freon 142	ppb v/v	34	N	44	NJ	5.4	NJ
Hexane	ppb v/v	13	N	15	NJ		
Methylcyclohexane	ppb v/v	40	N	27	NJ	4.8	NJ
Methylcyclopentane	ppb v/v	14	N	16	NJ		
Propylcyclohexane	ppb v/v			24	NJ		
Sulfur Hexafluoride	ppb v/v					130	NJ
Unknown Hydrocarbon(2)	ppb v/v					8.5	J
Total Volatiles (ppb v/v)		327.7		406.0		161.5	
Key:							
J = Estimated Value							
N = Tentatively Identified Compound							

APPENDIX E

LABORATORY ANALYTICAL DATA, CHAIN OF CUSTODY, AND DATA VERIFICATION AND VALIDATION

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SU001 Lab Sample ID: 97C05418 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 26-Nov-1997 14:00

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	5	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	5	U
1,1,2-Trichloroethane	0.24	2.0	0.24	5	U
1,1-Dichloroethane	0.33	2.0	0.33	5	U
1,1-Dichloroethene	0.52	2.0	0.52	5	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	5	U
1,2,4-Trimethylbenzene	0.37	2.0	710	5	
1,2-Dibromoethane	0.37	2.0	0.37	5	U
1,2-Dichlorobenzene	0.22	2.0	0.22	5	U
1,2-Dichloroethane	0.37	2.0	0.37	5	U
1,2-Dichloropropane	0.34	2.0	0.34	5	U
1,3,5-Trimethylbenzene	0.40	2.0	240	5	
1,3-Dichlorobenzene	0.20	2.0	0.20	5	U
1,4-Dichlorobenzene	0.29	2.0	0.29	5	U
2-Butanone	1.2	10.0	1.2	5	U
2-Hexanone	0.67	4.0	0.67	5	U
4-Ethyl toluene	0.70	2.0	240	5	
4-Methyl-2-Pentanone	0.80	4.0	0.80	5	U
Acetone	1.1	10.0	1.1	5	U
Benzene	0.41	2.0	0.41	5	U
Benzyl Chloride	0.36	2.0	0.36	5	U
Bromodichloromethane	0.43	2.0	0.43	5	U
Bromoform	0.27	2.0	0.27	5	U
Bromomethane	0.53	2.0	0.53	5	U
Carbon Disulfide	0.61	10.0	0.61	5	U
Carbon Tetrachloride	0.35	2.0	0.35	5	U
Chlorobenzene	0.39	2.0	0.39	5	U
Chloroethane	1.4	4.0	1.4	5	U
Chloroform	0.35	2.0	0.35	5	U
Chloromethane	0.62	4.0	0.62	5	U
Dibromochloromethane	0.48	2.0	0.48	5	U

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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SU001 Lab Sample ID: 97C05418 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 26-Nov-1997 14:00

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	5	U
Ethylbenzene	0.62	2.0	970	5	
Freon 113	0.16	2.0	0.16	5	U
Freon 114	0.70	2.0	0.70	5	U
Freon 11	0.20	2.0	0.20	5	U
Hexachlorobutadiene	1.9	4.0	1.9	5	U
Methylene Chloride	0.33	2.0	0.33	5	U
Styrene	0.27	2.0	0.27	5	U
Tetrachloroethene	0.44	2.0	0.44	5	U
Toluene	0.63	2.0	0.63	5	U
Trichloroethene	0.53	2.0	0.53	5	U
Vinyl Acetate	0.86	10.0	0.86	5	U
Vinyl Chloride	0.58	2.0	0.58	5	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	5	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	5	U
m,p-Xylene	0.80	2.0	2000	5	
o-Xylene	0.61	2.0	0.61	5	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	5	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	5	U

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Comments:

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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SU102 Lab Sample ID: 97C05419 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 26-Nov-1997 20:50

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	10	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	10	U
1,1,2-Trichloroethane	0.24	2.0	0.24	10	U
1,1-Dichloroethane	0.33	2.0	0.33	10	U
1,1-Dichloroethene	0.52	2.0	0.52	10	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	10	U
1,2,4-Trimethylbenzene	0.37	2.0	2300	10	
1,2-Dibromoethane	0.37	2.0	0.37	10	U
1,2-Dichlorobenzene	0.22	2.0	0.22	10	U
1,2-Dichloroethane	0.37	2.0	0.37	10	U
1,2-Dichloropropane	0.34	2.0	0.34	10	U
1,3,5-Trimethylbenzene	0.40	2.0	690	10	
1,3-Dichlorobenzene	0.20	2.0	0.20	10	U
1,4-Dichlorobenzene	0.29	2.0	0.29	10	U
2-Butanone	1.2	10.0	1.2	10	U
2-Hexanone	0.67	4.0	0.67	10	U
4-Ethyl toluene	0.70	2.0	700	10	
4-Methyl-2-Pentanone	0.80	4.0	0.80	10	U
Acetone	1.1	10.0	1.1	10	U
Benzene	0.41	2.0	1800	10	
Benzyl Chloride	0.36	2.0	0.36	10	U
Bromodichloromethane	0.43	2.0	0.43	10	U
Bromoform	0.27	2.0	0.27	10	U
Bromomethane	0.53	2.0	0.53	10	U
Carbon Disulfide	0.61	10.0	0.61	10	U
Carbon Tetrachloride	0.35	2.0	0.35	10	U
Chlorobenzene	0.39	2.0	0.39	10	U
Chloroethane	1.4	4.0	1.4	10	U
Chloroform	0.35	2.0	0.35	10	U
Chloromethane	0.62	4.0	0.62	10	U
Dibromochloromethane	0.48	2.0	0.48	10	U

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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: _____ AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SU102 Lab Sample ID: 97C05419 Matrix: AIR

% Solids: _____ Initial Calibration ID: _____

Date Received: 21-Nov-1997 00:00 Date Extracted: _____ Date Analyzed: 26-Nov-1997 20:50

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	10	U
Ethylbenzene	0.62	2.0	2300	10	
Freon 113	0.16	2.0	0.16	10	U
Freon 114	0.70	2.0	0.70	10	U
Freon 11	0.20	2.0	0.20	10	U
Hexachlorobutadiene	1.9	4.0	1.9	10	U
Methylene Chloride	0.33	2.0	0.33	10	U
Styrene	0.27	2.0	0.27	10	U
Tetrachloroethene	0.44	2.0	0.44	10	U
Toluene	0.63	2.0	0.63	10	U
Trichloroethene	0.53	2.0	0.53	10	U
Vinyl Acetate	0.86	10.0	0.86	10	U
Vinyl Chloride	0.58	2.0	0.58	10	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	10	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	10	U
m,p-Xylene	0.80	2.0	4700	10	
o-Xylene	0.61	2.0	0.61	10	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	10	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	10	U

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Comments:

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0023

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SUAB1 Lab Sample ID: 97C05420 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 27-Nov-1997 00:24

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	3.4	1	
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	1.2	1	J
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	1.9	1	J
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	1.7	1	J
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SUAB1 Lab Sample ID: 97C05420 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 27-Nov-1997 00:24

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	8.0	1	
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	19.	1	
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

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Comments:

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DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SUTB1 Lab Sample ID: 97C05421 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 27-Nov-1997 01:09

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	0.37	1	U
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SUTB1 Lab Sample ID: 97C05421 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 21-Nov-1997 00:00 Date Extracted: Date Analyzed: 27-Nov-1997 01:09

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	1.8	1	J
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

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Comments:

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DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SV002 Lab Sample ID: 97I25019 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 26-Nov-1997 00:00 Date Extracted: Date Analyzed: 26-Nov-1997 23:39

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	.27	2.0	.27	10	U
1,1,2,2-Tetrachloroethane	.47	2.0	.47	10	U
1,1,2-Trichloroethane	.24	2.0	.24	10	U
1,1-Dichloroethane	.33	2.0	.33	10	U
1,1-Dichloroethene	.52	2.0	.52	10	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	10	U
1,2,4-Trimethylbenzene	.37	2.0	8600	10	
1,2-Dibromoethane	.37	2.0	.37	10	U
1,2-Dichlorobenzene	.22	2.0	.22	10	U
1,2-Dichloroethane	.37	2.0	.37	10	U
1,2-Dichloropropane	.34	2.0	.34	10	U
1,3,5-Trimethylbenzene	.40	2.0	3400	10	
1,3-Dichlorobenzene	.20	2.0	.20	10	U
1,4-Dichlorobenzene	.29	2.0	.29	10	U
2-Butanone	1.2	10.0	1.2	10	U
2-Hexanone	.67	4.0	.67	10	U
4-Ethyl toluene	.70	2.0	5100	10	
4-Methyl-2-Pentanone	.80	4.0	.80	10	U
Acetone	1.1	10.0	1.1	10	U
Benzene	.41	2.0	5400	10	
Benzyl Chloride	.36	2.0	.36	10	U
Bromodichloromethane	.43	2.0	.43	10	U
Bromoform	.27	2.0	.27	10	U
Bromomethane	.53	2.0	.53	10	U
Carbon Disulfide	.61	10.0	.61	10	U
Carbon Tetrachloride	.35	2.0	.35	10	U
Chlorobenzene	.39	2.0	.39	10	U
Chloroethane	1.4	4.0	1.4	10	U
Chloroform	.35	2.0	.35	10	U
Chloromethane	.62	4.0	.62	10	U
Dibromochloromethane	.48	2.0	.48	10	U

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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TO-14 Preparatory Method: AAB #: G97BT00H

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06SW002 Lab Sample ID: 97I25019 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 26-Nov-1997 00:00 Date Extracted: Date Analyzed: 26-Nov-1997 23:39

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	.45	2.0	.45	10	U
Ethylbenzene	.62	2.0	21000	10	
Freon 113	.16	2.0	.16	10	U
Freon 114	.70	2.0	.70	10	U
Freon 11	.20	2.0	.20	10	U
Hexachlorobutadiene	1.9	4.0	1.9	10	U
Methylene Chloride	.33	2.0	.33	10	U
Styrene	.27	2.0	.27	10	U
Tetrachloroethene	.44	2.0	.44	10	U
Toluene	.63	2.0	.63	10	U
Trichloroethene	.53	2.0	.53	10	U
Vinyl Acetate	.86	10.0	.86	10	U
Vinyl Chloride	.58	2.0	.58	10	U
cis-1,2-Dichloroethene	.29	2.0	.29	10	U
cis-1,3-Dichloropropene	.34	2.0	.34	10	U
m,p-Xylene	.80	2.0	46000	10	
o-Xylene	.61	2.0	3200	10	
trans-1,2-Dichloroethene	.64	2.0	.64	10	U
trans-1,3-Dichloropropene	.44	2.0	.44	10	U

Comments:

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061DGW001 Lab Sample ID: 97C05468

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 12:43

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1600	1	

VQ
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Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061EGW001 Lab Sample ID: 97C05469

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 12:50

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1500	1	

VQ
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Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061DFW001 FG Lab Sample ID: 97C05470

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 12:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	5400	1	

VQ
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Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. = J

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062DGW001 Lab Sample ID: 97C05471

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:06

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	5100	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. = J

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062EGW001 Lab Sample ID: 97C05472

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:14

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	5500	1	

VA
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. = J

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062FGW001 Lab Sample ID: 97C05473

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:22

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3300	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. = J

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063DGW001 Lab Sample ID: 97C05474

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:30

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3600	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. =J

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AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063DGW101 Lab Sample ID: 97C05475

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:37

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2800	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063EGW001 Lab Sample ID: 97C05476

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:45

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	4000	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. (J)

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064EGW001 Lab Sample ID: 97C05477

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 13:53

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	98	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064DGW001 Lab Sample ID: 97C05494

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 14:17

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	990 ~~ND~~ ZT 1/30/98	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065DGW001 Lab Sample ID: 97C05478

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 14:01

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3300	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. (J)

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV26

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065EGW001 Lab Sample ID: 97C05479

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/26/97 Date Extracted: N/A Date Analyzed: 12/6/97 14:09

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	450	1	

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Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061DGW002 Lab Sample ID: 97C05480

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 14:40

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	660	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061EGW002 Lab Sample ID: 97C05481

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 14:48

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1600	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061FGW002 Lab Sample ID: 97C05482

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 14:56

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1500	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062DGW002 Lab Sample ID: 97C05483

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:04

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3800	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative (J)

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AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062FGW002 Lab Sample ID: 97C05484

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:12

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1200	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063DGW101 Lab Sample ID: 97C05485

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:20

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1200	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063EGW002 Lab Sample ID: 97C05486

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:28

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2400	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064DGW003 Lab Sample ID: 97C05487

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:36

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	680	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R (2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064EGW002 Lab Sample ID: 97C05488

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:43

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1300	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064DGW102 Lab Sample ID: 97C05489

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:51

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1400	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065DGW002 Lab Sample ID: 97C05490

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 15:59

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	76	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065EGW002 Lab Sample ID: 97C05491

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 16:07

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	18	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N193SGW001 Lab Sample ID: 97C05492

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 16:15

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
UJ

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: NOV27

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062EGW002 Lab Sample ID: 97C05493

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 11/27/97 Date Extracted: N/A Date Analyzed: 12/6/97 16:23

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1500	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061DGW003 Lab Sample ID: 97C05495

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 16:46

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1200	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061EGW003 Lab Sample ID: 97C05496

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 16:54

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	4700	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. (J)

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061EGW103 Lab Sample ID: 97C05497

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:02

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2400	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R (2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N061FGW003 Lab Sample ID: 97C05498

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:10

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	3300	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. (J)

RC 2/3/98

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ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062DGW003 Lab Sample ID: 97C05499

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:18

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1700	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062EGW003 Lab Sample ID: 97C05500

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:26

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2600	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N062FGW003 Lab Sample ID: 97C05501

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:33

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	✓ 810 ~~2400~~	1	

DT 1/29/98

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063DGW003 Lab Sample ID: 97C05502

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:41

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	2000	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N063EGW003 Lab Sample ID: 97C05503

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:49

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	4800	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: In the original anlysis this sample showed a value above the high standard. Attempted dilution indicated loss of most of the SF_6 into the headspace in vial created by removal of original analytical aliquot. The reported result is an extrapolation of the original data above the level of the high standard. This value should be treated as semi-quantitative. (J)

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064DGW003 Lab Sample ID: 97C05504

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 17:57

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1000	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N064EGW003 Lab Sample ID: 97C05505

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:05

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	460	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

0239

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065DGW003 Lab Sample ID: 97C05506

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:13

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	91	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065DGW003 Lab Sample ID: 97C05507

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:20

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	89	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RL 2/3/98

0241

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC02

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N065EGW003 Lab Sample ID: 97C05508

% Solids: N/A Initial Calibration ID: SF6-1206

Date Received: 2 December 1997 Date Extracted: N/A Date Analyzed: 12/6/97 18:28

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	13	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/3/98

DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B1EGW001 Lab Sample ID: 97C05542 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 12:06

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.311	1	U
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	8.3	1	
m,p-Xylene	0.622	1	0.622	1	U
o-Xylene	0.321	1	0.321	1	U

VQ
U
U
BU
U
U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	94.5	76.0-114.	
4-BromoFluorobenzene	96.9	86.0-115.	
Toluene-D8	101.	88.0-110.	

Comments:

RC 2/4/98

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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B2EGW001 Lab Sample ID: 97C05543 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 13:39

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.60	1	J
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	0.318	1	U
m,p-Xylene	0.622	1	0.622	1	U
o-Xylene	0.321	1	0.321	1	U

VQ
F
U
U
U
U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	94.2	76.0-114.	
4-BromoFluorobenzene	88.8	86.0-115.	
Toluene-D8	96.4	88.0-110.	

Comments:

R (2/4/98

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B4DGW001 Lab Sample ID: 97C05544 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 14:10

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.311	1	U
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	0.318	1	U
m,p-Xylene	0.622	1	0.622	1	U
o-Xylene	0.321	1	0.321	1	U

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	97.5	76.0-114.	
4-BromoFluorobenzene	95.2	86.0-115.	
Toluene-D8	101.	88.0-110.	

Comments:

R(2/9/98

0295

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Field Dup.

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B5DGW101 Lab Sample ID: 97C05547 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 15:43

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.311	1	U
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	0.318	1	U
m,p-Xylene	0.622	1	0.622	1	U
o-Xylene	0.321	1	0.321	1	U

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	92.4	76.0-114.	
4-BromoFluorobenzene	91.7	86.0-115.	
Toluene-D8	97.9	88.0-110.	

Comments:

RC 2/4/98

0298

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B5DGW001 Lab Sample ID: 97C05546 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 15:12

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.311	1	U
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	4.9	1	
m,p-Xylene	0.622	1	0.622	1	U
o-Xylene	0.321	1	0.321	1	U

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	96.7	76.0-114.	
4-BromoFluorobenzene	95.7	86.0-115.	
Toluene-D8	101.	88.0-110.	

Comments:

RC 2/5/98

0297

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B4DTB001 Lab Sample ID: 97C05545 Matrix: NQ

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 14:41

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	0.311	1	U
Ethylbenzene	0.296	1	0.296	1	U
Toluene	0.318	1	5.2	1	
m,p-Xylene	0.622	1	0.622	1	U
o-Xylene	0.321	1	0.321	1	U

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	95.7	76.0-114.	
4-BromoFluorobenzene	97.6	86.0-115.	
Toluene-D8	101.	88.0-110.	

Comments:

RC 2/4/98

0296

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NH89SGW001 Lab Sample ID: 97C05548 Matrix: WG

% Solids: Initial Calibration ID:

Date Received: 05-Dec-1997 00:00 Date Extracted: Date Analyzed: 11-Dec-1997 16:14

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	1.1	1	
Ethylbenzene	0.296	1	520	25	D
Toluene	0.318	1	270	25	D
m,p-Xylene	0.622	1	1600	50	D
o-Xylene	0.321	1	150	25	D

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	103.	76.0-114.	
4-BromoFluorobenzene	74.2	86.0-115.	
Toluene-D8	160.	88.0-110.	

Low

Comments:

RC 2/4/98

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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NH90SGW001 Lab Sample ID: 97C05549 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 16:45

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	210	25	D
Ethylbenzene	0.296	1	370	25	D
Toluene	0.318	1	0.318	1	U
m,p-Xylene	0.622	1	1000	25	D
o-Xylene	0.321	1	0.97	1	J

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	100.	76.0-114.	
4-BromoFluorobenzene	77.4	86.0-115.	
Toluene-D8	102.	88.0-110.	

low

Comments:

RC 2/4/98

0300

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NH95SGW001 Lab Sample ID: 97C05550 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 17:16

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	24	1	
Ethylbenzene	0.296	1	1.2	1	
Toluene	0.318	1	0.318	1	U
m,p-Xylene	0.622	1	2.7	1	
o-Xylene	0.321	1	0.321	1	U

VQ
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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	95.6	76.0-114.	
4-BromoFluorobenzene	97.5	86.0-115.	
Toluene-D8	99.7	88.0-110.	

Comments:

AC 2/4/98

0301

DATA CHEM LABORATORIES, INC.
A SOBENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B1EGW001 Lab Sample ID: 97C05542MS Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 12:37

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	9.42	1	
Ethylbenzene	0.296	1	9.95	1	
Toluene	0.318	1	17.6	1	
m,p-Xylene	0.622	1	20.	1	
o-Xylene	0.321	1	9.7	1	

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	94.8	76.0-114.	
4-BromoFluorobenzene	95.6	86.0-115.	
Toluene-D8	100.	88.0-110.	

Comments:

R(2/4/98

0304

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G97CC00C

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N8B1EGW001 Lab Sample ID: 97C05542MSD Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 11-Dec-1997 13:08

Concentration Units (ug/L or mg/KG dry weight): ug/L

VQ

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.311	1	9.31	1	
Ethylbenzene	0.296	1	9.78	1	
Toluene	0.318	1	17.1	1	
m,p-Xylene	0.622	1	20.	1	
o-Xylene	0.321	1	9.5	1	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	94.9	76.0-114.	
4-BromoFluorobenzene	95.5	86.0-115.	
Toluene-D8	99.3	88.0-110.	

Comments:

RC 2/4/98

0305

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSV001 Lab Sample ID: 97C05590 Matrix: AIR

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 18:12

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	7.8	1	
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	1.8	1	J
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	4.4	1	J
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	2.3	1	
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	7.7	1	J
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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RC 2/4/98

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSV001 (U) Lab Sample ID: 97C05590 Matrix: AIR

AGA 2/16/99

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 18:12

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	2.5	1	
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	5.4	1	
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	1.6	1	J
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	6.8	1	
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

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Comments:

RC 2/18/98

0313

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSV101 (U) Lab Sample ID: 97C05591 Matrix: AIR

ABH 2/16/98

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 18:56

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	2	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	2	U
1,1,2-Trichloroethane	0.24	2.0	0.24	2	U
1,1-Dichloroethane	0.33	2.0	0.33	2	U
1,1-Dichloroethene	0.52	2.0	0.52	2	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	2	U
1,2,4-Trimethylbenzene	0.37	2.0	11.	2	
1,2-Dibromoethane	0.37	2.0	0.37	2	U
1,2-Dichlorobenzene	0.22	2.0	0.22	2	U
1,2-Dichloroethane	0.37	2.0	0.37	2	U
1,2-Dichloropropane	0.34	2.0	0.34	2	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	2	U
1,3-Dichlorobenzene	0.20	2.0	0.20	2	U
1,4-Dichlorobenzene	0.29	2.0	0.29	2	U
2-Butanone	1.2	10.0	1.2	2	U
2-Hexanone	0.67	4.0	0.67	2	U
4-Ethyl toluene	0.70	2.0	0.70	2	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	2	U
Acetone	1.1	10.0	1.1	2	U
Benzene	0.41	2.0	0.41	2	U
Benzyl Chloride	0.36	2.0	0.36	2	U
Bromodichloromethane	0.43	2.0	0.43	2	U
Bromoform	0.27	2.0	0.27	2	U
Bromomethane	0.53	2.0	0.53	2	U
Carbon Disulfide	0.61	10.0	0.61	2	U
Carbon Tetrachloride	0.35	2.0	0.35	2	U
Chlorobenzene	0.39	2.0	0.39	2	U
Chloroethane	1.4	4.0	1.4	2	U
Chloroform	0.35	2.0	0.35	2	U
Chloromethane	0.62	4.0	0.62	2	U
Dibromochloromethane	0.48	2.0	0.48	2	U

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0314

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSV101 (U) Lab Sample ID: 97C05591 Matrix: AIR

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 18:56

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	2	U
Ethylbenzene	0.62	2.0	2.5	2	
Freon 113	0.16	2.0	0.16	2	U
Freon 114	0.70	2.0	0.70	2	U
Freon 11	0.20	2.0	6.3	2	
Hexachlorobutadiene	1.9	4.0	1.9	2	U
Methylene Chloride	0.33	2.0	0.33	2	U
Styrene	0.27	2.0	0.27	2	U
Tetrachloroethene	0.44	2.0	0.44	2	U
Toluene	0.63	2.0	0.63	2	U
Trichloroethene	0.53	2.0	0.53	2	U
Vinyl Acetate	0.86	10.0	0.86	2	U
Vinyl Chloride	0.58	2.0	0.58	2	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	2	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	2	U
m,p-Xylene	0.80	2.0	5.2	2	
o-Xylene	0.61	2.0	0.61	2	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	2	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	2	U

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Comments:

RC 2/4/98

0315

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSVAB1 (U) Lab Sample ID: 97C05592 Matrix: AIR

ASR 2/16/98

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 19:40

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	0.37	1	U
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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0316

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSVAB1 (U) Lab Sample ID: 97C05592 Matrix: AIR

ASL 2/16/98

% Solids: Initial Calibration ID:

Date Received: 05-Dec-1997 00:00 Date Extracted: Date Analyzed: 16-Dec-1997 19:40

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	0.80	1	U
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

VQ
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Comments:

RC 2/4/98

0317

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BS~~V~~U TB1 Lab Sample ID: 97C05593 Matrix: AIR

FBR 2/16/98

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 20:24

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	0.37	1	U
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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0318

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BS~~V~~TB1 (U) Lab Sample ID: 97C05593 Matrix: AIR

TBR 2/16/98

% Solids: _____ Initial Calibration ID: _____

Date Received: 05-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 20:24

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	0.33	1	U
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	0.80	1	U
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

VQ
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Comments:

RC 2/5/98

0319

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1CGW001 Lab Sample ID: 97C05599

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 12:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	160	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1DGW001 Lab Sample ID: 97C05600

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:08

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	680	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1CGW101 D 12/30/98 Lab Sample ID: 97C05601

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:16

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	430	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RL 2/9/98

0346

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1EGW001 Lab Sample ID: 97C05602

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:23

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	650	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2CGW001 Lab Sample ID: 97C05603

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:31

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	260	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2DGW001 Lab Sample ID: 97C05604

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:39

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	200	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R (2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2EGW001 Lab Sample ID: 97C05605

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:46

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
UJ

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

0350

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3CGW001 Lab Sample ID: 97C05606

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 13:54

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	84	1	

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Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/5/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3DGW001 Lab Sample ID: 97C05607

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 14:02

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	430	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4CGW001 Lab Sample ID: 97C05608

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 14:10

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	110	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4CGW101 Lab Sample ID: 97C05609

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 14:18

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	140	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4DGW001 Lab Sample ID: 97C05610

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 14:25

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	150	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B5CGW001 Lab Sample ID: 97C05611

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 14:33

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
UJ

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC09

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B5DGW001 Lab Sample ID: 97C05612

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 14:41

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B5CGW002 Lab Sample ID: 97C05646

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:04

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	62	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B5DGW002 Lab Sample ID: 97C05647

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:12

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	180	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4CGW002 Lab Sample ID: 97C05648

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:20

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	80	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4DGW002 Lab Sample ID: 97C05649

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:27

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	170	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3CGW002 Lab Sample ID: 97C05650

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:35

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	220	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3DGW002 Lab Sample ID: 97C05651

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:43

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	290	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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6428

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2CGW002 Lab Sample ID: 97C05652

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:51

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	210	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

0429

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2DGW002 Lab Sample ID: 97C05653

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 15:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	290	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2EGW002 Lab Sample ID: 97C05654

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 16:06

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2EGW102 Lab Sample ID: 97C05655

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 16:14

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
UJ

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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0432

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1CGW002 Lab Sample ID: 97C05656

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 16:22

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	93	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1DGW002 Lab Sample ID: 97C05657

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 16:29

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	120	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC13

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1EGW002 Lab Sample ID: 97C05658

% Solids: N/A Initial Calibration ID: SF6-1230

Date Received: 12/11/97 Date Extracted: N/A Date Analyzed: 12/30/97 16:37

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	140	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B5CGW003 Lab Sample ID: 97C05793

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 12:58

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	140	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

0501

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B5DGW003 Lab Sample ID: 97C05794

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:06

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	450	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4CGW003 Lab Sample ID: 97C05795

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:13

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	210	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B4DGW003 Lab Sample ID: 97C05796

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:21

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	540	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RL 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3CGW003 Lab Sample ID: 97C05797

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:29

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	55	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3CGW103 Lab Sample ID: 97C05798

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:36

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	190	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B3DGW003 Lab Sample ID: 97C05799

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:44

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	370	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2CGW003 Lab Sample ID: 97C05800

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:52

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	560	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2DGW003 Lab Sample ID: 97C05801

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 13:59

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	510	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

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AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B2EGW003 Lab Sample ID: 97C05802

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 14:07

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	ND	1	

VQ
UJ

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem.Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1CGW003 Lab Sample ID: 97C05803

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 14:15

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	380	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

R(2/4/98

0511

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1DGW003 Lab Sample ID: 97C05804

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 14:22

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	1400	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

AFCEE
ORGANIC ANALYSES DATA SHEET 2

Analytical Method: Custom Preparatory Method: N/A SDG#: DEC14

Lab Name: DataChem Laboratories Contract #: F41624-94-D-8066/D0007

Field Sample ID: N8B1EGW003 Lab Sample ID: 97C05805

% Solids: N/A Initial Calibration ID: SF6-0106

Date Received: 12/17/97 Date Extracted: N/A Date Analyzed: 01/06/98 14:30

Concentration Units: µg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Sulfur Hexafluoride	N/A	32	970	1	

VQ
J

Surrogate	Recovery	Control Limits	Qualifier
N/A	N/A	N/A	N/A

Internal Std	Qualifier
N/A	N/A

Comments: None.

RC 2/4/98

DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: _____ AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSU002 Lab Sample ID: 97C05680 Matrix: AIR

% Solids: _____ Initial Calibration ID: _____

Date Received: 15-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 16-Dec-1997 21:08

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.27	2.0	0.27	1	U
1,1,2,2-Tetrachloroethane	0.47	2.0	0.47	1	U
1,1,2-Trichloroethane	0.24	2.0	0.24	1	U
1,1-Dichloroethane	0.33	2.0	0.33	1	U
1,1-Dichloroethene	0.52	2.0	0.52	1	U
1,2,4-Trichlorobenzene	1.5	4.0	1.5	1	U
1,2,4-Trimethylbenzene	0.37	2.0	1.5	1	J
1,2-Dibromoethane	0.37	2.0	0.37	1	U
1,2-Dichlorobenzene	0.22	2.0	0.22	1	U
1,2-Dichloroethane	0.37	2.0	0.37	1	U
1,2-Dichloropropane	0.34	2.0	0.34	1	U
1,3,5-Trimethylbenzene	0.40	2.0	0.40	1	U
1,3-Dichlorobenzene	0.20	2.0	0.20	1	U
1,4-Dichlorobenzene	0.29	2.0	0.29	1	U
2-Butanone	1.2	10.0	1.2	1	U
2-Hexanone	0.67	4.0	0.67	1	U
4-Ethyl toluene	0.70	2.0	0.70	1	U
4-Methyl-2-Pentanone	0.80	4.0	0.80	1	U
Acetone	1.1	10.0	1.1	1	U
Benzene	0.41	2.0	0.41	1	U
Benzyl Chloride	0.36	2.0	0.36	1	U
Bromodichloromethane	0.43	2.0	0.43	1	U
Bromoform	0.27	2.0	0.27	1	U
Bromomethane	0.53	2.0	0.53	1	U
Carbon Disulfide	0.61	10.0	0.61	1	U
Carbon Tetrachloride	0.35	2.0	0.35	1	U
Chlorobenzene	0.39	2.0	0.39	1	U
Chloroethane	1.4	4.0	1.4	1	U
Chloroform	0.35	2.0	0.35	1	U
Chloromethane	0.62	4.0	0.62	1	U
Dibromochloromethane	0.48	2.0	0.48	1	U

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RC 2/5/98

DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: T0-14 Preparatory Method: AAB #: G97CH024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS8BSU002 Lab Sample ID: 97C05680 Matrix: AIR

% Solids: Initial Calibration ID:

Date Received: 15-Dec-1997 00:00 Date Extracted: Date Analyzed: 16-Dec-1997 21:08

Concentration Units (ug/L or mg/KG dry weight): PPB V/V

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Dichlorodifluoromethane	0.45	2.0	0.45	1	U
Ethylbenzene	0.62	2.0	0.62	1	U
Freon 113	0.16	2.0	0.16	1	U
Freon 114	0.70	2.0	0.70	1	U
Freon 11	0.20	2.0	0.20	1	U
Hexachlorobutadiene	1.9	4.0	1.9	1	U
Methylene Chloride	0.33	2.0	1.2	1	J
Styrene	0.27	2.0	0.27	1	U
Tetrachloroethene	0.44	2.0	0.44	1	U
Toluene	0.63	2.0	0.63	1	U
Trichloroethene	0.53	2.0	0.53	1	U
Vinyl Acetate	0.86	10.0	0.86	1	U
Vinyl Chloride	0.58	2.0	0.58	1	U
cis-1,2-Dichloroethene	0.29	2.0	0.29	1	U
cis-1,3-Dichloropropene	0.34	2.0	0.34	1	U
m,p-Xylene	0.80	2.0	0.80	1	U
o-Xylene	0.61	2.0	0.61	1	U
trans-1,2-Dichloroethene	0.64	2.00	0.64	1	U
trans-1,3-Dichloropropene	0.44	2.0	0.44	1	U

Comments:

R(2/5/98

0557

DATA CHEM LABORATORIES
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FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

G97CP024

Date Printed.....: 11-JAN-98 22:54

Client Name.....: AmTech Engineering,Inc.
Release Number.....: DEC17

Matrix.....: WATER
Reporting Units.....: ug/L

DCL Analysis Group: G97CP024
Analysis Method...: OL-SW-8310-UV

DCL Prep Group....: G97CP024
Preparation Method: 3510

QC Limit Type.....: Method

Surrogate Recoveries

Surr. ID	Decafluorobiphenyl											
QC Limits	50.0/150.											
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
97C05791	46.3	50.0	92.6									
97C05792	45.8	50.0	91.6									
97C05793	44.8	50.0	89.6									
97E03655	48.0	50.0	96.0									
BL-143549-1	43.9	50.0	87.8									
QC-143549-1	43.0	50.0	86.0									
QC-143549-2	45.3	50.0	90.6									

Batch 97C-0507-01
PNA's

RC 2/5/98

0595

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547
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FAX (801) 268-9992 E-mail: lab@datachem.com

DATA CHEM LABORATORIES, INC.
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AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421 Preparatory Method: 3015 AAB #: G97CQ01M

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393EB002 Lab Sample ID: 97C05791 Matrix: WQ

% Solids: Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: 23-Dec-1997 00:00 Date Analyzed: 23-Dec-1997 18:54

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Lead	1.72	3.0	1.72	1	U

VQ
V

Comments:

RC 2/5/98

0728

DATA CHEM LABORATORIES, INC.
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AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421 Preparatory Method: 3015 AAB #: G97CQ01M

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393GW001 Lab Sample ID: 97C05792 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: 23-Dec-1997 00:00 Date Analyzed: 23-Dec-1997 19:10

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Lead	1.72	3.0	1.72	1	U

VQ
U

Comments:

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0729

DATA CHEM LABORATORIES, INC.
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AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421 Preparatory Method: 3015 AAB #: G97CQ01M

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393GW101 Lab Sample ID: 97C05793 Matrix: WG

% Solids: Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: 23-Dec-1997 00:00 Date Analyzed: 23-Dec-1997 19:13

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Lead	1.72	3.0	1.72	1	U

UQ
U

Comments:

R(2/5/98

0730

DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G980K004

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393VE009 Lab Sample ID: 97C05783 Matrix: SO

% Solids: 3.40 Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 25-Dec-1997 16:46

Concentration Units (ug/L or mg/KG dry weight): mg/Kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.0030	0.052	0.0030	10	U
Ethylbenzene	0.0030	0.052	0.0030	10	U
methyl-t-butyl ether	0.0068	0.052	0.0068	10	U
Toluene	0.0068	0.052	0.0068	10	U
Total Xylenes	0.013	0.16	0.013	10	U

VQ
U
U
U
U
M+

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	95.2	70.0-121.	
4-BromoFluorobenzene	102.	74.0-121.	
Toluene-D8	95.4	81.0-117.	

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Comments:

RC 2/5/98

0781

DATA CHEM LABORATORIES, INC.
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AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: AAB #: G980K004

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393VE109 Lab Sample ID: 97C05784 Matrix: SO

% Solids: 4.60 Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: Date Analyzed: 25-Dec-1997 17:17

Concentration Units (ug/L or mg/KG dry weight): mg/Kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.0030	0.052	0.0030	10	U
Ethylbenzene	0.0031	0.052	0.37	10	
methyl-t-butyl ether	0.0068	0.052	0.0068	10	U
Toluene	0.0069	0.052	0.079	10	
Total Xylenes	0.013	0.16	1.9	10	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	96.7	70.0-121.	
4-BromoFluorobenzene	103.	74.0-121.	
Toluene-D8	97.3	81.0-117.	

Comments:

RC 2/5/98

0782

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8310 Preparatory Method: 3550 AAB #: G97CX015

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393VE009 Lab Sample ID: 97C05785 Matrix: SO

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: 29-Dec-1997 00:00 Date Analyzed: 11-Jan-1998 01:15

Concentration Units (ug/L or mg/KG dry weight): mg/KG

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.0144	0.017	0.016	1	J
Acenaphthylene	0.0238	0.033	0.39	1	
Anthracene	0.000903	0.0017	0.0013	1	J
Benzo(a)anthracene	0.00104	0.0017	0.0057	1	
Benzo(a)pyrene	0.00160	0.0017	0.0069	1	
Benzo(b)fluoranthene	0.00161	0.0033	0.0031	1	J
Benzo(ghi)perylene	0.00272	0.0033	0.00272	1	U
Benzo(k)fluoranthene	0.00126	0.0017	0.00126	1	U
Chrysene	0.00135	0.0017	0.0044	1	
Dibenzo(a,h)anthracene	0.00240	0.0033	0.00240	1	U
Fluoranthrene	0.00220	0.0033	0.016	1	
Fluorene	0.00220	0.0033	0.013	1	
Indeno(1,2,3-cd)pyrene	0.00119	0.0017	0.00119	1	U
Naphthalene	0.0156	0.017	4.0	10	D
Phenanthrene	0.00104	0.0017	0.0052	1	
Pyrene	0.00142	0.0017	0.0061	1	

Comments:

surrogate recovery DFBF - 51%

RC 2/5/98

0794

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8310 Preparatory Method: 3550 AAB #: G97CX015

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393VE109 Lab Sample ID: 97C05786 Matrix: SO

% Solids: Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: 29-Dec-1997 00:00 Date Analyzed: 11-Jan-1998 04:26

Concentration Units (ug/L or mg/KG dry weight): mg/KG

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.0144	0.017	0.059	1	
Acenaphthylene	0.0238	0.033	0.90	1	
Anthracene	0.000903	0.0017	0.000903	1	U
Benzo(a)anthracene	0.00104	0.0017	0.0099	1	
Benzo(a)pyrene	0.00160	0.0017	0.0041	1	
Benzo(b)fluoranthene	0.00161	0.0033	0.0077	1	
Benzo(ghi)perylene	0.00272	0.0033	0.011	1	
Benzo(k)fluoranthene	0.00126	0.0017	0.0027	1	
Chrysene	0.00135	0.0017	0.0074	1	
Dibenzo(a,h)anthracene	0.00240	0.0033	0.00240	1	U
Fluoranthrene	0.00220	0.0033	0.024	1	
Fluorene	0.00220	0.0033	0.033	1	
Indeno(1,2,3-cd)pyrene	0.00119	0.0017	0.0068	1	
Naphthalene	0.0156	0.017	8.2	10	D
Phenanthrene	0.00104	0.0017	0.0084	1	
Pyrene	0.00142	0.0017	0.10	1	

97441C44444

Comments:

Surrogate MCorery - DFBF = 30%

R(2/5/98

0795

DATA CHEM LABORATORIES
A Sorenson Company

FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

G97CX015

Date Printed.....: 14-JAN-98 23:11

Client Name.....: AmTech Engineering,Inc.
Release Number.....: DEC17

Matrix.....: SOIL
Reporting Units.....: ug/g

DCL Analysis Group: G97CX015
Analysis Method...: OL-SW-8310-UV

DCL Prep Group....: G97CX015
Preparation Method: 3550

QC Limit Type.....: Method

Surrogate Recoveries

Surr. ID	Decafluorobiphenyl											
QC Limits	30.0/150.											
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
97C05785	0.856	1.67	51.3									
97C05785MS	0.497	1.67	29.8									
97C05785MSD	0.565	1.67	33.8									
97C05786	0.765	1.67	45.8									
BL-143640-1	1.52	1.67	91.0									
QC-143640-1	1.46	1.67	87.4									

29.8 ≈ 30 %

RC 2/5/98

0813

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547
Phone (801) 266-7700 Web Page: www.datachem.com
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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421 Preparatory Method: 3051 AAB #: G97CQ01L

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393VE009 Lab Sample ID: 97C05787 Matrix: SO

% Solids: 3.40 Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: 23-Dec-1997 00:00 Date Analyzed: 23-Dec-1997 19:32

Concentration Units (ug/L or mg/KG dry weight): mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Lead	0.0595	0.311	4.99	1	

VQ

Comments:

RC 2/5/98

1019

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421 Preparatory Method: 3051 AAB #: G97CQ01L

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393VE109 Lab Sample ID: 97C05788 Matrix: SO

% Solids: 4.60 Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: 23-Dec-1997 00:00 Date Analyzed: 23-Dec-1997 19:45

Concentration Units (ug/L or mg/KG dry weight): mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Lead	0.0595	0.314	5.84	1	

VQ
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Comments:

RL 2/5/98

1020

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: AAB #: G980K003

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393AB002 Lab Sample ID: 97C05781 Matrix: WQ

% Solids: Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: Date Analyzed: 24-Dec-1997 12:35

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.144	5	0.144	1	U
Ethylbenzene	0.237	5	0.237	1	U
methyl-t-butyl ether	0.439	5	0.439	1	U
Toluene	0.183	5	0.183	1	U
Total Xylenes	0.153	15	0.153	1	U

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	98.3	76.0-114.	
Bromofluorobenzene	98.5	86.0-115.	
Toluene-D8	100.	88.0-110.	

Comments:

R(2)5/98

0563

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G980K003

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393TB002 Lab Sample ID: 97C05782 Matrix: WQ

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 24-Dec-1997 13:06

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.144	5	0.144	1	U
Ethylbenzene	0.237	5	0.237	1	U
methyl-t-butyl ether	0.439	5	0.439	1	U
Toluene	0.183	5	0.183	1	U
Total Xylenes	0.153	15	0.153	1	U

VQ
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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	97.4	76.0-114.	
Bromofluorobenzene	97.8	86.0-115.	
Toluene-D8	98.4	88.0-110.	

Comments:

R(2)5/98

0564

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method: _____ AAB #: G980K003

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393GW001 Lab Sample ID: 97C05789 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 24-Dec-1997 13:36

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.144	5	78.	1	
Ethylbenzene	0.237	5	150	1	
methyl-t-butyl ether	0.439	5	0.439	1	U
Toluene	0.183	5	20.	1	
Total Xylenes	0.153	15	250	1	

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	98.1	76.0-114.	
Bromofluorobenzene	99.5	86.0-115.	
Toluene-D8	101.	88.0-110.	

VQ = U

Comments:

R(2/5/98

0565

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Field dups

Analytical Method: 8260 Preparatory Method: _____ AAB #: G980K003

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393GW101 Lab Sample ID: 97C05790 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 24-Dec-1997 15:08

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Benzene	0.144	5	80.	1	
Ethylbenzene	0.237	5	150	1	
methyl-t-butyl ether	0.439	5	0.439	1	U
Toluene	0.183	5	21.	1	
Total Xylenes	0.153	15	260	1	

VQ

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	99.3	76.0-114.	
Bromofluorobenzene	102.	86.0-115.	
Toluene-D8	102.	88.0-110.	

Comments: good field duplicate precision

RC 2/5/98

0566

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8310 Preparatory Method: 3510 AAB #: G97CP024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393EB002 Lab Sample ID: 97C05791 Matrix: WQ

% Solids: Initial Calibration ID:

Date Received: 17-Dec-1997 00:00 Date Extracted: 22-Dec-1997 00:00 Date Analyzed: 31-Dec-1997 04:00

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.452	0.50	0.452	1	U
Acenaphthylene	0.433	1.0	0.433	1	U
Anthracene	0.0259	0.050	0.0259	1	U
Benzo(a)anthracene	0.0265	0.050	0.0265	1	U
Benzo(a)pyrene	0.0325	0.050	0.0325	1	U
Benzo(b)fluoranthene	0.0467	0.10	0.0467	1	U
Benzo(ghi)perylene	0.0713	0.100	0.0713	1	U
Benzo(k)fluoranthene	0.0258	0.050	0.0258	1	U
Chrysene	0.0462	0.050	0.0462	1	U
Dibenzo(a,h)anthracene	0.0351	0.100	0.0351	1	U
Fluoranthene	0.0924	0.100	0.0924	1	U
Fluorene	0.0590	0.10	0.52	1	
Indeno(1,2,3-cd)pyrene	0.0351	80.050	0.0351	1	U
Naphthalene	0.252	0.50	0.252	1	U
Phenanthrene	0.0297	0.050	0.0297	1	U
Pyrene	0.0435	0.050	0.0435	1	U

VQ
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Comments:

surrogate - DFBP 93%

RL 2/5/98

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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8310 Preparatory Method: 3510 AAB #: G97CP024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393GW001 Lab Sample ID: 97C05792 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: 22-Dec-1997 00:00 Date Analyzed: 31-Dec-1997 04:47

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.452	0.50	2.4	1	
Acenaphthylene	0.433	1.0	0.89	1	J
Anthracene	0.0259	0.050	0.0259	1	U
Benzo(a)anthracene	0.0265	0.050	0.0265	1	U
Benzo(a)pyrene	0.0325	0.050	0.0325	1	U
Benzo(b)fluoranthene	0.0467	0.10	0.0467	1	U
Benzo(ghi)perylene	0.0713	0.100	0.0713	1	U
Benzo(k)fluoranthene	0.0258	0.050	0.0258	1	U
Chrysene	0.0462	0.050	0.0462	1	U
Dibenzo(a,h)anthracene	0.0351	0.100	0.0351	1	U
Fluoranthene	0.0924	0.100	0.0924	1	U
Fluorene	0.0590	0.10	0.0590	1	U
Indeno(1,2,3-cd)pyrene	0.0351	80.050	0.0351	1	U
Naphthalene	0.252	0.50	59	10	D
Phenanthrene	0.0297	0.050	0.0297	1	U
Pyrene	0.0435	0.050	0.0435	1	U

VQ
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Comments:

surrogate recovery DFBP = 92%

RC 2/5/98

0579

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Field dup

Analytical Method: 8310 Preparatory Method: 3510 AAB #: G97CP024

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N0393GW101 Lab Sample ID: 97C05793 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 17-Dec-1997 00:00 Date Extracted: 22-Dec-1997 00:00 Date Analyzed: 31-Dec-1997 05:35

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Acenaphthene	0.452	0.50	2.6	1	
Acenaphthylene	0.433	1.0	0.433	1	U
Anthracene	0.0259	0.050	0.0259	1	U
Benzo(a)anthracene	0.0265	0.050	0.0265	1	U
Benzo(a)pyrene	0.0325	0.050	0.0325	1	U
Benzo(b)fluoranthene	0.0467	0.10	0.0467	1	U
Benzo(ghi)perylene	0.0713	0.100	0.0713	1	U
Benzo(k)fluoranthene	0.0258	0.050	0.0258	1	U
Chrysene	0.0462	0.050	0.0462	1	U
Dibenzo(a,h)anthracene	0.0351	0.100	0.0351	1	U
Fluoranthene	0.0924	0.100	0.0924	1	U
Fluorene	0.0590	0.10	0.0590	1	U
Indeno(1,2,3-cd)pyrene	0.0351	80.050	0.0351	1	U
Naphthalene	0.252	0.50	50	1	
Phenanthrene	0.0297	0.050	0.0297	1	U
Pyrene	0.0435	0.050	0.0435	1	U

VG

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Comments:

Surrogate recovery DCBP - 90%

Good precision for field duplicates

RC 2/5/98

0580

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TCLP-8240 Preparatory Method: 1311 AAB #: G980G00J

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: NSS06CC001 Lab Sample ID: 97C05845 Matrix: SN

% Solids: Initial Calibration ID:

Date Received: 19-Dec-1997 00:00 Date Extracted: 25-Dec-1997 00:00 Date Analyzed: 27-Dec-1997 13:59

Concentration Units (ug/L or mg/KG dry weight): mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1-Dichloroethylene	.005	.7	.005	1	U
1,2-Dichloroethane	.005	.5	.005	1	U
2-Butanone	.010	200	.010	1	U
Benzene	.005	.5	.005	1	U
Carbon Tetrachloride	.005	.5	.005	1	U
Chlorobenzene	.005	100	.005	1	U
Chloroform	.005	6	.005	1	U
Tetrachloroethylene	.005	.7	.005	1	U
Trichloroethylene	.005	.5	.005	1	U
Vinyl Chloride	.010	.2	.010	1	U

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Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	101.	76.0-114.	
4-BromoFluorobenzene	98.3	86.0-115.	
Toluene-D8	100.	88.0-110.	

Comments:

RC 2/5/98

1070

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260A Preparatory Method: _____ AAB #: G980D00X

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092TB001 Lab Sample ID: 97C05846 Matrix: NQ

% Solids: _____ Initial Calibration ID: _____

Date Received: 20-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 27-Dec-1997 17:40

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.176	5	0.176	1	U
1,1,1-Trichloroethane	0.261	5	0.261	1	U
1,1,2,2-Tetrachloroethane	0.184	5	0.184	1	U
1,1,2-Trichloroethane	0.211	5	0.211	1	U
1,1-Dichloroethane	0.105	5	0.105	1	U
1,1-Dichloroethene	0.245	5	0.245	1	U
1,1-Dichloropropene	0.221	5	0.221	1	U
1,2,3-Trichlorobenzene	0.173	5	0.173	1	U
1,2,3-Trichloropropane	0.158	5	0.158	1	U
1,2,4-Trichlorobenzene	0.211	5	0.211	1	U
1,2,4-Trimethylbenzene	0.130	5	0.130	1	U
1,2-Dibromo-3-Chloropropane	1.16	5	1.16	1	U
1,2-Dibromoethane	0.0770	5	0.0770	1	U
1,2-Dichlorobenzene	0.170	5	0.170	1	U
1,2-Dichloroethane	0.0674	5	0.0674	1	U
1,2-Dichloropropane	0.168	5	0.168	1	U
1,3,5-Trimethylbenzene	0.178	5	0.178	1	U
1,3-Dichlorobenzene	0.163	5	0.163	1	U
1,3-Dichloropropane	0.128	5	0.128	1	U
1,4-Dichlorobenzene	0.178	5	0.178	1	U
2,2-Dichloropropane	0.182	5	0.182	1	U
2-Butanone	2.56	5	2.56	1	U
2-Chlorotoluene	0.150	5	0.150	1	U
2-Hexanone	1.20	5	1.20	1	U
4-Chlorotoluene	0.110	5	0.110	1	U
4-Methyl-2-Pentanone	1.09	5	1.09	1	U
Acetone	2.88	5	2.88	1	U
Benzene	0.124	5	0.124	1	U
Bromobenzene	0.150	5	0.150	1	U
Bromochloromethane	0.150	5	0.150	1	U
Bromodichloromethane	0.112	5	0.112	1	U

VQ
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RC 2/5/98

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260A Preparatory Method: _____ AAB #: G980D00X

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092TB001 Lab Sample ID: 97C05846 Matrix: NQ

% Solids: _____ Initial Calibration ID: _____

Date Received: 20-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 27-Dec-1997 17:40

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Bromoform	0.101	5	0.101	1	U
Bromomethane	0.229	5	0.229	1	U
Carbon Tetrachloride	0.201	5	0.201	1	U
Chlorobenzene	0.118	5	0.118	1	U
Chloroethane	0.489	5	0.489	1	U
Chloroform	0.140	5	0.140	1	U
Chloromethane	0.314	5	0.314	1	U
Dibromochloromethane	0.121	5	0.121	1	U
Dibromomethane	0.142	5	0.142	1	U
Dichlorodifluoromethane	0.933	5	0.933	1	U
Ethylbenzene	0.136	5	0.136	1	U
Hexachlorobutadiene	0.341	5	0.341	1	U
Isopropylbenzene	0.160	5	0.160	1	U
Methylene Chloride	0.141	5	0.91	1	J
Naphthalene	0.174	5	0.174	1	U
Styrene	0.130	5	0.130	1	U
Tetrachloroethene	0.180	5	0.180	1	U
Toluene	0.148	5	0.148	1	U
Trichloroethene	0.103	5	0.103	1	U
Trichlorofluoromethane	0.215	5	0.215	1	U
Vinyl Chloride	0.334	5	0.334	1	U
cis-1,2-Dichloroethene	0.141	5	0.141	1	U
m&p-Xylene	0.247	10	0.247	1	U
n-Butylbenzene	0.191	5	0.191	1	U
n-Propylbenzene	0.205	5	0.205	1	U
o-Xylene	0.107	5	0.107	1	U
p-Isopropyltoluene	0.170	5	0.170	1	U
sec-Butylbenzene	0.141	5	0.141	1	U
tert-Butylbenzene	0.130	5	0.130	1	U
trans-1,2-Dichloroethene	0.174	5	0.174	1	U

VQ
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1081

RC 2/5/98

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260A Preparatory Method: _____ AAB #: G980D00X

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092TB001 Lab Sample ID: 97C05846 Matrix: NQ

% Solids: _____ Initial Calibration ID: _____

Date Received: 20-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 27-Dec-1997 17:40

Concentration Units (ug/L or mg/KG dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	90.4	76.0-114.	
Bromofluorobenzene	97.2	86.0-115.	
Toluene-D8	94.4	88.0-110.	

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Comments: RC 2/5/98

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DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260A Preparatory Method: _____ AAB #: G980D00X

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092FT001 Lab Sample ID: 97C05847 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 20-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 27-Dec-1997 18:12

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
1,1,1,2-Tetrachloroethane	0.176	5	0.176	1	U
1,1,1-Trichloroethane	0.261	5	0.261	1	U
1,1,2,2-Tetrachloroethane	0.184	5	0.184	1	U
1,1,2-Trichloroethane	0.211	5	0.211	1	U
1,1-Dichloroethane	0.105	5	0.105	1	U
1,1-Dichloroethene	0.245	5	0.245	1	U
1,1-Dichloropropene	0.221	5	0.221	1	U
1,2,3-Trichlorobenzene	0.173	5	0.173	1	U
1,2,3-Trichloropropane	0.158	5	0.158	1	U
1,2,4-Trichlorobenzene	0.211	5	0.211	1	U
1,2,4-Trimethylbenzene	0.130	5	0.130	1	U
1,2-Dibromo-3-Chloropropane	1.16	5	1.16	1	U
1,2-Dibromoethane	0.0770	5	0.0770	1	U
1,2-Dichlorobenzene	0.170	5	0.170	1	U
1,2-Dichloroethane	0.0674	5	0.0674	1	U
1,2-Dichloropropane	0.168	5	0.168	1	U
1,3,5-Trimethylbenzene	0.178	5	0.178	1	U
1,3-Dichlorobenzene	0.163	5	0.163	1	U
1,3-Dichloropropane	0.128	5	0.128	1	U
1,4-Dichlorobenzene	0.178	5	0.178	1	U
2,2-Dichloropropane	0.182	5	0.182	1	U
2-Butanone	2.56	5	2.56	1	U
2-Chlorotoluene	0.150	5	0.150	1	U
2-Hexanone	1.20	5	1.20	1	U
4-Chlorotoluene	0.110	5	0.110	1	U
4-Methyl-2-Pentanone	1.09	5	1.09	1	U
Acetone	2.88	5	2.88	1	U
Benzene	0.124	5	0.124	1	U
Bromobenzene	0.150	5	0.150	1	U
Bromochloromethane	0.150	5	0.150	1	U
Bromodichloromethane	0.112	5	0.112	1	U

VQ U

1083U

RL 2/5/98

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260A Preparatory Method: AAB #: G980D00X

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092FT001 Lab Sample ID: 97C05847 Matrix: WG

% Solids: Initial Calibration ID:

Date Received: 20-Dec-1997 00:00 Date Extracted: Date Analyzed: 27-Dec-1997 18:12

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Bromoform	0.101	5	0.101	1	U
Bromomethane	0.229	5	0.229	1	U
Carbon Tetrachloride	0.201	5	0.201	1	U
Chlorobenzene	0.118	5	0.118	1	U
Chloroethane	0.489	5	0.489	1	U
Chloroform	0.140	5	0.140	1	U
Chloromethane	0.314	5	0.314	1	U
Dibromochloromethane	0.121	5	0.121	1	U
Dibromomethane	0.142	5	0.142	1	U
Dichlorodifluoromethane	0.933	5	0.933	1	U
Ethylbenzene	0.136	5	0.136	1	U
Hexachlorobutadiene	0.341	5	0.341	1	U
Isopropylbenzene	0.160	5	0.160	1	U
Methylene Chloride	0.141	5	0.141	1	U
Naphthalene	0.174	5	0.174	1	U
Styrene	0.130	5	0.130	1	U
Tetrachloroethene	0.180	5	0.180	1	U
Toluene	0.148	5	0.148	1	U
Trichloroethene	0.103	5	0.103	1	U
Trichlorofluoromethane	0.215	5	0.215	1	U
Vinyl Chloride	0.334	5	0.334	1	U
cis-1,2-Dichloroethene	0.141	5	0.141	1	U
m&p-Xylene	0.247	10	0.247	1	U
n-Butylbenzene	0.191	5	0.191	1	U
n-Propylbenzene	0.205	5	0.205	1	U
o-Xylene	0.107	5	0.107	1	U
p-Isopropyltoluene	0.170	5	0.170	1	U
sec-Butylbenzene	0.141	5	0.141	1	U
tert-Butylbenzene	0.130	5	0.130	1	U
trans-1,2-Dichloroethene	0.174	5	0.174	1	U

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1084

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260A Preparatory Method: _____ AAB #: G980D00X

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092FT001 Lab Sample ID: 97C05847 Matrix: WG

% Solids: _____ Initial Calibration ID: _____

Date Received: 20-Dec-1997 00:00 Date Extracted: _____ Date Analyzed: 27-Dec-1997 18:12

Concentration Units (ug/L or mg/KG dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-D4	91.1	76.0-114.	
Bromofluorobenzene	98.7	86.0-115.	
Toluene-D8	94.2	88.0-110.	

Comments:

R(2/5/98

1085

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 6010 Preparatory Method: 3015 AAB #: G97CY005

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092FT001 Lab Sample ID: 97C05847 Matrix: WG

% Solids: Initial Calibration ID:

Date Received: 20-Dec-1997 00:00 Date Extracted: 30-Dec-1997 00:00 Date Analyzed: 06-Jan-1998 14:53

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Arsenic	65.2	300	65.2	1	U
Barium	3.44	20	36.	1	
Cadmium	2.55	5.0	2.55	1	U
Chromium	6.98	10	6.98	1	U
Lead	31.7	100	31.7	1	U
Selenium	39.3	300	39.3	1	U
Silver	4.50	10	4.50	1	U

VQ
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U

Comments:

RC 2/5/98

1099

DATA CHEM LABORATORIES, INC.
A SORENSON COMPANY

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7470 Preparatory Method: 7470 AAB #: G97CY006

Lab Name: DCHM Contract #: F41624-94-D-80

Field Sample ID: N5092FT001 Lab Sample ID: 97C05847 Matrix: WG

% Solids: Initial Calibration ID:

Date Received: 20-Dec-1997 00:00 Date Extracted: 30-Dec-1997 00:00 Date Analyzed: 30-Dec-1997 00:00

Concentration Units (ug/L or mg/KG dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
Mercury	0.0614	0.1	0.0614	1	U

VQ
U

Comments:

RL 2/5/98

1234

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 1
Part 1 of 1
12319701074070

Date _____
Laboratory Group Name 97C-0507-07
Account No. 03206

AmTech Engineering,Inc.
Attention: Roy Cohen
4083 River Road
Fairfield, OH 45014-1009

FAX _____
Telephone (513) 844-6280

Sampling Collection and Shipment

Sampling Site Wurtsmith AFB Date of Collection December 15, 1997

Date Samples Received at Laboratory December 17, 1997

Analysis

Method of Analysis XX-EP-800

Date(s) of Analysis _____

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Solids (Total) %	VO							
N0393VE009	97C05787	SO	96.6	/							
N0393VE109	97C05788	SO	95.4	/							
N0393VE109	97C05788MD	SO	95.4	/							
Limit of Detection											

† See comment on last page.
ND Parameter not detected above LOD.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

R (2/18/98

Analyst: _____

Reviewer: Rick Manning

1282

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547
Phone (801) 266-7700 Web Page: www.datachem.com
FAX (801) 268-9992 E-mail: lab@datachem.com

CHAIN OF CUSTODY

97C-0457

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: [signature]
Delivery Order No.: 0007

1156
0001

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
18-NOV-97	1815	VOCs *	NSS06SU001	N1	SV	101	GS	AV	NA ft.	97E0341[illegible] SUMMA	NONE
-97	1815		NSS06SU102	FD1	SV	101	GS	AV	ft.	19	
-97	1817		NSS06SUAB1	AB1	NQ	100	AA	AC	ft.	20	
-97	1817		NSS06SUTB1	TB1	NQ	001	AA	AC	ft.	21	
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
[signature]	11/19/97 1145		
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time
		[signature]	11-21-97 18:15

Remarks: * VOCs by TO-14 Method

Sample Sent To: Scott Saulls
Lab: Datachem
Address: 960 West LeVoy Dr.
Salt Lake City
Utah, 84123-2547
Phone: 801 266 7700
Freight Co.: FEDEX
Air Bill No.: 801225860807 (two 1792 Boxes)

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact A. SKANDARAJAH (print sampler's name) at (field phone) 517 739 4180

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

RECEIVED
MAR 05 1998
AMTECH ENGINEERING, INC.

97C-0464 97C 1626 2°C

Cooler/SOG: NOU26

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: SYED JAFFERY
Delivery Order No.: 0007

1337
0007

	DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
97C 05468	22-NOV-97	1240	SF_6 *	N061DGW001	N1	WL	000A	WG	PP	25.5 ft.	2,40ml Vial	Cool to 4°C
69	-97	1300		N061EGW001						32.5 ft.	240ml, G, Amber	
70	-97	1315		N061FGW001						39.5 ft.	2, 40ml, G, Amber	
71	-97	1345		N062DGW001						25.5 ft.		
72	-97	1420		N062EGW001						32.5 ft.		
73	-97	1455		N062FGW001						39.5 ft.		
74	-97	1605		N063DGW001						25.5 ft.		
75	-97	1605		N063DGW101	FD1					25.5 ft.		
76	-97	1645		N063EGW001	N1					32.5 ft.		
97 77	-97	1725 1750		N064DGW001 N064EGW001						25.5 32.5 ft.		
78	-97	1815		N065DGW001						25.5 ft.		
79	-97	1840		N065EGW001						32.5 ft.		

Relinquished By: (Signature)	Date/Time 11/25/97 1100	Received By: (Signature) Fed EX 801225860781
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature) Fed EX	Date/Time 11/26/97 11:00	Received for Laboratory By: (Signature) Date/Time 11-26-97 11:00

Remarks: * Sulfur Hexafluoride by ASTM D5504 w/ Direct Injection

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Sample Sent To: Scott Saulls
Lab: Data Chem
Address: 960 West LeVoy Dr,
Salt Lake City
Utah, 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860781

For Questions about samples, contact Syed Jaffery (print sampler's name) at
(field phone) 517 739 4180

97C-0465

Case/SDG: NOV27

97C1626 2°C

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

1158
000458

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: SYED JAFFERY
Delivery Order No.: 0007

	DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
97C 05480	24-NOV-97	1207	SF_6 *	NO61DGW002	N1	WL	000A	WG	PP	25.5 ft.	2, 40ml, G, Amber	Cool to 4°C
81	-97	1247		NO61EGW002						32.5 ft.		
82	-97	1315		NO61FGW002						39.5 ft.		
83	-97	~~1354~~ 1425		NO62DGW002						25.5 ft.		
93	-97	1423		NO62EGW002						32.5 ft.		
84	-97	1443		NO62FGW002						39.5 ft.		
85	-97	~~1445~~ 1520		NO63DGW002						25.5 ft.		
86	-97	1613		NO63EGW002						32.5 ft.		
87	-97	1647		NO64DGW002						25.5 ft.		
88	-97	1730		NO64EGW002						32.5 ft.		
89	-97	1730		NO64EGW102	FD1					32.5 ft.		
90	-97	1818		NO65DGW002	N1					25.5 ft.		
91	-97	1902		NO65EGW002	N1					32.5 ft.		

Relinquished By: (Signature)	Date/Time 11/25/97 1100	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time 11-26-97 11:00

Sample Sent To: Scott Saulls
Lab: Data Chem
Address: 960 West LeVoy Dr. Salt Lake City Utah, 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 8012258607 51

Remarks: * Sulfur Hexafluoride by ASTM D5504 w/Direct Injection

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 517 739 4180

97I-2648-01

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-9066
Sampler Name/Signature: [signature]
Delivery Order No.: 0007

1259
0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
24-NOV-97	2030	VOCs *	NSS06SV002	N1	SV	000A	GS	AV	NA ft.	SUMMA CANISTER	NONE
-96			97I2501 9						ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
[signature]	11/25/97, 1100		
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time
		[signature]	11/26/97 1000

Remarks: * VOCs by TO-14 Method

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Sample Sent To: Scott Sawtelle
Lab: Data Chem
Address: 960 West LeVoy Dr
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860770

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact SKANDA RAJAH (print sampler's name) at (field phone) (517) 739-4180

CASE/SDG: NOU27 97C-0465 97C 1626 20

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: [signature]
Delivery Order No.: 0007

1160
00050

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
97C 05492 25-Nov-97	1150	SF_6	N193SGW001	N1	WL	0001A	WG	PP	35 ft.	2, 40ml	Cool to 4°C
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
[signature]	11/25/97 1155		
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time
		[signature]	11-26-97 11:00

Sample Sent To: Scott Sanders
Lab: Data Chem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 8012258807751

Remarks:

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact Skanda Rajan (print sampler's name) at
(field phone) ~~517~~ 739-4180
517

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

97C-0466

9971639 4°C

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

1161

1 of 2

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study

AF Installation Identification: WURTS

Location: Wurtsmith AFB, Oscoda, MI

Contract No.: F41624-94-D-8066

Sampler Name/Signature: Feisal Abedeen

Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
28-NOV-97	1250	SF_6	97C05495 N061DGW003	N1	WL	0001A	WG	PP	25.5 ft.	2, 40ml Amber Glass	Cool to 4°C
-97	~~1300~~ 1320 FA		97C05496 N061EGW003	N1					32.5 ft.		
-97	~~1325~~ 1320 FA		97C-05496 N061EGW103	FD1					32.5 ft.		
-97	1355		97C05498 N061FGW003	N1					39.5 ft.		
-97	1415		97C05499 N062DGW003						25.5 ft.		
-97	1515		97C05500 N062EGW003						32.5 ft.		
-97	1540		97C05501 N062FGW003						39.5 ft.		
-97	1605		97C05502 N063DGW003						25.5 ft.		
-97	1705		97C05503 N063EGW003						32.5 ft.		
-97	1740		97C05504 N064DGW003						25.5 ft.		
-97	1805		97C05505 N064EGW003						32.5 ft.		
-97	1820		97C05506 N065DGW003						25.5 ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Feisal Abedeen	11/28/97 1050	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) / Date/Time
		Renee Thelin 12-2-97/1000

Sample Sent To: Scott Saulls
Lab: Data chem
Address: 960 West LeVoy Dr
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860760

Remarks:

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact Skanda Rajan (print sampler's name) at (field phone) (517) 739-4150

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

C971639 4°C

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Same as 1 of 2 | AF Installation Identification:

Location: | Contract No.:

Sampler Name/Signature: Feisal Abedeen | Delivery Order No.:

1 of 2
2 of 2

	DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
2	28-NOV-97	1820	SF_6	97C05507D N065EGW103	FD1	WL	0001A	WG	PP	25.5 ft.	2, 40ml, G, A	4°c
1	28-NOV-97	1900	SF_6	97C05508 N065EGW003	N1	WL	0001A	WG	PP	32.5 ft.	2, 40ml, G, A	4°c
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		
	-96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Feisal Abedeen	1000 11/28/97	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) / Date/Time
		Bernice Rhodes 12-2-97 1000

Sample Sent To:
Lab:
Address: 1-4 D
95
Phone:
Freight Co.: Sprint
Air Bill No.:

Remarks:

Send results to: Attn:

AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact _____ (print sampler's name) at (field phone) _____

97C-0471

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: A. SHANDARAJAH
Delivery Order No.: 0007

1163 SDG DEC05

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE	
03-DEC-97	1155	BTEX	N8B1EGW001	N1	WL	001A	WG	PP	ft.	2.40ml, G,A	HCl 97C05542	43
-97	1410		N8B2EGW001	N1					ft.			44
-97	1615		N8B4DGW001	N1					ft.			45
-97	1100		N8B4DTB001	TB1	NQ	001A	NQ	NQ	ft.			46
-97	1712		N8B5DGW001	N1	WL		WG	PP	ft.			47
-97	1715		N8B5DGW101	FD1					ft.			48
-97	1915		NH89SGW001	N1					ft.			49
-97	1626		NH90SGW001	N1					ft.			50
-97	2030		NH95SGW001	N1					ft.			
-97									ft.			
-97									ft.			
-97									ft.			

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
A. Shandarajah	12/4/97/1145		12/5/97 1120
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time

Sample Sent To: Scott Saulls
Lab: Data Chem
Address: 960 West LaVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860759

Remarks:
7 day T.A.T.

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) (517) 739-4180

SDG/Case: DEC08

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

97C-0478

11900

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature:
Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
04-DEC-97 (97C0572)	1120	VOCs	NSS8BSU001	SN1	SV	101	GS	AV	NA ft.	SUMMA CANISTER	NONE
04-DEC-97 (97C0573)	1120	"	NSS8BSU101	FD1	SV	101	GS	AV	ft.	"	"
04-DEC-97 (7492)	1120	"	NSS8BSUAB1	AB1	NQ	100	AA	AC	ft.	"	"
04-DEC-97 (7593V)	1120	"	NSS8BSUTB1	TB1	NQ	001	AA	AC	ft.	"	"
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
	12/4/97 13:00		12/5/97 1400
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time

Sample Sent To: Scott Saulls
Lab: Data Chem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860737/748

Remarks: By TO-14 Method

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 517 739 4180

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

97C-0481

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0010 1165

1 of 2

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study | AF Installation Identification: WURTS

Location: Wurtsmith AFB, Oscoda, MI | Contract No.: F41624-94-D-8066

Sampler Name/Signature: Feisal Abedeen | Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
07-DEC-97	1040	SF_6	97C05599 N8B1CGW001	N1	WL	000A	WG	PP	18.5 ft.	2.40ml, G, A	Cool to 4°C
-97	1105		600 N8B1DGW001	N1					24.5 ft.		
-97	1105		601 N8B1DGW101	FD1					24.5 ft.		
-97	1130		602 N8B1EGW001	N1					31.5 ft.		
-97	1250		603 N8B2CGW001						18.5 ft.		
-97	~~1320~~ 1345 FA		604 N8B2DGW001						24.5 ft.		
-97	1320		605 N8B2EGW001						31.5 ft.		
-97	1400		606 N8B3CGW001						18.5 ft.		
-97	1420		607 N8B3DGW001						24.5 ft.		
-97	1440		608 N8B4CGW001						18.5 ft.		
-97	1440		609 N8B4CGW101	FD1					18.5 ft.		
-97	1500		610 N8B4DGW001	N1					24.5 ft.		

Relinquished By: (Signature) Feisal Abedeen	Date/Time 12/7/97 1600	Received By: (Signature) Fed X	
Relinquished By: (Signature) Fed X	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) SRG	Date/Time 12/8/97 1200

Sample Sent To: Scott Saulls
Lab: Data Chem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860612

Remarks:

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) (517) 739-4180

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0011 1166 2 of 2

AmTech Engineering, Inc.

Project Name: Same as 1 of 2 | AF Installation Identification:

Location: | Contract No.:

Sampler Name/Signature: Feisal Abedeen | Delivery Order No.:

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
07-DEC-97	1520	SF_6	97C05611 N8B5CGW001	NI	WL	000A	WG	PP	18.5 ft.	2, 40ml, G, A	Cool to 4°C
↓ -97	1540	↓	97C05612 N8B5DGW001	NI	WL	000A	WG	PP	24.5 ft.	↓	↓
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Feisal Abedeen	12/7/97 1600	Fed X	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Fed X			
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time
		SAG	12/9/97 1200

Sample Sent To:
Lab:
Address: 1 of 2
Phone: EH
Freight Co.: Same
Air Bill No.:

Remarks:

Send results to: Attn:

AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact _____ (print sampler's name) at

(field phone) _____

97C-0489

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0012 1168

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: Syed Jaffery
Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
11-DEC-97	1415	SF_6	97C05646 N8B5CGW002	N1	WL	000A	WG	PP	18.5 ft.	2, 40ml), G,A	(oo) to 4°c
-97	1445		97C05647 N8B5DGW002						24.5 ft.		
-97	1505		97C05648 N8B4CGW002						18.5 ft.		
-97	1530		97C05649 N8B4DGW002						24.5 ft.		
-97	1555		97C05650 N8B3CGW002						18.5 ft.		
-97	1625		97C05651 N8B3DGW002						24.5 ft.		
-97	1745 1845		97C05652 N8B2CGW002 97C05653 N8B2DGW002						18.5 24.5 ft.		
-97	1845		97C05654 N8B2EGW002						31.5 ft.		
-97	1847		97C05655 N8B2EGW102	FD1					31.5 ft.		
-97	1910		97C05656 N8B1CGW002	N1					18.5 ft.		
-97	1930		97C05657 N8B1DGW002						24.5 ft.		
-97	2000		97C05658 N8B1EGW002						31.5 ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Syed Jaffery	12/11/97 2350	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) / Date/Time
		12/13/97 1115

Remarks:

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Sample Sent To: Scott Saulls
Lab: Datachem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860645

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 517 739 4180

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

97C-0508 C97-1760 1°

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0013 1169

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study | AF Installation Identification: WURTS

Location: Wurtsmith AFB, Oscoda, MI | Contract No.: F41624-94-D-8066

Sampler Name/Signature: [signature] | Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE	
14-DEC-97	1200	SF_6	N8B5CGW003	N1	WL	000A	WG	PP	18.5 ft.	2, 40ml, G,A	97C0508 Cool to 4±2°C	793
-97	1230		N8B5DGW003						24.5 ft.			794
-97	1305		N8B4CGW003						18.5 ft.			795
-97	1350		N8B4DGW003						24.5 ft.			796
-97	1415		N8B3CGW003						18.5 ft.			797
-97	1418		N8B3CGW103	FD1					18.5 ft.			798
-97	1440		N8B3DGW003	N1					24.5 ft.			799
-97	1505		N8B2CGW003						18.5 ft.			800
-97	1525		N8B2DGW003						24.5 ft.			01
-97	1555		N8B2EGW003						31.5 ft.			02
-97	1615		N8B1CGW003						18.5 ft.			03
-97	1640		N8B1DGW003						24.5 ft.			04
-97	1705		N8B1EGW003						31.5 ft.			05

Relinquished By: (Signature)	Date/Time	Received By: (Signature)
[signature]	12/16/97 1000	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) / Date/Time
		David Kay 12/17/97 1515

Sample Sent To: Brent Stevans
Lab: Datachem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860656

Remarks:

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 517 739 4180

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

97C-0494
Case/SDG DESIG
001 1167

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

AmTech Engineering, Inc.

Project Name: Pilot Test/ Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: ASkandarajah
Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
10-DEC-97	1630	VOCs	NSS8BSV002	N1	SV	000A	GS	AV	NA ft.	SUMMA	NONE
- 96									ft.	CANISTER	97C05680
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		

Relinquished By: (Signature) ASkandarajah	Date/Time 12/11/97 1200	Received By: (Signature) Carol Ball DCL	12-5-97 1000
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time

Sample Sent To: Scott Sauls
Lab: Data Chem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: (801) 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860634

Remarks:
By TO-14 Method

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact Skandra Rajah (print sampler's name) at
(field phone) 517 739 4180

97C-0507

C97-1760

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

Case/SDG DEC187 Entered 97 12 15 1° 0015 1170

1 of 2

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study

AF Installation Identification: WURTS

Location: Wurtsmith AFB, Oscoda, MI

Contract No.: F41624-94-D-8066

Sampler Name/Signature:

Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE	
15-DEC-97	1100	BTEX &	NO393AB002	AB1	NQ	100A	WQ	NA	NA ft.	2, 40ml	HCl	97C0507 781
-97	1100	MTBE	NO393TB002	TB1	NQ	001A	WQ	NA	NA ft.	2, 40 ml	HCl	82
-97	1425	BTEX &	NO393VE009	N1	PH	111A	SO	GB	15.0 ft.	2, 40 oz ml	HCl	83
-97	1425	MTBE	NO393VE109	FD1					15.0 ft.	2, 40 oz ml	HCl	84
-97	1427	PAHs	NO393VE009	N1					15.0 ft.	2, 40z	NONE	85
-97	1427	PAHs	NO393VE109	FD1					15.0 ft.	2, 40z		86
-97	1430	Pb	NO393VE009	N1					15.0 ft.	1, 4oz		87
-97	1430	Pb	NO393VE009	FD1			↓	↓	15.0 ft.	1, 4oz	↓	88
-97	1300	BTEX &	NO393GW001	N1			WG	PP	24.5 ft.	2, 40ml	HCl	89
-97	1300	MTBE	NO393GW101	FD1	↓	↓	WG	PP	24.5 ft.	2, 40 ml	HCl	90
-97	1100	PAHs	NO393EB002	EB1	NQ	010A	WQ	NA	NA ft.	1, 1L	NONE	91
-97	1100	Pb	NO393EB002	EB1	NQ	010A	WQ	NA	NA ft.	1, 1L	NONE	92

Relinquished By: (Signature)	Date/Time	Received By: (Signature)
	12/16/97 12:00	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) / Date/Time
		12/17/97 1515

Sample Sent To: Brent Stevens
Lab: Datachem
Address: 960 West LeVoy Dr.
Salt Lake City
UT 84123-2547
Phone: 801 266 7700
Freight Co.: FEDEX
Air Bill No.:

Remarks:
PED of the soil samples
~1500 ppm

Send results to: Attn: Nadeem Siddiki
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 517 739 4190

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

97C-0507

C97-1760
10

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0016 1171
02 of 2

AmTech
Engineering, Inc.

Project Name: Same as 1 of 2

AF Installation Identification:

Location:

Contract No.:

Sampler Name/Signature:

Delivery Order No.:

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
15-DEC-96	1300	PAHs	NO393GW001	N1	PH	111A	WG	PP	24.5 ft.	97C05792 1, 1L	~~97C05793~~ NONE
-96		Pb	NO393GW101	FD1					ft.	97C05793 1, 1L	
-96		PAHs	NO393GW101	FD1					ft.	97C05794 1, 1L	
-96		Pb	NO393GW001	N1					ft.	97C05795 1, 1L	
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
	12/16/97 1200		
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time
			12/17/97 1515

Sample Sent To:
Lab:
Address:
Phone:
Freight Co.: same
Air Bill No.:

Remarks:

Send results to: Attn:
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact _____ (print sampler's name) at
(field phone) _____

SDG: DEC 19

97C-0517

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0017 1174

AmTech Engineering, Inc.

Project Name: Pilot Test / Treatability Study
AF Installation Identification: WURTS
Location: Wurtsmith AFB, Oscoda, MI
Contract No.: F41624-94-D-8066
Sampler Name/Signature: Jim Peeples / [signature]
Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
17-DEC-~~96~~ 97	1745	TCLP VOC	97C05845 NSSO6 CC001	N1	SV ~~000A~~ ASK	0001A	SN	CS	NA ft.	2, 16 OZ	Cool to 4°C
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		
- 96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
[signature]	12/17/97 19:19	Fed EX	
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature)	Date/Time
Fed X		[signature]	12-19-97 1155

Remarks:

Send results to: Attn: Skanda Rajah
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

Sample Sent To: Brent Stephens
Lab: Data Chem
Address: 960 West LeVoy Dr
Salt Lake City
UT 84123-2547
Phone: 801 266-7700
Freight Co.: FEDEX
Air Bill No.: 801225860667

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 317 291-7285

SDG: DEC20 97C-0518

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
CHAIN-OF-CUSTODY RECORD FOR ENVIRONMENTAL SAMPLING

0018 1175

AmTech Engineering, Inc.

Project Name: Pilot Test/Treatability Study | AF Installation Identification: WURTS

Location: Wurtsmith AFB, Oscoda, MI | Contract No.: F41624-94-D-8066

Sampler Name/Signature: A. SKANDARAJAH | Delivery Order No.: 0007

DATE	MILITARY TIME	PARAMETER	LOCATION/ SAMPLE ID	SAMPLE TYPE	LOCATION CLASS CODE	FIELD LOT CONTROL NO	SAMPLE MATRIX	SAMPLE METHOD	SAMPLE DEPTH	NO. & SIZE OF CONTAINERS	PRESERVATIVE
19-DEC-97	1125	97C05846 VOC	N5092TB001	TB1	NQ	001 A	NQ	NQ	NA ft.	2, 40ml, G	HCl
-97	1125	97C05847 VOC	N5092FT001	N1		001 A	WG	G	NA ft.	2, 40ml, G	HCl
-97	1125	RCRA METALS	97C05848 N5092FT001	N1		001 A	WG	G	NA ft.	2, 500ml, P	HNO_3
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		
-96									ft.		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)
A. Skandarajah	1220 12/19/97	FedEx
Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: (Signature) / Date/Time
FedEx		12/20/97 1140

Sample Sent To: Brent Stephens
Lab: DataChem
Address: 960 West LeVoy Dr
Salt Lake City
UT 84123
Phone: 801 266 7700
Freight Co.: FEDEX
Air Bill No.: 801225860715

Remarks:

14 day T.A.T.

Send results to: Attn: Skanda Rajah
AmTech Engineering, Inc.
4343 Saguaro Trail
Indianapolis, IN 46268
Phone: (317) 291-7285
Fax: (317) 293-1440

For Questions about samples, contact Skanda Rajah (print sampler's name) at (field phone) 317 291 7285

Distribution: White: (Original) Accompanies Shipment
Yellow: (Copy) Returns With Report
Pink: Sampler's Copy

DATA VERIFICATION AND VALIDATION

Sample Sets

97C-0457-01	VOA
97I-2648-01	VOA
97C-0464-01	SF_6
97C-0465-01	SF_6
97C-0466-01	SF_6
97C-0471-01	VOA
97C-0478-01	VOA
97C-0481-01	SF_6
97C-0489-01	SF_6
97C-0508-01	SF_6
97C-0494-01	VOA
97C-0507-01	VOA
97C-0507-02	PAH
97C-0507-03	Pb
97C-0507-04	VOA
97C-0507-05	PAH
97C-0507-06	Pb
97C-0517-02	TCLP VOA
97C-0518-01	VOA
97C-0518-02	Metals
97C-0518-03	Hg
97C-0507-07	% solids

AmTech Engineering
Wurtsmith AFB; D.O. 0007
CHECKLIST FOR DATA PACKAGE VERIFICATION: Package ID: see list

item in package	metals (RCRA	VOA; 8240, (8260)	VOA-TO-14	PAHs	lead	MTBE	SF_6	BTEX
number of samples	1	5	7	5	5	6	81	15
case narrative	x	x	x	n/a	x	x	x	x
example calculations	n/a	x	x	n/a	n/a	x	x	x
result forms	x	x	x	n/a	x	x	x	x
instrument data (metals)	x				x			x
GFAA raw data (metals)	x				x			n/a
sample preparation log (metals)	x				x			x
std. solution prep log (metals)	x				x			x
% solids calc. sheet; (metals)	n/a				n/a			n/a
Tent. Ident. Cmpds. list (TICs)		x	x	n/a	n/a	n/a	n/a	n/a
data table- results & QC	x	x	x	n/a	x	x	n/a	x
Surrogate Forms (II)		x	x	n/a		x	n/a	n/a
Matrix Spike/Dup (MS/MSD-III)	x	x	x	n/a	x	x	n/a	x
Method Blank Summary (IV)	x	x	x	n/a	x	x	x	x
Tuning/Run log (V)	x	x	x	n/a	x	n/a	x	n/a
Internal Std. Areas (IS-VIII)		x	x	n/a		n/a	n/a	n/a
Raw data- by sample: (Organic)								
* result form		x	x	n/a		x	x	x
* Chromatogram		x	x	n/a		n/a	x	n/a
* Quantitation report		x	x	n/a		n/a	x	n/a
* target Mass Spectra (VOA)		x	x	n/a		n/a	n/a	n/a
* TIC Mass Spectra (VOA)		N/a	x	n/a		n/a	n/a	n/a
Calibration data:								
* initial calibration data	x	x	x	n/a	x	x	x	x
* continuing calibration data	x	x	x	n/a	x	x	x	x
Analysis log, organics		x	x	n/a	////	x	x	n/a
Surrogate/spike prep. log (organic)		x	x	n/a	////	n/a	n/a	n/a
LCS recoveries and limits	x	x	x	n/a	x	x	x	x

Verified By: Roy Cohen date 2/2/98
Roy Cohen, AmTech Engineering

DATA RESULT FORMS COVER SHEET

Project: Wurtsmith AFB Batch see attached list

As the result of data validation, the following AFCEE qualifiers may be assigned to the data (under column labelled "VQ"):

U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.
J	The analyte was positively identified; the quantitation is an estimation.
F	The analyte was positively identified but the associated numerical value is below the reporting limit (RL), but above the method detection limit (MDL).
R	The data are unusable due to deficiencies in the ability to analyze the sample and/or meet QC criteria.
B	The analyte was found in the associated blanks, as well as the sample.
M	A matrix effect was present; M+ indicates a result is biased high; an M- indicates a result is biased low.
S	This code applies to all screening data.
T	Tentatively identified compounds identified by GC/MS.

In addition to these codes, the validator may apply the following codes to further indicate data quality or usability.

-	(dash) No qualification of a positive result.
UJ	The analyte was analyzed for, but was not detected. The associated numerical value is at or below the MDL, and is considered estimated due to non-compliant quality control data.
Z	This result, or detection limit in this analysis is not the best one to use; another analysis (e.g., the dilution or re-analysis) contains a more confident and usable result; refer to the report for more details.

Date sent out: Feb 6, 1998

Reviewer(s): Roy J. Cohen Roy J. Cohen

print name signature

Received by: A SKANDARAJAH A Skandarajah 2/16/98

print name signature date

(AmTech Engineering)

SAMPLE SETS

97C-0457-01	VOA
97C-2648-01	VOA
97C-0464-01	SF_6
97C-0465-01	SF_6
97C-0466-01	SF_6
97C-0471-01	VOA
97C-0478-01	VOA
97C-0481-01	SF_6
97C-0489-01	SF_6
97C-0508-01	SF_6
97C-0494-01	VOA
97C-0507-01	VOA
97C-0507-02	PAH
97C-0507-03	Pb
97C-0507-04	VOA
97C-0507-05	PAH
97C-0507-06	Pb
97C-0517-02	TCLP VOA
97C-0518-01	VOA
97C-0518-02	Metals
97C-0518-03	Hg
97C-0507-07	% Solids

DATA VALIDATION REPORT
WURTSMITH AFB; D.O. 0007
LABORATORY: DATACHEM, SALT LAKE CITY

This report covers the validation of 22 sample batches that were received at DCL from Nov. 21, 1997 through Dec. 20, 1997. The laboratory submitted all 22 batches in one large data package. The validator reviewed each sample batch individually. This report discusses each batch in that manner.

1. Batch 97C-0457-01, T0-14 Volatiles (4 air samples)
Based on the data submitted, there were no quality control issues identified. Therefore, no data were qualified.

2. Batch 97C-2648-01, T0-14 Volatiles (1 air sample)
Based on the data submitted, there were no quality control issues identified. Therefore, no data were qualified.

3. Batch 97C-0464-01, 13 water samples for Sulfur Hexafluoride (SF_6)
Upon analysis of the data, several problems were noted:

1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
2) During the analysis, the lab analyst was unable to fill the analysis vials full enough to prevent headspace from occurring, causing loss of analyte. Upon repeated analysis, the samples yielded lower and lower results for SF_6, suggesting that the analyte loss from the sampling container continued rather rapidly. Again, a low bias is indicated by this observation.
3) A few samples required dilution because the value of SF_6 exceeded the calibration range of the instrument. Upon dilution, however, the results were only a small fraction of the initial results, again suggesting considerable loss of analyte from the sample container.
4) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was quite high, another was low.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased considerably low (i.e., the actual sample concentrations are most likely much higher than reported).

4. Batch 97C-0465-01, 14 water samples for Sulfur Hexafluoride (SF_6)
Upon analysis of the data, several problems were noted:

1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.
2) During the analysis, the lab analyst was unable to fill the analysis vials full enough to prevent headspace from occurring, causing loss of analyte. Upon repeated analysis, the

samples yielded lower and lower results for SF_6, suggesting that the analyte loss from the sampling container continued rather rapidly. Again, a low bias is indicated by this observation.

3) A few samples required dilution because the value of SF_6 exceeded the calibration range of the instrument. Upon dilution, however, the results were only a small fraction of the initial results, again suggesting considerable loss of analyte from the sample container.

4) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was quite high, another was low.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased considerably low (i.e., the actual sample concentrations are most likely much higher than reported).

5. Batch 97C-0466-01, 14 water samples for Sulfur Hexafluoride (SF_6)

Upon analysis of the data, several problems were noted:

1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.

2) During the analysis, the lab analyst was unable to fill the analysis vials full enough to prevent headspace from occurring, causing loss of analyte. Upon repeated analysis, the samples yielded lower and lower results for SF_6, suggesting that the analyte loss from the sampling container continued rather rapidly. Again, a low bias is indicated by this observation.

3) A few samples required dilution because the value of SF_6 exceeded the calibration range of the instrument. Upon dilution, however, the results were only a small fraction of the initial results, again suggesting considerable loss of analyte from the sample container.

4) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was quite high, another was low.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased considerably low (i.e., the actual sample concentrations are most likely much higher than reported).

6. Volatiles (BTEXs)- batch 97C-047-01; 11 samples

1. The results for toluene in samples N8B1EGW001 and N8B5DGW001 were qualified (B) due to trip blank contamination.

2. All analytes have been qualified as estimated (J) in sample NH89SGW001 because the surrogate recovery was low for bromofluorobenzene (BFB). Results may be biased slightly low.

3. The BFB surrogate recovery was low in sample NH90SGW001. The positive results for benzene, ethylbenzene, and m/p xylenes have been qualified as estimated (J); the non-detected result for toluene has been qualified as unusable (R). The result for o-xylenes, already qualified (F), may also be considered estimated because of the low BFB surrogate.

7. TO-14 Volatiles- batch 97C-0478-01 (4 air samples)
There were no quality control findings, and no data were qualified on that basis.

8. Batch 97C-0481-01, 14 water samples for Sulfur Hexafluoride (SF_6)
Upon analysis of the data, the following problems were noted:

1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.

2) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was slightly high, and another was slightly low, suggesting an estimated quantitation for all associated samples.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased low - the actual sample concentrations (and the reporting limit) may be approximately 20 % higher than reported. Non-detected results have been qualified as UJ, estimated.

9. Batch 97C-0489-01, 13 water samples for Sulfur Hexafluoride (SF_6)
Upon analysis of the data, the following problems were noted:

1) First, the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated.

2) Another factor involves inconsistent recoveries of the continuing calibration verification (CCV) standard. One recovery was slightly high, and another was low, suggesting an estimated result for all samples.

Based on these issues, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased low - the actual sample concentrations (as well as the reporting limit) may be approximately 20 % higher than reported.

10. Batch 97C-0508-01, 13 water samples for Sulfur Hexafluoride (SF_6)
Upon analysis of the data it was noted that the laboratory miscalculated the concentration of the SF_6 standard used to calibrate the gas chromatograph. The actual calculated concentration of the standard should be about 20% higher. A low bias is indicated for all results and reporting limits. Therefore, all positive results for sulfur hexafluoride have been qualified as estimated (J), and should be considered biased low - the actual sample concentrations (as well as the reporting limit) may be approximately 20 % higher than reported.

11. Batch 97C-0494-01, 1 air samples for TO-14 VOAs
There were no quality control findings, and no data were qualified.

12. Batch 97C-0507-01; 4 aqueous samples for BTEX and MTBE
There were no quality control findings, and no data were qualified.

13. Batch 97C-0507-02; 3 aqueous samples for PAHs:
There were no quality control findings, and no data were qualified.

14. Batch 97C-0507-03; 3 aqueous samples for lead:
There were no quality control findings, and no data were qualified.

15. Batch 97C-0507-04; 2 solid samples for BTEX and MTBE:
1) The results for total xylenes have been qualified as estimated, biased high (M+) due to high MS/MSD recoveries for total xylenes in sample N0393VE109. The actual results may be lower than reported by as much as 50%.
2) The results for ethylbenzene and toluene in both samples (-109 and -009) have been qualified as estimated (J) due to field duplicate imprecision.

16. Batch 97C-0507-05; 2 solid samples for PAHs:
All positive results are considered estimated in both samples, and have been qualified (J) due to field duplicate imprecision (except for fluoranthene, and results already qualified "F" that are below the reporting limit but above the MDL). Non-detected results in sample N0393VE009 have been qualified as estimated, UJ, because these compounds (benzo(g,h,i)perylene and benzo(k)fluoranthene) were detected above the reporting limit in sample -109.

17. Batch 97C-0507-06; 2 solid samples for lead:
There were no quality control findings, and no data were qualified.

18. Batch 97C-0517-02; 1 sample for TCLP VOA:
There were no quality control findings, and no data were qualified.

19. Batch 97C-0518-01; 2 aqueous samples for VOA:
There were no quality control findings, and no data were qualified.

20. Batch 97C-0518-02; 1 aqueous sample for RCRA Metals (except Hg):
There were no quality control findings, and no data were qualified.

21. Batch 97C-0518-03; 1 aqueous sample for mercury (Hg):
There were no quality control findings, and no data were qualified.

22. Batch 97C-0507-07; 3 solid samples for percent solids:
There were no quality control findings, and no data were qualified.

Date Validation completed: February 6 ,1998

Validator signature: Roy J. Cohen

Roy J. Cohen, AmTech Engineering

APPENDIX F

FIELD DATA COLLECTION SHEETS

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well _____ **Test Location** _____

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/14/97	MP	~~4-E~~	~~1-D~~					FA
①	3 32	0 571/0 43	6 69	7 03	0 42	-116 3	0 887	1-E
②	3 37	0 516/0 44	5 79	7 03	0 42	-95 5	0 887	
~~③~~	3 45	0 738/0 57	6 61	6 75	1 08	-49 2	1 150	
④	3 55	0 505/0 62	5 39	6 74	1 06	-47 6	1 242	
		~~MP 4-E~~		4-E				
①	4~~46~~	0 939/0 77	9 06	6 80	0 66	-8 53	1 530	
②	4 52	1 011/0 79	9 01	6 82	0 59	-95 2	1 554	
	MP	~~5-E~~	4-D					
①	5 10	1 624/1 29	9 30	6 57	0 65	-73 4	2 492	
②	5 15	1 577/1 25	9 48	6 55	0 65	-76 3	2 428	
	MP	5-D						
①	5 36	1178/0 92	8 71	6 63	0 86	-65 7	1 807	
②	5 40	1 151/0 90	8 63	6 63	0 78	-66 4	1 776	
	MP	5-E						
①	5 50	0 844/0 65	8 68	6 81	0 67	-99 5	1 286	
②	5 55	0 818/0 63	8 75	6 82	0 58	-104 6	1 256	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well _____ **Test Location** _____

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
		TDS/SAL	°C				Spc Im/s	
11/14/97		MP3-E						
(1)	1245 PM	--	9.85	6.74	0.49	-53.1	1.226	FA
(2)	1248	--	9.85	6.54	0.37	-68.6	1.234	
		MP 3-D						
(1)	12:56	1.0/0.81	10.85	6.49	0.55	-49.0	1.598	
(2)	1:00 PM	1.0/0.82	10.82	6.48	0.54	-56.8	1.612	
(3)	1:10	1.07/0.84	10.83	6.46	0.58	-79.8	1.645	
		MP 2-DE						
(1)	1:50 PM	0.735/0.56	8.12	6.95	0.45	-129.7	1.130	
(2)	1:53	0.73/0.56	8.21	6.95	0.56	-132.5	1.120	
(3)	1:55	0.725/0.56	8.21	6.95	0.45	-134.8	1.116	
		MP2- F						
(1)	2:15	0.692/0.53	6.64	7.06	0.47	-125.6	1.063	
(2)	2:22	0.691/0.53	6.28	7.08	0.46	-125.8	1.066	
(3)	2:35	0.687/0.53	6.49	7.10	0.42	-125.5	1.057	
		MP3- IF						
(1)	3:03	0.583/0.44	7.07	7.17	0.31	-110.3	0.597	
(2)	3:05	0.590/0.45	7.08	7.19	0.30	-115.9	0.905	
		MP 1-E						
(1)	3:15	0.596/0.45	6.79	7.18	0.45	-119.2	0.918	
(2)	3:20	0.598/0.45	6.43	7.14	0.44	-120.4	0.919	
		MP 3-E 1-E DU						
(1)	3:23	0.565/0.43	6.42	7.05	0.86	-111.3	0.870	
(2)	3:27	0.565/0.43	6.90	7.03	0.45	-115.5	0.871	

M&E

C-2

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP1 Test Location SS06-MP1A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97				20.3	0.0	0.3	0.0	141	
	1818			20.3		0	0.0	178	
	1819			13.0	5.4	0.3	0.0	170	
	1820			13.0	5.4	0.3	0.0	164	
	1821			13.0	5.3	0.2	0.0	160	
	1822			13.0	5.3	0.2	0.0	161	
	1823								
	1824								
11/12/97	1914								
	~~1915~~								
	~~1916~~								
	~~1917~~			~~20.3~~	~~0.0~~	~~0.2~~	~~0.0~~		
	1918			20.3	0.0	0.2	0.0		
	1949			20.3	0.0	0.2	0.0		
	1950			20.3	0.0	0.2	0.0		
	1951			20.3	0.0	0.2	0.0	2.45	
	1952								
11/13/97									
	9:26	29.1 "HG	PURGING						
	9:32			20.0	0.4	0.0	—	240	FA
REPEAT	9:42		PURGING						
	9:47			20.2	0.4	0.0		32.4	JP
11/13/97	16:15	2.57							
437	~~435~~	~~2.55~~							
	504	2.55							
	~~5:00~~	~~1.13~~							
	552	2.53							
	955	2.54							
11/14/97	10:0[illegible]	2.48							

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 **Test Location** MP1-BA

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/5/97	2551M	1.59			START PURGING				
	300			0.0	0.0	0.05		10.30	
11/17/97	1122AM	~~B~~							
		1.50		15.0	0.0	2.1		53	
11/18/97	1117			20.1	0.00	0.00		24.3	
	1120			20.1	0.00	0.00		20.2	
	1123	1.21		20.1	0.00	0.00		19.2	
11/19/97	1424			20.2	0.00	0.00		7.7	
	1427	1.52		20.2	0.00	0.00		7.7	
11/20/97	1342	1.40							
	1353			19.9	0.0	0.1	0.0	39.2	SJ
	1359			20.0	0.0	0.1	0.0	33.5	
	1402			20.0	0.0	0.1	0.0	37.3	
11/21/97	1059			20.4	0	0	0	5.5	SJ
	1103			20.3	0	0	0	5.4	
	1107			20.2	0	0	0	3.8	
	1110			20.3	0	0	0	3.9	
	1112	1.80							
	1216			19.9	0	0	0	45.1	
	1220			19.8	0	0	0	37.7	
11/22/97	1222	1.62							SJ
	1224			20.9	0.2	0	0	24.7	
	1227			20.8	0.2	0	0	23.2	
	1230			20.6	0.2	0	0	21.7	
11/23/97	1528	1.67							
	1531			20.5	0.2	0	0	434	SJ
	1537			20.6	0.2	0	0	439	
	1540			20.6	0.2	0	0	434	
11/24/97	1124	+0.140							
	1133			19.5	0.2	27.1	1.8	410	SJ
	1137			19.3	0.1	25.3	1.8	418	

M&E

11:42	20.5%	0.1	20.5%	1.8	432
11:45	19.4%	0.1	36.6%	1.9	435
11:48	19.4%	0.1	36.9	1.8	435
11:51	19.4	0.1	38.2	1.8	435

J.P. (pump

FIGURE 6-9
DATA SHEET 2 - VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP1 - A Test Location 5506

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/97	1554	-0.16		19.7	0.0	45.3	2.0	397	JP
	1553			19.6	0.0	51.0	2.0	401	
	1601			19.6	0.0	53.7	2.0	406	
	1604			19.5	0.0	55.3	2.0	407	
Sparging stopped at			2130	on 11/24/97					
11/24	2136			~~19.6~~ ~~35.6~~	00.0	35.6	2.0	436	ASR
	2139			19.6	0.00	42.6	2.0	425	
	2142			19.6	0.00	43.6	2.0	418	
	2145			19.6	0.00	45.0	2.0	418	
11/25/97	1619			20.6	0	0	1.1	683	SJ
	1622			20.7	0	0	1.1	681	
	1625			20.7	0	0	1.2	669	
11/26/97	1055			19.1	0.10	36.5	0.91	630	FA
	1100			19.6	0.1	37.5	0.90	623	
11/28/97	1240	—	—	18.4	0.3	12.7	0.55	2164	FA
	1250			18.4	0.3	12.7	0.52	2308	
11/30/97	1625			18.3	0.4	1.2	0.27	228.6	
	1630			18.3	0.4	1.8	0.28	272.0	
12/2/97	1049			18.3	0.5	0.6	0.18	171.9	SJ
	1056			18.2	0.5	0.7	0.20	201.8	
	1103			18.2	0.5	0.7	0.20	217.6	
12/4/97	1022			18.0	0.7	0.1	0.17	93.6	SJ
	1025			17.9	0.7	0.1	0.15	98.0	
	1029			17.7	0.7	0.2	0.15	112.2	
	1032			17.7	0.7	0.1	0.15	114.5	
12/9/97	1610			17.5	0.7	0.0	0.00	31.1	ASR
	1615			17.5	0.7	0.0	0.00	33.3	
	1620			17.6	0.7	0.0	0.00	34.7	
	1625			17.6	0.7	0.0	0.00	35.0	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP-1A Test Location SS-06

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/13/97	1025			16.9	1.1	0	0	12.9	SJ
	1037			18.1	1.1	0	0	11.2	
	1042			16.9	1.1	0	0	13.7	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SSO6-MP1 Test Location MP1 B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1804	0		20.6	0.0	0.0	0.0	0.0	
	1806			0.2	15.1	45.7	0.0	148	
	1807			0.2	15.1	49.2	0.0	144	
	1808			0.1	15.1	51.4	0.0	139	
	1809			0.1	15.0	53.0	0.0	142	
	1810			0.1	15.0	54.3	0.0	142	
	1811			0.2	14.9	55.0	0.0	143	
	1812								
11/12/97	1933			19.6	0.8	3.3	0.0		
	1934			19.7	0.8	1.0	0.0		
	1935			19.8	0.7	0.9	0.0		
	1936			19.8	0.7	0.8	0.0		
		6.2		19.8	0.7	0.7	0.0	454	
11/13/97	9:58			15.1	3.9	0.7		270	
11/13/97	16:16	5.8							
	16:37	5.75							
	502	5.72							
	~~5:00~~	~~1.42~~							
	5.52	5.65							
	956	5.69							
11/14/97	1000 AM	5.56							
11/15/97	~~1:55~~ PM	3.45		START PURGING					
	305 PM			20.0	0.0	2.0		40.3	
		3.4							
11/17/97	1148 AM			17.9	0.0	0.0		40.8	
11/18/97	1131			20.1	0.0	0.0		17.2	
	1134			20.1	0.00	0.00		16.2	
	1137	2.71		20.0	0.00	0.00		15.1	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-00 Test Location MP1-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1433			20.1	0.00	0.00		7.7	SJ
	1441	3.0		20.1	0.00	0.00	0.0	6.4	
11/20/97	1549	2.93							
	1553			20.3	0	0	0	12.6	SJ
	1556			20.4	0	0	0	13.4	
	1559			20.4	0	0	0	13.4	
11/21/97	1315	3.12							SJ
	1316			19.9	0	0	0	15.6	
	1321			20.1	0	0	0	24.8	
	1324			20.1	0	0	0	28.5	
	1330			20.3	0	0	0	35.0	
11/22/97	1333	3.25							
	1334			20.1	0.2	0	0	9.7	SJ
	1337			20.1	0.2	0	0	14.2	
	1340			20.0	0.2	0	0	12.7	
11/23/97	1737	3.23							
	1752			19.9	0.3	0	0	185.6	SJ
	1755			19.9	0.3	0	0	197.8	
	1758			19.9	0.2	0	0	204.8	
11/24/97	1153	-0.38		19.5	0.1	34.2	2.0	449	JP
	1158			19.6	0	32.6	2.0	463	
	1202			19.6	0.0	33.8	1.9	465	
11/24/97	1607	-0.38		19.6	0.0	47.2	2.1	436	JP
	1613			19.6	0.0	46.1	—	439	
	1621			19.7	0.0	45.1	2.0	444	
Sparging stopped at			2130						
11/24/97	2147			19.7	0.00	40.9	2.0	425	ASP
	2152			19.7	0.00	32.4	2.0	460	
	2156			19.6	0.0	37.3	2.0	433	
	2158			19.6	0.00	39.5	2.0	425	
11/25/97	1648			18.7	0.6	27.8	1.5	664	SJ
	~~1657~~								
	1657			18.7	0.6	29.0	1.5	650	
	1656			18.7	0.5	29.7	1.4	627	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 Test Location MP 1-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1110	—		17.2	0.8	18.8	1.4	672	FA
	1113			17.2	0.8	18.0	1.3	656	
	1116			17.2	0.8	17.8	1.3	645	
11/28/97	1315	—	—	16.0	1.3	4.3	0.87	1808	FA
		—	—	16.0	1.3	6.1	0.88	1951	
11/30/97	1640			15.0	2.0	0.8	0.48	219	
	1645	—	—	15.4	1.8	0.6	0.44	201	
12/2/97	1109			14.1	2.5	0.4	0.25	161.1	SJ
	1114			14.0	2.5	0.5	0.27	174.2	
	1117			14.0	2.5	0.6	0.26	180.5	
12/4/97	1040			11.7	3.6	0.9	0.18	256	SJ
	1044			11.6	3.6	1.0	0.22	265	
	1048			11.6	3.5	1.3	0	287	
	1053			11.7	3.4	1.6	0.18	284	
12/9/97	1627			8.8	5.0	0.9	0.0	180.8	
	1631			9.0	4.8	1.0	0.0	195.8	
	1635			9.2	4.8	1.3	0.0	203.8	
	1640			9.3	4.7	1.6	0.0	216.2	
12/13/97	1239			5.9	6.4	0.8	0	246.2	SJ
	1242			5.9	6.4	1.0	0	269	
	1249			6.0	6.3	1.4	0	302	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP1 Test Location SS06-MP1C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	OVM PID (ppm)	Operator
11/11/97				20.1	0.0	0.1	0.0	46.1	
	1829			0.6	15.8	115.5	0.0	69.7	
	1830			0.1	15.8	138.8	0.0	71.7	
	1831			0.0	15.7	145.4	0.0	74.4	
	1832			0.0	15.8	149.5	0.0	75.1	
	1833			0.0	15.6	>77 ?	0.0	79.4	
	1834								
11/12/97	1921			4.1	13.8	32.5	0.110		
	1922			4.2	13.7	31.5	~~0.130~~		
	1923			4.2	13.7	31.8	~~0.280~~		
	1924			3.7	14.0	33.7	~~0.300~~		
	1925			4.2	13.6	31.8	0.0		
	1926			4.3	13.6	30.5	0.0		
	1927			4.4	13.4	30.3	0.0		
	1928	7.3		4.7	13.4	27.8	0.0	1000	
~~11/13/97~~									
~~10:05~~	10:05		PURGING						
~~10:09~~	10:09	—	—	4.5	12.3	71.7	—	142	FA
11/13/97	16:17	6.78 ?							
	4:38	6.75							
	5:02	6.70							
	~~5:00~~	~~2.58~~							
	5:52	6.63							
		6.76							
	952	6.74							
11/14/97	0900	6.61							
11/15/97	3:05PM	4.11		START PURGING					
	310PM			20.0	0.0	0.0		42.2	
11/17/97	1155AM	4.05		17.9	0.2	2.5		357	
11/18/97	1141	3.30		19.8	0.2	0.3		283	
11/18/97	1144			19.8	0.2	0.3		324	
	1147			19.8	0.2	0.3		357	
	1157			20.2	0.1	0.3		391	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS 06-MP1 **Test Location** SS06-MP1C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1719			14.4	7.2	>150	2.4	85.5	SJ
	1730			14.1	7.4	>150		85.5	
	1735			14.1	7.2	>150		85.5	
11/20/97	1745	3.47							
	1806			20.2	0	0	0	9.7	SJ
	1812			20.2	0	0	0	8.9	
	1824			20.2	0	0	0.0	5.9	JP
11/20/97	1907	3.54							
	1913			16.0	3.6	46.5	0.82	201	SJ
	1917			16.0	3.6	46.8	0.27	194	
	1920			16.0	3.7	47.8	0.27	193	
	1923			16.0	3.7	48.3	0.27	194	
11/21/97	1540	3.59							
	1548			20.8	0	0.1	0	12.9	SJ
	1553			20.8	0	0	0	13.8	
	1614			21.2	0	0	0	11.9	
	1618			21.2	0	0	0	11.9	
11/22/97	1550	3.51							
	1552			20.0	1.9	2.4	.02	271	SJ
	1556			19.2	1.8	3.7	0	401	
	1559			19.2	1.7	5.4	0	467	
	1616			18.9	1.8	7.6		602	
11/23/97	13.58	3.75							
	13.59			13.9	7.6	68.6	0.21	150.5	SJ
	14.06			13.9	7.6	68.8	0.23	163	
	1409			13.9	7.6	72.7	0.21	164	
11/24/97									
↓	1204	-0.47		19.8	0.0	26.3	2.0	565	JP
	1213			19.7	0	10.6	2.0	539	SJ
	1220			19.6	0.0	10.1	2.0	546	JP
	1224			19.4	0.0	11.4	1.9	552	

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FIGURE 6-9
DATA SHEET 2 - VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP1C Test Location SS06

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/97	1625	-0.54		19.3	0.0	17.6	2.0	597	JB
	1632			19.2	0.0	12.7	2.0	524	
	1637			19.9	0.0	12.3	2.0	526	
		Air Sparging	was shutoff at	2130.					
11/26/97	2200			19.6	0.00	31.2	1.9	475	JB
	2203			19.6	0.00	25.0	1.9	471	
	2206			19.6	0.00	26.7	1.9	455	
	2210			19.5	0.00	29.7	1.9	439	
11/25/97	1702			19.0	0.5	55.0	1.6	506	SJ
	1706			19.0	0.5	57.1	1.6	486	
	1712			19.1	0.5	55.6	1.5	477	
11/26/97	1115	—		17.6	0.6	65.7	1.6	451	
	1120			17.6	0.5	66.5	1.6	445	
11/28/97	1350	—		15.0	1.5	61.1	1.0	1562	FA
	1400			15.0	1.4	59.8	1.1	1673	
11/30/97	1700			12.8	2.5	47.8	0.57	401	
	1705			12.8	2.4	46.5	0.52	411	
12/2/97	1140			10.7	3.7	56.0	0.21	367	SJ
	1146			10.8	3.6	56.6	0.20	384	
	1150			10.9	3.6	53.4	0.17	392	
	1153			11.0	3.6	51.8	0.17	399	
12/4/97	1101			6.8	4.8	66.6	0.07	404	SJ
	1104			6.8	4.8	64.5	0.06	401	
	1107			6.8	4.7	64.1	0.06	416	
	1111			6.9	4.7	63.3	0.06	427	
12/9/97	1950			3.3	7.3	62.2	0.0	389	FA
	1955			3.4	7.3	59.7	0.0	392	
	2000			3.4	7.2	57.4	0.0	403	
12/13/97	1410			1.6	9.8	39.7	0	766	SJ
	1413			1.6	9.7	47.0	0	813	
	1416			1.6	9.7	49.2	0	833	
	1420			1.7	9.6	49.4	0	853	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well [redacted] SS06-MP2 Test Location SS06-MP2A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
[redacted] 11/11/97									
	1838			11.2	6.8	2.8	0.0	745.	
	1839			11.6	6.1	2.7	0.0	730	
	1840								
	1841			12.8	6.0	2.0	0.0	713	
	1842			11.6	6.1	2.3	0.0	707	
	1843			11.5	6.1	2.4	0.0	720	
	1844			11.5	6.1	2.5	0.0	725	
	1845								
11/12/97									
	2015			20.1	0.3	2.6	0.0		
	2016			20.1	0.3	2.6	0.0		
	2017			20.1	0.3	2.7	0.0		
	2018			20.1	0.3	2.7	0.0	244	
	2019								
11/13/97									
10:15			PURGING						
10:20				17.9	2.1	2.8		896	
11/13/97	1618	1.12							
	438	1.13							
	500	1.13							
	554	1.07							
	1000PM	1.09							
11/14/97	920 AM	1.11							
11/15/97	312 PM	0.69		START	PURGING				
	317 PM			20.0	0.0	0.0		57.1	
11/17/97	~~+24~~	0.69		18.4	0.0	0.0		83.0	
11/18/97	1203 1210			20.7	0.00	0.00		120.0*	*Previous Test was not PID.
	1207			21.0	0.00	0.00		93.1	
	1211			21.0	0.00	0.00		81.0/62.0	12:18
	1220	0.63		21.0	0.00	0.00		55.6	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP2 **Test Location** SS06-MP2A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1451			20.1	0.0	0.0	0.01	10.2	SJ
	1455	0.68		20.1	0.0	0.0		10.2	
11/20/97	1414	0.66							
	1427			20.4	0.0	0.0		25.3	
	1432			20.4	0.0	0.0	0.0	24.6	
	1436			20.4	0.0	0.0	0.0	24.6	
11/21/97	1116	0.83		~~20.2~~					SJ
	1117			20.2	0	0	0	0.7	
	1120			20.2	0	0	0	0	
	1135			20.2	0	0	0	0	
~~11/22~~	1138			19.9	0	0	0		
	1207			19.7	0	0	0	202.7	
	1210			19.7	0	0	0	202.7	
11/22/97	1232	0.91							SJ
	1233			20.3	0.2	0	0	24.7	
	1245			20.0	0.2	0	0	18.6	
	1248			20.1	0.2	0	0	18.7	
11/23/97	1545	0.72							SJ
	1554			20.6	0.2	0	0	323	
	1615			20.5	0.2	0	0	164	
	1651			20.2	0.3	0	0	159.9	
11/24/97	1226	-0.08							
	1229			19.3	0	10.8	0	404	SJ
	1233			18.2	0.3	5.1	0	331	
	1236			18.1	0.3	5.0	0	318	
11/24/97	1640	-0.07		17.2	1.8	23.6	0.08	418	JP
	1643			17.2	1.9	22.5	0.09	401	
	1646			17.2	1.9	21.4	0.08	391	
		Air Sparging was stopped at 2130.							
11/24/97	2214			18.0	1.9	31.0	0.55	410	ASR
	2217			18.0	1.9	25.3	0.53	418	
	2220			18.0	1.8	21.4	0.52	418	

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11/25/97	1715	19.7	1.0	5.6	0.32	~~737~~	SJ
	1720	19.8	1.1	0.6	0.43	428	
	1725	19.9	1.1	0.5	0.44	377	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 Test Location MP2A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	~~1425~~								
	1125	—		19.0	0.7	2.1	0.36	412	FA
	1130			18.9	0.7	0.8	0.38	305	
	1135			18.9	0.7	0.7	0.42	275	
11/28/97	~~1420~~	—	—	~~18.9~~	~~0.5~~	~~0.9~~	~~0.36~~		
	1520			18.8	0.5	0.1	0.35	227	FA
		—	—	18.8	0.5	0.1	0.38	215	
11/30/97	1720	—	—	18.8	0.4	0.7	0.28	230	
	1725			18.8	0.4	0.4	0.28	260	
12/2/97	1158			18.0	0.7	1.9	0.24	335	SJ
	1202			18.0	0.7	0.8	0.24	236	
	1206			18.0	0.7	0.5	0.17	184	
	1209			18.0	0.7	0.3	0.17	152	
	1211			18.0	0.7	0.3	0.17	146	
12/4/97	1118			17.0	1.0	0.7	0.14	298	SJ
	1123			17.0	1.0	0.3	0.13	194	
	1126			17.0	1.0	0.2	0.10	173	
	1129			17.0	1.0	0.2	0.10	152	
12/9/97	1645			16.8	1.2	0.0	0.01	40.0	ASL
	1650			16.7	1.2	0.0	0.00	27.9	
	1655			16.7	1.2	0.0	0.0	23.9	
	1700			16.6	1.2	0.0	0.0	20.8	
12/13/97	1105			16.0	1.5	0	0	8.6	SJ
	1110			16.0	1.7	0	0	7.7	
	1113			16.0	1.8	0	0	7.0	
	1120			16.0	1.8	0	0	7.0	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP2 Test Location SS06-MP2B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1846			1.6	13.3	25.9	0.0	308	
	1847			2.0	12.9	24.0	0.0	337	
	1848			2.3	12.7	21.8	0.0	365	
	1849			2.6	12.4	19.8	0.0	386	
	1850						~~0.0~~	401	
	1851			3.3	12.1	17.6	0.0	411	
	1852			3.2	11.9	16.9	0.0	423	
	1853			3.4	11.8	16.4	0.0	431	
11/12/97	2002			17.8	2.2	8.3	0.0		
	2003								
	2004								
	2005			17.8	2.2	5.2	0.0		
	2006			17.9	2.2	4.5	0.0		
	2007			17.9	2.2	4.0	0.0		
	2008			17.9	2.2	3.6	0.0		
	2009			17.9	2.2	3.2	0.0	~~2028~~	1950
11/13/97	10:15		PURGING						
	10:25	—		14.2	4.6	0.3	—	304	
11/13/97	420	1.43							
	438	1.43							
	5:00	1.42							
	554	1.36							
	10:00PM	1.41							
11/14/97	~~0000 AM~~ 920	1.40							
11/15/97	3:20			PURGING					
	3:25			20.0	0.0	0.0			
11/17/97	12:15 PM	0.89		18.7	0.0	0.0		57.1	
								74.0	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 MP 2-B **Test Location** SS06- MP 2B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/18/97	1225			21.0	0.00	0.00		55.6*	BE
	1228			21.0	0.00	0.00		51.0	
	1231			21.0	0.00	0.00		49.0	
	1234	0.78		21.0	0.0	0.00		47.0	
11/19/97	1652			20.1	0.0	0.0		9.6	SJ
	1656			20.2	0.0	0.0		9.0	
	1703	0.75		20.3	0.0	0.0		8.3	
11/20/97	1604	0.84							
	1614			20.4	0	0	0	12.6	SJ
	1619			20.5	0	0	0	11.9	
	1623			20.5	0	0	0	11.9	
11/21/97	1333	0.99							
	1337			20.6	0	0	0	16.5	SJ
	1341			20.6	0	0	0	21.2	
	1344			20.6	0	0	0	28.5	
	1347			20.6	0	0	0	30.4	
11/22/97	1342	0.71							SJ
	1405			19.4	0.4	0	0	12.7	
	1408			19.5	0.4	0	0	14.2	
	1411			19.6	0.4	0	0	11.1	
11/23/97	1806	0.86							SJ
	1809			20.1	0.2	0	0	263	
	1812			20.3	0.3	0	0	249	
	1815			20.3	0.2	0	0	232	
11/24/97	1240	-0.09							
	1242			16.3	1.5	17.2	0	335	SJ
	1253			16.5	1.7	16.0	0	328	
	1256			16.4	1.7	16.5	0	326	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 1-D (CIV) **Test Location** 5506

Date	Time	Water Level (feet bTOC)	Temp. (°F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
					DO% / DO mg/L		SpC (mS)	
		MP 1-D						
11/17/97	1150AM	0.861/0.66	6.02	6.62	8.5	-27	1.327	FA
	1157	0.869/0.67	5.95	6.64	7.2	-10.1	1.337	
	1200	0.876/0.67	5.91	6.65	7.0	-13.8	1.349	
							SpC	
11/18/97	1038	0.823/0.64	8.21	6.70	11.7/1.33	1.50	1.271	ASR
	1042	0.841/0.65	8.72	6.72	6.8/0.78	-7.9	1.302	
	1045	0.861/0.67	8.89	6.72	6.3/0.72	-6.2	1.330	
	1050	0.885/0.69	9.00	6.72	5.7/0.65	-21.9	1.368	
	1055	0.903/0.70	8.89	6.72	5.6/0.65	-26.4	1.392	
11/19/97	1416	0.431/0.32	8.86	6.67	11.4/1.31	-30.5	0.663	SJ
	1429	0.435/0.33	8.61	6.67	10.2/1.19	-33.5	0.670	
	1439	0.435/0.33	8.91	6.68	8.9/1.03	-28.6	0.670	
11/20/97	1355	0.419/0.32	10.01	6.67	10.8/1.22	-43.0	0.650	SJ
	1400	0.430/0.32	9.92	6.71	10.6/1.19	-45.4	0.664	
	1405	0.435/0.33	9.83	6.73	10.2/1.15	-49.5	0.670	
	1416	0.472/0.36	9.71	6.73	10.5/1.20	-57.3	0.744	
11/21/97	1026	0.269/0.20	6.69	6.69	26.3/3.07	21.7	0.419	SJ
	1031	0.282/0.21	6.98	6.77	11.3/1.34	-14.5	0.435	
	1035	0.292/0.22	7.37	6.82	8.7/1.04	-37.9	0.451	
	1044	0.312/0.23	7.59	6.86	8.1/0.96	-59.1	0.482	
	1102	0.342/0.26	7.78	6.89	9.5/1.13	-69.7	0.529	
11/22/97	1105	0.344/0.26	~~5.71~~ 6.67	6.65	31.4/3.97	-44.4	0.529	SJ
	1110	0.349/0.26	4.80	6.71	35.1/4.53	-48.5	0.516	
	1122	0.313/0.23	5.07	6.82	23.2/4.21	-46.9	0.420	
11/23/97	1116	0.318/0.24	4.56	6.85	38.8/4.47	-14.4	0.465	SJ
	1123	0.291/0.21	4.99	6.94	24.9/2.97	-16.2	0.433	
	1142	0.276/0.20	5.38	6.99	16.1/2.89	-15.8	0.418	
11/24/97	1139	0.253/0.19	8.41	7.14	9.9/1.16	-34.7	0.390	SJ
	1145	0.257/0.19	8.35	7.16	10.6/1.24	-43.2	0.397	
	1150	0.261/0.19	8.34	7.18	11.2/1.32	-48.9	0.403	
	1155	0.268/0.20	8.46	7.19	12.2/1.43	-51.7	0.415	
	1200	0.274/0.20	8.62	7.20	12.9/1.50	-53.4	0.423	
		sample collected for SF_6 — 1207						
	1206	0.280/0.21	8.91	7.20	13.8/1.59	-54.5	0.432	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 1-D (GW) **Test Location** SS06

Date	Time	~~Water Level~~ (feet bTOC) TDS / SAL	Temp. (F)	pH	DO (mg/L)	ORP	~~Purge Rate~~ (gpm) SpC mS	Operator
11/25/97	1515	0.264/0.20	10.28	7.28	10.1/1.12	18.4	0.404	SJ
	1520	0.264/0.20	10.28	7.35	7.9/0.87	-3.4	0.407	
	1525	0.269/0.20	9.95	7.37	7.1/0.84	-21.1	0.415	
	1528	0.270/0.20	9.99	7.36	6.9/0.78	-26.9	0.415	
	1531	0.271/0.20	9.93	7.35	6.8/0.76	-27.8	0.419	
11/26/97	1044	0.237/0.18	8.76	7.14	15.7/1.83	-19.8	0.366	SJ
	1052	0.239/0.18	8.70	7.15	15.8/1.84	-28.4	0.369	
	1057	0.244/0.18	8.55	7.17	15.4/1.72	-42.4	0.373	
	1102	0.245/0.18	8.46	7.21	13.7/1.60	-52.9	0.378	
	1104	0.247/0.18	8.54	7.22	11.4/1.34	-58.6	0.380	
	1106	0.247/0.18	8.46	7.23	11.5/1.36	-60.7	0.380	
11/28/97	1250	0.266/0.20	10.08	6.95	10.3/1.16	-13.8	0.408	FA
	1300	0.269/0.20	10.47	7.13	10.6/1.18	-45.2	0.414	
11/30/97	1630	0.264/0.20	7.96	6.99	40.1/4.75	23.2	0.406	
	1635	0.268/0.20	7.16	7.05	45.0/5.47	10.0	0.412	
12/2/97	0920	0.262/0.19	8.28	6.77	5.0/0.59	8.3	0.404	SJ
	0955	0.266/0.20	7.34	7.17	4.4/0.53	-83.4	0.411	
	1011	0.269/0.20	7.29	7.18	4.4/0.53	-87.0	0.415	
	1018	0.269/0.20	7.40	7.19	4.4/0.53	-87.6	0.412	
12/4/97	1021	0.299/0.20	8.96	6.84	4.6/0.52	-0.5	0.460	SJ
	1026	0.300/0.22	9.09	6.92	4.3/0.49	-17.3	0.462	
	1031	0.300/0.22	9.63	6.99	4.2/0.47	-33.4	0.462	
	1036	0.304/0.23	9.39	7.04	4.3/0.50	-42.5	0.467	
12/13/97	1130	0.423/0.28	5.02	6.98	8.0/1.01	34.8	0.655	SJ
	1135	0.424/0.28	4.95	6.98	7.4/0.95	27.1	0.652	
	1140	0.426/0.28	4.84	6.98	6.9/0.88	18.4	0.653	
	1154	0.424/0.28	4.83	6.98	6.8/0.86	14.1	0.653	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 1-E (GW) **Test Location** S506

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
1/17/97	1215PM	0.676/0.51	5.27	6.96	39.2	-26.2	0.993	FA
	1220	0.554/0.42	5.61	6.98	5.7	-65.4	0.850	
	1230	0.553/0.42	5.57	6.98	51	-70.6	0.851	
					DO%/DO			
11/18/97	1105	0.552/0.42	8.81	7.03	4.5/0.51	-63.5	0.852	ASR
	1110	0.555/0.42	8.83	7.05	4.1/0.47	-70.6	0.855	
	1115	0.558/0.42	8.84	7.06	3.8/0.44	-71.8	0.859	
	1120	0.560/0.43	9.02	7.06	3.8/0.43	-75.0	0.863	
	1125	0.563/0.43	8.91	7.06	3.7/0.43	-77.0	0.866	
11/19/97	1449	0.303/0.22	8.58	6.90	9.1/1.06	-47.2	0.459	SJ
	1456	0.291/0.22	8.34	6.98	6.7/0.79	-50.7	0.448	
	1503	0.292/0.22	8.58	6.99	6.1/0.71	-55.8	0.450	
11/20/97	1429	0.324/0.24	8.90	6.94	25.3/2.76	91.9	0.438	SJ
	1434	0.261/0.19	9.06	7.02	8.5/0.98	58.3	0.401	
	1443	0.251/0.19	9.15	7.10	5.6/0.64	-80.5	0.388	
	1457	0.250/0.19	9.38	7.13	5.0/0.57	-105.4	0.384	
11/21/97	1108	0.357/0.27	7.27	6.91	22.8/2.84	-64.7	0.551	SJ
	1113	0.243/0.18	6.94	7.13	14.9/1.79	-70.3	0.364	
	1119	0.216/0.16	7.53	7.16	9.9/1.18	-89.0	0.332	
	1124	0.215/0.16	7.09	7.16	10.1/1.22	-92.6	0.330	
11/22/97	1135	0.244/0.18	7.01	7.71	30.9/3.76	-57.1	0.376	SJ
	1142	0.244/0.18	7.33	7.06	36.0/4.74	-49.3	0.374	
	1147	0.244/0.18	7.24	7.09	38.8/4.71	-48.8	0.376	
11/23/97	1159	0.258/0.19	5.97	7.15	38.0/4.72	-17.7	0.3991	SJ
	1205	0.221/0.16	5.47	7.25	50.1/6.33	-7.3	0.334	
	1315	0.212/0.16	6.25	7.39	46.8/5.71	13.0	0.326	
11/24/97	1216	0.293/0.22	7.54	7.49	27.1/3.71	-51.3	0.456	J.P.
	1222	0.214/0.16	8.57	7.38	59.0/6.88	-14.6	0.326	
	1231	0.210/0.15	8.39	7.42	51.4/6.62	6.8	0.322	SJ
	1243	0.208/0.15	8.55	7.45	50.7/5.92	20.4	0.319	
1247 Sampling								
1251		0.207/0.15	8.58	7.47	57.6/6.80	26.2	0.318	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 1E **Test Location** SSO 6

Date	Time	TDS/SAL Water Level (feet bTOC)	°C Temp. (F)	pH	% DO (mg/L)	ORP	µS/cm mS Purge Rate (gpm)	Operator
11/25/97	1535	0.219/0.16	9.77	7.47	5.23/5.01	-44.5	0.326	SJ
	1538	0.211/0.16	9.81	7.46	40.1/4.43	-40.0	0.320	
	1542	0.206/0.15	9.74	7.43	29.2/3.30	-31.0	0.317	
	1547	0.207/0.15	9.64	7.42	22.6/2.7	-15.9	0.320	
	1551	0.208/0.15	9.65	7.41	23.0/2.61	-13.2	0.320	
11/26/97	1113	0.245/0.18	7.63	7.32	34.9/4.16	-53.8	0.373	SJ
	1117	0.232/0.17	7.76	7.34	30.3/3.59	-41.0	0.351	
	1120	0.224/0.17	7.74	7.35	26.2/3.11	-33.0	0.344	
	1124	0.221/0.16	7.69	7.36	22.7/2.70	-24.7	0.338	
	1128	0.218/0.16	7.61	7.37	21.6/2.57	-18.4	0.334	
	1131	0.216/0.16	7.59	7.39	21.7/2.54	-18.3	0.336	
11/28/97	1320	0.238/0.18	9.62	7.30	15.6/1.76	-32.6	0.366	FA
	1335	0.238/0.15	9.73	7.23	15.2/1.73	2.0	0.366	
11/30/97	1640	0.263/0.20	7.78	7.14	27.4/3.26	-1.8	0.406	
	1645	0.266/0.20	7.94	7.17	26.9/3.19	4.1	0.410	
12/2/97	1025	0.270/0.20	7.96	7.18	7.5/0.87	-81.7	0.417	SJ
	1034	0.273/0.20	8.17	7.16	4.2/0.50	-66.8	0.422	
	1039	0.273/0.20	8.33	7.15	4.2/0.50	-61.7	0.419	
	1045	0.274/0.20	7.82	7.15	4.3/0.52	-56.6	0.423	
12/4/97	1044	0.344/0.25	8.83 ~~7.94~~	7.04	5.8/0.62	-42.6	0.522	SJ
	1049	0.349/0.25	8.78	7.05	4.9/0.58	-40.7	0.522	
	1055	0.330/0.25	8.89	7.05	4.5/0.52	-37.6	0.509	
	1059	0.330/0.25	8.96	7.06	4.5/0.52	-36.5	0.508	
12/13/97	1212	0.426/0.32	4.40	7.02	27.3/3.56	-24.3	0.669	SJ
	1218	0.449/0.34	5.0	6.95	20.7/2.62	-23.7	0.693	
	1222	0.453/0.34	5.19	6.85	14.2/1.79	-20.9	0.696	
	1226	0.454/0.34	5.37	6.88	11.3/1.42	-18.2	0.699	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP1-F (GW) **Test Location** SS-06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
	1250							
11/17/97	~~1240~~	0.579/0.44	5.81	7.60	13.4	-58.4	0.876	FA
	1257	0.576/0.44	7.59	7.14	4.9	-92.8	0.886	
	1054	0.577/0.44	8.08	7.15	4.5	-99.8	0.891	
11/18/97	1130	0.566/0.43	8.43	7.18	6.0/0.69	-76.9	0.874	~~ASF~~
	1135	0.572/0.43	8.39	7.20	3.6/0.42	-83.0	0.879	
	1140	0.574/0.44	8.45	7.22	3.4/0.40	-81.7	0.885	
	1145	0.575/0.44	8.48	7.22	3.2/0.38	-83.3	0.886	
11/19/97	1514	0.310/0.23	5.18	7.07	26.3/3.33	-47.5	0.476	SJ
	1520	0.309/0.23	4.91	7.06	23.5/2.95	-53.0	0.475	
	1525	0.309/0.23	4.87	7.12	16.8/2.21	-51.8	0.476	
	1530	0.310/0.23	6.05	7.09	8.3/1.01	-47.1	0.471	
	1535	0.313/0.23	7.37	7.13	6.0/0.73	-57.2	0.484	
	1545	0.314/0.23	7.35	7.15	5.5/0.74	-73.1	0.485	
11/20/97	1517	0.296/0.22	8.60	7.14	5.5/0.64	-110.3	0.463	SJ
	1521	0.306/0.23	8.48	7.16	5.1/0.60	-113.3	0.471	
	1527	0.304/0.23	8.66	7.18	5.0/0.59	-117.9	0.468	
	1533	0.305/0.23	8.49	7.17	4.9/0.58	-117.6	0.469	
	1538	0.303/0.23	8.52	7.18	4.9/0.57	-120.4	0.466	
11/21/97	1131	0.289/0.21	6.69	7.06	18.4/2.14	-71.5	0.435	SJ
	1136	0.295/0.22	7.69	7.00	8.5/1.01	-71.4	0.459	
	1144	0.311/0.23	6.98	7.04	8.6/1.05	-84.3	0.480	
	1151	0.311/0.23	6.90	7.05	8.2/1.00	-88.1	0.478	
11/22/97	1155	0.239/0.18	6.23	7.19	57.7/7.15	-44.5	0.366	SJ
	1159	0.252/0.19	3.67	7.25	64.0/8.13	-39.5	0.403	
	1220	0.315/0.23	6.67	6.98	11.3/1.37	-57.5	0.483	
11/23/97	1323	0.210/0.16	6.89	7.41	58.8/7.08	-0.5	0.385	SJ
	1328	0.302/0.22	5.96	7.16	17.1/2.24	6.8	0.467	
	1335	0.309/0.23	5.95	7.11	13.9/1.74	8.3	0.473	
11/24/97	1302	0.209/0.15	8.34	7.47	51.9/6.08	35.9	0.321	SJ
	1311	0.208/0.15	8.82					
				7.47	52.3/6.07	39.9	0.320	
	1315	Sampling						
	1319	0.208/0.15	8.91	7.46	52.2/6.03	40.1	0.320	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 1F **Test Location** SS 06

Date	Time	~~Water Level~~ (~~feet bTOC~~) TSD/SAL	~~Temp. (F)~~ °C	pH	DO ~~(mg/L)~~ % / mg/L	ORP	~~Purge Rate~~ (~~gpm~~) spems	Operator
11/25/97	1600	0.201/0.21	9.24	7.14	36.7/4.20	-1.8	0.452	SJ
	1605	0.315/0.24	9.20	7.09	30.5/3.54	-26.1	0.485	
	1610	0.316/0.24	9.19	7.08	28.9/3.31	-34.7	0.487	
	1617	0.316/0.24	9.05	7.08	27.5/3.17	-41.5	0.486	
	1622	0.315/0.24	9.02	7.08	27.1/3.13	-44.6	0.485	
11/26/97	1136	0.253/0.19	6.92	7.26	40.8/5.04	-0.2	0.419	SJ
	1141	0.304/0.23	7.68	7.14	43.6/5.17	-14.8	0.473	
	1146	0.314/0.23	7.82	7.11	39.4/4.68	-30.0	0.486	
	1151	0.317/0.23	7.79	7.09	36.9/4.39	-38.5	0.489	
11/28/97	1355	0.303/0.23	4.08	7.15	56.1/6.45	200	0.464	FA
	1405	0.320/0.24	9.21	7.11	46.2/5.30	-7.5	0.493	
11/30/97	1700	0.321/0.24	7.66	7.17	76.1/9.07	31.2	0.495	
	1705	0.320/0.24	7.74	7.17	75.3/8.96	29.9	0.493	
12/2/97	1052	0.314/0.23	7.31	7.14	48.5/6.03	-44.0	0.489	SJ
	1057	0.319/0.24	7.53	7.14	56.9/6.81	-30.6	0.492	
	1102	0.317/0.24	7.77	7.13	53.9/6.41	-27.9	0.488	
	1110	0.317/0.24	7.77	7.12	52.0/6.18	-27.6	0.486	
12/4/97	1109	0.345/0.26	8.65	7.12	45.7/5.68	-30.7	0.534	SJ
	1114	0.348/0.26	8.35	7.15	57.2/6.67	-19.2	0.533	
	1120	0.345/0.26	8.22	7.14	52.2/6.15	-11.3	0.531	
	1127	0.343/0.26	8.43	7.14	49.9/5.83	-9.0	0.528	
12/13/97	1241	0.361/0.27	5.35	7.14	63.2/7.96	-8.3	0.552	SJ
	1243	0.356/0.26	5.45	7.15	61.2/7.70	-5.1	0.546	
	1248	0.351/0.26	5.28	7.15	58.0/7.34	1.1	0.540	
	1252	0.350/0.26	5.20	7.15	55.5/7.03	5.9	0.538	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 2 - D (61) **Test Location** _____

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	1:15	1.160/0.91	9.7	6.4	7.2	-43.2	1.92.8	FA
	1:17PM	1.32/1.04	9.73	6.41	0.77	-49.5	2.036	JAP
	1:22PM	1.325/1.05	9.67	6.42	0.76	-51.8	2.033	JAP
	1:27PM	1.325/1.05	9.82	6.42	0.76	-53.2	2.057	JAP
11/18/97	1155	1.314/1.04	9.38	6.48	6.3/0.71	-38.2	2.022	ABR
	1200	1.317/1.04	9.62	6.48	6.3/0.71	-39.3	2.027	ABR
	1205	1.319/1.04	9.42	6.48	6.5/0.74	-38.7	2.028	ABR
	1210	1.319/1.04	9.89	6.48	6.5/0.73	-39.7	2.029	ABR
	1215	1.319/1.04	9.49	6.48	6.7/0.76	-40.5	2.029	ABR
11/19/97	1557	0.559/0.43	9.75	6.50	19.0/2.22	-29.1	0.934	SJ
	1602	0.662/0.51	9.58	6.45	24.9/2.83	-23.4	1.025	
	1610	0.679/0.52	9.55	6.46	25.4/2.89	-22.4	1.050	
	1615	0.695/0.53	9.62	6.45	24.9/2.82	-15.8	1.066	
	1618	0.692/0.53	9.64	6.45	24.8/2.80	-15.7	1.065	
11/20/97	1551	0.566/0.43	9.87	6.58	28.4/3.24	-15.4	0.886	SJ
	1556	0.603/0.46	9.84	6.57	29.2/3.32	-15.8	0.936	
	1541	0.617/0.47	9.92	6.56	29.1/3.29	-16.8	0.952	
	1612	0.626/0.48	9.57	6.56	29.0/3.30	-17.2	0.961	
11/21/97	1155	0.313/0.23	7.67	7.05	26.4/3.25	-74.5	0.482	SJ
	1205	0.554/0.42	7.56	6.57	23.9/2.85	4.2	0.867	
	1210	0.572/0.43	8.23	6.55	23.7/2.78	5.1	0.882	
	1217	0.581/0.44	8.34	6.54	24.2/2.82	3.4	0.893	
11/22/97	1325	0.475/0.36	6.59	6.64	25.1/3.02	-6.8	0.747	SJ
	1330	0.514/0.39	7.09	6.62	23.4/2.84	-7.3	0.867	
	1336	0.565/0.43	6.94	6.54	22.2/2.69	-5.4	0.874	
11/23/97	1347	0.495/0.37	5.03	6.80	35.2/4.51	29.1	0.783	SJ
	1353	0.539/0.41	4.20	6.74	34.4/4.46	48.6	0.832	
	1400	0.565/0.43	4.26	6.68	34.6/4.50	60.9	0.869	
11/24/97	1329	0.371/0.20	8.76	6.94	38.7/4.96	63.4	0.591	
	1339	0.479/0.38	9.34	6.80	36.3/4.15	51.9	0.767	JP
	1347	0.510/0.39	9.02		35.7/4.11	42.4	0.782	JP
	1352	0.509/0.39	9.53		35.6/4.05	39.0	0.783	JP

M&E

6.76
6.76

SFG sample collected at 13:54

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 2D **Test Location** SS06

Date	Time	~~Water Level~~ TDS/SAL (feet bTOC)	Temp. (F)	pH	DO (mg/L) % / mg/L	ORP	~~Purge Rate~~ SpCond (gpm)	Operator
11/25/97	1639	0.451/0.34	10.18	6.84	16.7/1.88	0.9	0.696	SJ
	1649	0.457/0.35	10.06	6.83	16.6/1.87	2.5	0.705	
	1653	0.461/0.35	10.09	6.82	16.6/1.87	2.2	0.710	
	1657	0.463/0.35	10.10	6.81	16.5/1.85	2.4	0.713	
11/26/97	1210	0.368/0.28	9.02	6.94	18.2/2.1	-20.4	0.571	FA
	1215	0.404/0.31	9.10	6.88	22.0/2.54	-18.3	0.629	
		0.424/0.32	9.20	6.85	22.6/2.59	-21.4	0.652	
11/28/97	1415	0.347/0.26	10.10	7.05	11.9/1.34	-16.6	0.536	FA
	1425	0.368/0.27	10.17	7.00	12.8/1.43	-17.0	0.565	
11/30/97	1720	0.329/0.25	9.97	7.08	4.8/0.54	-13.8	0.508	
	1725	0.335/0.25	4.77	7.07	4.6/0.52	-20.1	0.516	
12/2/97	1118	0.285/0.21	8.95	7.13	24.2/2.69	-35.9	0.443	SJ
	1132	0.309/0.23	8.41	7.05	4.8/0.56	-53.7	0.474	
	1139	0.309/0.23	8.87	7.04	4.6/0.52	-55.4	0.476	
	#							
12/4/97	1152	0.312/0.23	10.78	7.09	4.9/0.54	-40.4	0.481	SJ
	1157	0.313/0.23	10.49	7.09	4.8/0.53	-44.2	0.481	
	1203	0.314/0.23	10.42	7.09	4.6/0.51	-49.1	0.485	
	1207	0.315/0.24	10.39	7.08	4.5/0.50	-50.7	0.487	
	1210	0.316/0.24	10.43	7.08	4.5/0.50	-52.7	0.487	
12/13/97	1304	0.334/0.25	4.31	7.15	41.5/5.30	16.4	0.508	SJ
	1309	0.331/0.25	4.88	7.13	22.9/2.91	8.8	0.511	
	1314	0.336/0.25	5.11	7.12	13.4/1.69	-0.6	0.516	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 2-E (GW) **Test Location** SS 06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	1:23PM	# PRIMARY						
	1:35PM	0.721/1.1X	3.74	6.93	4.9	-97.7	1.104	JAP
	1:50PM	0.693/0.53	5.86	6.95	4.2	-105.0	1.067	FA
~~11/18/97~~	~~13:59~~	~~0.651/0.50~~	~~8.53~~	~~7.15~~	~~4.3/0.50~~	~~-39.4~~	~~1.001~~	~~JAP~~
	~~14:06~~	~~0.648/0.49~~	~~8.44~~	~~7.17~~	~~3.5/0.41~~	~~-47.6~~	~~0.996~~	~~JAP~~
	~~14:16~~	~~0.646/0.49~~	~~8.63~~	~~7.19~~	~~3.2/0.37~~	~~-56.3~~	~~0.994~~	~~ASE~~
	~~14:21~~	~~0.645/0.49~~	~~8.43~~	~~7.18~~	~~3.2/0.37~~	~~-58.6~~	~~0.993~~	~~ASE~~
11/18/97	1431	0.698/0.54	8.65	7.06	3.3/0.39	-65.7	1.072	~~ASE~~
	~~1434~~ 1444	0.700/0.54	8.92	7.04	3.2/0.38	-75.2	1.075	AM
	1451	0.695/0.53	8.79	7.03	3.2/0.37	-76.3	1.069	AM
11/19/97	1623	0.689/0.53	8.53	6.41	26.9/3.25	-12.7	1.069	SJ
	1632	0.369/0.28	9.01	6.92	7.0/0.86	-40.2	0.567	
	1640	0.364/0.27	9.18	6.92	6.2/0.71	-46.9	0.560	
	1645	0.364/0.27	9.06	6.92	5.9/0.68	-49.8	0.560	
11/20/97	1620	0.426/0.32	8.56	6.88	27.6/3.02	-61.9	0.597	SJ
	1627	0.361/0.27	8.76	6.96	7.8/0.89	-84.4	0.552	
	1635	0.353/0.26	8.56	6.97	6.3/0.73	-90.3	0.543	
	1648	0.347/0.26	8.61	6.98	5.7/0.68	-93.3	0.535	
11/21/97	1227	0.541/0.45	8.23	6.63	44.8/5.48	-4.8	0.910	SJ
	1234	0.374/0.28	7.24	6.95	9.0/1.07	-72.9	0.557	
	1241	0.334/0.25	8.30	6.97	6.7/0.79	-87.1	0.515	
	1246	0.333/0.25	8.40	6.98	6.9/0.82	-89.7	0.514	
11/22/97	1401	0.341/0.25	6.85	7.06	8.6/1.05	-51.8	0.524	
	1407	0.340/0.25	6.86	7.06	9.1/1.11	-51.2	0.523	
	1412	0.338/0.25	6.98	7.05	10.1/1.21	-50.7	0.524	
					~~50.6/6.46~~	~~55.5~~	~~0.883~~	
11/23/97	1407	0.574/0.43	5.10	6.72	50.4/6.48	55.5	0.883	SJ
	1416	0.368/0.27	4.03	7.01	11.1/1.43	-18.9	0.554	
	1421	0.351/0.26	4.41	7.04	11.3/1.47	-39.4	0.538	
~~11/24/97~~								

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MPZ-E (GW) **Test Location** 550h

Date	Time	TDS/SAL Water Level (feet bTOC)	°C Temp. (F)	pH	%/mg/L DO (mg/L)	ORP	SPC mS Purge Rate (gpm)	Operator
11/24/97	1403	0.37A/0.28	8.50	7.04	23.3/2.73	-9.3	0.552	JP
	1408	0.324/0.25	8.61	7.08	28.0/3.34	-26.8	0.513	
	1414	0.324/0.24	8.56	7.09	32.6/3.82	-30.8	0.498	
	1419	0.317/0.24	8.51	7.10	34.0/3.97	-31.6	0.487	
	1422	0.314/0.23	8.35	7.10	34.2/4.01	-31.1	0.482	
			SF_6 sample collected at 1423					
11/25/97	1710	0.309/0.23	9.54	7.12	25.8/2.95	-27.9	0.473	SJ
	1717	0.305/0.23	9.54	7.13	30.5/3.47	-36.4	0.469	
	1724	0.305/0.23	9.47	7.13	32.0/3.65	-38.4	0.468	
	1727	0.305/0.23	9.52	7.13	32.4/3.70	-38.7	0.466	
11/26/97	1350	0.295/0.22	8.68	7.17	38.4/4.47	-36.1	0.454	SJ
	1356	0.295/0.22	8.81	7.17	38.5/4.48	-35.9	0.453	
	1401	0.295/0.22	8.67	7.17	38.5/4.48	-35.8	0.453	
11/28/97	1440	0.294/0.22	9.49	7.20	21.0/2.40	-14.0	0.452	FA
	1500	0.291/0.20	9.49	7.21	21.6/2.45	-7.0	0.450	
11/30/97	1740	0.304/0.23	9.24	7.20	6.9/0.79	-20.0	0.468	
	1745	0.303/0.23	9.19	7.21	8.3/0.95	-20.4	0.466	
12/2/97	1151	0.287/0.21	8.13	7.17	5.7 8.12/0.67	-53.4	0.439	SJ
	1157	0.285/0.21	8.53	7.17	6.0/0.70	-50.9	0.439	
	1205	0.284/0.21	8.45	7.17	6.5/0.77	-49.0	0.438	
12/4/97	1241	0.301/0.22	9.16	7.19	4.5/0.52	-40.3	0.461	SJ
	1247	0.299/0.22	9.47	7.19	4.5/0.51	-40.2	0.462	
	1258	0.299/0.22	10.20	7.19	4.6/0.51	-41.2	0.461	
	1322	0.299/0.22	9.73	7.20	4.6/0.53	-42.9	0.461	
12/13/97	1326	0.362/0.27	5.10	7.12	31.0/3.99	-11.0	0.594	SJ
	1332	0.426/0.32	5.30	7.05	15.6/1.96	-5.9	0.657	
	1337	0.429/0.32	5.38	7.04	12.1/1.52	-4.6	0.661	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 2-F **Test Location** SS06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	200 PM	0.664/0.51	7.87	7.09	3.6	-110.7	1.021	FA
	208	0.661/0.50	8.01	7.10	3.5	-111.0	1.015	
	230	0.659/0.50	7.96	7.10	3.2	-111.9	1.015	
11/18/97	1359	0.651/0.50	8.53	7.15	4.3/0.50	-39.4	1.001	BAS
	1406	0.648/0.49	8.44	7.17	3.5/0.41	-47.6	0.996	BAS
	1416	0.646/0.49	8.63	7.19	3.2/0.37	-56.3	0.994	BAS
	1421	0.645/0.49	8.43	7.18	3.2/0.37	-58.6	0.993	BAS
11/19/97	1653	0.341/0.26	8.5	7.04	7.5/0.85	-61.7	0.526	SJ
	1700	0.343/0.26	8.59	7.09	5.2/0.61	-59.4	0.528	
	1708	0.346/0.26	8.62	7.10	4.9/0.57	-58.3	0.533	
	1714	0.348/0.26	8.62	7.10	4.8/0.56	-59.9	0.536	
11/20/97	1653	0.346/0.26	8.33	7.03	24.8/2.96	-81.8	0.546	SJ
	1659	0.341/0.25	8.02	7.11	6.9/0.80	-100.3	0.524	
	1705	0.34/0.25	7.82	7.15	5.1/0.61	-100.3	0.527	
11/21/97	1249	0.330/0.25	7.95	6.93	14.9/1.80	-84.2	0.508	SJ
	1254	0.331/0.25	7.62	7.04	7.9/0.91	-85.6	0.512	
	1300	0.334/0.25	8.09	7.08	5.6/0.66	-99.2	0.514	
	1305	0.337/0.25	7.58	7.09	5.7/0.68	-102.3	0.519	
11/22/97	1434	0.336/0.25	7.11	7.04	33.5/4.05	-49.3	0.518	SJ
	1439	0.337/0.25	7.01	7.04	33.4/4.05	-48.9	0.516	
	1446	0.336/0.25	6.66	7.05	34.7/4.24	-46.8	0.517	
11/23/97	1435	0.327/0.24	4.54	7.11	10.8/1.34	-50.7	0.487	SJ
	1440	0.326/0.23	5.08	7.12	6.2/0.79	-63.4	0.472	
	1448	0.309/0.23	3.88	7.13	5.6/0.73	-73.0	0.471	
	1452	0.306/0.23	4.00	7.14	5.5/0.71	-74.7	0.470	
11/24/97	1433	0.297/0.22	7.83	7.13	6.5/0.77	-45.5	0.456	SP
	1438	0.295/0.22	8.01	7.14	6.1/0.72	-55.2	0.454	
	1443	0.293/0.22	7.94	7.14	6.2/0.73	-62.0	0.451	
	1447	0.292/0.22	7.78	7.15	6.2/0.74	-65.6	0.449	
		sampled for SE at 1448						

M&E

~~11/25/97 1734 0.302/0.23 9.16~~

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 2-F **Test Location** SSC6

Date	Time	TDS/SAL Water Level (feet bTOC)	Temp. ~~(F)~~ °C	pH	DO ~~(mg/L)~~ %	ORP	Spc. Purge Rate ~~(gpm)~~	Operator
11/25/97	1734	0.302/0.23	9.16	7.18	20.3/2.17	-40.1	0.460	SJ
	1743	0.287/0.21	8.62	7.18	6.3/0.74	-41.7	0.440	
	1748	0.285/0.24	8.55	7.18	6.1/0.71	-44.9	0.437	
11/26/97	1411	0.290/0.22	8.52	7.21	15.9/1.84	-35.6	0.446	SJ
	1416	0.289/0.22	8.59	7.21	16.2/1.80	-40.1	0.445	
	1419	0.288/0.22	8.57	7.21	16.1/1.87	-43.2	0.444	
	1424	0.288/0.21	8.61	7.21	15.9/1.85	-47.0	0.442	
11/28/97	1540	0.290/0.22	9.03	7.25	9.2/1.07	-15.0	0.446	FA
	1550	0.290/0.22	9.31	7.25	8.7/0.99	-18.7	0.447	
11/30/97	1755	0.296/0.22	8.56	7.24	3.7/0.43	-18.3	0.456	
	1800	0.297/0.22	8.63	7.24	3.6/0.42	-20.6	0.457	
12/2/97	1213	0.291/0.22	8.20	7.19	~~0.72~~ 5.9/0.72	-46.6	0.450	SJ
	1218	0.291/0.22	8.50	7.19	4.5/0.52	-47.4	0.448	
	1251	0.294/0.22	8.43	7.19	4.1/0.48	-66.2	0.453	
12/4/97	1348	0.304/0.23	9.14	7.24	3.7/0.43	-46.0	0.464	SJ
	1410	0.304/0.23	10.00	7.24	5.3/0.59	-57.4	0.469	
	1417	0.305/0.23	9.85	7.24	3.6/0.41	-59.9	0.466	
12/13/97	1403	0.313/0.23	5.61	7.22	8.4/1.05	-19.6	0.481	SJ
	1406	0.313/0.23	5.59	7.23	7.9/0.98	-22.1	0.482	
	1411	0.314/0.23	5.27	7.24	7.4/0.93	-25.2	0.482	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 3-D **Test Location** SS-06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	3:22	1.047/0.82	9.64	6.52	5.6	-56.5	1.614	FA
	3:29	1.054/0.82	9.61	6.52	5.7	-58.0	1.623	
	3:34	1.060/0.83	9.56	6.52	5.7	-58.0	1.632	
11/18/97	1500	0.915/0.71	8.69	6.72	3.8/0.43	-56.1	1.424	AJR
	1505	0.961/0.75	9.17	6.63	4.4/0.51	-45.3	1.483	
	1511	0.982/0.76	9.28	6.63	4.7/0.53	-44.0	1.514	
	1516	0.992/0.77	9.33	6.61	4.8/0.54	-44.0	1.529	
	1520	1.002/0.78	9.31	6.62	4.8/0.55	-43.4	1.543	
11/19/97	1733	0.741/0.57	9.18	6.40	8.5/0.98	-25.6	1.142	SJ
	1745	0.702/0.54	7.92	6.41	10.9/1.22	-17.2	1.069	JP
	1754	0.718/0.55	9.05	6.42	8.2/0.95	-25.2	1.106	
	1803	0.718/0.55	9.30	6.43	8.1/0.93	-27.6	1.104	
	~~18:3~~							
##								
11/20/97	1736	0.518/0.39	8.46	6.92	6.5/0.76	-81.0	0.800	SJ
	18:21	0.575/0.44	8.84	6.92	6.6/0.77	-81.3	0.885	JP
	18:30	0.580/0.44	8.96	6.91	7.1/0.82	-83.0	0.890	
	1839	0.579/0.44	9.09	6.91	7.7/0.89	-84.1	0.890	
11/21/97	1319	0.349/0.26	8.58	7.31	6.4/0.75	-78.9	0.541	SJ
	1325	0.374/0.28	8.36	7.12	6.2/0.71	-84.6	0.581	
	1334	0.382/0.29	8.15	7.11	5.8/0.68	-87.4	0.588	
11/22/97	1539	0.305/0.23	8.24	7.21	8.2/0.97	-62.3	0.472	SJ
	1544	0.310/0.23	7.37	7.21	8.309/0.23	-63.4	0.475	
	1549	0.308/0.23	7.23	7.21	8.7/1.05	-65.7	0.421	
11/23/97	1518	0.322/0.24	2.87	7.16	40.1/5.41	-57.6	0.475	SJ
	1523	0.291/0.22	4.82	7.34	36.7/4.69	-44.1	0.447	
	1529	0.293/0.22	5.34	7.41	31.1/3.91	-31.6	0.453	
11/24/97	1456	0.293/0.22	6.96	7.15	20.3/2.63	-62.8	0.472	JP
	1501	0.294/0.22	8.55	7.33	23.7/2.75	-43.6	0.459	
	1508	0.320/0.24	7.38	7.41	19.5/2.30	-26.7	0.495	
	1513	0.322/0.24	8.57	7.42	18.0/2.10	-18.2	0.497	
	1518	0.328/0.24	8.71	7.43	17.5/2.03	-10.5	0.504	

SF6 sample collected at 1520

M&E

GROUND... MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 3-D **Test Location** SS 06

Date	Time	~~TDS~~/SPC Water Level (feet bTOC)	Temp. (~~F~~ °C)	pH	DO (~~mg/L~~ %)	ORP	~~Purge Rate~~ SPC (gpm)	Operator
11/25/97	~~17~~ 57	0.296/0.22	9.25	7.22	13.6/1.44	-52.2	0.451	SJ
	1803	0.292/0.22	9.36	7.21	5.9/0.67	-38.1	0.449	
	1808	0.293/0.22	9.32	7.20	5.9/0.68	-29.4	0.452	
11/26/97	1437	0.287/0.21	8.47	7.25	26.6/2.94	-45.1	0.441	SJ
	1441	0.282/0.21	9.44	7.26	16.7/1.91	-30.3	0.433	
	1447	0.283/0.21	9.41	7.25	16.9/1.93	-19.6	0.435	
	1451	0.284/0.21	9.41	7.25	17.5/2.00	-16.4	0.439	
11/28/97	1600	0.336/0.25	8.60	7.25	16.5/1.91	-25.8	0.516	FA
	1610	0.318/0.24	9.56	7.21	7.8/0.89	-16.7	0.491	
11/30/97	1810	0.351/0.26	9.46	7.18	3.7/0.42	-17.9	0.540	
	1815	0.353/0.26	9.41	7.18	3.6/0.41	-18.6	0.542	
12/2/97	1406	0.358/0.27	9.72	7.07	4.3/0.48	-51.2	0.552	SJ
	1412	0.359/0.27	9.65	7.07	4.1/0.47	-50.0	0.552	
	1423	0.361/0.27	8.77	7.07	4.8/0.54	-51.5	0.556	
12/13/97	1425	0.642/0.48	5.60	6.95	27.4/3.32	-9.4	0.978	SJ
	1429	0.630/0.48	5.58	6.91	14.5/1.79	-10.2	0.967	
	1436	0.628/0.48	5.39	6.89	10.7/1.35	-13.7	0.966	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 3-E **Test Location** SS-06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	4:07 PM	purging						
	4:30 PM	0.845/1.300	8.93	6.91	0.48/4.2	-90.4	1.295	JAP
	4:45	0.825/1.269	9.03	6.91	0.46/4.0	-92.6	1.270	
11/18/97	1525	0.839/0.65	9.03	6.92	4.7/0.53	-56.9	1.287	ASR
	1530	0.832/0.64	9.10	6.95	4.0/0.46	-62.3	1.280	
	1537	0.826/0.64	8.81	6.96	3.7/0.42	-64.5	1.270	
	1542	0.825/0.64	8.83	6.97	3.6/0.42	-65.2	1.269	
11/19/97	16:13	0.396/0.30	9.54	6.80	25.3/2.83	-8.2	0.607	JP
	16:18	0.395/0.30	9.82	6.80	26.3/3.01	-4.1	0.612	
	16:25	0.404/0.30	9.75	6.82	26.2/2.97	-6.3	0.623	
	1632	0.408/0.31	9.68	6.83	23.7/2.69	-10.4	0.627	
11/20/97	1844	0.569/0.43	8.01	6.94	29.6/3.96	-70.4	0.778	SJ
	1847	0.474/0.35	8.46	6.95	50.1/5.99	-45.7	0.675	
	1850	0.412/0.31	8.52	6.93	55.0/6.46	-6.2	0.623	
	1856	0.396/0.30	8.73	6.92	50.1/5.84	9.3	0.609	
	1902	0.396/0.30	8.87	6.92	47.2/5.45	-0.9	0.610	
11/21/97	1345	0.398/0.30	7.90	6.92	35.6/4.24	-30.6	0.615	SJ
	1402	0.404/0.31	6.85	6.88	35.9/4.36	-15.0	0.621	
	1407	0.403/0.30	7.17	6.87	35.6/4.28	-16.4	0.621	
	1411	0.404/0.30	7.10	6.88	34.8/4.19	-17.1	0.622	
11/22/97	1626	0.321/0.24	7.93	7.19	17.8/2.16	-66.8	0.495	SJ
	1631	0.322/0.24	7.46	7.20	35.2/4.42	-59.3	0.556	
	1636	0.370/0.28	6.36	6.99	26.1/3.22	-33.7	0.576	
11/23/97	1536	0.316/0.23	5.77	7.44	39.3/4.96	-15.8	0.486	SJ
	1541	0.364/0.27	3.61	7.18	38.2/5.06	1.8	0.561	
	1548	0.371/0.28	4.22	6.95	40.5/5.28	32.2	0.574	
11/24/97	1530	0.329/0.25	8.23	7.43	17.2/2.03	-1.0	0.507	JP
	1535	0.330/0.25	7.91	7.43	17.0/2.02	3.1	0.509	
	1540	0.331/0.25	7.38	7.43	17.1/2.06	8.1	0.510	
	1545	0.331/0.25	7.05	7.43	17.2/2.09	10.7	0.510	
		~~sampled for SF6 at 1548~~			pump not purging.			
	1554	0.314/0.23	5.72/7.17		42.0/5.29	22.1	0.486	JP
	1600	0.332/0.25	6.55/7.04		51.8/6.34	14.6	0.512	
	1605	0.341/0.25	6.80/7.00		52.2/6.36	6.0	0.527	
	1610	0.345/0.26	6.56/6.98		50.2/6.16	3.6	0.533	

M&E

Sampled for SF6 at 1613

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 3E **Test Location** SS06

Date	Time	TDS/SAL Water Level (feet bTOC)	Temp. (C)	pH	DO (%/mg/L)	ORP	SPC Purge Rate (gpm)	Operator
11/25/97	1814	0.318/0.24	8.87	7.12	10.4/1.17	-22.1	0.497	SJ
	1819	0.321/0.25	8.95	6.96	6.5/0.75	-41.2	0.510	
	1825	0.339/0.25	8.96	6.95	7.1/0.83	-48.4	0.524	
	1837	0.344/0.26	8.86	6.95	8.7/1.01	-49.5	0.528	
11/26/97	1507	0.331/0.25	8.96	6.99	16.2/1.06	-51.2	0.519	SJ
	1512	0.347/0.26	8.83	6.98	16.4/1.90	-56.6	0.535	
	1518	0.350/0.26	8.95	6.97	17.6/2.04	-58.9	0.540	
	1525	0.350/0.26	8.80	6.97	16.9/1.97	-58.9	0.539	
→ 11/28/97	~~1705~~	~~0.346/0.26~~	~~3.93~~	~~7.06~~	~~55.3/7.25~~	~~-21.4~~	~~0.532~~	FA
OIC -	1715	0.342/0.26	8.52	7.05	8.0/0.93	-38.1	0.530	
	1720	0.347/0.26	8.86	7.05	8.3/0.97	-43.0	0.535	
11/30/97	1825	0.418/0.31	8.99	7.04	4.0/0.47	-61.9	0.644	
	1830	0.418/0.31	4.00	7.06	4.3/0.50	-66.8	0.642	
					6.9			
12/2/97	1834	0.465/0.35	8.72	6.95	13.0/0.71	-83.9	0.712	SJ
	1845	0.469/0.35	8.25	6.97	5.8/0.67	-90.7	0.721	
	1850	0.468/0.35	8.06	6.97	6.1/0.68	-92.1	0.720	
12/13/97	1447	0.513/0.39	4.66	6.99	31.5/4.01	-17.9	0.804	SJ
	1450	0.483/0.36	5.28	7.00	25.9/3.23	-20.5	0.720	
	1454	0.439/0.33	5.90	6.96	16.1/2.00	-24.3	0.671	
	1500	0.424/0.32	7.53	6.93	11.4/1.36	-29.7	0.662	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP-4D Test Location SS-06

Date	Time	~~Water Level~~ (feet bTOC) TDS/DAL	Temp. (F)	pH	DO (mg/L) DO%/	ORP	~~Purge~~ Rate (gpm) SPC	Operator
~~11/25/97~~	~~1854~~	~~0.339/0.25~~	~~7.95~~	~~7.40~~	~~98.9/11.73~~	~~-74.3~~	~~0.521~~	~~AF~~
	2147	0.510/0.39	9.11	7.14	24.7/2.64	22.4	0.810	SJ
	2152	0.552/0.40	9.24	6.88	8.7/1.00	-36.1	0.857	
	2158	0.580/0.44	9.25	6.81	9.8/1.13	-40.0	0.896	
11/26/97	1610	0.595/0.39	8.63	6.70	18.0/2.11	-34.1	0.803	FA
	1615	0.604/0.46	8.0	6.67	22.1/2.61	-33.5	0.929	
	1625	0.602/0.46	8.19	6.67	20.5/2.45	-33.9	0.925	
11/28/97	1740	0.605/0.46	9.53	6.65	14.9/1.70	-21.3	0.934	
	1750	0.623/0.48	9.60	6.64	15.8/1.80	-19.7	0.959	
11/30/97	1850	0.639/0.49	9.69	6.65	4.8/0.54	-23.0	0.983	
	1855	0.644/0.49	9.84	6.63	4.8/0.54	-20.1	0.991	
12/2/97	1513	0.612/0.47	8.54	6.60	13.3/1.54	-27.1	0.949	SJ
	1518	0.						
	1542	0.629/0.48	8.34	6.50	6.9/	Instrument Malfunction		
	1720	0.635/0.48	8.49	6.51	5.3/0.62	-30.2	0.976	SJ
	1723	0.635/0.49	8.60	6.51	5.3/0.61	-30.5	0.979	
12/13/97	1517	0.581/0.45	5.72	6.85	66.9/8.35	-11.3	0.984	SJ
	1523	0.708/0.54	5.78	6.65	19.3/2.38	~~-5.80~~ -18.7	1.095	
	1528	0.711/0.54	5.55	6.61	15.1/1.88	-2.0	1.094	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 4-D Test Location SS-06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	450PM	1.002/0.78	8.91	6.68	7.8	-48.3	1.573	FA
	500PM	1.128/0.88	9.76	6.59	5.5	-60.0	1.736	
	510PM	1.144/0.90	9.82	6.58	5.5/0.63	-67.5	1.764	JAP
	520PM	1.168/0.92	9.66	6.58	5.5/0.61	-67.5	1.798	
11/18/97	15:56	1.114/0.87	8.84	6.66	4.9/0.57	-40.3	1.716	JAP
	1602	1.123/0.88	8.90	6.66	5.1/0.58	-39.0	1.729	JAP
	1608	1.129/0.88	8.84	6.65	5.2/0.60	-38.3	1.738	JAP
	1614	1.134/0.89	9.05	6.65	5.2/0.59	-38.8	1.747	JAP
	1620	1.141/0.89	9.06	6.64	5.3/0.61	-38.3	1.757	JAP
	1625	1.147/0.90	8.84	6.64	5.3/0.62	-40.0	1.774	JAP
~~11/19/97~~								
11/19/97	18:41	0.564/0.43	10.22	6.55	7.4/0.83	-24.1	0.909	JP
	18:47	0.633/0.48	10.27	6.54	7.0/0.78	-28.5	0.777	
	18:55	0.653/0.50	10.18	6.55	7.1/0.79	-31.8	1.006	
	1900	0.662/0.51	9.89	6.56	7.0/0.80	-33.0	1.022	
11/20/97	1915	0.399/0.30	8.21	7.41	93.8/11.16	-61.4	0.613	SJ
	1920	0.398/0.30	7.94	7.62	100.5/11.92	-75.6	0.611	
	1925	0.394/0.30	7.44	7.92	106.5/12.80	-73.7	0.606	
11/21/97	1429	0.542/0.41	5.31	7.02	68.2/8.20	-50.9	0.826	SJ
	1437	0.577/0.44	7.51	6.63	14.4/1.71	-49.9	0.893	
	1443	0.591/0.45	7.49	6.61	8.9/1.06	-52.3	0.912	
	1453	0.604/0.46	7.42	6.60	7.7/0.92	-56.3	0.932	
11/22/97	1652	0.404/0.30	6.31	7.17	81.9/10.12	-40.1	0.610	SJ
	1703	0.430/0.32	3.11	7.11	36.7/4.39	-42.8	0.619	
	1708	0.396/0.30	5.79	6.87	11.9/1.45	-52.4	0.615	
11/24/97	1624	0.534/0.41	6.75	6.70	10.2/1.23	-10.1	0.843	JP
	1630	0.600/0.46	6.88	6.68	7.4/1.14	-29.3	0.925	
	1635	0.605/0.46	7.08	6.69	9.2/1.11	-33.4	0.935	
	1640	0.616/0.47	6.89	6.68	9.0/1.09	-36.0	0.948	
	1645	0.614/0.47	7.19	6.69	8.7/1.05	-37.9	0.945	
		Sampled for SF6 at 1647						

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 4-E **Test Location** SS06

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	5:27	0.879/0.68	8.58	6.78	11.1/1.28	-60.8	1.329	JAP
	5:32	0.834/0.64	8.73	6.80	6.4/0.74	-77.6	1.280	
	5:43	0.818/0.63	8.62	6.81	4.2/0.48	-86.9	1.260	
	5:50	0.817/0.63	8.50	6.81	4.0/0.46	-87.5	1.257	
11/18/97	1637	0.834/0.64	7.94	6.86	4.4/0.52	-69.8	1.282	AJP
	1645	0.823/0.63	7.95	6.88	3.9/0.46	-72.3	1.266	AJP
	1650	0.819/0.63	8.15	6.88	3.8/0.44	-73.0	1.258	AJP
	1657	0.814/0.63	7.95	6.88	3.8/0.44	-73.0	1.252	AJP
	1707	0.812/0.63	8.08	6.88	3.7/0.43	-72.8	1.249	AJP
11/19/97	1916	0.429/0.32	9.29	6.80	5.4/0.61	-57.7	0.660	JP
	1924	0.430/0.32	9.40	6.81	5.2/0.60	-61.5	0.661	
	1930	0.430/0.32	9.37	6.81	5.2/0.59	-61.3	0.662	
11/20/97	1939	0.389/0.29	6.18	8.27	110.1/13.64	-3.1	0.598	SJ
	1943	0.388/0.29	5.89	8.31	110.5/15.77	6.9	0.597	
	1948	0.388/0.29	5.61	8.34	110.6/13.89	15.1	0.596	
11/21/97	1508	0.543/0.39	5.66	6.78	33.0/4.05	-65.3	0.742	SJ
	1529	0.413/0.31	6.41	6.79	5.6/0.69	-80.7	0.633	
	1535	0.412/0.31	6.50	6.80	5.6/0.68	-80.6	0.634	
11/22/97	1733	0.484/0.36	6.27	6.91	6.61/7.72	-59.8	0.621	SJ
	1738	0.452/0.38	6.39	6.97	58.2/7.01	-54.7	0.820	
	1745	0.553/0.42	6.55	6.78	7.4/0.90	-45.9	0.857	
11/24/97	1657	0.429/0.32	6.26	6.82	10.2/1.22	-55.4	0.629	JP
	1702	0.393/0.30	6.33	6.82	7.5/0.93	-62.2	0.610	
	1707	0.393/0.29	6.32	6.82	7.1/0.89	-64.3	0.604	
	1718	0.393/0.29	6.61	6.82	6.8/0.83	-66.3	0.604	SJ
	1726	0.395/0.30	6.95	6.82	7.0/0.85	-67.8	0.611	
	1730	Sampling						
11/25/97	1009	0.414/0.31	8.68	6.86	11.3/1.28	-66.9	0.628	SJ
	1014	0.400/0.30	8.68	6.85	8.9/1.03	-70.8	0.614	
	1019	0.396/0.30	8.61	6.86	8.3/0.96	-71.4	0.608	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS 06 **Test Location** MP 4-E

Date	Time	TDS/SAL Water Level (feet bTOC)	°C Temp. (F)	pH	% / mg/L DO (mg/L)	ORP	SpCms Purge Rate (gpm)	Operator
11/26/97	1640	0.408/0.31	8.10	6.83	18.7/2.2	-66.5	0.626	FA
	1650	0.401/0.30	8.27	6.83	18.7/2.19	-67.5	0.617	
11/28/97	1905	0.395/0.30	8.75	6.85	13.2/1.54	-50.2	0.606	
	1815	0.389/0.29	8.62	6.87	12.7/1.48	-55.6	0.599	
11/30/97	1905	0.399/0.30	8.80	6.85	4.1/0.47	-61.6	0.612	
	1910	0.392/0.29	8.90	6.87	3.7/0.43	-67.0	0.604	
12/2/97	1731	0.413/0.31	7.66	6.74	6.8/0.78	-66.7	0.626	SJ
	1736	0.397/0.30	7.80	6.79	4.7/0.56	-77.8	0.605	
	1741	0.387/0.29	7.76	6.80	4.5/0.53	-81.9	0.593	
	1745	0.383/0.29	7.77	6.81	4.3/0.51	-83.6	0.588	
12/13/97	1543	0.549/0.41	6.46	6.73	26.0/3.15	-13.7	0.827	SJ
	1548	0.513/0.39	7.26	6.75	13.2/1.58	-27.5	0.787	
	1553	0.511/0.39	6.85	6.76	13.1/1.59	-30.7	0.784	
	1557	0.511/0.39	6.44	6.76	19.3/1.58	-35.6	0.786	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 5-D **Test Location** _____

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	~~5:55 PM~~	~~0.685/0.63~~	6.69	7.05	30.3/4.18	-65.7	1.254	~~SAP~~
	~~6:04~~	~~0.770/0.61~~	5.15	7.38	89.1/11.41	-100.1	1.223	
	6:29 PM	1.660/1.32	7.19	6.55	30.4/3.65	-22.7	2.561	
	6:44	1.576/1.25	7.26	6.53	7.4/0.88	-30.1	2.427	
	7:03	1.523/1.20	6.84	6.51	5.8/0.70	-35.2	2.340	SAP
	1719							
11/18/97	~~1719~~	1.506/1.24	9.70	6.60	5.8/0.65	-41.4	2.398	~~SJ~~
	1724	1.524/1.21	9.66	6.59	6.0/0.67	-41.4	2.338	~~ASR~~
	1729	1.493/1.19	9.73	6.57	6.1/0.69	-42.0	2.290	ASR
	1734	1.467/1.16	9.75	6.57	6.1/0.69	-42.6	2.253	ASR
	1739	1.449/1.15	9.77	6.57	6.2/0.70	-43.0	2.227	ASR
	1749	1.413/1.12	9.68	6.56	5.4/0.62	-43.1	2.179	ASR
11/19/97	1941	0.772/0.60	10.35	6.51	7.1/0.79	-31.1	1.210	JP
	1946	0.796/0.61	10.24	6.50	7.3/0.82	-30.7	1.223	
	1953	0.782/0.60	10.35	6.50	7.5/0.84	-32.5	1.201	
	1959	0.773/0.60	10.31	6.49	7.4/0.84	-33.3	1.189	
11/20/97	2004	0.386/0.29	4.70	8.42	110.9/14.26	32.4	0.593	SJ
	2010	0.385/0.29	4.38	8.45	110.8/14.37	36.6	0.592	
	2015	0.385/0.29	4.15	8.47	110.7/14.43	39.3	0.591	
11/21/97	1551	0.738/0.56	4.34	6.57	34.1/4.06	-46.0	1.158	SJ
	1615	0.823/0.94	6.67	6.48	7.7/0.94	-44.1	1.264	
	1621	0.812/0.62	6.57	6.48	7.5/0.91	-44.7	1.247	
	1625	0.809/0.62	6.55	6.48	7.5/0.92	-45.2	1.241	
11/22/97	1759	0.577/0.44	6.87	7.17	85.7/10.54	-82.6	0.885	SJ
	1804	0.566/0.61	6.82	7.51	99.4/12.3	-105.1	0.861	
	1809	0.562/0.41	5.05	7.57	112.5/14.1	-106.2	0.882	
11/24/97	1751	0.776/0.60	7.45	6.51	9.6/1.16	-36.9	1.236	SJ
	1801	0.847/0.65	7.38	6.51	10.2/1.22	-38.6	1.289	
	1806	0.835/0.64	8.06	6.50	10.1/1.16	-39.5	1.280	
	1814	0.834/0.64	8.22	6.50	10.7/1.26	-40.4	1.281	
	1818	Sampling						
11/25/97	2230	0.643/0.49	8.11	6.55	21.7/2.40	-44.9	1.039	SJ

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2235	0.722/0.56	9.09	6.50	13.1/1.49	-37.7	1.131
2240	0.770/0.59	9.23	6.51	11.4/1.31	-42.9	1.200
2247	0.792/0.61	9.20	6.51	11.4/1.30	-43.6	1.220

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS-06 **Test Location** MPS-D

Date	Time	TDS/SAL Water Level (feet bTOC)	Temp. (°C)	pH	% / DO (mg/L)	ORP	SpC mS Purge Rate (gpm)	Operator
11/26/97	1700	0.687/0.53	8.23	6.51	31.7/3.73	-37.3	1.054	FA
	1710	0.802/0.62	9.01	6.51	37.0/4.26	-35.3	1.235	
	1715	0.804/0.62	9.00	6.51	35.3/4.06	-34.5	1.236	
11/28/97	1820	0.714/0.55	9.09	6.52	12.9/1.49	-34.0	1.108	
	1830	0.801/0.62	9.60	6.52	19.1/2.16	-36.2	1.235	
11/30/97	1930	0.824/0.64	9.96	6.52	5.0/0.57	-38.1	1.271	
	1935	0.836/0.65	9.80	6.52	5.1/0.58	-38.2	1.287	
12/2/97	1800	0.753/0.58	9.29	6.43	6.1/0.70	-44.7	1.167	SJ
	1806	0.779/0.60	9.21	6.44	6.3/0.73	-46.0	1.206	
	1811	0.787/0.61	9.04	6.45	6.2/0.72	-47.2	1.214	
12/13/97	1606	0.801/0.61	4.41	6.63	26.3/3.23	-25.1	1.247	SJ
	1611	0.825/0.63	5.82	6.54	15.3/1.89	-17.5	1.278	
	1617	0.851/0.66	6.26	6.50	16.5/2.03	-14.8	1.323	

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP 5 E **Test Location** _____

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/17/97	4:02 PM	~~1.036/1.575~~						
	4:08 PM	1.036/1.575	7.34	6.78	0.57	-79.4	1.593	JAP
	4:14 PM	1.030/1.585	7.53	6.79	0.55	-84.0	1.586	
	4:22 PM	1.018/1.565	~~6.79~~ 7.38	6.79	0.54	-87.3	1.564	
11/18/97	1804	1.042/0.81	8.12	6.84	5.9/0.68	-61.2	1.596	ASR
	1813	1.028/0.80	7.92	6.86	4.5/0.54	-64.6	1.581	ASR
	1825	1.026/0.80	7.57	6.87	4.3/0.51	-63.5	1.579	ASR
11/19/97	2008	0.555/0.42	8.84	6.77	7.7/0.89	-50.1	0.847	JP
	2014	0.535/0.41	8.63	6.80	6.0/0.69	-52.3	0.823	
	2021	0.531/0.40	8.46	6.81	5.7/0.66	-53.5	0.818	
	2032	0.524/0.40	8.26	6.82	5.4/0.64	-54.6	0.813	SJ
11/20/97	1355	0.419/0.32	10.01	6.69	10.8/1.22	-42.0	0.650	SJ
	1400	0.439/0.33	9.92	6.71	10.6/1.19	-45.4	0.664	
	1405	0.435/0.33	9.83	6.73	10.2/1.15	-49.5	0.670	
	1416	0.472/0.36	9.76	6.73	10.5/1.20	-51.3	0.744	
11/20/97	2028	0.490/0.37	8.17	7.08	72.2/8.34	-76.8	0.765	SJ
	2031	0.514/0.39	8.68	6.97	53.3/6.03	-79.9	0.802	
	2037	0.529/0.40	8.88	6.92	34.1/3.89	-83.3	0.817	
11/21/97	1642	0.561/0.42	5.14	6.77	7.1/0.90	-66.9	0.857	SJ
	1647	0.550/0.42	5.36	6.78	6.2/0.78	-70.3	0.844	
	1652	0.547/0.41	~~5.44~~ 5.32	6.79	5.9/0.75	-72.5	0.844	
	1700	0.546/0.41	5.21	6.79	5.6/0.71	-72.4	0.839	
11/22/97	1825	0.581/0.42	~~7.39~~	7.21	32.9/4.11	-31.7	0.892	SJ
	1830	0.598/0.39	5.28	7.05	35.1/4.51	-34.9	0.628	
	1836	0.409/0.39	5.22	7.15	34.6/4.59	-35.8	0.639	
11/24/97	1829	0.809/0.62	7.93	6.53	20.7/2.46	-35.6	1.247	SJ
	1835	0.808/0.62	6.91	6.54	28.0/3.47	-32.7	1.249	
	1849	0.550/0.42	6.93	6.79	8.5/1.53	-57.5	0.846	
	1854	0.548/0.42	7.10	6.80	8.3/1.01	-58.4	0.844	
	1859	0.550/0.42	6.86/6.80		8.4/1.03	-59.4	0.846	

M&E

samples for SFL at 1902

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP5E Test Location SS06

Date	Time	~~Water Level~~ (feet bTOC) TDS/SAL	Temp. ~~(F)~~ cc	pH	DO (mg/L) %	ORP	~~Purge Rate~~ (gpm) Spc.	Operator
11/25/97	2059	0.641/0.49	7.91	6.82	10.7/43.4	-64.5	0.941	SJ
	2304	0.598/0.45	8.30	6.79	/20.3	-65.4	0.899	
	2310	0.566/0.43	8.39	6.79	10.3/1.18	-67.5	0.867	
	2315	0.563/0.43	8.38	6.79	9.87/1.15	-67.8	0.865	
11/26/97	1730	0.584/0.44	8.04	6.75	36.2/4.28	-51.2	0.896	FA
	174035	0.575/0.44	8.25	6.76	36.0/4.23	-52.5	0.883	
	1740	0.592/0.43	8.18	6.77	37.0/4.35	-52.3	0.888	
11/28/97	1850	0.590/0.45	7.80	6.77	17.5/2.06	-52.1	0.906	
	1900	0.581/0.44	7.99	6.79	15.9/1.88	-54.5	0.894	
11/30/97	1940	0.609/0.46	8.57	6.77	4.4/0.51	-61.5	0.933	
	1945	0.603/0.46	8.47	6.78	4.3/0.50	-63.3	0.926	
12/2/97	1827	0.576/0.44	8.15	6.72	5.1/0.59	-73.9	0.877	SJ
	1833	0.567/0.43	8.35	6.72	5.0/0.60	-76.5	0.875	
	1838	0.564/0.43	8.11	6.73	4.9/0.58	-73.1	0.872	
12/13/97	1626	0.876/0.68	6.92	6.51	24.8/3.08	-14.6	1.357	SJ
	1629	0.815/0.62	5.43	6.63	35.6/4.49	-18.5	1.212	
	1634	0.724/0.55	5.26	6.67	20.0/2.51	-24.0	1.105	
	1639	0.710/0.54	5.13	6.69	14.7/1.85	-28.2	1.091	

FIGURE 6-9
DATA SHEET 2 - VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP2B Test Location 550/6

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/97	1654	-0.08		16.2	3.0	41.1	—	318	JP
	1659			16.2	3.0	40.7	0.32	318	
	1703			16.2	3.0	39.4	0.33	318	
		Air sparging was stopped at 2130.							
11/24/97	2221			17.1	3.0	39.3	1.00	313	ABP
	2224			17.2	2.9	41.0	0.98	330	
	2227			17.3	2.7	36.4	0.97	342	
	2230			17.4	2.5	31.5	0.96	346	
11/25/97	1738			17.7	2.7	0.5	0.56	275	SJ
	1742			18.0	2.6	0.5	0.55	264	
	1745			18.1	2.6	0.4	0.54	245	
11/26/97	1140	—	—	16.4	2.4	0.6	0.47	233	FA
	1145			16.7	2.2	0.5	0.46	210	
11/28/97	1540	—	—	16.7	2.0	0.0	~~0.0~~	195	
	1550	—	—	17.1	1.8	0.0	0.33 0.33	187	
11/30/97	1740			16.3	2.0	0.2	0.16	125.7	
	1745			16.5	1.9	0.1	0.16	103.0	
12/2/97	1215			13.9	3.3	0.2	0	133	SJ
	1219			14.4	2.9	0.2	0	120.3	
	1250			15.6	2.3	0	0	47.2	
12/4/97	1149			13.4	3.3	0	0	102.7	SJ
	1152			13.6	3.3	0	0	95.6	
	1155			13.6	3.2	0	0	93.3	
12/9/97	1845			12.6	3.8	0.1	0.0	94.8	FA
	1850			12.7	3.8	0.0	0.0	65.2	
	1855			12.8	3.7	0.0	0.0	48.2	
12/13/97	1254			10.8	5.3	0	0	56.0	SJ
	1300			11.1	5.2	0	0	33.7	
	1304			11.2	5.1	0	0	29.3	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP2 Test Location SS06MP2C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1855			0.0	15.4	~~too high~~	0.0	79.8	
	1856			0.0	15.2	↓	0.0	79.9	
	1857			0.0	15.2	↓	0.0	80.7	
	1858								
	1859								
	1900								
11/12/97									
	1955			1.2	15.6	127.2	0.0		
	1956			1.4	15.4	128.7	0.0		
	1957			1.5	15.3	129.6	0.0		
	1958			1.5	15.3	130.3	0.0		
	1959			1.5	15.2	131.8	0.0		
	2000			1.5	15.2	132.7	0.0	205	
11/13/97	10:24		PURGING						
	10:30	—		3.3	12.7	129.0	—	133	FA
11/13/97	421	2.60							
	439	2.61							
	5:00	2.58							
	554	2.52							
	1000 PM	2.60							
11/14/97	9 20AM	2.58							
11/15/97	2:25	1.56			PURGING				
	3:30			14.4	5.1	15.7		400	
11/17/97	12 20PM	1.52		15.2	3.5	16.6		997	
11/18/97	1540	1.56		17.3	03.5	18.2		882	
	1543			17.3	3.5	18.6		899	
	1548			17.3	3.5	19.7		923	
	1559			17.3	3.5	20.6		738	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 MP2-C **Test Location** SS06

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1830			11.7	7.9	80.1	0.00	168.4	JP
	1838			11.9	7.7	83.4	0.00	180.0	
	1843	1.24		12.0	7.7	82.3	0.00	185.5	
11/20/97	18:29	1.37							
	1851			12.1	7.7	62.9	0	249	SJ
	1854								
	1854			12.0	7.7	67.5	0	250	
	1858			12.0	7.7	69.7	0	250	
	1901			12.1	7.7	70.8	0	250	
11/21/97	1620	1.77							SJ
	1626			21.1	0	0	0	7.3	
	1630			21.1	0	0	0	5.5	
	1633			21.2	0	0	0	7.3	
	1637			21.0	0	0	0	7.3	
11/22/97	1619	.41							SJ
	1621			11.9	10.2	33.5	0	494	
	1624			12.4	9.4	46.8	0	502	
	1628			12.8	8.9	47.7	0	515	
11/23/97	1412	1.58		16.6	6.9	30.4	0	298	SJ
	1415			18.2	0.4	0.1	0	299	
	1419			19.9	0.3	0	0	309	
11/24/97	1258	-0.23		15.1	5.0	114.6	1.3	179	SJ
	1301			14.4	5.5	138.3	0.76	177	
	1303			14.0	5.8	144.6	0.66	179	
	1306			13.8	6.0	148.3	0.66	181	
11/24/97	1708	-0.19		18.0	3.0	>>150	1.1	168	
	1712			17.9	3.2	>>150	1.1	170	SJ
	1716			17.8	3.3	>>150	1.1	170	
11/24/97	2234			18.2	2.3	134	1.5	171	ASR
	2237			18.2	2.4	>>	1.5	170	
	2245			18.1	2.4	>>	1.5	172	
11/25/97	1755			16.7	5.9	144.5	0.98	255	SJ
4/2	1759			16.7	4.9	136.0	0.88	256	
	1803			16.7	4.9	131.2	0.85	255	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 Test Location MP 2-C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1150	—		14.0	4.6	138.0	0.75	243	FA
	1155			14.0	4.5	132.5	0.62	255	
11/28/97	1600			10.5	5.7	93.2	0.25	1076*	
	1610	-	-	10.6	5.6	97.5	0.11	1001	
11/30/97	1755			5.7	7.4	95.0	0.0	276	
	1800			5.7	7.4	97.5	0.0	276	
12/2/97	~~1407~~			~~20.7~~	~~0~~	~~0~~	~~0~~		
	1414			4.0	8.8	88.9	0	252	SJ
	1422			4.0	8.8	90.4	0	256	
	1425			4.1	8.6	88.7	0	261	
12/4/97	1159			1.4	10.5	108.7	0	277	SJ
	1202			1.5	10.4	107.6	0	279	
	1205			1.5	10.3	103.7	0	289	
	1209			1.6	10.3	102.8	0	289	
12/9/97	1940			0.0	12.0	93.3	0.0	299	FA
	1945			0.0	12.0	93.6	0.0	301	
	1950			0.0	12.0	93.8	0.0	301	
12/13/97	1427			0	13.2	95.8	0	532	SJ
	1430			0	13.2	97.7	0	522	
	1434			0	13.2	99.1	0	519	
	1437			0	13.3	100.5	0	519	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP3 Test Location SS06-MP3A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1901			16.4	2.0	8.2	—	736	
	1902			16.4	2.0	6.7	—	762	
	1903			16.4	2.0	6.2	—	753	
	1904			16.2	1.9	5.8	—	763	
	1905			16.6	1.9	6.1	0.0	745	
11/12/97									
	2049			20.4	0.0	0.4	—		
	2050			20.4	0.0	0.4	—		
	2051			20.4	0.0	0.4	—		
	2052			20.5	0.0	0.4	—	395	
11/13/97									
~~10:40~~	10:40			PURGING					
	10:45	——		19.9	0.2	2.7	—	818	FA
11/13/97									
	422	1.02							
	440	1.01							
	504	1.01							
	~~5:04~~								
	555	0.96							
	1040	1.01							
11/14/97	~~1000 AM~~ 920	1.00							
11/15/97	~~2:18~~ 510	0.62		PURGING					
	~~3:43~~ 515			19.4	0.0	0.0		703	
11/17/97	1230 PM	0.59		18.8	0.0	0.1		208.0	
11/18/97	13:58	0.90		21.2	0.0	0.0		51.6	
	14:05			21.2	0.0	0.0		51.6	
11/19/97	1502			20.1	0	0		12.2	
	1505			20.1	0	0	0	13.5	
	1511			20.1	0	0.0		16.0	
	1514	0.83		20.1	0	0		16.0	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 MP3 **Test Location** SS06-MP3A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20/97	1439	0.70							SJ
	1442			20.2	0.0	0.0	0	28.3	
	1445			20.2	0	0	0	26.8	
	1448			20.2	0	0	0	28.3	
11/21/97	1221	0.75							SJ
	1224			19.8	0	0	0	34.0	
	1229			19.8	0	0	0	31.3	
	1233			19.8	0	0	0	31.3	
	1235			19.7	0	0	0	33.1	
11/22/97	1249	0.81							
	1252			19.9	0.3	0	0	21.7	SJ
	1253			19.9	0.3	0	0	20.2	
	1256			19.9	0.3	0	0	17.2	
11/23/97	1701	0.98		20.1	0.3	0	0	176.2	SJ
	1707			20.1	0.3	0	0	181.3	
	1711			20.1	0.3	0	0	184.6	
11/24/97	1309	-0.29		19.1	0.1	33.4	0.72	452	SJ
	1321			19.1	0.2	42.0		481	
	1327			19.1	0.2	39.4	0.38	493	
	1330			19.1	0.2	30.2	0.35	491	
11/24/97	1723	-0.24		19.8	0.1	44.1	1.9	425	SJ
	1728			19.8	0.1	30.9	1.9	446	
	1733			19.8	0.1	28.0	1.9	449	
	1737			19.8	0.1	26.6	1.9	449	
11/24/97	22:47			19.5	0.2	103.1	1.8	314	JP
	22:50			19.5	0.2	54.6	1.9	366	
	22:53			19.5	0.2	45.4	1.9	373	
11/25/97	1812			20.8	0.3	20.4	0.74	545	SJ
	1817			20.8	0.3	19.6	0.75	528	
	1820			20.8	0.3	19.4	0.75	518	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 **Test Location** 3A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1205	—		18.9	0.2	31.7	0.66	475	FA
	1210			19.0	0.2	28.5	0.67	470	
11/28/97	1705	—	—	18.6	0.4	3.3	0.33	1673 *	
	1715			17.8	0.7	4.3	0.72	1860	
11/30/97	1810			18.5	0.4	2.2	0.49	337	
	1815			18.6	0.4	1.6	0.47	315	
12/2/97	1429			18.5	0.4	1.7	0.75	349	SJ
	1433			18.5	0.4	1.2	0.75	318	
	1436			18.5	0.4	0.7	0.78	253	
	1439			18.5	0.4	0.6	0.79	231	
12/4/97	1240			16.4	1.2	3.2	0	368	SJ
	1243			16.4	1.2	3.2	0	368	
	1248			16.3	1.2	3.2	0	371	
12/9/97	1704			16.9	0.9	0.1	0.05	66.1	A32
	1708			16.9	1.0	0.1	0.05	74.4	
	1712			16.9	1.0	0.1	0.06	78.7	
	1717			16.8	1.0	0.1	0.00	84.5	
12/13/97	1132			16.7	1.6	0.3	0	155.1	SJ
	1138			16.7	1.6	0.3	0	159.2	
	1145			16.5	1.6	0.3	0	164.3	
	1148			16.5	1.6	0.3	0	166.5	

C-9

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 MP3 Test Location SS06-MP3B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1908			~~19.4~~	~~0.7~~	~~2.2~~	~~0.0~~	~~85.3~~	
	1909								
	1910			1.2	14.0	OFF SCALE	0.0	85.5	
	1911			1.1	13.8	↓	0.0	86.1	
	1912			1.3	13.6	↓	0.0	86.7	
11/12/97									
	2043			20.2	0.0	1.3	—		
	2044			20.2	0.0	0.7	=		
	2045			20.2	0.0	0.6	=	572	
	2046								
11/13/97	10:40			PURGING					
	10:48	—		13.6	2.7	5.6	—	208	FA
11/13/97									
	425	1.89							
	440	1.89							
	504	1.87							
	554	1.85							
	1002	1.88							
9/14/97	~~10:00 AM~~	1.86							
	920 AM								
11/15/97	530 PM	1.15		PURGING					
	555			19.3	0.0	0.0		570	
11/19/97	1245 PM	1.15		18.8	0.0	0.0		96.3	
11/18/97	1525	1.40		21.2	0.00	0.00		19.2	
	1528			21.2	0.00	0.00		20.2	
	1531			21.2	0.00	0.00		21.2	
11/19/97	1631			20.0	0.0	0.0		10.2	
	1634			20.0	0.0	0.0		9.6	
	1639	0.85		20.0	0.0	0.0		9.6	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 MP3 **Test Location** SS06-MP3B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20/97	1627	0.94							
	1630			20.5	0	0	0	10.4	SJ
	1634			20.4	0	0	0	10.4	
	1637			20.4	0	0	0	10.4	
11/21/97	1414	0.86		20.9	0	0.4	0	39.6	SJ
	1432			21.0	0	0	0	36.8	
	1435			21.0	0	0	0	34.0	
	1438			21.0	0	0	0	22.1	
11/22/97	1414	1-12							
	1416			19.8	0.3	0	0	21.7	SJ
	1424			19.7	0.3	0	0	15.7	
	1429			19.7	0.3	0	0	14.2	
11/23/97	1818	0.96							SJ
	1821			20.4	0.3	0	0	199	
	1824			20.4	0.3	0	0	201	
	1827			20.4	0.2	0	0	197	
11/24/97	1333	-0.50							
	1337			19.3	0.0	24.6	0.18	491	JP
	1341			19.2	0.0	26.1	0.18	493	
	1344			19.3	0.0	26.1	0.17	493	
11/24/97	1741	~~-0.67~~							
	1744			19.9	0	25.2	0.9	449	SJ
	1753			19.9	0	25.7	2.0	453	
	1759			19.9	0	25.9	2.0	453	
11/24/97	2255			19.6	0.0	37.2	1.9	401	JP
	2259			19.5	0.1	40.3	1.9	376	
	2302			19.5	0.1	41.5	1.9	370	
11/25/97	1826			19.7	0.8	62.9	1.3	402	SJ
	1830			19.8	0.7	60.3	1.2	407	
	1835			19.9	0.6	56.0	1.1	407	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 Test Location MP-SB

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	12 20	–		17.8	0.8	69.4	1.4	364	FA
	12 25			17.8	0.8	68.7	1.3	364	
11/28/97	1730			18.0	0.7	3.6	0.64	1773*	
	1740			18.0	0.7	3.6	0.62	1808	
11/30/97	1825	—	—	15.7	1.8	11.6	0.51	454	
	1830			16.4	1.6	9.4	0.49	459	
12/2/97	1443			15.1	1.4	8.3	0.48	429	SJ
	1446			15.3	1.4	6.7	0.48	413	
	1449			15.3	1.4	6.5	0.47	407	
12/4/97	1257			10.7	3.9	24.7	0.10	387	SJ
	1308			10.5	3.9	24.2	0.10	390	
	1311			10.5	3.9	23.8	0.9	393	
	1318			10.6	3.9	22.1	0.11	404	
12/9/97	1830			9.0	5.2	9.0	0.0	341	FA
	1835			10.0	4.7	8.7	0.0	348	
	1840			10.0	4.7	9.9	0.0	360	
12/13/97	1310			3.2	7.9	17.9	0	681	SJ
	1313			3.5	7.8	18.2	0	710	
	1316			3.5	7.9	21.6	0	735	
	1321			4.0	7.6	20.5	0	747	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP3 Test Location SS06 MP3C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1915			0.0	15.1	OFFscale	0.0	69.9	
↓	1916			0.0	15.1	↓	0.0	70.1	
	1917								
	1918								
	1919								
	1920								
11/12/97									
	2024			20.0	.2	.9	0.0		
	2027			20.1	.1	.4	—		
	2028			20.0	.2	.4	—		
	2029			20.0	.2	.4	—	461	
	2040								
11/13/97	10:48			PURGING		50.6			
	10:58	—	—	6.1	7.7	~~55.9~~	—	91	FA
11/13/97									
	425	2.71							
	440	2.72							
	505	2.70							
	554	2.67							
	1005 PM	2.70							
11/14/97	~~1000 PM~~	2.69							
	920								
11/15/97	~~2.00 PM~~	1.66		PURGING					
	520			19.3	0.0	0.0		60.0	
11/17/97	100 PM	1.68		18.8	0.0	0.0		67.9	
11/18/97	1604	1.80		21.1	0.00	0.7		360 *	*Previous Reading was high
	1607			21.1	0.00	0.4		282	
	1613			21.1	0.00	0.2		196	
	1619			21.0	0.00	0.1		145	
	1628			M&E		(previous test passed)			
				21.0	0.00	0.00		113.4	
	1636			21.0	0.00	0.00		88.0	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 **Test Location** MP3C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	17:49			20.3	0.00	0.00		156	JP
	1754			19.0	1.9	>150		158	
	1757	0.89		19.1	1.9	>150		160	
11/20/97	1938	1.00							
	1941			20.0	0.2	69.6	1.3	332	SJ
	1944			20.0	0.2	70.2	1.3	334	
	1947			20.0	0.2	70.5	1.2	338	
	1950			20.0	0.2	71.4	1.2	338	
11/21/97	1640	1.40							
	1643			21.0	0	0	0	7.3	SJ
	1648			20.9	0	0	0	6.4	
	1651			21.0	0	0	0	7.4	
	1655			20.9	0	0	0	8.2	
11/22/97	1634	1.37		20.2	0.3	19.2	1.5	905	SJ
	1637			20.2	0.3	14.1	1.5	913	
	1640			20.0	0.3	13.2	1.5	902	
11/23/97	1420	1.26							
	1432			19.8	0.3	0	0.85	634	SJ
	1435			19.9	0.3	0	0.86	640	
	1438			19.9	0.3	0	0	655	
1/24/97	1346	-0.37							← helium tank shut for 1/2 hr prior to reading
	1349			19.5	0.0	25.6	0.38	514	
	1400			19.7	0.0	25.0	—	517	
	1405			19.7	0.0	24.3	1.5	517	
	1408			19.7	0.0	24.2	1.6	517	
11/24/97	1812	-0.72		19.9	0	20.7	2.0	478	
	1827			19.8	0	21.0	2.0	486	
	1833			19.8	0	21.9	2.0	486	
	1836			19.7	0	21.6	2.1	486	

M&E

FIGURE 6-9
DATA SHEET 2 - VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP3C Test Location SS06

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/97	2304			19.5	0.0	30.8	2.0	421	JP
	2307			19.5	0.0	35.4	2.0	399	
	2311			19.1	0.0	37.7	1.9	397	
	2313			19.4	0.0	36.0	1.9	397	
11/25/97	1847			19.9	0.4	60.3	1.6	401	SJ
	1852			19.9	0.4	62.1		387	ASM
	1857			19.9	0.4	65.0		382	ASM
	1907			19.9	0.4	64.3	1.6	377	SJ
~~11/26/97~~	~~1345~~			~~20.3~~	0	0.4	0	453	SJ
	1348			~~20.3~~	0	0.3	0	453	
	1352			~~20.3~~	0	0.3	0	453	
11/26/97	1354			18.5	0.4	65.7	1.8	345	SJ
	1357			18.4	0.4	69.7	1.8	348	
	1400			18.4	0.4	72.4	1.7	346	
11/28/97	1750	—	—	16.0	1.2	62.5	1.2	1140 *	FA
	1800			15.7	1.3	65.4	1.0	1192	
11/30/97	1850			13.6	2.2	73.9	0.87	327	
	1855			13.6	2.2	72.2	0.86	335	
12/2/97	1500			12.4	3.0	65.2	0.40	292	SJ
	1503			12.4	3.0	69.3	0.40	291	
	1507			12.4	2.9	69.1	0.40	293	
12/4/97	1325			10.3	4.0	55.8	0.13	313	SJ
	1328			9.6	4.2	72.1	0.12	298	
	1331			9.5	4.3	92.5	0.10	294	
12/9/97	1930			2.6	7.4	101.7	0.15	280	FA
	1935			2.8	7.3	97.8	0.22 *	296	Faculty
	1940			2.9	7.3	94.9	0.0	301	Ave
							0		
12/13/97	1443			0.4	10.1	107.7	~~557~~	557	SJ
	1446			0.5	10.1	106.3	0	559	
	1449			0.6	10.0	102.1	0	567	
	1453			0.7	10.0	98.1	0	578	

C-11

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP4 Test Location SS06-MP4A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1919			12.8	5.4	15.8	0.0	1002	
↓	1920			12.8	5.4	14.8	0.0	997	
↓	1921			12.8	5.4	14.1	0.0	997	
	1922								
11/12/97									
	2115			20.1	0.0	4.0	=		
	2116			20.1	0.0	4.0	=		
	2117			20.1	0.0	4.0	=	395	
	2118								
11/13/97	11:02			PURGING					
	11:07	—		19.4	0.4	1.2	—	576	FA
11/13/97									
	425	0.31							
	440	0.33							
	506	0.35							
	555	0.31							
	1005PM	0.31							
11/14/97	~~1000 AM~~ 900	0.30							
11/15/97	525PM	0.21			PURGING				
				19.3	0.0	0.0		54.4	
11/15/97	530PM								
11/17/97	1:10PM	0.19							
	1:15PM	"		19.0	0.0	5.0		39.9	
	1:19PM	"		19.0	0.0	0.0		37.0	
11/18/97	2:17	0.22		21.4	0.00	0.00		33.4	
	2:20			21.2	0.00	0.00		29.3	
	2:27			21.2	0.00	0.00		24.2	

11/19/97

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 MP4 **Test Location** SS 06 MP4A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1518			20.1	0	0		15.4	
	1522			20.1	0	0		13.5	
	1525			20.1	0	0		12.2	
	1528			20.1	0	0		10.9	
	1531	0.15		20.1	0	0		10.9	
20									
11/~~27~~/97	1508	0.21		~~20~~					
	1513			20.3	0	0	0	25.3	
	1519			20.3	0	0	0	22.3	
	1523			20.3	0	0	0	20.8	
11/21/97	1246	0.11							
	1242			19.5	0	0	0	23.9	SJ
	1245			19.4	0	0	0	21.1	
	1252			19.4	0	0	0	14.7	
	1253			19.4	0	0	0	13.8	
11/22/97	1304	0.22							SJ
	1306			20.1	0.2	0	0	30.7	
	1309			20.1	0.2	0	0	18.7	
	1312			20.2	0.2	0	0	20.1	
11/23/97	1715	0.45							SJ
	1716			19.9	0.3	0	0	191.7	
	1719			19.9	0.3	0	0	195.2	
	1722			19.9	0.3	0	0	194.1	
11/24/97	1413	-0.07		19.1	0.5	45.0	0.82	342	JP
	1417			19.1	0.5	50.5	0.82	336	
	1421			18.9	0.5	49.6	0.81	334	
	1428			18.9	0.5	52.5	0.85	331	
11/24/97	1841	~~-0.32~~							
	1853	-0.07		19.3	0.8	52.7	—	331	JP
	~~19~~00			19.3	0.8	54.4	1.5	330	

M&E

FIGURE 6-9
DATA SHEET 2 - VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP4A Test Location 5506

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/97	2315			18.9	0.5	50.0	1.0	324	JP
	2318			13.9	0.5	54.9	0.98	310	
	2321			18.9	0.5	57.2	0.97	309	
11/25/97	2129			19.7	0.4	6.5	0.48	650	SJ
	2134			19.7	0.4	5.5	0.48	650	
	2138			19.8	0.3	4.8	0.52	650	
11/26/97	1413			19.7	0	1.8	0.37	343	SJ
	1416			19.8	0	1.4	0.36	318	
	1420			19.8	0	1.0	0.33	301	
11/28/97	1815			19.6	0.0	1.5	0.29	40	
	1820			19.6	0.0	0.4	0.27	45	
11/30/97	1905			19.6	0.1	0.8	0.20	30	
	1910			19.8	0.0	0.8	0.20	~~300~~ 30	
12/2/97	1511			18.9	0.4	4.4	0.23	442	SJ
	1515			18.9	0.3	1.0	0.17	273	
	1518			19.0	0.3	0.7	0.19	230	
	1520			19.1	0.3	0.6	0.20	197	
12/4/97	1336			17.9	0.7	1.4	0.26	275	SJ
	1339			18.1	0.7	0.6	0.25	211	
	1342			18.2	0.6	0.5	0.10	187	
	1345			18.2	0.5	0.4	0.10	173	
12/9/97	1720			17.9	0.7	0.0	0.09	32.0	JSR
	1728			18.1	0.7	0.0	0.01	21.8	
	1732			18.2	0.6	0.0	0.01	20.0	
	1735			18.2	0.6	0.0	0.01	19.3	
12/13/97	1202			17.6	1.0	0	0.12	33.2	SJ
	1210			17.5	1.0	0	0.12	32.2	
	1213			17.5	1.0	0	0.11	30.7	
	1217			17.5	1.0	0	0.11	29.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP4 Test Location SS06-MP4B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1923			2.9	11.9	38.9	0.0	594	
	1924			3.0	11.7	40.2	0.0	592	
	1925			3.3	11.5	41.2	0.0	593	
	1926			3.5	11.3	41.4	00	595	
11/12/97									
	2109			20.0	0.0	0.8	—		
	2110			20.0	0.0	0.7	—		
	2111			20.0	0.0	0.7	—	619	
	2112								
11/13/97	11:02			PURGING					
	11:10	—		12.6	4.6	0.9	—	415	FA
11/13/97	4 25	0.80							
	440	0.81							
	506	0.84							
	555	0.77							
	1005 AM	0.76							
11/14/97	~~1000 AM~~	~~0.78~~							
	920								
11/15/97	540PM	0.50		PURGING					
	545			19.3	0.0	0.0		500	
11/17/97	~~1:25~~ PM	~~0.50~~ ~~0.46~~		~~19.0~~	~~2.0~~	~~0.0~~		~~36.3~~	
	~~1:33~~ PM			~~18.6~~	~~0.4~~	~~0.5~~		~~83.0~~	
	15:PM			19.0	0.0	0.0		26.2	
11/18/97	1515	0.49		21.2	0.00	0.00		14.1	
	1519			21.2	0.00	0.00		13.1	
11/19/97	1613			20.1	0.0	0.0		11.5	
	1624			20.1	0.0	0.0		8.3	
	1627	0.26		20.1	0.0	0.0		8.3	

M&E

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well _____ Test Location SS06-MP4B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20/97	1647	0.37							
	1649			20.4	0	0	0	8.9	SJ
	1655			20.4	0	0	0	9.7	
	1658			20.4	0	0	0	9.7	
11/21/97	1443	0.43							
	1446			21.1	0	0	0	23.9	SJ
	1450			21.0	0	0	0	15.6	
	1459			21.0	0	0	0	9.2	
	1503			21.0	0	0	0	8.2	
11/22/97	1433	0.46							
	1436			19.9	0.2	0	0	12.7	SJ
	1441			19.9	0.2	0	0	14.2	
	1443			19.9	0.2	0	0	14.8	
11/23/97	1829	0.41							
	1831			20.5	0.3	0	0	179	SJ
	1834			20.5	0.3	0	0	183	
	1837			20.5	0.2	0	0	180	
11/24/97	1432	-0.16							
	1434			19.3	0.7	94.5	1.1	288	JP
	1437			19.3	0.7	101.9	1.2	288	
	1440			19.3	0.7	103.7	1.2	286	
	1443			19.3	0.7	104.2	1.2	287	
11/24/97	1908	-0.13		19.5	0.5	79.2	1.8	286	JP
	1914			19.5	0.5	87.6	1.8	281	
	1920			19.5	0.5	90.6	1.9	279	
11/24/97	2323			19.1	0.8	64.2	1.8	287	JP
	2326			19.0	0.8	75.9	1.8	282	
	2329			19.0	0.8	84.2	1.7	282	
11/25/97	2143			17.5	2.2	22.3	0.89	650	SJ
11/25/97	2146			17.7	2.2	16.3	0.89	650	
	2149			17.6	2.1	13.6	0.89	650	

M&E

11/26/97	1422	17.0	1.8	2.7	0.54	349
	1425	17.0	1.7	2.4	0.53	338
	1428	17.1	1.6	2.4	0.59	335

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 Test Location MP 4B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/28/97	1830	—	—	18.0	1.1	0.4	0.29	100.0	FA
	1835			18.0	1.0	0.3	0.29	99.0	
11/30/97	1930	—	—	17.6	1.3	0.3	0.23	30.0	
	1935			17.7	1.3	0.3	0.24	30.0	
12/2/97	1541			16.3	2.0	0.3	0.12	94.1	SJ
	1544			16.4	2.0	0.3	0.12	90.9	
	1547			16.4	2.0	0.2	0.11	89.8	
12/4/97	1349			13.0	3.9	0.4	0	168	SJ
	1353			13.6	3.5	0.4	0	180	
	1356			13.8	3.4	0.4	0	173	
12/9/97	1815			13.4	3.3	0.0	0.0	30.7	FA
	1820			13.5	3.3	0.0	0.0	33.2	
	1825			13.4	3.4	0.0	0.0	43.1	
12/13/97	1327			12.1	4.4	0.4	0	128.7	SJ
	1331			12.2	4.3	0.3	0	127.2	
	1334			12.4	4.1	0.2	0	127.5	
	1337			12.6	4.0	0.2	0	128.3	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP4 Test Location SS06-MP4C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/4/97	1928			0.0	14.6	OFF SCALE	0.0	66.3	
	1929			0.0	14.6		0.0	66.9	
	1930			0.0	14.6		0.0	66.7	
	1931								
11/12/97									
	2102			16.6	3.1	2.1	—		
	2103			16.6	3.2	1.4	—		
	2104			16.6	3.2	1.2	—		
	2105			16.6	3.2	1.0	—	592	
11/13/97	11:10			PURGING					
	11:15	—		4.5	10.2	68.0	—	77	FA
11/13/97	4:25	1.54							
	4:40	1.56							
	506	1.58							
	556	1.51							
	10 06PM	1.52							
11/14/97	~~1000 AM~~	1.56							
	920								
11/15/97	535PM	0.96			PURGING				
	540			19.2	0.1	0.0		60.2	
11/17/97	1:20PM	0.96							
	1:24PM			18.6	0.4	0.0		83.0	
	1:28PM			18.6	0.4	0.0		78.7	
11/18/97	1649	0.90		20.9	0.4	0.1		103.2	
	1653			20.9	0.4	0.1		100.2	
	1658			20.9	0.4	0.1		100.2	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well 5506 Test Location MP4C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1800			15.8	6.7	>150	2.9	82.9	JP
	1804			15.6	6.9	>150	2.5	77.8	
	1807	0.51		15.6	6.9	>150	2.5	75.2	
11/20/97	2003	0.62							
	2006			18.3	1.9	30.1	0.47	207.4	SJ
	2009			18.3	1.9	30.1	0.49	198.5	
	2012			18.2	2.0	30.5	0.51	189.5	
11/21/97	1659	0.97							SJ
	1705			21.0	0	0		3.6	
	1708			21.0	0	0		2.7	
	1711			21.0	0	0		3.6	
11/22/97	1700	0.80							
	1703			18.2	2.2	15.2	0.27	318	SJ
	1706			18.2	2.2	14.0	0.26	319	
	1709			18.2	2.2	13.1	0.23	318	
11/23/97	1446	0.61							
	1453			20.2	0.2	0	0	198	SJ
	1459			20.4	0.3	0	0	185	
	1502			20.5	0.3	0	0	171	
	1505			20.6	0.2	0	0	574	
	1506			20.6	0.2	0	0.07	296	
11/24/97	1446	-0.41							
	1451			19.4	0.5	102.7	1.4	294	JP
	1455			19.4	0.5	106.5	1.5	293	
	1458			19.4	0.5	108.5	1.5	294	
	1501			19.3	0.5	110.7	1.5	293	
11/24/97	1923	-0.39		19.5	0.5	89.4	2.0	286	JP
	1927			19.5	0.5	89.2	2.0	289	
	1930			19.5	0.5	88.9	2.0	289	
11/24/97	2337						2.0	291	JP
	2336						1.9	237	
	2338						1.9	230	
11/25/97	2154			18.3	1.9	132.0	1.5	394	SJ
	2157			18.3	1.9	137.1	1.5	390	
	2200			18.3	1.8	136.3	1.4	391	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP4E **Test Location** SS06

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1434			17.0	1.8	107.5	1.4	250	SJ
	1438			17.0	1.7	124.3	1.3	257	
	1443			16.9	1.7	124.2	1.2	263	
	1446			16.9	1.7	122.3	1.2	269	
11/28/97	1845	—	—	13.5	3.3	69.0	0.60	420	FA
	1855			13.5	3.3	68.0	0.56	450	
11/30/97	1940			10.4	5.1	79.1	0.32	175	
	1945			10.5	5.1	79.6	0.29	218	
12/2/97	1552			6.1	7.1	80.5	0.05	179.8	SJ
	1555			6.1	7.1	97.2	0	179.4	
	1558			6.1	7.0	100.1	0	179.7	
12/4/97	1359			2.9	9.1	118.2	0	187	SJ
	1401			2.9	9.1	125.5	0	192	
	1403			2.9	9.1	124.7	0	194	
	1405			2.9	9.0	124.1	0	192	
12/9/97	1915			0.3	11.5	112.2	0.0	178	FA
	1920			0.5	11.3	110.3	0.0	193	
	1925			0.7	11.2	107.9	0.0	188	
12/13/97	1518			0.4	12.9	111.3	0	291	SJ
	1522			0.6	12.7	109.9	0	300	
	1525			0.7	12.6	108.1	0	307	
	1532			1.1	12.4	100.5	0	324	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP5 Test Location SS06-MP5A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1932			12.2	5.3	28.0	0.0	769	
	1933			12.3	5.3	22.1	0.0	775	
	1934			12.3	5.2	20.2	0.0	785	
	1935			12.4	5.2	18.7	0.0	786	
	1936			12.5	5.1	17.6	0.0	792	
11/12/97									
	2136			20.0	0.0	0.5	—		
	2137			20.0	0.0	0.4	—		
	2138			20.0	0.0	0.3	—		
	2139			20.0	0.0	0.3	—	336	
11/13/97	11:20			PURGING					
	11:25	—		16.5	2.2	1.6	—	585	FA
11/13/97									
	4:30	0.06							
	441	0.08							
	507	0.10							
	556	0.09							
	1008	0.04							
11/14/97	~~1005 PM~~								
	920	0.10							
550	11/15/97	0.05							
557				19.5	0.0	0.0		41.5	
11/17/97	7:00 PM	0.05		19.0	0.0	0.0		21.2	
11/18/97	1432	0.14		21.2	0.00	0.00		22.2	
	1435			21.2	0.00	0.00		21.2	
	1445	0.14		21.2	0.00	0.00		15.1	
11/19/97	1538			20.1	0.0	0.0		9.6	
	1541	0.03		20.1	0.0	0.0		9.6	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 MP5 **Test Location** SS06-MP5A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20/97	1527	0.03							
	1529			20.3	0	0	0	18.6	SJ
	1535			20.3	0	0	0	16.8	
	1539			20.3	0	0	0	18.6	
	1545			20.3	0	0	0	15.6	
11/21/97	1255	0.02							
	1256			19.4	0	0	0	14.7	SJ
	1302			19.4	0	0	0	13.8	
	1305			19.4	0	0	0	15.6	
	1310			19.6	0	0	0	18.4	
11/22/97	1320	0.04							
	1322			20.1	0.2	0	0	20.2	SJ
	1325			20.1	0.2	0	0	17.7	
	1329			20.1	0.2	0	0	14.3	
11/23/97	1723	0.25		~~19.9~~					SJ
	1725			19.9	0.3	0	0	184.6	
	1730			19.8	0.3	0	0	189.2	
	1733			19.8	0.3	0	0	192.7	
11/24/97	1507	-0.02		17.0	1.7	59.0	0.47	292	SP
	1510			17.0	1.8	49.0	0.49	286	
	1513			17.1	1.8	44.5	0.50	276	
	1516			17.1	1.8	43.0	0.52	272	
11/24/97	1933	-0.02		17.4	2.3	100.2	0.83	231	SP
	1941			17.4	2.3	75.0	0.84	245	
	1943			17.4	2.3	70.1	0.85	246	
11/24/97	2340						0.27	224	SP
	2343						0.25	228	
	2345						0.25	229	
11/25/97	2008			19.1	1.2	7.8	0.04	726	SJ
	2011			19.2	1.0	3.6	0.06	661	
	2016			19.4	0.9	2.4	0.04	613	
11/26/97	1453			20.1	0.1	3.3	0.05	383	SJ
	1456			20.2	0.1	1.5	0.07	325	
	1459			20.2	0.1	1.0	0.09	289	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 **Test Location** MPS-A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/28/97	1900	—	—	20.0	0.0	2.7	0.10	44.0	FA
	1905			19.8	0.0	2.6	0.11	43.4	
11/30/97	1955			20.1	0.0	1.2	0.06	35.0	
	2000			20.2	0.0	0.8	0.07	35.0	
12/2/97	1601			18.9	0.4	4.9	0.38	332	SJ
	1604			19.1	0.4	1.0	0.39	223	
	1607			19.1	0.4	0.7	0.40	182	
	1609			19.1	0.4	0.6	0.40	161	
12/4/97	1410			16.3	1.6	1.8	0.23	327	SJ
	1415			16.6	1.4	0.6	0.27	232	
	1418			16.6	1.4	0.5	0.28	187	
	1421			16.8	1.3	0.4	0.27	145	
12/9/97	1738			19.1	0.4	0.0	0.02	18.2	ASR
	1742			19.4	0.3	0.0	0.04	17.1	
	1747			19.5	0.3	0.0	0.02	15.0	
	1753			19.7	0.2	0.0	0.03	14.3	
12/13/97	1225			16.1	1.8	0	0	21.8	SJ
	1230			16.1	1.8	0	0	18.8	
	1235			16.3	1.7	0	0	18.1	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06-MP5 Test Location SS06-MP5B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1740			0.3	12.8	139.2	0.0	119.8	
↓	1741			0.3	12.7	143.6	0.0	120.7	
↓	1742			0.5	12.6	145.4	0.0	121.9	
11/12/97									
	2129			19.5	0.4	2.1	—		
	2130			19.5	0.4	0.9	—		
	2131			19.5	0.4	0.6	—		
	2132			19.5	0.4	0.6	—		
	2133			19.5	0.4	0.5	—	442	
11/13/97	11:20			PURGING					
	11:28	—		10.2	3.8	8.8	—	304	FA
11/13/97	430								
		0.27							
	441	0.25							
	508	0.31							
	556	0.28							
	10 10 PM	0.29							
11/14/97	~~1005 AM~~ 920	0.30							
11/15/97	610 PM	0.17			PURGING				
	615			19.5	0.0	0.0		35.0	
11/17/97	210 PM	0.18		18.9	0.0	0.0		12.5	
11/18/97	1501	0.19		21.2	0.00	0.00		14.1	
	1504			21.2	0.00	0.00		13.1	
	1507			21.2	0.00	0.00		13.1	
11/19/97	1600			19.9	0.0	0.0		9.0	
	1605			20.0	0.0	0.0	0	9.6	
	1608	0.07		20.0	0.0	0.0		9.6	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well _____ Test Location SSOG MP 5B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/20/97	1704	0.11							
	1711			20.5	0	0	0	10.4	SJ
	1719			20.5	0	0	0	10.4	
11/21/97	1507	0.15							
	1527			20.8	0	0	0	16.5	SJ
	1533			20.8	0	0	0	11.0	
	1537			20.8	0	0	0	10.1	
11/22/97	1444	0.12							
	1541			20.9	0.1	0	0	3.7	SJ
	1544			20.9	0.1	0	0	3.7	
	1547			20.9	0.1	0	0	2.2	
11/23/97	1840	0.11		~~20~~					SJ
	1842			20.6	0.3	0	0	152	
	1845			20.7	0.3	0	0	152	
	1849			20.7	0.3	0	0	154	
11/24/97	1520	-0.08		16.0	3.4	61.5	0.69	210	JP
	1526			16.0	3.4	63.4	0.68	210	
	1529			16.0	3.5	64.5	0.68	209	
	1532			16.1	3.5	63.9	0.67	208	
11/24/97	1945	-0.08		17.8	3.3	79.0	—	213	JP
	1953			17.8	3.2	93.0	1.1	202	
	1955			17.8	3.2	92.7	1.1	200	
11/24/97	2346						1.0	171	JP
	2350						1.0	170	
11/25/97	2227			15.7	4.7	17.4	0.50	477	SJ
	2232			15.8	4.3	13.9	0.41	479	
	2236			16.1	4.1	12.8	0.38	477	
11/26/97	1506			17.9	1.9	0.8	0.26	241	SJ
	1510			18.3	1.6	0.6	0.24	215	

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1513 18.5 1.5 0.6 0.24 204

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-06 **Test Location** MPS-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/28/97	1910			18.3	1.3	0.2	0.25	7.0	FA
	1920			18.2	1.3	0.2	0.19	12.0	
11/30/97	2005			16.9	2.1	0.6	0.07	30.0	
	2010			17.3	1.8	0.5	0.08	30.0	
12/2/97	1614			10.0	5.7	0.8	0	146	SJ
	1617			10.2	5.5	0.7	0	138	
	1620			10.4	5.3	0.8	0	135	
12/4/97	1427			4.5	8.5	2.4	0	206	SJ
	1430			4.6	8.4	2.3	0	213.8	
	1432			5.1	7.9	2.2	0	211.4	
	1434			5.5	7.8	2.1	0	209.0	
12/9/97	1800			11.6	5.3	0.1	0.0	45.5	FA
	1805			12.1	4.9	0.2	0.0	50.5	
	1810			12.5	4.7	0.2	0.0	52.9	
12/13/97	1357			10.8	6.2	0.4	0	122.7	SJ
	1400			10.8	6.3	0.4	0	124.3	
	1404			10.5	6.5	0.5	0	130.2	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SSO6-MP5 Test Location SSO6-MP5C

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/11/97	1944			0.1	13.4	OFF SCALE	0.0	77.1	
↓	1945			0.0	13.3	OFF SCALE	0.0	77.1	
	1946								
	1947								
11/12/97									
	~~20~~ 2123			19.9	0.9	5.4	—		
	2124			19.1	0.9	2.7	—		
	2125			19.1	0.9	1.8	—		
	2126			19.1	0.9	1.3	—	~~631~~ 631	
11/13/97	11:28			DURGING					
	11:33	—	—	4.7	9.5	114.6	—	108	FA
11/13/97	4:30								
		0.67							
	442	0.65							
	508	0.69							
	556	0.67							
	1010 PM	0.69							
11/14/97	~~4005AM~~	0.64							
	~~9:20 AM~~								
		0.43		DURGING					
11/15/97	6:10PM								
	620								
11/17/97	2:40PM	0.45		15.8	0.0	0.0		73.7	
11/18/97	1705	0.43		21.1	0.00	0.00		92.1	
	1716			21.0	0.1	0.1		100.2	
	1724			21.0	0.1	0.1		99.2	
	1727			21.0	0.1	0.1		103.2	
	1736			21.1	0.1	0.1		104.0	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS06 Test Location MPSC

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/19/97	1812			18.0	1.9	14.8	0.94	83.5	JP
	1817			17.8	2.0	15.9	0.97	79.7	
	1821	0.22		17.7	2.2	17.3	0.93	77.1	
11/20/97	2026	0.29							
	2030			19.8	0.4	1.8	1.35	187	SJ
	2033			19.6	0.5	1.8	0.07	179	
	2036			19.6	0.6	1.8	0.08	176	
	2039			19.4	0.7	2.1	0.08	174	
11/21/97	1713	0.59							SJ
	1716			21.0	0	0	0	3.6	
	1719			21.0	0	0	0	2.7	
	1724			21.1	0	0	0	3.4	
11/22/97	1712	0.51							
	1713			19.5	0.5	0.8	0	283	SJ
	1716			19.3	0.7	1.4	0	265	
	1719			19.3	0.8	2.2	0	262	
11/23/97	1507	0.30							
	1510			20.7	0.2	0	0	462	SJ
	1514			20.7	0.3	0	0	487	
	1517			20.6	0.3	0	0	476	
	1522			20.5	0.2	0	0	449	
11/24/97	1535	-0.23		18.2	2.3	>>>150	1.2	130	JP
	1539			18.2	2.4	>>150	1.2	131	
	1543			18.2	2.4	>>150	1.2	131	
11/24/97	1958	-0.23		18.8	1.5	>>150	1.6	131	JP
	2007			18.8	1.6	>>150	—	130	
	2013			18.8	1.6	>>150	1.6	129	
11/24/97	2353						1.6	100.0	JP
	2356						1.6	95	
	23						1.5	—	

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11/25/97	2243	16.4	5.0	>>150	0.93	253	SJ
	2252	16.4	4.9	>>150	0.78	252	
	2255	16.4	4.9	146.5	0.91	243	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well MP5C **Test Location** SS06

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/26/97	1517			14.3	4.6	129.9	0.82	169	SJ
	1520			14.3	4.5	123.4	0.76	176	
	1523			14.3	4.5	121.0	0.73	181	
11/28/97	1925			10.7	5.8	166.8	0.38	283	
	1935			10.6	6.4	105.8	0.26	193	
11/30/97	2020			5.3	8.8	113.1	0.0	190	
	2025			5.3	8.7	115.2	0.0	200	
12/2/97	1624			3.1	10.9	141.5	0	114.6	SJ
	1627			3.1	10.9	145.9	0	115.4	
	1630			3.1	10.8	146.0	0	117.9	
12/4/97	1441			1.0	12.4	>150	0.01	121.6	SJ
	1443			0.9	12.4	>150	0	124.2	
	1445			0.9	12.4	>150	0	124.0	
	1447			0.9	12.4	>150	0	126.3	
12/9/97	1900			0.0	13.2	136.6	0.0	126.8	FA
	1905			0.0	13.1	140.9	0.0	129.3	
	1910			0.0	13.2	141.3	0.0	131.7	
12/13/97	1541			0	14.2	>150	0	205	SJ
	1544			0	14.1	>150	0	207	
	1550			0.1	14.1	>150	0	211	
	1600			0.2	14.1	146.0	0	217	

FIGURE 6-9
DATA SHEET 2 - VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING Summa Sampling

Vapor Monitoring Well MP6 Test Location 5506

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/24/97	2022	-0.53		19.7	0.0	46.0	2.0	404	JP
	2025			19.7	0.0	48.3	2.0	406	
	2028			19.7	0.0	48.7	2.1	409	
	2030	start	Summa	Canister					
	2046			19.6	0.0	44.2	—	416	
	2053			19.6	0.0	48.2	2.0	416	
	2110			19.6	0.00	47.3	2.0	425	JSR
	2120			19.6	0.00	47.6	2.0	425	
	2130			19.6	0.00	47.5	2.0	426	
	2130	End	Summa	Canister	NS506SV002			Vacuum	=-10" Hg.
11/25/97	2302			19.2	0.5	63.5	1.4	506	SJ
	2304			19.2	0.5	62.7	1.4	510	
	2307			19.2	0.5	62.5	1.4	499	
~~11/26/97~~	~~550~~								~~FA~~
11/26/97	1612	—		18.4	0.4	48.4	1.0	412	FA
	1620			18.4	0.4	48.0	1.0	450	
	#6								
11/28/97	1945			17.3	0.8	16.1	0.56	350	FA
	1955			17.2	0.8	14.6	0.59	480	
11/30/97	2030			16.3	1.3	9.1	0.46	511	
	2035			16.3	1.3	9.2	0.48	496	
12/2/97	1636			15.4	1.8	10.4	0.72	412	SJ
	1639			15.4	1.8	9.7	0.75	411	
	1642			15.5	1.8	8.8	0.23	410	
	1645			15.2	1.9	9.8	0.24	411	
12/9/97	2005			11.8	3.3	13.3	0.0	507	FA
	2010			11.6	3.4	11.9	0.0	486	
	2015			11.2	3.5	11.5	0.0	475	
12/13/97	1605			11.7	3.8	13.7	0	1090	SJ
	1610			11.3	4.0	9.3	0	941	
	1615			10.6	4.4	9.6	0	892	
	1624			10.2	4.6	10.4	0	905	
	1629			10.8	4.3	9.0	0	886	

FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS 08B Test Location MP 1-B C ?

Date	Time	Water Level (feet bTOC)	Temp. (C)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/29/97	1600	0.364/0.27	10.61	7.16	11.5/1.28	81.0	0.560	FA
	1605	0.364/0.27	10.62	7.21	11.6/1.29	79.4	0.560	
12/1/97	1341	0.285/0.21	8.50	7.14	4.0/0.47	-113.6	0.438	SJ
	1354	0.280/0.21	9.07	7.17	4.1/0.48	-121.3	0.432	
	1403	0.281/0.21	8.61	7.19	4.2/0.49	-123.1	0.432	
12/1/97	1417	0.342/0.26	9.81	7.29	4.3/0.49	-105.3	0.528	SJ
	1422	0.345/0.26	9.38	7.29	4.3/0.49	-94.0	0.529	
	1428	0.345/0.26	9.07	7.29	4.2/0.49	-85.2	0.533	
12/3/97	1027	0.361/0.27	9.93	7.04	7.6/0.86	108.2	0.555	SJ
	1034	0.364/0.27	10.04	7.14	5.4/0.60	105.7	0.558	
	1040	0.364/0.27	10.04	7.20	5.2/0.58	104.2	0.561	
12/4/97	1636	0.389/0.29	9.76	7.51	7.7/0.87	49.4	0.595	SJ
	1641	0.377/0.28	9.67	7.43	6.1/0.69	50.6	0.579	
	1646	0.381/0.29	9.65	7.39	5.4/0.61	50.1	0.587	
	1657	0.393/0.30	9.80	7.34	4.5/0.57	47.3	0.606	
12/5/97	1020	0.356/0.27	8.25	7.24	14.6/1.71	109.1	0.546	SJ
	1029	0.353/0.26	8.18	7.25	14.8/1.74	106.2	0.542	
	1035	0.356/0.26	8.35	7.26	14.5/1.70	105.1	0.542	
	1041	0.354/0.27	8.42	7.28	14.9/1.74	104.1	0.544	
12/6/97	1028	0.335/0.25	5.83	7.04	13.6/1.75	63.5	0.515	FA
	1032	0.330/0.25	6.97	7.07	11.7/1.41	55.0	0.508	
	1036	0.334/0.25	7.76	7.12	11.5/1.38	46.2	0.511	
	1043	0.336/0.25	8.00	7.21	15.7/1.86	39.2	0.517	
12/7/97	1026	0.311/0.23	6.52	6.92	12.0/1.48	112.7	0.480	FA
	1030	0.310/0.23	7.21	7.06	13.8/1.67	107.9	0.478	
	1035	0.310/0.23	7.44	7.12	14.9/1.78	106.2	0.477	
	1040	0.312/0.23	7.29	7.18	16.7/2.02	104.5	0.484	

FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08B Test Location MP 1-C

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1135	0.286/0.21	8.41	6.53	17.5/2.05	157.3	0.441	FA
	1140	0.297/0.22	8.19	6.96	19.5/2.29	143.3	0.457	
	1145	0.300/0.22	8.09	7.02	18.4/2.16	141.8	0.462	
	1150	0.300/0.22	8.17	7.10	21.0/2.49	138.0	0.461	
	1155	0.296/0.22	8.33	7.16	21.6/2.54	136.0	0.457	
	NA							
12/9/97	1230	0.319/0.24	8.38	6.52	36.9/4.23	153.1	0.493	FA
	1235	0.321/0.24	8.86	6.87	22.0/2.55	143.9	0.493	
	1240	0.320/0.24	8.33	7.00	24.0/2.82	140.2	0.492	
	1245	0.310/0.23	8.69	7.14	27.9/3.24	134.9	0.476	
	1250	0.305/0.23	8.70	7.21	30.2/3.52	132.6	0.467	
12/10/97	1055	0.300/0.22	6.52	6.83	42.8/5.22	128.5	0.462	FA
	1100	0.306/0.23	6.74	6.97	38.4/4.68	123.3	0.473	
	1105	0.313/0.23	6.80	7.37	38.5/4.90	113.0	0.483	
	1110	0.311/0.23	7.13	7.38	38.7/4.69	112.7	0.481	
12/11/97	1858	0.299/0.22	9.16	7.38	48.1/5.52	-76.9	0.456	SJ
	1903	0.297/0.22	9.32	7.39	47.7/5.47	-71.1	0.459	
	1908	0.304/0.23	8.38	7.44	46.6/5.46	-57.4	0.466	
	1910	Sampling						
	1913	0.303/0.23	8.45	7.45	46.1/5.57	-46.6	0.461	
12/12/97	1425	0.270/0.20	8.10	7.37	63.2/7.48	-54.7	0.412	SJ
	1428	0.266/0.20	8.22	7.40	65.6/7.72	-48.9	0.408	
	1430	0.264/0.20	8.26	7.43	66.1/7.76	-45.3	0.407	
	1435	0.265/0.20	8.37	7.46	65.2/7.64	-36.4	0.407	
12/14/97	1603	0.321/0.24	8.77	7.35	115.7/13.48	-47.4	0.495	SJ
	1609	0.324/0.24	8.78	7.43	117.7/13.66	-33.7	0.500	
	1613	0.323/0.24	9.04	7.46	115.9/13.36	-25.8	0.496	
	1615	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS 08B Test Location MP 1-D

Date	Time	TDS/SAL Water Level (feet/bTOC)	°C Temp. (F)	pH	% DO (mg/L)	ORP	SpCnd Purge Rate (gpm)	Operator
11/27/97	1355	0.336/0.25	~~7.18~~	7.18	15.5/1.76	83.9	0.516	FA
	1405	0.336/0.25	9.64 9.60	7.15	15.0/1.71	75.9	0.517	
1-C 11/28/97	~~1600~~	~~0.364/0.27~~	~~15.61~~	~~7.16~~	~~11.5/1.28~~	~~81.0~~	~~0.560~~	~~FA~~
	~~1605~~	~~0.364/0.27~~	~~10.62~~	~~7.21~~	~~11.6/1.29~~	~~79.4~~	~~0.560~~	
~~11/29/97~~	~~1625~~	~~0.309/0.23~~	~~9.83~~	~~7.08~~	~~9.5/1.08~~	~~-76.7~~	~~0.475~~	
11/29/97	1610	0.346/0.26	10.23	7.10	11.1/1.25	65.0	0.532	
	1615	0.347/0.26	10.20	7.12	10.9/1.23	80.2	0.534	
12/1/97	1433	0.333/0.25	9.37	7.18	6.1/0.68	-69.8	0.506	SJ
	1438	0.332/0.25	9.45	7.14	4.4/0.50	-64.4	0.510	
	1443	0.332/0.25	8.97	7.12	4.3/0.50	-60.6	0.511	
12/3/97	1054	0.340/0.25	9.46	7.08	5.0/0.57	88.0	0.523	JP
	1059	0.340/0.25	9.49	7.09	4.9/0.55	61.4	0.524	
	1104	0.340/0.25	9.55	7.09	4.7/0.53	37.0	0.524	
	1109	0.340/0.25	9.59	7.10	4.5/0.52	16.4	0.523	
	1114	0.340/0.25	9.54	7.11	4.6/0.53	4.9	0.524	
	1119	0.340/0.25	9.69	7.11	4.5/0.51	-2.3	0.524	
	1124	0.341/0.25	9.44	7.12	4.5/0.51	-8.2	0.524	
	1132	0.340/0.25	9.58	7.12	4.3/0.49	-13.3	0.522	SJ
12/4/97	1713	0.353/0.26	7.02	7.26	15.0/1.81	49.3	0.543	SJ
	1718	0.354/0.26	6.47	7.24	12.6/1.54	48.1	0.545	
	1724	0.353/0.26	6.15	7.22	9.9/1.23	46.0	0.543	
	1735	0.355/0.26	5.38	7.23	12.6/1.52	42.7	0.550	
12/5/97	1049	0.354/0.26	8.69	7.21	12.6/1.43	99.6	0.544	SJ
	1056	0.355/0.27	9.17	7.11	9.0/1.03	90.0	0.545	
	1101	0.355/0.27	9.01	7.11	9.4/1.08	71.1	0.547	
12/6/97	1004	0.331/0.25	7.77	6.85	8.1/0.96	93.1	0.510	FA
	1010	0.334/0.25	7.85	6.95	8.1/0.96	83.3	0.514	
	1018	0.334/0.25	7.78	6.97	8.2/0.98	81.2	0.515	
	1022	0.334/0.25	7.60	7.00	8.6/1.02	72.9	0.513	

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FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08B Test Location I-D

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/7/97	1050	0.300/0.22	7.22	7.17	10.2/1.21	106.9	0.462	FA
	1055	0.298/0.22	7.25	7.13	6.8/0.82	95.4	0.458	
	1100	0.296/0.22	7.10	7.13	6.7/0.81	81.1	0.458	
	1105	0.295/0.22	7.27	7.12	6.4/0.76	55.1	0.452	
	1110	0.294/0.22	7.30	7.13	6.3/0.76	43.5	0.451	
12/8/97	1205	0.287/0.21	8.38	7.19	22.5/2.65	136.6	0.441	FA
	1210	0.286/0.21	8.57	7.20	31.0/3.63	135.8	0.442	
	1215	0.285/0.21	8.83	7.19	24.4/2.80	136.1	0.440	
	1220	0.293/0.22	8.35	7.20	17.8/2.00	135.8	0.451	
	1225	0.293/0.22	8.47	7.21	31.1/3.63	134.0	0.451	
12/9/97	1255	0.279/0.21	7.48	7.29	31.1/3.66	131.9	0.422	FA
	1300	0.270/0.20	8.31	7.29	25.4/2.98	131.0	0.411	
	1305	0.261/0.19	8.51	7.31	27.0/3.14	130.0	0.402	
	1310	0.262/0.19	8.53	7.31	23.8/2.80	129.5	0.402	
12/10/97	1240	0.259/0.19	7.10	7.39	18.7/2.27	110.6	0.400	FA
	1245	0.265/0.20	7.18	7.40	19.5/2.36	109.8	0.412	
	1250	0.277/0.21	6.96	7.41	19.8/2.40	109.0	0.427	
	1255	0.277/0.21	7.01	7.41	19.0/2.30	108.7	0.426	
12/11/97	1920	0.275/0.20	8.60	7.42	32.2/3.76	-36.2	0.431	SJ
	1923	0.281/0.21	9.72	7.38	25.4/2.72	-32.9	0.419	
	1928	0.276/0.21	11.91	7.36	28.5/3.06	-27.2	0.422	
	1930	Sampling						
	1938	0.265/0.21	8.54	7.34	31.5/3.64	-19.6	0.409	
12/12/97	1442	0.268/0.20	7.89	7.44	69.1/8.23	-21.4	0.408	SJ
	1445	0.260/0.19	8.22	7.41	70.2/8.25	-17.5	0.398	
	1448	0.255/0.19	8.53	7.40	70.8/8.26	-12.0	0.392	
	1452	0.255/0.19	8.32	7.39	70.1/8.23	-6.8	0.392	
	1455	0.254/0.19	8.24	7.38	69.4/8.17	-3.5	0.390	
12/14/97	1625	0.312/0.23	8.96	7.39	106.3/12.29	-1.7	0.483	SJ
	1630	0.317/0.24	8.87	7.36	105.2/12.17	6.8	0.490	
	1635	0.321/0.24	8.82	7.35	103.4/11.97	12.8	0.493	

1640 Sampling

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS-08B **Test Location** MP 1-E

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/27/97	1420	0.314/0.23	9.16	7.15	13.5/1.55	-81.7	0.480	FA
	1426	0.311/0.23	9.10	7.19	12.7/1.46	-83.2	0.478	
~~11/28/97~~	~~1610~~	~~0.347/0.26~~	~~10.20~~	~~7.12~~	~~10.9/1.23~~	~~80.2~~	~~0.534~~	
	~~1615~~	~~0.346/0.26~~	~~10.23~~	~~7.10~~	~~11.1/1.25~~	~~65.0~~	~~0.532~~	
11/29/97	1625	0.307/0.23	9.80	7.12	9.3/1.05	-86.7	0.472	
	1630	0.307/0.23	9.75	7.13	9.3/1.06	-91.0	0.472	
12/1/97	1341	0.285/0.21	8.50	7.14	4.0/0.47	-113.6	0.438	SJ
	1354	0.280/0.21	9.07	7.17	4.1/0.48	-121.3	0.432	
	1403	0.281/0.21	8.61	7.19	4.2/0.49	-123.1	0.432	
12/3/97	1137	0.286/0.21	9.21	7.14	9.5/1.03	-40.5	0.435	SJ
	1143	0.282/0.21	9.29	7.14	9.2/0.49	-66.9	0.435	
	1148	0.284/0.21	9.32	7.16	3.9/0.45	-76.6	0.437	
	1155	Sampling						
	1158	0.284/0.21	9.26	7.20	3.7/0.43	-86.7	0.436	
12/4/97	1746	0.290/0.22	9.27	6.75	5.7/0.65	-33.6	0.446	SJ
	1751	0.290/0.22	9.30	7.05	5.3/0.61	-54.0	0.446	
	1756	0.289/0.21	9.23	6.61	5.6/0.61	-43.8	0.444	
12/5/97	1110	0.285/0.21	8.09	7.06	11.4/1.34	-19.2	0.439	SJ
	1115	0.287/0.21	7.66	7.06	10.1/1.21	-43.7	0.441	
	1120	0.287/0.21	7.56	7.06	9.6/1.15	-57.7	0.443	
12/6/97	1046	0.336/0.26	6.52	7.25	20.4/2.55	39.6	0.516	FA
	1050	0.291/0.21	5.47	7.11	16.2/2.05	9.7	0.448	
	1055	0.286/0.21	7.39	7.04	9.6/1.14	-28.8	0.439	
	1100	0.285/0.21	7.58	7.03	8.0/0.95	-39.1	0.438	
	1108	0.279/0.21	7.57	7.06	7.3/0.87	-71.6	0.430	SJ
12/7/97	1115	0.289/0.22	7.50	7.01	6.0/0.71	-28.5	0.446	FA
	1120	0.295/0.22	7.13	7.01	6.3/0.77	-33.9	0.456	
	1125	0.292/0.22	7.23	7.03	5.9/0.71	-50.0	0.449	
	1130	0.295/0.22	7.08	7.04	6.1/0.74	-52.9	0.452	
	~~1135~~							

Some → as collected

M&E

FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B Test Location MP 1-E

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1230	0.258/0.21	8.05	7.06	17.0/2.00	128.6	0.442	FA
	1235	0.299/0.22	7.64	6.95	11.6/1.39	33.7	0.460	
	1240	0.294/0.22	7.85	6.96	10.8/1.28	-3.8	0.452	
	1245	0.297/0.22	7.60	6.96	10.8/1.28	-18.2	0.456	
	1250	0.296/0.22	7.43	6.99	11.6/1.39	-32.8	0.456	
12/9/97	1310	0.264/0.20	7.78	7.34	28.6/3.39	128.3	0.395	FA
	1315	0.294/0.22	8.35	7.00	8.5/0.99	61.1	0.453	
	1320	0.302/0.23	8.30	6.99	8.3/0.98	17.1	0.467	
	1325	0.302/0.22	8.34	7.00	8.1/0.95	-16.0	0.465	
	1330	0.304/0.23	8.40	7.00	8.1/0.95	-27.3	0.470	
12/10/97	1300	0.293/0.22	5.91	7.40	22.7/2.74	1090	0.450	FA
	1305	0.306/0.23	7.15	7.10	7.3/0.88	95.9	0.479	
	1310	0.316/0.23	6.90	7.07	7.5/0.91	45.2	0.484	
	1315	0.313/0.23	7.26	7.05	7.5/0.90	18.0	0.482	
	1320	0.312/0.23	7.20	7.06	7.5/0.91	-17.8	0.480	
12/11/97	1945	0.268/0.20	10.72	7.33	38.2/4.26	-15.0	0.428	SJ
	1950	0.270/0.20	11.51	7.31	40.9/4.38	-13.5	0.418	
	1955	0.274/0.20	11.9	7.33	49.5/5.02	-10.8	0.421	
	2000	Sampling						
	2003	0.282/0.21	10.41	7.36	37.9/5.76	-3.9	0.434	
12/12/97	1602	0.260/0.19	10.31	7.43	73.1/7.95	4.4	0.398	SJ
	1605	0.256/0.19	10.26	7.42	74.2/7.86	7.5	0.398	
	1610	0.254/0.19	9.63	7.42	84.3/8.61	11.9	0.405	
	1615	0.259/0.19	9.49	7.48	75.6/8.54	15.3	0.426	
12/14/97	1650	0.314/0.22	8.88	7.17	11.5/1.33	7.5	0.483	SJ
	1655	0.313/0.22	8.80	7.16	11.1/1.29	-6.8	0.480	
	1700	0.311/0.22	8.71	7.15	10.7/1.25	-17.6	0.479	
	1705	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS-08B **Test Location** MP 2-C

Date	Time	TDS/SAL Water Level (feet bTOC)	°C Temp. (F)	pH	% / DO (mg/L)	ORP	µS/cm Purge Rate (gpm)	Operator
11/27/97	1435	0.30/0.23	9.93	7.31	13.3/1.50	-69.6	0.477	FA
	1440	0.310/0.23	10 05	7.31	13.9/1.57	-60.7	0.478	
11/29/97	1730	0.316/0.24	10.09	7.32	8.7/0.98	-73.7	0.486	
	1735	0.316/0.24	1042	7.32	9.2/1.02	-64.8	0.486	
12/1/97	1453	0.308/0.23	9.13	7.27	5.3/0.61	-58.5	0.473	SJ
	1503	0.300/0.22	9.08	7.27	4.2/0.47	-49.2	0.464	
	1509	0.303/0.23	9.31	7.27	3.9/0.44	-48.4	0.465	
	1513	0.301/0.22	8.87	7.28	4.7/0.55	-46.4	0.464	
12/3/97	1208	0.306/0.23	10.07	7.31	5.3/0.60	-71.0	0.471	SJ
	1212	0.307/0.23	9.91	7.32	4.8/0.54	-61.8	0.472	
	1217	0.307/0.23	9.82	7.32	4.7/0.52	-53.9	0.473	
	1226	0.309/0.23	9.91	7.33	4.6/0.52	-38.6	0.476	
12/4/97	1806	0.289/0.21	8.79	6.33	23.3/2.74	-27.5	0.445	SJ
	1810	0.288/0.21	8.61	6.87	34.9/4.08	-40.3	0.444	
	1814	0.288/0.21	8.42	7.04	33.7/3.94	-44.7	0.444	
12/5/97	1130	0.288/0.21	7.17	7.11	42.6/5.17	-61.0	0.445	SJ
	1138	0.290/0.22	6.46	7.14	42.2/5.19	-59.4	0.446	JP
	1143	0.290/0.22	6.05	7.14	41.5/5.15	-58.6	0.447	
		no flow - tubing kinked. Restart readings						JP
	1149	0.288/0.22	3.89	7.22	44.6/5.76	-56.9	0.460	
	1155	0.303/0.22	4.13	7.24	32.7/4.22	-52.4	0.469	
	1202	0.308/0.23	4.45	7.27	20.7/2.64	-44.3	0.475	
	1206	0.310/0.23	4.51	7.28	18.0/2.32	-38.8	0.477	
	1211	0.311/0.23	4.48	7.29	15.8/2.05	-31.9	0.478	
12/6/97	1133	0.280/0.21	7.91	7.16	9.3/1.10	-73.2	0.431	JP
	1137	0.282/0.21	7.95	7.22	9.2/1.09	-70.0	0.434	
	1143	0.284/0.21	8.06	7.26	9.4/1.11	-63.6	0.437	
	1153	0.285/0.21	8.25	7.31	9.5/1.12	-50.1	0.438	
	1159	0.287/0.21	8.09	7.32	9.6/1.13	-43.2	0.441	

MP 2-C

M&E

FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS-08 B **Test Location** MP - 2C

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/6/97	1255	0.302/0.23	8.22	7.26	8.0/0.94	-70.7	0.465	FA
	1300	0.303/0.23	8.24	7.27	7.9/0.93	-68.5	0.466	
	1305	0.304/0.23	8.13	7.29	7.8/0.92	-60.2	0.468	
	1310	0.304/0.23	8.16	7.29	7.8/0.92	-59.4	0.468	
12/7/97	1235	0.278/0.21	6.70	7.11	8.8/1.07	-67.6	0.432	FA
	1240	0.296/0.22	7.09	7.12	6.6/0.79	-66.0	0.461	
	1245	0.308/0.23	6.95	7.14	6.1/0.74	-58.7	0.474	
	1250	0.305/0.23	7.25	7.14	5.8/0.69	-56.9	0.468	
12/8/97	1300	0.279/0.21	7.48	7.16	24.3/2.88	-39.6	0.442	ABL
	1305	0.304/0.23	8.13	7.18	16.1/1.89	-37.1	0.469	
	1310	0.309/0.23	7.92	7.21	16.1/1.91	-33.6	0.477	
	1315	0.309/0.23	8.29	7.22	16.6/1.94	-28.9	0.476	
	1320	0.312/0.23	8.01	7.23	16.0/1.90	-24.7	0.481	
	1325	0.315/0.23	7.90	7.24	17.4/2.00	-19.6	0.484	
12/9/97	1345	0.315/0.23	8.73	7.20	17.8/2.07	-42.7	0.485	FA
	1350	0.317/0.24	8.96	7.22	17.5/2.03	-39.4	0.489	
	1355	0.321/0.24	8.83	7.24	17.8/2.06	-35.1	0.494	
	1400	0.321/0.24	8.94	7.25	17.5/2.03	-31.6	0.496	
12/10/97	1325	0.313/0.23	4.73	7.07	17.7/2.34	-29.8	0.480	FA
	1330	0.309/0.23	7.40	7.17	26.1/3.13	-33.5	0.478	
	1335	0.319/0.24	7.38	7.22	26.6/3.18	-29.7	0.490	
	1340	0.324/0.24	4.23	7.24	23.7/2.85	-25.5	0.497	
	1345	0.325/0.24	7.46	7.25	24.8/2.97	-21.2	0.499	
12/11/97	1725	0.321/0.24	10.73	7.19	26.6/2.03	-62.7	0.496	MJ
	1730	0.327/0.24	10.53	7.25	29.0/3.21	-46.8	0.499	
	1739	0.327/0.24	10.24	7.29	27.0/3.04	-37.6	0.506	
	1745	SF Sampling						
	1747	0.327/0.24	10.22	7.29	27.6/3.08	-37.9	0.504	
12/12/97	1315	0.339/0.25	7.85	7.18	31.9/3.78	-54.1	0.519	SJ
	1320	0.335/0.25	8.14	7.22	33.2/3.92	-48.1	0.515	
	1325	0.334/0.25	8.04	7.24	33.9/4.01	-40.6	0.514	
	1330	0.335/0.25	7.69	7.25	34.1/4.05	-31.9	0.513	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP-2C **Test Location** SS08B

Date	Time	TDS/SAL Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	SpC Purge Rate (gpm)	Operator
12/14/97	1451	0.335/0.25	8.42	7.17	36.0/4.19	-39.8	0.513	SJ
	1455	0.333/0.25	8.66	7.23	37.2/4.33	-36.3	0.512	
	1500	0.332/0.25	8.80	7.25	38.5/4.47	-30.7	0.510	
	1505	Sampling						

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS 08B **Test Location** MP 2-D

Date	Time	TDS/SAL Water Level (feet bTOC)	°C Temp. (F)	pH	%/ DO (mg/L)	ORP	SpC mS Purge Rate (gpm)	Operator
11/29/97	1450	0.314/0.23	9.59	7.18	12.5/1.42	-25.7	0.482	FA
	1455	0.314/0.23	9.51	7.18	13.0/1.49	-23.1	0.484	
11/29/97	1745	0.324/0.24	9.86	7.20	8.6/0.96	-42.3	0.498	
	1750	0.324/0.24	9.91	7.18	8.2/0.92	-37.9	0.497	
12/1/97	1523	0.313/0.23	8.77	7.25	13.5/1.47	-37.8	0.477	SJ
	1526	0.308/0.23	9.33	7.17	5.6/0.63	-35.7	0.473	
	1531	0.307/0.23	9.65	7.14	4.1/0.47	-38.3	0.474	
	1536	0.308/0.23	9.36	7.13	4.1/0.47	-41.3	0.476	
12/3/97	1234	0.318/0.24	9.50	7.18	4.2/0.47	-37.7	0.489	SJ
	1239	0.318/0.24	9.66	7.17	3.8/0.44	-40.6	0.491	
	1245	0.320/0.24	9.72	7.17	3.8/0.43	-40.9	0.493	
12/4/97	1821	0.311/0.23	7.29	6.61	25.8/3.01	-20.8	0.485	SJ
	1824	0.321/0.24	7.27	7.00	13.2/1.54	-32.5	0.494	
	1827	0.325/0.24	7.48	7.10	9.1/1.08	-33.2	0.500	
12/5/97	1219	0.288/0.21	4.62	7.27	28.4/3.64	-30.8	0.434	JF
	1226	0.258/0.19	4.46	7.24	20.1/2.60	-32.3	0.395	SJ
	1234	0.254/0.19	4.16	7.23	13.5/1.75	-52.6	0.390	
	1241	0.253/0.19	4.09	7.23	11.5/1.49	-57.7	0.390	
12/5/97	1258	0.305/0.23	8.05	7.19	13.1/1.53	-57.2	0.474	SJ
	1304	0.309/0.23	8.35	7.20	11.8/1.37	-48.5	0.475	
	1310	0.309/0.23	8.33	7.19	10.5/1.24	-44.3	0.474	
	1316	0.308/0.23	8.56	7.19	9.4/1.09	-42.6	0.474	
12/6/97	1317	0.304/0.23	7.42	7.27	13.6/1.61	-48.0	0.468	FA
	1325	0.306/0.23	7.97	7.21	6.8/0.81	-42.4	0.472	
	1330	0.305/0.23	8.04	7.20	6.6/0.78	-40.6	0.469	
	1335	0.305/0.23	8.04	7.19	6.8/0.80	-39.8	0.468	

FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B Test Location MP 2-D

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/7/97	1300	0.317/0.24	5.26	7.16	7.7/0.98	-54.2	0.486	FA
	1305	0.281/0.20	6.21	7.15	8.6/1.05	-57.9	0.423	
	1310	0.262/0.19	6.56	7.19	5.5/0.67	-69.3	0.403	
	1315	0.262/0.19	6.56	7.20	5.3/0.64	-75.9	0.402	
	~~1320~~							
12/7/97	1330	0.288/0.21	7.03	7.21	6.4/0.77	-64.2	0.447	FA
	1335	0.294/0.22	7.21	7.19	5.7/0.68	-62.0	0.454	
	1340	0.302/0.22	7.09	7.18	5.6/0.67	-58.6	0.464	
	1345	0.303/0.23	7.26	7.17	5.6/0.67	-57.0	0.468	
12/8/97	1335	0.296/0.22	7.69	7.15	10.8/1.26	-11.4	0.460	~~HSR~~
	1340	0.311/0.23	7.64	7.09	8.9/1.06	-21.4	0.479	
	1345	0.311/0.23	7.87	7.08	9.2/1.09	-25.3	0.479	
	1350	0.312/0.23	7.77	7.09	9.2/1.09	-28.9	0.480	
12/9/97	1405	0.313/0.23	8.29	7.21	16.0/1.83	-25.3	0.477	FA
	1410	0.312/0.23	8.69	7.17	9.2/1.06	-26.5	0.480	
	1415	0.313/0.23	8.73	7.16	8.1/0.94	-31.5	0.482	
	1420	0.313/0.23	8.88	7.16	7.9/0.91	-33.0	0.482	
12/10/97	~~1350~~ 1355	0.341/0.25	5.76	7.27	28.4/3.50	-16.4	0.515	FA
	1355	0.321/0.24	7.30	7.20	7.5/0.90	-17.1	0.494	
	1400	0.317/0.24	7.68	7.16	6.8/0.80	-25.8	0.480	
	1405	0.315/0.24	7.59	7.16	7.1/0.85	-27.5	0.486	
12/11/97	1754	0.309/0.24	10.34	7.13	8.1/0.92	-49.8	0.493	SJ
	1804	0.321/0.24	10.09	7.14	8.4/0.94	-42.3	0.493	
	1809	0.317/0.24	10.01	7.14	7.4/0.83	-45.8	0.485	
	1815	Sampling						
	1819	0.319/0.24	9.50	7.15	7.9/0.90	-49.2	0.488	
12/12/97	1340	0.338/0.25	7.29	7.17	14.6/1.72	-19.9	0.335	SJ
	1345	0.333/0.25	7.84	7.10	8.8/1.03	-26.4	0.511	
	1350	0.332/0.25	8.15	7.09	8.7/1.02	-33.4	0.510	
	1355	0.331/0.25	8.28	7.09	8.7/1.03	-37.9	0.509	

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well MP-2D Test Location SS08 B

Date	Time	~~Water Level~~ ~~(feet bTOC)~~ TDS/SAL	Temp. (F)	pH	DO (mg/L)	ORP	~~Purge Rate~~ ~~(gpm)~~ SpC	Operator
12/14/97	1512	0.328/0.25	8.34	7.13	12.9/1.49	-15.0	0.507	SJ
	1517	0.330/0.25	8.47	7.11	9.7/1.13	-21.3	0.508	
	1522	0.329/0.25	8.59	7.10	9.6/1.12	-26.6	0.507	
	1525	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B **Test Location** MP 2-E

Date	Time	Water Level (feet bTOC)	Temp. (°C)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
11/27/97	~~1405~~ 1505	0.263/0.20	9.17	7.24	10.4/1.19	-68.2	0.405	FA
	1515	0.259/0.19	9.14	7.26	9.6/1.11	-81.0	0.398	
	1520	0.258/0.19	9.21	7.27	9.7/1.11	-86.3	0.396	
11/29/97	1755	0.290/0.22	9.65	7.21	7.7/0.87	-71.8	0.443	
	1800	0.282/0.21	9.68	7.23	7.3/0.83	-81.1	0.433	
12/1/97	1543	0.247/0.18	8.70	7.16	6.3/0.72	-65.6	0.378	SJ
	1549	0.244/0.18	9.08	7.19	3.8/0.44	-90.1	0.376	
	1553	0.242/0.18	9.03	7.21	3.7/0.42	-99.8	0.373	
	1557	0.244/0.18	9.18	7.21	3.5/0.40	-103.5	0.374	
	1600	0.242/0.18	8.79	7.23	3.5/0.41	-107.1	0.374	
12/3/97	1355	0.250/0.19	7.29	7.31	3.2/0.39	-95.5	0.385	ASR
	~~1403~~	0.252/0.19	6.96	7.32	3.2/0.39	-95.9	0.387	
	1408	0.250/0.19	7.01	7.32	3.2/0.39	-96.9	0.385	
	1414	0.251/0.19	6.95	7.32	3.2/0.39	-97.9	0.385	
12/4/97	1838	0.270/0.20	8.54	7.16	14.0/1.61	-49.8	0.413	SJ
	1843	0.268/0.20	8.47	6.61	5.2/0.60	-45.1	0.413	
	1849	0.268/0.20	8.51	6.99	4.3/0.50	-62.7	0.413	
12/5/97	Following data transpered from Sheet of MP 2D SJ							
	1219	0.288/0.21	4.62	7.27	28.4/3.64	-30.8	0.434	JP
	1226	0.258/0.19	4.46	7.24	20.1/2.60	-32.3	0.395	SJ
	1234	0.254/0.19	4.16	7.23	11.5/1.75	-52.6	0.390	
	1241	0.253/0.19	4.09	7.23	13.1/1.99	-57.7	0.390	
12/6/97	1340	0.272/0.20	7.40	7.18	14.2/1.70	-42.4	0.418	FA
	1345	0.263/0.20	7.86	7.19	7.4/0.87	-53.1	0.405	
	1350	0.259/0.19	7.86	7.20	6.2/0.74	-63.6	0.395	
	1355	0.255/0.19	7.86	7.22	6.4/0.76	-72.1	0.391	
	1400	0.254/0.19	7.71	7.23	6.0/0.71	-75.8	0.390	
12/7/97	1320		See Sheet 2-D					
	1325							
	1330							
	1335							
	1340							

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B **Test Location** MP 2-E

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1405	0.273/0.20	7.52	7.13	8.3/0.99	-55.2	0.420	FA
	1410	0.273/0.20	7.40	7.15	8.4/1.01	-62.8	0.421	
	1415	0.276/0.20	7.08	7.16	8.3/1.00	-68.9	0.424	
	1420	0.272/0.20	7.52	7.17	7.7/0.91	-73.1	0.418	
	1425	0.274/0.20	7.68	7.17	7.9/0.94	-75.6	0.423	
12/9/97	1425	0.312/0.23	7.42	7.13	15.1/1.77	-32.3	0.472	FA
	1430	0.308/0.23	8.17	7.10	8.2/0.97	-57.8	0.474	
	1435	0.306/0.23	7.93	7.12	8.0/0.95	-73.1	0.466	
	1440	0.300/0.22	8.22	7.14	7.3/0.86	-83.5	0.461	
	1445	0.299/0.22	8.22	7.15	7.3/0.85	-90.3	0.459	
12/10/97	1410	0.318/0.24	~~7.14~~ 5.29	7.17	14.7/1.85	-29.6	0.474	ASR
	1415	0.303/0.23	7.13	7.13	6.8/0.81	-44.5	0.465	
	1420	0.303/0.23	7.04	7.14	6.6/0.80	-61.3	0.464	
	1425	0.299/0.22	7.44	7.15	6.3/0.76	-71.5	0.463	
12/11/97	1832	0.301/0.22	8.78	7.17	7.4/0.86	-67.9	0.466	SJ
	1837	0.302/0.22	8.41	7.19	7.2/0.84	-74.8	0.462	
	1840	0.298/0.22	9.04	7.20	6.8/0.78	-80.7	0.460	
	1845	Sampling						
	1849	0.295/0.22	8.96	8.99	~~7.21~~ 6.3/0.72	-90.2	0.452	
12/12/97	1405	0.310/0.23	7.31	7.12	10.1/1.22	-45.6	0.473	SJ
	1407	0.307/0.23	7.37	7.14	8.9/1.06	-51.2	0.473	
	1410	0.306/0.23	7.35	7.17	8.3/0.99	-58.3	0.470	
	1415	0.306/0.23	7.55	7.18	8.1/0.96	-65.4	0.469	
12/14/97	1542	0.301/0.22	7.66	7.18	7.6/0.90	-47.6	0.462	SJ
	1549	0.304/0.23	8.39	7.20	8.5/0.99	-54.4	0.467	
	1552	0.304/0.23	8.60	7.20	8.7/1.02	-57.9	0.468	
	1555	Sampling						

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08B **Test Location** MP 3-C

Date	Time	Water Level (feet bTOC) TDS/SAL	Temp. (F) °C	pH	DO (mg/L) %	ORP	Purge Rate (gpm) SpC mS	Operator
11/27/97	1530	0.31/0.23	10.10	7.37	9.6/1.08	-74.1	0.474	FA
	1540	0.309/0.23	10.31	7.38	11.4/1.28	-63.2	0.477	
11/29/97	1905	0.306/0.23	10.43	7.34	7.6/0.84	-82.1	0.472	
	1810	0.310/0.23	10.43	7.37	7.3/0.81	-76.2	0.477	
12/1/97	1657	0.298/0.22	8.61	7.35	3.2/0.39	-56.8	0.460	SJ
	1704	0.301/0.22	8.80	7.35	3.1/0.36	-53.7	0.461	
	1709	0.300/0.22	9.20	7.36	3.1/0.36	-52.1	0.462	
12/3/97	1423	0.297/0.22	7.38	7.38	4.2/0.47	-90.0	0.458	JSL
	1428	0.302/0.23	10.08	7.41	3.3/0.37	-81.9	0.465	
	1433	0.302/0.23	9.98	7.42	3.2/0.36	-73.2	0.465	
	1438	0.304/0.23	9.84	7.42	3.1/0.35	-66.8	0.468	
	1443	0.304/0.23	9.84	7.41	3.1/0.35	-59.5	0.468	
12/4/97	1910	0.291/0.22	9.70	7.35	4.7/0.51	-49.4	0.447	SJ
	1915	0.294/0.22	9.75	7.36	4.4/0.48	-45.6	0.448	
	1920	0.293/0.22	9.61	7.37	3.5/0.39	-40.2	0.450	
12/5/97	1324	0.290/0.22	8.34	7.34	12.9/1.49	-43.4	0.447	SJ
	1338	0.294/0.22	7.52	7.39	10.7/1.28	-32.1	0.452	JP
	1343	0.294/0.22	7.70	7.39	10.2/1.22	-27.9	0.453	
	1348	0.295/0.22	7.82	7.39	9.8/1.17	-25.2	0.454	
12/6/97			See Sheet 2-C					
12/7/97	1345	0.296/0.22	6.93	7.24	17.1/2.07	-55.3	0.453	FA
	1350	0.289/0.21	7.68	7.32	17.9/2.13	-52.2	0.444	
	1355	0.292/0.22	7.68	7.35	19.1/2.28	-46.1	0.449	
	1400	0.292/0.22	7.63	7.35	19.3/2.30	-43.7	0.448	

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GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B **Test Location** MP 3-C

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1430	0.270/0.20	7.75	7.25	23.1/2.77	-74.4	0.414	FA
	1435	0.283/0.21	7.67	7.29	26.7/3.18	-61.4	0.437	
	~~1440~~	~~0.288/0.21~~	~~7.35~~	~~7.31~~	~~26.5/3.19~~	~~-54.5~~	~~0.444~~	
	~~1445~~	~~0.291/0.22~~	~~6.85~~	~~7.33~~	~~26.3/3.20~~	~~-46.3~~	~~0.448~~	no flow
	1450	0.273/0.20	7.83	7.32	24.4/2.91	-39.4	0.422	
	1455	0.287/0.21	8.05	7.35	27.6/3.26	-35.0	0.441	
	1500	0.287/0.21	8.39	7.35	26.3/3.08	-29.9	0.441	
12/9/97	1450	0.281/0.21	8.33	7.25	41.0/4.85	-88.2	0.432	FA
	1455	0.280/0.21	8.23	7.28	45.8/5.39	-77.6	0.429	
	1500	0.280/0.21	8.38	7.30	44.8/5.25	-62.3	0.432	
	1505	0.282/0.21	8.51	7.32	42.0/4.91	-47.6	0.435	
12/10/97	1435	0.324/0.24	5.66	7.22	31.3/3.99	-72.1	0.463	FA
	1440	0.284/0.21	7.57	7.29	41.7/4.98	-63.7	0.435	
	1445	0.284/0.21	7.64	7.31	43.1/5.15	-51.9	0.438	
	1450	0.281/0.21	7.86	7.32	42.7/5.07	-43.2	0.433	
12/11/97	1540	0.331/0.24	6.79	7.20	33.7/4.04	-75.0	0.474	ASR
	1545	0.296/0.22	7.68	7.27	35.0/4.17	-66.2	0.455	
	1550	0.296/0.22	7.33	7.30	37.0/4.45	-56.9	0.455	
	1555	SF6 Sampling N8B3CGW002						
	1600	0.293/0.22	7.10	7.31	37.8/4.57	-40.3	0.450	
12/12/97	1208	0.316/0.23	8.81	7.23	29.3/3.39	-63.9	0.477	SJ
	1213	0.304/0.23	8.98	7.29	30.8/3.56	-55.6	0.467	
	1219	0.302/0.23	9.29	7.31	32.1/3.66	-44.8	0.466	
	1225	0.303/0.23	9.05	7.32	32.9/3.79	-38.9	0.467	
12/14/97	1400	0.315/0.23	7.77	7.31	26.7/3.15	-53.5	0.479	SJ
	1405	0.303/0.23	7.42	7.33	25.1/3.01	-47.6	0.464	
	1410	0.302/0.23	7.39	7.34	25.4/3.05	-46.1	0.464	
	1415	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS-08B **Test Location** MP 3-D

Date	Time	Water Level (feet bTOC) TDS/SAL	Temp. °C (F)	pH	DO (mg/L) %	ORP	Purge Rate (gpm) Sp Cnd	Operator
11/27/97	1545	0.274/0.20	9.43	7.19	~~127~~/1.11 9.7	-71.3	0.422	FA
	~~1550~~							
	~~1630~~	~~0.265/0.20~~	~~9.71~~	~~7.22~~	~~7.3/0.83~~	~~-82.3~~	~~0.412~~	
	~~1635~~	~~0.267/0.20~~	~~9.73~~	~~7.22~~	~~7.5/0.85~~	~~-80.3~~	~~0.411~~	
11/29/97	1815	0.275/0.20	10.08	7.19	6.8/0.76	-86.8	0.423	
	1820	0.273/0.20	10.07	7.20	6.9/0.78	-91.6	0.420	
12/1/97	1720	0.259/0.19	8.87	7.17	4.2/0.48	-88.2	0.399	SJ
	1725	0.266/0.19	8.74	7.16	3.5/0.40	-96.9	0.401	
	1739	0.262/0.19	8.64	7.18	3.1/0.36	-110.2	0.404	
12/3/97	1449	0.272/0.20	9.63	7.24	3.9/0.44	-75.9	0.418	~~ASR~~
	~~1457~~	0.269/0.20	9.79	7.22	3.1/0.35	-88.7	0.414	
	1501	0.270/0.20	9.75	7.23	3.0/0.34	-91.4	0.415	
	1506	0.272/0.20	9.54	7.24	3.0/0.34	-95.1	0.418	
	1512	0.272/0.20	9.46	7.24	3.0/0.34	-96.5	0.419	
12/4/97	1924	0.279/0.21	8.94	7.20	~~10.1/0.98~~ 0.98	-54.4	0.434	SJ
	1928	0.282/0.21	8.95	7.17	6.3/0.71	-61.9	0.436	
	1933	0.286/0.21	8.83	7.17	4.3/0.50	-75.9	0.441	
12/5/97	1356	0.286/0.21	7.44	7.19	12.5/1.48	-48.6	0.449	JP
	1402	0.297/0.22	7.69	7.15	11.5/1.37	-75.3	0.453	
	1407	0.297/0.22	7.57	7.15	10.9/1.30	-83.9	0.457	
	1424	0.296/0.22	7.58	7.16	8.9/1.06	-97.9	0.456	
12/6/97	1207	0.277/0.21	7.57	7.20	11.2/1.32	-37.8	0.425	FA
	1215	0.275/0.20	7.81	7.15	7.0/0.84	-58.0	0.423	
	1220	0.278/0.21	8.03	7.10	~~8.6~~/0.78	-74.1	0.428	
	~~1225~~							
12/7/97	1405	0.291/0.22	7.54	7.17	11.3/1.31	-39.3	0.446	FA
	1410	0.296/0.22	7.78	7.10	5.8/0.69	-62.3	0.455	
	1415	0.297/0.22	7.63	7.10	5.8/0.68	-67.8	0.456	
	1420	0.296/0.22	7.99	7.09	5.7/0.68	-72.4	0.456	

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FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS 08B Test Location MP 3-D

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1505	0.295/0.22	8.26	7.05	8.3/0.97	-50.4	0.455	FA
	1510	0.297/0.22	8.29	7.05	8.3/0.97	-55.9	0.458	
	1515	0.301/0.22	8.25	7.05	8.4/0.99	-62.4	0.463	
	1520	0.303/0.23	8.08	7.05	8.5/1.00	-66.8	0.465	
12/9/97	1510	0.308/0.23	8.10	7.08	17.0/1.95	-39.0	0.475	FA
	1515	0.314/0.24	8.43	7.05	11.3/1.43	-64.5	0.485	
	1520	0.322/0.24	8.72	7.03	7.9/0.92	-77.6	0.404	
	1525	0.324/0.24	8.31	7.04	5.2/0.96	-84.5	0.498	
	1530	0.321/0.24	8.53	7.04	7.6/0.88	-89.5	0.494	
12/10/97	1455	0.285/021	6.63	7.34	48.5/5.94	-32.0	0.437	FA
	1500	0.284/0.21	6.61	7.34	50.0/6.12	-25.2	0.438	
	1505	0287/0.21	6.34	7.34	49.1/6.05	-19.5	0.441	
	1510	0.286/0.21	6.11	7.34	47.5/5.89	-15.5	0.441	
12/11/97	1605	0.297/0.22	6.31	7.33	49.3/6.11	-31.5	0.459	~~ABR~~
	1610	0.319/0.24	4.72	7.20	44.1/5.66	-24.3	0.492	
	1615	0.324/0.24	4.12	7.16	36.9/4.83	-25.9	0.499	
	1620	0.322/0.24	3.52	7.15	31.2/4.14	-26.8	0.494	
		Pipe Frozen and removed the ICE der and started again						
	1700	0.347/0.26	9.37	7.01	9.3/1.06	-44.9	0.535	
	1707	0.346/0.26	9.77	7.05	8.6/0.97	-54.8	0.527	
	1712	0.347/0.26	9.42	7.01	9.2/1.05	-61.1	0.535	
12/12/97	1246	0.354/0.27	8.29	7.00	9.6/1.13	-50.8	0.544	SJ
	1252	0.352/0.26	8.28	7.00	9.8/1.15	-54.5	0.543	
	1257	0.355/0.27	8.18	7.00	10.7/1.25	-56.0	0.545	
	1303	0.355/0.27	7.92	7.00	11.2/1.32	-57.3	0.544	
12/14/97	1427	0.361/0.27	7.47	7.06	12.9/1.55	-19.6	0.566	SJ
	1431	0.369/0.28	6.82	7.02	11.2/1.36	-25.2	0.567	
	1435	0.369/0.28	6.92	7.02	11.0/1.34	-26.6	0.567	
	1440	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B **Test Location** MP 4-C

Date	Time	Water Level (feet bTOC) TDS/SAL	Temp. (F) °C	pH	DO (mg/L) %/	ORP	Purge Rate (gpm) SpC mS	Operator
11/27/97	1650	0.330/0.25	9.89	7.34	29.4/3.33	-55.8	0.509	FA
	~~1655~~/1700	0.335/0.25	9.77	7.38	30.1/3.41	-39.2	0.515	
11/29/97	1700	0.346/0.26	10.01	7.37	15.8/1.78	-40.4	0.533	
	1705	0.346/0.26	10.03	7.37	15.2/1.71	-33.7	0.532	
12/1/97	1800	0.327/0.24	9.09	7.34	12.0/1.39	-75.6	0.506	SJ
	1805	0.330/0.25	8.78	7.34	12.4/1.43	-68.7	0.505	
	1811	0.328/0.25	8.94	7.35	12.7/1.47	-62.5	0.507	
12/3/97	1524	0.339/0.25	8.76	7.39	11.8/1.37	-66.9	0.522	SJ
	1530	0.339/0.25	8.91	7.40	12.4/1.43	-59.1	0.522	
	1535	0.341/0.25	8.67	7.40	12.7/1.48	-51.0	0.524	
	1541	0.341/0.26	8.80	7.41	13.0/1.51	-42.9	0.529	
12/4/97	1948	0.327/0.22	8.76	7.83	18.4/2.07	-58.4	0.476	SJ
	1953	0.391/0.24	9.11	7.26	16.3/2.04	-23.1	0.505	
	1958	0.329/0.25	9.24	7.27	15.8/1.81	-33.6	0.509	
12/5/97	1428	0.311/0.23	7.22	7.24	10.2/1.22	-98.4	0.489	JP
	1433	0.330/0.25	7.34	7.32	11.3/1.34	-87.0	0.508	
	1438	0.334/0.25	7.98	7.35	13.1/1.56	-74.0	0.514	
	1443	0.334/0.25	8.22	7.36	14.3/1.68	-64.3	0.513	
	1448	0.337/0.25	8.04	7.37	16.0/1.90	-56.6	0.518	
12/6/97	1405	0.282/0.21	5.75	7.23	18.6/2.40	-77.3	0.443	FA
	1410	0.289/0.21	7.56	7.24	29.5/3.53	-73.4	0.446	
	1415	0.318/0.24	7.74	7.28	30.6/3.64	-60.8	0.490	
	1420	0.322/0.24	8.14	7.31	30.6/3.61	-51.5	0.496	
12/7/97	1425	0.316/0.24	6.07	7.15	23.9/3.11	-74.9	0.487	FA
	1430	0.313/0.23	7.59	7.24	41.2/4.93	-63.0	0.484	
	1435	0.321/0.24	7.74	7.30	40.5/4.83	-48.6	0.495	
	1440	0.323/0.24	7.78	7.32	41.0/4.87	-43.2	0.499	
	1445	0.326/0.24	7.70	7.33	40.4/4.81	-35.6	0.503	

M&E

FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08B Test Location MP 4-C

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1525	0.316/0.24	7.78	7.15	49.9/6.00	-62.6	0.483	FA
	1530	0.318/0.24	7.99	7.26	66.1/7.11	-45.0	0.491	
	1535	0.326/0.24	7.80	7.30	59.5/7.06	-32.5	0.501	
	1540	0.327/0.24	7.81	7.32	58.1/6.91	-26.2	0.504	
12/9/97	1535	0.322/0.24	7.19	7.06	9.7/1.22	-91.4	0.504	FA
	1540	0.316/0.24	8.52	7.25	71.5/8.36	-68.3	0.489	
	1545	0.328/0.24	8.05	7.30	73.6/8.69	-55.5	0.505	
	1550	0.329/0.25	8.04	7.31	73.3/8.64	-49.3	0.506	
	1555	0.331/0.25	8.01	7.33	72.7/8.60	-39.9	0.511	
12/10/97	1515	0.342/0.25	3.31	7.14	32.8/4.28	-15.0	0.511	FA
	1520	0.333/0.25	6.84	7.06	7.5/0.91	-39.7	0.514	
	1525	0.348/0.26	7.05	7.07	7.2/0.88	-56.4	0.538	
	1530	0.354/0.26	6.81	7.07	7.3/0.89	-62.7	0.546	
12/10/97	1615	0.295/0.22	6.69	7.24	500/6.26	-74.8	0.456	FA
	1620	0.300/0.22	7.62	7.25	74.2/8.88	-59.1	0.465	
	1625	0.326/0.24	7.55	4.32	77.0/9.21	-39.0	0.504	
	1630	0.330/0.25	7.71	7.34	77.4/9.23	-26.2	0.510	
12/11/97	1451	0.293/0.22	6.05	7.14	68.3/8.53	-55.9	0.451	SJ
	1455	0.304/0.23	6.32	7.20	74.1/9.21	-49.2	0.476	
	1457	0.315/0.24	6.61	7.23	79.9/9.78	-42.0	0.489	
	1500	0.319/0.24	7.10	7.25	82.5/9.96	-35.0	0.496	
	1505	Sampling						
	1507	0.335/0.25	6.56	7.30	82.6/10.11	-19.4	0.518	
12/12/97	1115	0.311/0.23	8.91	7.21	77.2/8.94	-37.1	0.486	SJ
	1120	0.328/0.25	9.14	7.27	80.4/9.23	-25.3	0.504	
	1125	0.337/0.25	9.12	7.30	79.5/9.15	-14.4	0.519	
	1130	0.341/0.26	9.10	7.32	79.5/9.15	-6.9	0.524	
12/14/97	1248	0.318/0.24	8.65	7.21	89.8/10.46	-31.2	0.497	SJ
	1254	0.334/0.25	8.80	7.29	98.4/11.41	-17.6	0.514	
	1259	0.340/0.25	8.67	7.32	98.0/11.39	-4.3	0.523	
	1305	Sampling						

4D

M&E

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08-B **Test Location** MP 4-D

Date	Time	TOS/SAL Water Level (feet bTOC)	Temp. (F)	pH	o/o DO (mg/L)	ORP	SpC mS Purge Rate (gpm)	Operator
11/27/97	510	0.317/0.24	4.37	7.17	18.3/2.08	-64.1	0.487	FA
	520	0.315/0.24	9.61	7.15	18.2/2.04	-71.1	0.486	
11/29/97	1715	0.333/0.25	10.0	7.15	7.8/0.88	-75.6	0.511	
	1720	0.333/0.25	9.90	7.16	8.3/0.94	-86.4	0.512	
12/1/97	1817	0.331/0.25	8.64	7.15	5.6/0.65	-76.6	0.506	SJ
	1822	0.328/0.25	8.27	7.14	4.1/0.48	-89.7	0.506	
	1827	0.330/0.25	8.18	7.14	3.5/0.41	-98.3	0.507	
12/3/97	1555	0.354/0.26	8.71	7.18	3.4/0.40	-82.9	0.544	SJ
	1600	0.354/0.26	8.59	7.20	3.2/0.37	-89.8	0.545	
	1607	0.353/0.26	8.72	7.21	3.1/0.36	-92.3	0.543	
	1615	Sampling						
	1621	0.353/0.26	8.63	7.22	3.0/0.35	-93.9	0.543	
12/4/97	2009	0.362/0.27	5.72	7.19	33.0/4.07	-30.4	0.569	SJ
	2012	0.371/0.28	5.35	7.16	26.4/3.28	-38.2	0.572	
	2015	0.373/0.28	4.72	7.13	14.7/1.85	-53.1	0.573	
12/5/97	1455	0.358/0.27	7.63	7.15	15.7/1.86	-61.2	—	SF
	1500	0.369/0.28	7.99	7.13	13.0/1.54	-82.10	0.568	
	1505	0.368/0.28	7.79	7.14	12.5/1.49	-92.7	0.566	
	1510	0.361/0.28	7.78	7.15	11.9/1.41	-97.5	0.566	
	1515	0.366/0.27	7.79	7.16	10.9/1.29	-101.5	0.563	
12/6/97	1425	0.333/0.25	7.32	7.29	27.4/3.20	-40.0	0.527	FA
	1430	0.346/0.26	8.06	7.10	11.6/1.37	-44.9	0.533	
	1435	0.354/0.26	8.11	7.08	7.1/0.84	-59.6	0.545	
	1440	0.355/0.27	8.25	7.08	6.9/0.82	-69.0	0.542	
12/7/97	1450	0.340/0.25	7.03	7.18	25.7/2.96	-24.1	0.522	FA
	1455	0.353/0.26	7.78	7.10	6.8/0.80	-56.8	0.545	
	1600	0.358/0.27	7.99	7.10	6.4/0.77	-64.9	0.552	
	1505	0.360/0.27	7.95	7.10	6.2/0.74	-72.0	0.557	

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FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B Test Location MP 4-D

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1540	0.351/0.26	7.31	7.13	25.2/3.02	-19.8	0.539	FA
	1545	0.360/0.27	7.70	7.08	8.7/1.04	-55.6	0.555	
	1550	0.363/0.27	7.81	7.08	8.6/1.02	-64.5	0.558	
	1555	0.364/0.27	7.75	7.08	8.6/1.02	-68.6	0.561	
12/9/97	1600	0.351/0.26	7.81	7.08	12.8/1.50	-45.1	0.540	FA
	1605	0.360/0.27	7.63	7.07	8.9/1.07	-59.8	0.556	
	1610	0.363/0.27	7.97	7.07	8.2/0.97	-72.1	0.558	
	1615	0.363/0.27	8.13	7.07	8.0/0.94	-79.2	0.559	
12/10/97	1535							
	1540	See 4-C Sheet						
	1545							
	1550							
12/11/97	1515	0.345/0.26	6.58	7.07	11.9/1.44	-32.0	0.539	ABR
	1520	0.352/0.26	6.61	7.04	7.5/0.91	-52.0	0.539	
	1525	0.354/0.26	7.40	7.04	7.8/0.93	-63.8	0.543	
	1530	0.356/0.27	7.67	7.04	7.7/0.92	-70.4	0.548	
	1530	Sampling for SF_6: N8B4D GW002						
	1535	0.358/0.27	7.35	7.05	7.5/0.90	-74.1	0.552	
12/12/97	1137	0.360/0.27	8.51	7.18	20.6/2.29	-1.7	0.551	SJ
	1142	0.357/0.27	9.08	7.07	8.3/0.95	-38.1	0.549	
	1147	0.357/0.27	9.26	7.06	8.2/0.94	-49.6	0.549	
	1152	0.361/0.27	9.18	7.07	8.8/1.01	-59.1	0.556	
	1158	0.363/0.27	9.26	7.07	9.1/1.05	-65.3	0.561	
12/14/97	1335	0.356/0.27	8.32	7.09	9.0/1.05	-54.3	0.546	SJ
	1340	0.354/0.26	8.61	7.08	8.8/1.03	-56.2	0.544	
	1345	0.353/0.26	8.79	7.08	8.8/1.02	-57.4	0.543	
	1350	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08B **Test Location** MP5-C

Date	Time	TDS/SAL Water Level (feet bTOC)	°C Temp. (F)	pH	% DO (mg/L)	ORP	Sp(mS) Purge Rate (gpm)	Operator
~~11/27~~	1726	0.226/0.12	10.04	7.48	29.8/3.35	-55.9	0.342	FA
11/27/97	1735	0.229/0.17	10.11	7.52	30.0/3.38	-40.3	0.352	
11/29/97	1830	0.230/0.17	10.51	7.39	12.3/1.38	-88.9	0.354	
	1835	0.232/0.17	10.53	7.48	13.6/1.51	-77.2	0.356	
12/1/97	1834	0.216/0.16	8.84	7.32	19.6/2.16	-96.9	0.329	SJ
	1839	0.217/0.16	9.65	7.47	13.3/1.52	-89.4	0.334	
	1844	0.219/0.16	9.21	7.50	13.9/1.60	-81.9	0.338	
12/3/97	1632	0.223/0.16	9.19	7.54	12.4/1.43	-79.9	0.341	SJ
	1637	0.222/0.16	9.37	7.56	13.3/1.53	-72.2	0.342	
	1645	0.225/0.17	9.51	7.58	14.4/1.64	-60.3	0.347	
	1648	0.225/0.17	9.55	7.58	14.5/1.65	-57.8	0.346	
12/4/97	2025	0.235/0.17	9.74	7.19	16.6/1.87	-48.1	0.362	SJ
	2029	0.235/0.17	9.79	7.42	15.8/1.78	-50.9	0.360	
	2033	0.232/0.17	9.81	7.51	15.3/1.74	-47.0	0.356	
12/5/97	1524	0.234/0.17	7.97	7.47	11.3/1.34	-104.1	0.348	JP
	1531	0.225/0.17	8.20	7.53	13.1/1.55	-88.1	0.346	
	1538	0.227/0.17	8.43	7.54	14.1/1.66	-76.1	0.350	
	1548	0.230/0.17	8.25	7.56	15.9/1.87	-63.8	0.353	
12/6/97	1450	0.353/0.26	6.94	7.10	13.9/1.70	-75.5	0.523	FA
	1455	0.251/0.19	8.23	7.29	17.7/2.09	-81.1	0.382	
	1500	0.234/0.17	8.62	7.38	17.7/2.06	-79.5	0.358	
	1505	0.230/0.17	8.55	7.42	18.1/2.12	-75.6	0.353	
	1510	0.226/0.17	8.74	7.46	18.6/2.16	-69.3	0.347	
12/7/97	1505	0.332/0.24	6.25	7.30	15.5/1.91	-89.9	0.478	FA
	1510	0.231/0.17	8.15	7.48	18.4/2.17	-75.0	0.355	
	1515	0.228/0.17	7.96	7.50	19.2/2.27	-68.9	0.351	
	1520	0.225/0.17	8.14	7.51	19.6/2.31	-62.5	0.346	
	1525	0.224/0.17	8.29	7.53	20.0/2.35	-57.8	0.345	

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FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08B **Test Location** MP 5-C

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1605	0.366/0.27	5.66	7.24	17.0/2.13	-80.8	0.565	FA
	1610	0.242/0.18	8.20	7.36	22.4/2.63	-77.0	0.365	
	1615	0.223/0.16	8.49	7.45	24.9/2.91	-67.4	0.342	
	1620	0.220/0.16	8.73	7.49	25.7/3.00	-55.9	0.339	
	1625	0.221/0.16	8.52	7.50	26.6/3.11	-50.2	0.341	
12/9/97	1620	0.262/0.19	8.34	7.32	28.2/3.33	-90.7	0.397	FA
	1625	0.243/0.18	8.54	7.40	30.3/3.55	-84.5	0.371	
	1630	0.237/0.18	8.35	7.45	30.1/3.53	-77.1	0.364	
	1635	0.233/0.17	8.40	7.48	30.3/3.54	-69.7	0.356	
12/10/97	1535	0.357/0.27	5.34	7.48	33.2/3.02	-75.6	0.487	FA
	1540	0.299/0.22	4.97	7.18	26.2/3.36	-64.5	0.458	~~FA~~
	1545	0.273/0.20	4.92	7.22	29.8/3.82	-55.1	0.418	
	1550	0.269/0.20	4.84	7.22	30.5/3.91	-54.3	0.412	
12/11/97	1342	0.231/0.17	8.18	7.20	30.7/3.61	95.2	0.354	SJ
	1355	0.232/0.17	8.10	7.25	31.0/3.64	94.7	0.355	
	1403	0.231/0.17	8.15	7.27	31.1/3.67	94.7	0.357	
	1408	0.231/0.17	8.52	7.32	31.2/3.65	94.2	0.356	
	1411	0.232/0.17	8.54	7.35	31.5/3.67	94.1	0.358	
	1415	Sampling						
			Note: ORR readings are unusual					SJ
12/12/97	1014	0.229/0.16	9.65	7.07	29.2/3.32	137.3	0.355	SJ
	1020	0.232/0.17	9.76	7.16	29.2/3.31	135.6	0.358	
	1031	0.235/0.17	9.77	7.32	30.0/3.41	130.2	0.363	
	1035	0.236/0.17	10.12	7.36	30.4/3.42	128.3	0.363	
12/14/97	1138	0.201/0.15	9.05	6.89	24.7/2.85	118.4	0.313	SJ
	1144	0.213/0.16	9.13	7.06	25.6/2.95	114.7	0.328	
	1152	0.230/0.17	7.78	7.23	25.7/3.07	113.5	0.358	
	1157	0.231/0.17	7.31	7.28	24.7/2.98	111.2	0.355	
	1200	Sampling						

GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B **Test Location** MP 5-D

Date	Time	TOS/SAC Water Level (feet bTOC)	Temp. (F)	pH	%/ DO (mg/L)	ORP	Spc ms Purge Rate (gpm)	Operator
11/27/97	1745	0.220/0.16	9.89	7.28	21.6/2.45	-66.9	0.338	FA
	1755	0.221/0.16	9.88	7.26	21.9/2.47	-67.8	0.340	
11/29/97	1845	0.220/0.16	10.07	7.33	5.7/0.65	-86.2	0.338	
	1850	0.220/0.16	10.03	7.33	6.0/0.68	-93.6	0.339	
12/1/97	1850	0.208/0.15	8.76	7.43	10.7/1.19	-71.5	0.317	SJ
	1856	0.206/0.15	8.89	7.32	3.9/0.45	-87.9	0.317	
	1900	0.207/0.15	8.66	7.31	3.5/0.40	-93.3	0.319	
	1906	0.208/0.15	9.12	7.32	3.2/0.37	-99.1	0.321	
12/3/97	1657	0.212/0.16	9.21	7.38	3.6/0.42	-76.7	0.325	SJ
	1702	0.210/0.16	9.26	7.37	3.1/0.35	-86.4	0.323	
	1707	0.210/0.16	9.45	7.37	2.9/0.33	-91.9	0.323	
	1712	sampling						
	1715	sampling						
	1718	0.214/0.16	9.84	7.38	2.8/0.31	-100.0	0.329	
12/4/97	2039	0.205/0.15	9.48	7.36	6.4/0.66	-64.9	0.315	SJ
	2042	0.205/0.15	9.51	7.34	3.9/0.43	-74.1	0.315	
	2045	0.206/0.15	9.46	7.34	3.3/0.37	-82.9	0.318	
	2049	0.207/0.15	9.41	7.34	3.2/0.37	-86.8	0.319	
12/5/97	1555	0.210/0.16	7.98	7.37	14.8/1.75	-77.8	0.323	JP
	1600	0.206/0.15	8.26	7.35	12.9/1.51	-91.9	0.318	
	1606	0.206/0.15	7.93	7.35	11.3/1.34	-101.1	0.317	
	1615	0.208/0.15	7.98	7.36	9.8/1.16	-108.7	0.320	
12/6/97	1515	0.215/0.16	7.63	7.48	16.9/1.98	-60.9	0.325	FA
	1520	0.207/0.15	8.08	7.40	8.2/0.96	-62.3	0.317	
	1525	0.201/0.15	8.11	7.35	5.9/0.70	-70.3	0.309	
	1530	0.200/0.15	8.19	7.34	5.4/0.63	-77.5	0.307	
	1535	0.200/0.15	8.14	7.34	5.3/0.63	-79.8	0.307	
12/7/97	1530	0.209/0.15	8.25	7.37	6.6/0.77	-60.2	0.321	FA
	1535	0.209/0.15	8.14	7.35	5.4/0.64	-72.4	0.321	
	1540	0.208/0.15	8.17	7.35	5.2/0.62	-78.3	0.320	
	~~1545~~	100 KS	Stable					
	~~1550~~							

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FIGURE 6-8
DATA SHEET 1 - GROUNDWATER MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Groundwater Monitoring Well SS08 B Test Location MP 5D

Date	Time	Water Level (feet bTOC)	Temp. (F)	pH	DO (mg/L)	ORP	Purge Rate (gpm)	Operator
12/8/97	1630	0.222/0.16	7.04	7.43	20.5/2.37	-41.3	0.333	FA
	1635	0.216/0.16	7.99	7.31	7.0/0.82	-64.4	0.332	
	1640	0.213/0.16	8.51	7.30	6.6/0.78	-70.7	0.327	
	1645	0.212/0.16	8.79	7.31	6.8/0.79	-76.9	0.326	
	1650	0.213/0.16	8.38	7.31	7.1/0.84	-80.5	0.329	
12/9/97	1640	0.237/0.17	6.12	7.49	32.7/3.94	-59.6	0.352	FA
	1645	0.222/0.16	8.06	7.31	7.8/0.92	-72.5	0.344	
	1650	0.222/0.16	8.10	7.30	6.9/0.81	-84.7	0.341	
	1655	0.221/0.16	7.94	7.31	6.8/0.81	-93.1	0.339	
12/10/97	1555	0.224/0.17	7.74	7.27	8.3/0.98	-60.9	0.346	FA
	1600	0.226/0.17	7.77	7.26	7.8/0.93	-69.6	0.349	
	1605	0.225/0.17	7.78	7.28	7.6/0.91	-77.4	0.345	
	1610	0.224/0.17	7.69	7.28	7.6/0.91	-80.6	0.344	
12/11/97	1425	0.234/0.17	7.72	7.17	9.3/1.08	49.6	0.360	SJ
	1430	0.234/0.17	8.08	7.13	6.6/0.78	-1.3	0.362	
	1433	0.236/0.17	7.89	7.12	6.4/0.76	-25.7	0.362	
	1435	0.234/0.17	8.09	7.12	6.2/0.73	-35.8	0.360	
	1437	0.234/0.17	8.11	7.13	6.2/0.73	-48.6	0.359	
	1440	0.233/0.17	8.18	7.14	6.2/0.73	-55.9	0.358	
	1445	Sampling						
12/12/97	1045	0.245/0.18	9.73	7.13	6.2/0.70	67.7	0.376	SJ
	1051	0.244/0.18	9.45	7.11	5.1/0.58	-7.2	0.373	
	1056	0.241/0.18	9.54	7.14	5.0/0.57	-35.1	0.371	
	1102	0.239/0.18	9.42	7.17	5.1/0.58	-54.7	0.367	
12/14/97	1211	0.240/0.18	9.28	7.11	4.5/0.51	67.1	0.370	SJ
	1216	0.240/0.18	9.17	7.09	3.6/0.41	8.8	0.368	
	1224	0.238/0.18	8.73	7.13	3.7/0.43	-27.0	0.365	
	1230	Sampling						

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

[* - I think these are incorrect residual PPM in old piping! Changed pipe on 12/9]

Vapor Monitoring Well SS08B **Test Location** MP 1-A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1355	–	–	20.4	0.0	0.1	0.0	203*	FA
29/FA	1405			20.4	0.0	0.0	0.0	162*	
11/28/97	1600			20.3	0.0	0.0	0.0	11.4	
	1605			20.3	0.0	0.0	0.0	9.5	
12/1/97	1358			20.1	0.1	0		16.0	SJ
	1408			20.2	0.1	0		18.0	
	1411			20.3	0.1	0		18.0	
12/3/97	1026			20.4	0	0		1.0	SJ
	1029			20.4	0	0		1.0	
	1032			20.3	0	0		3.2	
	1036			20.2	0	0		5.4	
12/4/97	1640			20.7	0	0	0	8.2-10.6	SJ
	1643			20.7	0	0	0	8.2-10.6	
	1647			20.6	0	0	0	8.2-10.6	
	1654			20.6	0	0	0	3.5-5.9	
12/5/97	0924			20.5	0	0	0	2.1	SJ
	0926			20.5	0	0	0	2.1	
	0933			20.4	0	0	0	2.7	
	0936			20.4	0	0	0	3-5	
12/6/97	1015			PURGING					FA
	10 20			20.3	0.0	0.0	0.0	2.6	
	10 25			20.3	0.0	0.0	0.0	2.4	
12/7/97	10 30			20.4	0.0	0.0	0.0	0.8	FA
	10 35			20.4	0.0	0.0	0.0	0.5	
	10 40			20.4	0.0	0.0	0.0	0.5	
12/8/97	1135			20.6	0.0	0.0	0.0	0.9	FA
	1140			20.5	0.0	0.0	0.0	0.9	
	1145			20.6	0.0	0.0	0.0	0.9	
12/9/97	12 30			20.2	0.0	0.0	0.0	0.7	FA
	12 35			20.2	0.0	0.0	0.0	0.7	
	~~12 40~~								

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08 B **Test Location** MP 1A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1145			20.4	0.0	0.0	0.0	2.4	FA
	1150			20.4	0.0	0.0	0.0	2.4	
	1155			20.4	0.0	0.0	0.0	2.4	
12/11/97	1700			20.3	0.0	0.0	0.0	2.4	FA
	1705			20.3	0.0	0.0	0.0	2.4-2.8	
	1713			20.3	0.0	0.0	0.0	2.5	
12/12/97	0914			20.3	0	0	0.14	4.3	SJ
	0920			20.3	0	0	0.14	4.6	
	0923			20.2	0	0	0.15	4.8	
12/14/97	1038			20.4	0	0	0.15	4.0	SJ
	1046			20.4	0	0	0.17	4.8	
	1050			20.4	0	0	0.17	4.8	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B **Test Location** MP 1-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1620	—	—	20.4	0.0	0.0	0.0	133 *	FA
29ft	1626	—	—	20.4	0.0	0.0	0.0	120 *	
11/28/97	1610	—	—	20.2	0.0	0.0	0.0	5.7	
	1615	—	—	20.2	0.0	0.0	0.0	5.7	
12/1/97	1418			20.3	0.2	0		12.0	SJ
	1421			20.3	0.2	0		12.0	
	1424			20.3	0.2	0		14.0	
12/3/97	1042			20.1	0.0	0.0		36.2	SJ
	1046			20.1	0.0	0.0		3.2	
	1053			20.1	0.0	0.0	—	1.0-3.2	SP
	1056			20.1	0.0	0.0	—	3.2	
12/4/97	1716			19.8	0.3	0	0.87	3.5-5.9	SJ
	1720			19.9	0.3	0	0.90	6.9	
	1723			19.8	0.3	0	0.92	6.8	
	1737			19.9	0.2	0	0.91	4.3	
12/5/97	0950			19.8	0.0	0	1.5	2-8	SJ
	0954			19.8	0	0	1-5	3.1	
	0959			19.8	0	0	1-5	3.0	
12/6/97	1025			20.3	0.0	0.0	0.0	1.6	FA
	1030			20.3	0.0	0.0	0.0	2.0	
	1035			20.3	0.0	0.0	0.0	2.0	
12/7/97	1045			20.0	0.0	0.0	1.7	0.5	FA
	1050			20.0	0.0	0.0	1.7	0.3	
	1055			20.0	0.0	0.0	1.7	0.3	
12/8/97	1155			20.2	0.0	0.0	1.1	0.9	FA
	1200			20.1	0.0	0.0	1.1	0.9	
	1205			20.1	0.0	0.0	1.1	0.9	
12/9/97	1240			20.0	0.0	0.0	1.1	0.3	FA
	1245			20.0	0.0	0.0	1.0	0.7	

* PID Malfunction changed to thermal

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B **Test Location** MP / B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1240			20.4	0.0	0.0	0.30	0.0	FA
	1245			20.4	0.0	0.0	0.42	0.0	
	1250			20.4	0.0	0.0	0.78	0.0	
	1255			20.4	0.0	0.0	0.85	0.0	
[illegible]	1727			20.5	0.0	0.0	1.00	1.5	[illegible]
	1734			19.9	0.0	0.0	1.00	1.9	
	1740			19.9	0.0	0.0	0.98	1.5-1.9	
12/14/97	0936			19.9	0	0	0.62	3.8	SJ
	0940			19.9	0	0	0.62	4.3	
	0945			19.9	0	0	0.61	3.8	
12/14/97	1104			19.9	0	0	0.18	3.3	SJ
	1109			19.9	0	0	0.17	3.3	
	1114			19.8	0	0	0.17	2.5	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-08 B **Test Location** MP 2-A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1435	—	—	20.4	0.0	00	0.0	116.0 *	FA
	1440	—	—	20.4	0.0	0.0	0.0	109.0 *	
~~11/28/97~~	~~1620~~	~~—~~	~~—~~	~~20.2~~	~~0.0~~	~~0.0~~	~~0.0~~	~~3.8~~	
	~~1625~~	~~—~~	~~—~~	~~20.2~~	~~0.0~~	~~0.0~~	~~0.0~~	~~5.7~~	
11/29/97	1715	—	—	20.0	0.0	0.0	0.0	9.5	
	1720	—	—	20.0	0.0	00	0.0	7.6	
12/1/97	1429			20.6	0.2	0		14.0	SJ
	1432			20.6	0.2	0		10.0	
	1435			20.6	0.2	0		10.0	
12/3/97	1101			20.1	0.0	0.0		1.0-3.2	JP
	1105			20.1	0.0	0.0		1.0-3.2	
	1111			20.1	0.0	0.0		1.0-3.2	
								4	
12/4/97	1745			20.5	0	0	0	4.3	SJ
	1749			20.5	0	0	0	5.1	
	1753			20.5	0	0	0	5.3	
12/5/97	1005			20.3	0	0	0	3.5	SJ
	1008			20.1	0	0	0	4.5	
	1016			20.2	0	0	0	4.6	
12/6/97	1046			20.4	0.0	0.0	0.08	1.7	FA
	1050			20.4	0.0	0.0	0.07	1.3	
	1055			20.5	0.0	0.0	0.00	1.1	
12/7/97	1110			20.2	0.0	0.0	0.0	0.1	
	1115			20.2	0.0	0.0	0.0	0.3	
	1120			20.2	0.0	0.0	0.0	0.1	
12/8/97	1205			20.4	0.0	0.0	0.0	0.6	FA
	1210			20.4	0.0	0.0	0.0	0.6	
	1215			20.4	0.0	0.0	0.0	0.6	
12/9/97	1250			20.2	0.0	0.0	0.0	0.3	FA
	1255			20.2	0.0	0.0	0.0	0.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B Test Location MP2A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1300			20.6	0.0	0.0	0.0	0.0	FA
	1305			20.6	0.0	0.0	0.0	0.0	
	1310			20.6	0.0	0.0	0.0	0.0	
12/11/97	1749			20.1	0.0	0.0	0.02	1.9	ABR
	1756			20-1	0	0	0	1.9	SJ
	1800			20-1	0	0	0	2-4	
12/12/97	1012			20.2	0	0	0.01	1.9	SJ
	1016			20.2	0	0	0.01	1.9-2.4	
	1019			20-2	0	0	0.01	1.9-2.4	
12/14/97	1132			20.1	0	0	0.02	2.5	SJ
	1135			20.1	0	0	0.02	2.5	
	1139			20.1	0	0	0.01	2.5	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS-08B **Test Location** MP 2-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27	1450	—	—	20.4	0.0	0.0	0.0	101.7*	FA
~~11/29/97~~	~~1620~~	~~—~~	~~—~~	~~20.2~~	~~0.0~~	~~0.0~~	~~0.0~~		
	~~1625~~	~~—~~	~~—~~	~~20.2~~	~~0.0~~	~~0.0~~			
11/29/97	1720	—	—	20.0	0.0	0.0	0.0	7.6	
	1725	—	—	20.0	0.0	0.0	0.0	9.5	
12/1/97	1440			20.3	0.2	0		12.0	SJ
	1443			20.3	0.2	0		10.0	
	1446			20.1	0.2	0		8.0	
	1449			20.1	0.2	0		6.0	
12/3/97	1114			20.0	0.1	0.0		5.4	JP
	1121			20.0	0.1	0.0		1.0-3.2	
	1124			20.1	0.1	0.0		1.0	
12/4/97	1805			20.4	0.1	0	0	4.2	SJ
	1807			20.4	0.1	0	0	3.8	
	1812			20.4	0.1	0	0	3.9	
12/5/97	1023			20.0	0	0	0	5.1	SJ
	1026			20.0	0	0	0	5.4	
	1030			20.0	0	0	0	5.2	
12/6/97	1120			20.5	0.0	0.0	—	0.9-1.1	JP
	1134			20.6	0.0	0.0	0.0	0.9	
	1136			20.7	0.0	0.0	0.0	0.8	
12/7/97	1235			20.4	0.0	0.0	0.0	0.5	FA
	1240			20.4	0.0	0.0	0.0	0.5	
	1245			20.4	0.0	0.0	0.0	0.5	
12/8/97	1220			20.4	0.0	0.0	0.0	0.9	FA
	1225			20.4	0.0	0.0	0.0	0.9	
	1230			20.4	0.0	0.0	0.0	0.6	
				20.2	0.0	0.0	0.0	0.3	FA
12/9/97	1255			20.2	0.0	0.0	0.0	0.7	
	1300								

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SSD8B Test Location HP 2B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1310			20.6	0.0	0.0	0.0	0.0	FA
	1315			20.6	0.0	0.0	0.0	0.0	
	1320			20.6	0.0	0.0	0.0	0.0	
12/11/97	1812			20.0	0	0	0	2.4	SJ
	1818			20.0	0	0	0	1.5	
	1821			20.0	0	0	0	1.9	
12/12/97	1029			19.9	0.1	0	0.07	2.4	SJ
	1032			19.9	0.1	0	0.06	2.4	
	1036			19.9	0.1	0	0.06	2.4	
	1039			19.9	0	0	0.05	2.4	
12/14/97	1146			20.0	0	0	0.04	0.3	SJ
	1151			20.0	0	0	0.02	1.1	
	1156			20.0	0	0	0.05	1.1	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B **Test Location** MP-3A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1500	—	—	20.4	0.0	0.0	0.0	109.2	FA
11/29/97	1730	—	—	19.9	0.1	0.0	0.0	13.3	
	1735			19.8	0.1	0.0	0.0	11.4	
12/1/97	1454			19.8	0.2	0		10.0	SJ
	1457			19.8	0.2	0		10.0	
	1502			19.8	0.2	0		10.0	
12/3/97	1131			20.3	0	0		1.0-3.2	SJ
	1135			20 3	0	0		1.0	
	1145			20.5	0	0		1.0	
12/4/97	1820			20.5	0	0	0	7.9	SJ
	1823			20.5	0	0	0	5.6	
	1826			20.5	0	0	0	5.6	
12/5/97	1037			20.1	0	0	0	4.7	SJ
	1040			20.1	0	0	0	5-3	
	1043			20.1	0	0	0	5.8	
12/6/97	1155			20.7	0.0	0.0	0.0	0.4	JP
	1200			20.8	0.0	0.0	0.0	0.6	
	1205			20.8	0.0	0.0	0.0	0.6	
12/7/97	1245			20.2	0.0	0.0	0.0	0.3	FA
	1250			20.2	0.0	0.0	0.0	0.3	
	1255			20.2	0.0	0.0	0.0	0.3	
12/8/97	1235			20.5	0.0	0.0	0.0	0.9	FA
	1240			20.5	0.0	0.0	0.0	0.9	
	1245			20.5	0.0	0.0	0.0	0.9	
12/9/97	1305			20.2	0.0	0.0	0.0	0.3	FA
	1310			20.3	0.0	0.0	0.0	0.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SSO8 B Test Location MP 3-A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1325			20.7	0.0	0.0	0.0	0.0	FA
	1330			20.8	0.0	0.0	0.0	0.0	
	1335			20.8	0.0	0.0	0.0	0.0	
12/11/97	1831			20.0	0	0	0	1.1	SJ
	1835			20.1	0	0	0	2.4	
	1838			20.1	0	0	0	1.9	
12/12/97	1043			19.9	0	0	0	1.9-1.4	SJ
	1047			20.1	0	0	0	1.9-1.4	
	1050			20.1	0	0	0	1.9-1.4	
	1053			20.1	0	0	0	1.9-1.4	
12/14/97	1209			20.1	0	0	0.03	1.1	SJ
	1213			20.1	0	0	0.01	1.8-2.5	
	1218			20.1	0	0	0	1.8	
	1226			20.1	0	0	0	1.8	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B Test Location MP-3B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1510	—	—	20.3	0.0	0.0	0.0	~~980~~	FA
11/29/97	1740			19.9	0.1	0.0	0.0	1160 ~~7.6~~	
	1745	—	—	19.9	0.1	0.0	0.0	7.6	
12/1/97	1510			20.1	0.2	0		12.0	SJ
	1513			20.1	0.2	0		8.0	
	1516			20.1	0.2	0		6.0	
	1518			20.1	0.2	0		6.0	
12/3/97	1149			20.5	0	0		1.0	SJ
	1157			20.5	0	0		1.0	
	1207			20.5	0	0		1.0	
12/4/97	1836			20.5	0	0	0	7.4	SJ
	1839			20.5	0	0	0	6.2	
	1842			20.5	0	0	0	5.7	
12/5/97	1048			20.1	0	0	0	5.4	SJ
	1051			20.1	0	0	0	5.5	
	1055			20.1	0	0	0	6.1	
12/6/97	1205			20.8	0.0	0.0	0.0	0.6	FA
	1210			20.7	0.0	0.0	0.0	0.6	
	1215			20.7	0.0	0.0	0.0	0.6	
12/7/97	1255			20.1	0.0	0.0	0.0	0.3	FA
	1300			20.1	0.0	0.0	0.0	0.3	
	1305			20.1	0.0	0.0	0.0	0.3	
12/8/97	1250			20.4	0.0	0.0	0.0	0.6	FA
	1255			20.4	0.0	0.0	0.0	0.6	
	1300			20.4	0.0	0.0	0.0	0.6	
12/9/97	1310			20.3	0.0	0.0	0.0	0.3	FA
	1315			20.3	0.0	0.0	0.0	0.3	
	1320			20.4	0.0	0.0	0.0	0.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SOEB Test Location MP 3-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1340			20.8	0.0	0.0	0.0	0.0	FA
	1345			20.8	0.0	0.0	0.0	0.0	
	1350			20.8	0.0	0.0	0.0	0.0	
12/11/97	1851			20.0	0	0	0	1-5	SJ
	1854			20-0	0	0	0	1-1	
	1858			20.0	0	0	0	1.5	
	1900			20.0	0	0	0	1-5	
12/12/97	1101			20.0	0	0	0.02	1.9-1.4	SJ
	1105			20.0	0	0	0.05	1.9-1.4	
	1109			20-0	0	0	0.05	1.9-1.4	
	1112			20-0	0	0	0-05	1.9-1.4	
12/14/97	1245			20.1	0	0	0.03	1.1	SJ
	1251			20.1	0	0	0.03	1.8	
	1254			20.1	0	0	0.04	1.8	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B Test Location MP-4A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1515	—	—	20.4	0.0	0.0	0.0	98.0*	FA
11/26/97	1620	—	—	20.2	0.0	0.0	0.0	3.8	
	1625	—	—	20.2	0.0	0.0	0.0	5.7	
12/1/97	1525			20.0	0.2	0		10.0	SJ
	1528			20.0	0.2	0		8.0	
	1532			20.1	0.2	0		8.0	
12/3/97	1218			20.5	0	0		3.2	SJ
	1225			20.5	0	0		1.0	
	1229			20.5	0	0		1.0	
12/4/97	1909			20.6	0	0	0	4.3	SJ
	1913			20.6	0	0	0	4.4	
	1916			20.6	0	0	0	4.4	
12/5/97	1104			20.3	0	0	0	2.1	SJ
	1107			20.3	0	0	0	1.9	
	1112			20.4	0	0	0	1.7	
12/6/97	1256			20.7	0.0	0.0	0.0	0.4	FA
	1300			20.7	0.0	0.0	0.0	0.6	
	1305			20.7	0.0	0.0	0.0	0.4	
12/7/97	1315			20.2	0.0	0.0	0.0	0.3	FA
	1320			20.2	0.0	0.0	0.0	0.3	
	1325			20.2	0.0	0.0	0.0	0.3	
12/8/97	1307			20.5	0.0	0.0	0.0	0.6	ASR
	1311			20.5	0.0	0.0	0.0	0.6	
	1315			20.5	0.0	0.0	0.0	0.6	
12/9/97	1325			20.4	0.0	0.0	0.0	0.3-0.7	ASR
	1330			20.4	0.0	0.0	0.0	0.3-0.7	
	1345			20.3	0.0	0.0	0.0	0.3-0.7	

After purging

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SSO8B Test Location MP 4-A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1355			20.8	0.0	0.0	0.0	0.0	FA
	1400			20.8	0.0	0.0	0.0	0.0	
	1405			20.8	0.0	0.0	0.0	0.0	
12/11/97	1905			20.1	0	0	0	0.6	SJ
	1908			20.1	0	0	0	1.1	
	1919			20.1	0	0	0	1.1	
12/12/97	1128			20.2	0	0	0.01	1.4-1.9	SJ
	1133			20.2	0	0	0.01	1.4	
	1136			20.2	0	0	0	1.4	
	1140			20.2	0	0	0	1.4	
12/14/97	1301			20.1	0	0	0.03	1.1	SJ
	1307			20.1	0	0	0.04	1.6	
	1310			20.1	0	0	0.05	1.1	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B **Test Location** MP-4B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/29/97	1530	-	-	20.4	0.10	0.0	0.0	94.6 *	FA
	1540	-	-	20.4	0.10	0.0	0.0	91.0 *	
11/29/97	1640	-	-	19.8	0.10	0.0	0.0	7.6	
	1645	-	-	19.8	0.10	0.0	0.0	9.5	
12/1/97	1540			20.3	0.2	0		6.0	SJ
	1543			20.3	0.2	0		8.0	
	1546			20.2	0.2	0		8.0	
12/3/97	1233			20.4	0	0		1.0	SJ
	1236			20.4	0	0		1.0	
	1239			20.4	0	0		1.0	
12/4/97	1919			20.6	0	0	0	4.9	SJ
	1922			20.6	0	0	0	4.4	
	1925			20.6	0	0	0	3.8	
12/5/97	1117			20.5	0	0	0	1.3	SJ
	1121			20.6	0	0	0	1.3	
	1124			20.6	0	0	0	1.2	
12/6/97	1318			20.7	0.0	0.0	0.0	0.6	FA
	1325			20.7	0.0	0.0	0.0	0.6	
	1330			20.7	0.0	0.0	0.0	0.4	
12/7/97	1330			20.2	0.0	0.0	0.0	0.3	FA
	1335			20.3	0.0	0.0	0.0	0.3	
	1340			20.3	0.0	0.0	0.0	0.3	
12/8/97	1318			20.5	0.0	0.0	0.0	0.3-0.6	ASR
	1322			20.6	0.0	0.0	0.0	0.3-0.6	
	1327			20.6	0.0	0.0	0.0	0.3-0.6	
12/9/97	1347			20.4	0.0	0.0	0.0	0.3	ASR
	1352			20.4	0.0	0.0	0.0	0.3	
	1356			20.4	0.0	0.0	0.0	0.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B Test Location MP 4-B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1410			20.7	0.0	0.0	0.0	0.0	ASR
	1415			20.8	0.0	0.0	0.0	0.0	
	1420			20.8	0.0	0.0	0.0	0.0	
12/11/97	1926			20.1	0	0	0	1.1	SJ
	1929			20.1	0	0	0	1.1	
	1937			20.0	0	0	0	0.2	
12/12/97	1206			20.1	0	0	0.05	1.9	SJ
	1210			20.2	0	0	0.05	2.4	
	1214			20.2	0	0	0.05	2.4	
	1221			20.2	0	0	0.05	1.9	
12/14/97	1337			20.0	0	0	0.06	1.1	SJ
	1340			20.0	0	0	0.07	1.1	
	1344			20.0	0	0	0.07	0.3	
	1353			20.0	0	0	0.10	1.1	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08 B Test Location MP 5A

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1550	—	—	20.4	0.0	0.0	0.0	94.6	FA
	1650	—	—	20.3	0.0	0.0	0.0	~~83.9~~ 83.9	
11/29/97	1755	—	—	20.0	0.0	0.0	0.0	20.9	
	1800	—	—	20.0	0.0	0.0	0.0	13.3	
12/1/97	1556			20.7	0	0		12.0	SJ
	1559			20.7	0	0		10.0	
	1604			20.8	0	0		6.0	
12/3/97	1404			20.2	0	0		21.0	
	1407			20.2	0	0		~~20.8~~ 15.0	
	1412			20.2	0	0		~~9.8~~ 9.8	
	1419	0.17		20.2	0	0		9.8	
12/4/97	1934			20.6	0	0	0	4.5	SJ
	1937			20.6	0	0	0	3.6	
	1944			20.6	0	0	0	2.5	
	1952			20.6	0	0	0	3.2	
12/5/97	1129			20.7	0	0	0	1.3	SJ
	1133			20.7	0	0	0	0.9	
	1137			20.7	0	0	0	0.9	
	1141			20.8	0	0	0	0.9	JP
12/6/97	1340			20.7	0.0	0.0	0.0	0.8	FA
	1345			20.7	0.0	0.0	0.0	0.8	
	1350			20.7	0.0	0.0	0.0	0.6	
12/7/97	1345			20.3	0.0	0.0	0.0	0.5	FA
	1350			20.3	0.0	0.0	0.0	0.5	
	1355			20.3	0.0	0.0	0.0	0.3	
	~~1400~~								
After 10 days 12/8/97	1337			20.6	0.0	0.0	0.0	0.6	ASR
	1341			20.6	0.0	0.0	0.0	0.6	
	1346			20.6	0.0	0.0	0.0	0.6	
12/9/97	1400			20.4	0.0	0.0	0.0	0.3	FA
	1405			20.4	0.0	0.0	0.0	0.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B Test Location MP-SA

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1423			20.8	0.0	0.0	0.0	0.0	TSR
	1430			20.6	0.0	0.0	0.0	0.0	
	1435			20.8	0.0	0.0	0.0	0.0	
12/11/97	1944			20.0	0	0	0	0.6	SJ
	1947			20.0	0	0	0	1.5	
	1950			20.0	0	0	0	1.9	
	1953			20.0	0	0	0	1.5	
12/12/97	1248			20.2	0	0	0	0.9	SJ
	1255			20.2	0	0	0	0.9	
	1259			20.2	0	0	0	0.9	
	1304			20.2	0	0	0	0.9	
12/14/97	1359			20.1	0	0	0	3.3	SJ
	1404			20.0	0	0	0	2.5-1.8	
	1408			20.0	0	0	0	1.8	
	1421			20.0	0	0	0	1.8	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B **Test Location** MP-5B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/27/97	1630			20.3	0.0	0.0	0.0	76.7 *	FA
	1636			20.3	0.0	0.0	0.0	83.9 *	
11/29/97	1803	—	—	20.0	0.0	0.0	0.0	7.6	
	1810	—	—	20.0	0.0	0.0	0.0	19.0	
12/1/97	1655			20.9	0.2	0		4.0	SJ
	1700			20.9	0.2	0		2.0	
	1703			20.8	0.2	0		2.0	
12/3/97	1422			20.0	0.0	0.0		34.0	ABR
	1426			~~19.8~~	0.1	0.0		~~34.8~~ 34.8 Max	
	1430			20.1	0.0	0.0		16.4	
	1437			20.1	0.0	0.0		7.6	
	1440			20.1	0.0	0.0		5.4	
12/4/97	2008			20.7	0	0	0	1.5	SJ
	2014			20.7	0	0	0	1.7	
	2017			20.7	0	0	0	2.4	
	2019			20.7	0	0	0	1.5	
12/5/97	1153			20.8	0	0	0	0.8	JP
	1157			20.8	0	0	0	0.9	
	1204			20.8	0	0	0	0.6	
	1207			20.8	0	0	0	0.6	
12/6/97	1355			20.7	0.0	0.0	0.0	0.6	FA
	1400			20.7	0.0	0.0	0.0	0.6	
	1405			20.7	0.0	0.0	0.0	0.6	
12/7/97	1405			20.5	0.0	0.0	0.0	0.3	FA
	1410			20.5	0.0	0.0	0.0	0.3	
	1415			20.5	0.0	0.0	0.0	0.3	
12/8/97	1349			20.6	0.0	0.0	0.0	0.3-.6	ABR
	1400			20.6	0.0	0.0	0.0	0.3	
	1405			20.7	0.0	0.0	0.0	0.3	FA
12/9/97	1415			20.4	0.0	0.0	0.0	0.3	
	1420			20.4	0.0	0.0	0.0	0.3	

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VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS08B Test Location MPSB

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/10/97	1445			20.8	0.0	0.0	0.0	0.0	FA
	1450			20.8	0.0	0.0	0.0	0.0	
	1455			20.8	0.0	0.0	0.0	0.0	
12/11/97	1958			20.0	0	0	0	1.5	SJ
	2006			19.9	0	0	0	1.9	
	2010			19.9	0	0	0	2.4	
12/12/97	1314			20.0	0	0	0	0.4	SJ
	1317			20.0	0	0	0	0.9	
	1321			20.0	0	0	0	0.9	
	1326			20.0	0	0	0	0.9	
12/14/97	1429			19.9	0	0	0	1.1-1.8	SJ
	1434			19.9	0	0	0	1.1-1.8	
	1446			19.9	0	0	0	1.1-1.8	
	1454			19.9	0	0	0	1.1-1.8	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SS 08-B Test Location MP-6

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
11/29/97	1830	—	—	20.0	0.0	0.0	0.0	11.4*	FA
	1835	—	—	20.1	0.0	0.0	0.0	11.4	
12/1/97	1713			20.8	0.2	0		2.0	SJ
	1717			20.6	0.2	0		2.0	
	1722			20.6	0.2	0		2.0	
12/6/97	1405			20.7	0.0	0.0	0.0	22.2	FA
	1410			20.7	0.0	0.0	0.0	18.9	
	1415			20.7	0.0	0.0	0.0	16.5	
12/7/97	1420			20.5	0.0	0.0	0.0	7.5	FA
	1425			20.5	0.0	0.0	0.0	7.2	
	1430			20.6	0.0	0.0	0.0	6.7	
12/8/97	1410			20.7	0.0	0.0	0.0	4.5	FA
	1415			20.7	0.0	0.0	0.0	4.5	
	1420			20.7	0.0	0.0	0.0	4.5	
12/9/97	1425			20.4	0.0	0.0	0.0	3.5	FA
	1430			20.5	0.0	0.0	0.0	3.5	
	~~14~~ 1435			20.5	0.0	0.0	0.0	3.5	
12/10/97	1500			20.8	0.0	0.0	0.0	2.4	FA
	1505			20.7	0.0	0.0	0.0	2.4	
	1510			20.7	0.0	0.0	0.0	2.4	
12/11/97	2016			20.0	0	0	0	1.1	SJ
	2019			19.8	0	0	0	1.5	
	2022			20.0	0	0	0	1.1	
				~~20.1~~	~~0~~	~~0~~	~~0.06~~	~~2.~~	
12/12/97	1333			20.1	0	0	0.06	2.4	SJ
	1338			20.1	0	0	0.07	2.4	
	1343			20.1	0	0	0.07	2.4	
	1347			20.0	0	0	0.09	2.8	
12/14/97	1502			19.9	0	0	0.07	4.8-5.5	SJ
	1511			20.2	0	0	0.08	4.8-5.5	
	1518			20.1	0	0	0.08	4.0-4.8	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well SYSTEM Carbon Out (2) Test Location 5508B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/5/97	1312			20.6	0	0	0.18	0.4	SJ
	1317			20.6	0	0	0.19	0.2	
	1323			20.5	0	0	0.20	0.4	
	1340			20.5	0	0	0.18	0.2	JP
12/6/97	1440			20.6	0.0	0.0	0.18	0.9	FA
	1445			20.7	0.0	0.0	0.17	0.9	
	1450			20.7	0.0	0.0	0.18	0.9	
12/7/97	1500			20.7	0.0	0.0	0.27	0.3	FA
	1505			20.7	0.0	0.0	0.25	0.3	
	1510			20.7	0.0	0.0	0.26	0.3	
12/8/97	1435			20.7	0.0	0.0	0.12	0.6-0.3	FA
	1440			20.7	0.0	0.0	0.13	0.6-0.3	
	1445			20.7	0.0	0.0	0.13	0.6-0.3	
12/9/97	1450			20.6	0.0	0.0	0.12	0.3	FA
	1455			20.6	0.0	0.0	0.13	0.3	
	1500			20.6	0.0	0.0	0.12	0.3	
12/10/97	1535			20.7	0.0	0.0	0.12	0.0	FA
	1540			20.7	0.0	0.0	0.12	0.0	
	1545			20.8	0.0	0.0	0.12	0.0	

VAPOR MONITORING WELL RECORD
WURTSMITH AFB PILOT TESTING

Vapor Monitoring Well System Out (IN) (2) VE-6 **Test Location** SS08B

Date	Time	Vacuum (inches H20)	Temp. (F)	% O2	%CO2	%CH4	% Helium	PID (ppm)	Operator
12/5/97	1217			20.6	0	0	0.19	0.9	JP
	1220			20.6	0	0	0.18	0.8	
	1229			20.7	0	0	0.18	0.6	SJ
	1237			20.7	0	0	0.17	0.6	
12/6/97	1425			20.6	0.0	0.0	0.16	1.9	FA
	1430			20.6	0.0	0.0	0.18	1.5	
	1435			20.6	0.0	0.0	0.18	1.1	
12/7/97	1440			20.6	0.0	0.0	0.26	0.8	FA
	1445			20.6	0.0	0.0	0.26	0.5	
	1450			20.6	0.0	0.0	0.25	0.5	
12/8/97	1425								
	1430			20.7	0.0	0.0	0.14	1.2	FA
	1435			20.7	0.0	0.0	0.13	0.6	
				20.7	0.0	0.0	0.13	0.6	
12/9/97	1440			20.5	0.0	0.0	0.12	0.7	FA
	1445			20.5	0.0	0.0	0.12	0.3	
	1450			20.5	0.0	0.0	0.11	0.3	
12/10/97	1510 1515			20.7	0.0	0.0	0.11	0.0	FA
	1520			20.7	0.0	0.0	0.10	0.0	
	~~1520~~ 1525			20.7	0.0	0.0	0.11	0.0	

APPENDIX G

PROJECT PHOTOGRAPHS

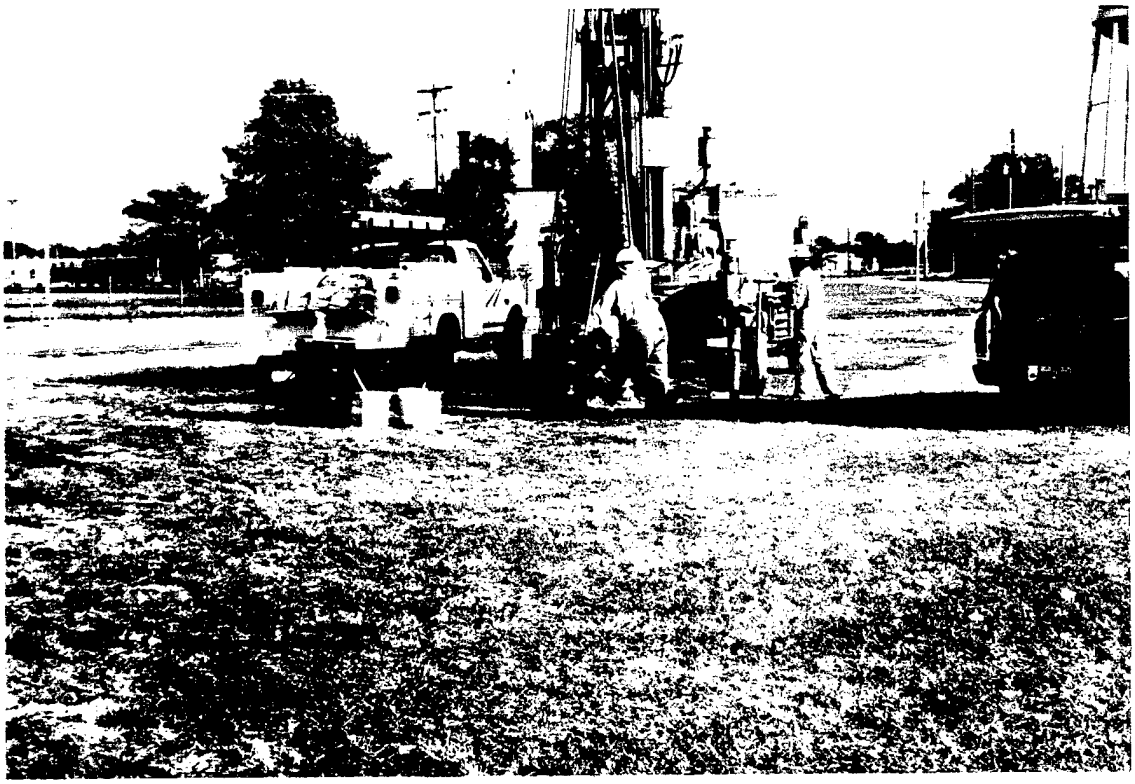

Photo 1: Site SS-06 Well Drilling (Benzene Plant and Huron Avenue in the Background) 10-28-97

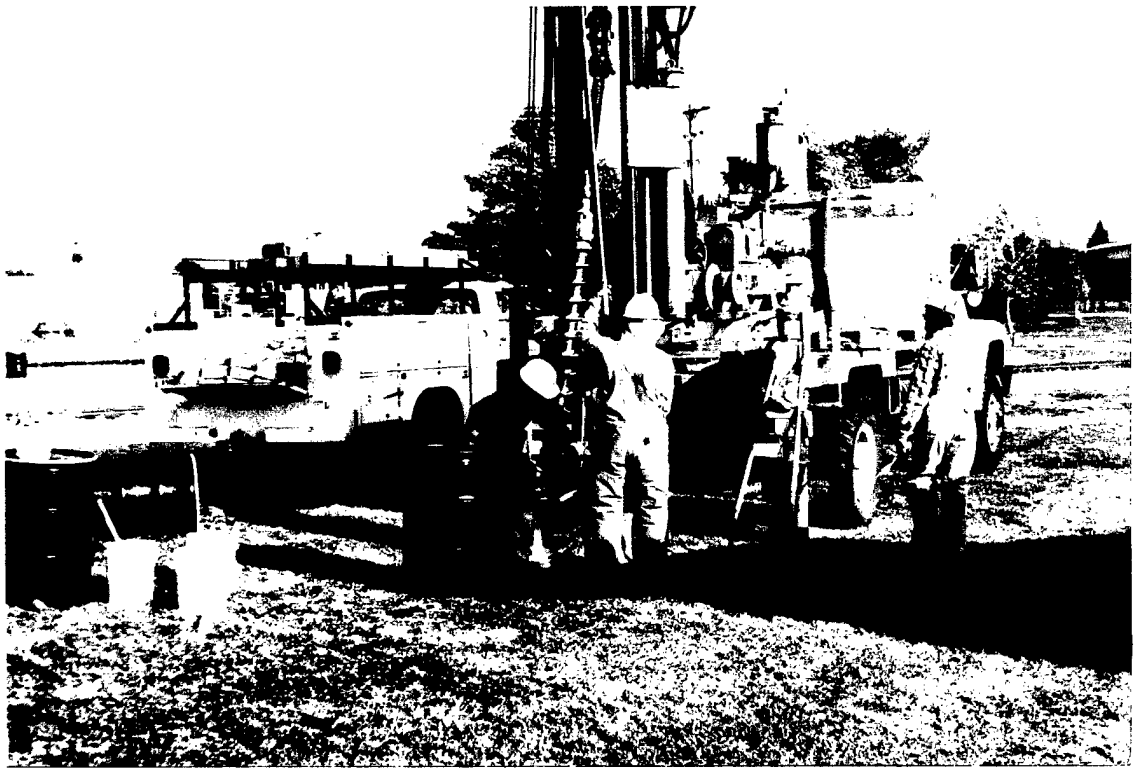

Photo 2: SPT, Split-Spoon-Sampling and Lithology Logging at Sparge Well Drilling, Site SS-06 10-28-97

Photo 3: Excavation for Power Supply Connection from Benzene Plant, Microtunneling Underneath Railroad 11-06-97

Photo 4: Excavation from Power Supply to Site SS-06 11-06-97

Photo 5: Hand Digging for Power Supply Near Benzene Plant Building (#397) 11-06-97

Photo 6: Monitoring Well Cluster Drilling by 9 ¼" ID HSA and Electrical Switch Board Connection at Site SS-06 11-07-97

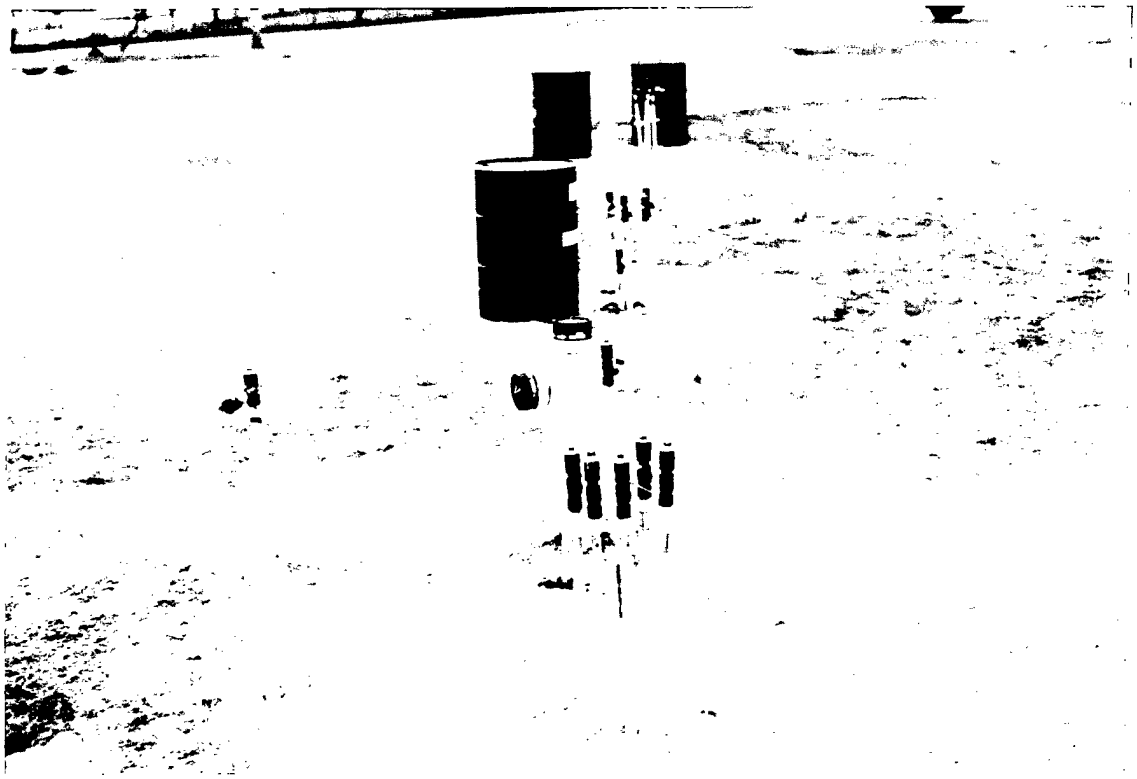

Photo 7: AS Well, SVE Well and Monitoring Wells 11-10-97
Site SS-06 (Background Huron Ave.)

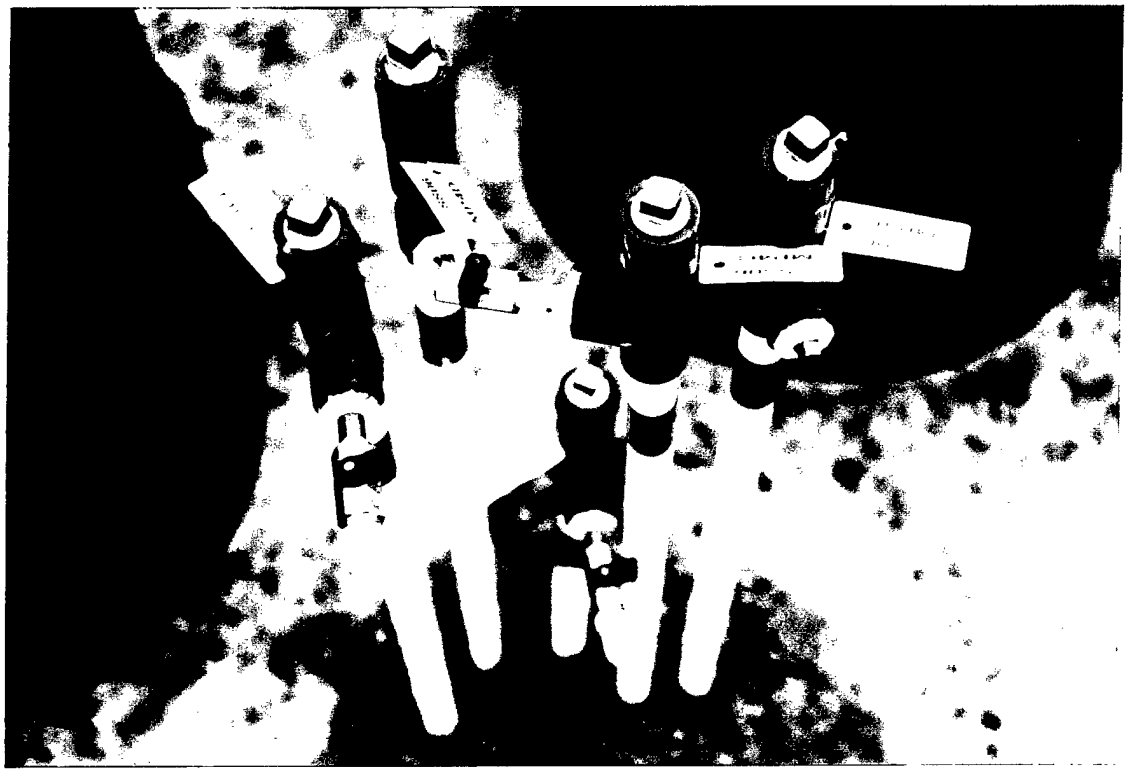

Photo 8: Cluster of Monitoring Wells 11-10-97
(Site SS-06, MP4A through MP4E)

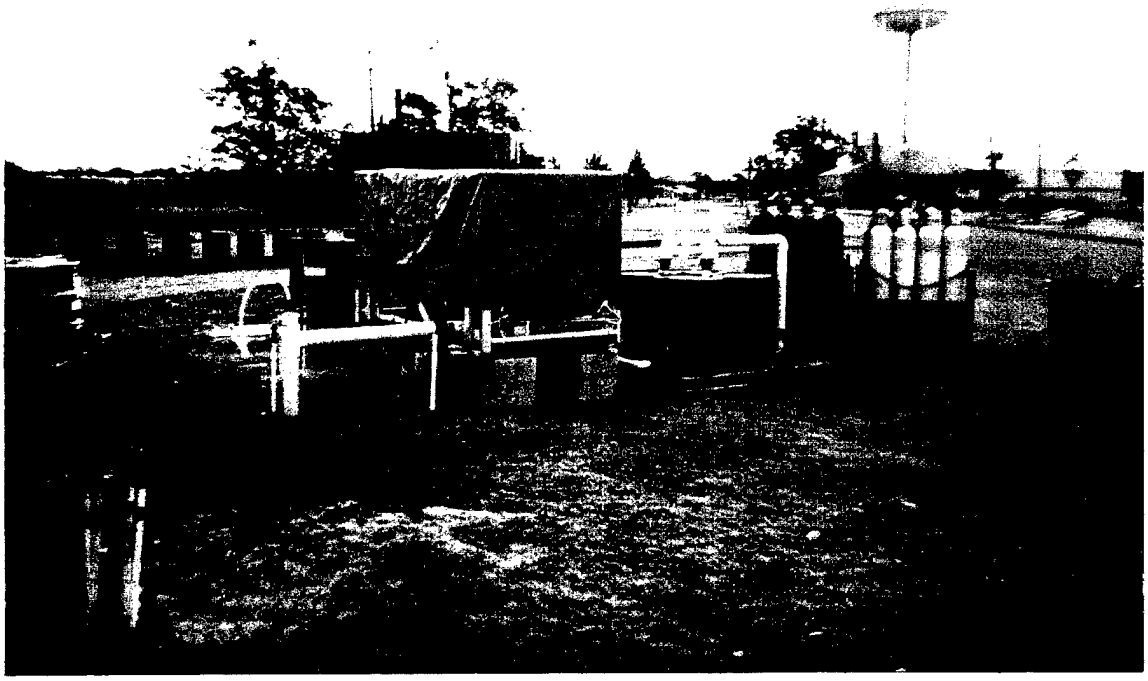

Photo 9: Site SS-06 SVE/Sparge Trailer, He and SF_6 Gas Cylinders, Carbon Canister Set-Up — 11-14-97

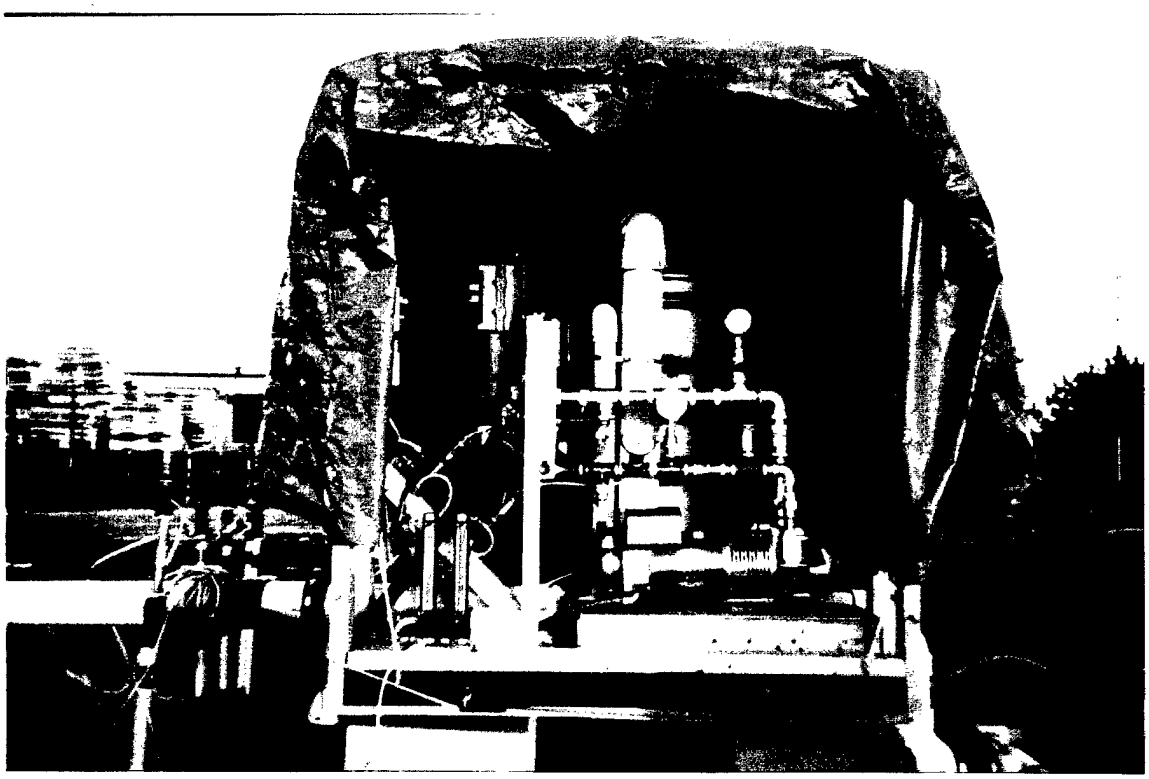

Photo 10: Sparge System in Operation at Site SS-06 — 11-20-97

Photo 11: Carbon Off-Gas Treatment System 11-14-97

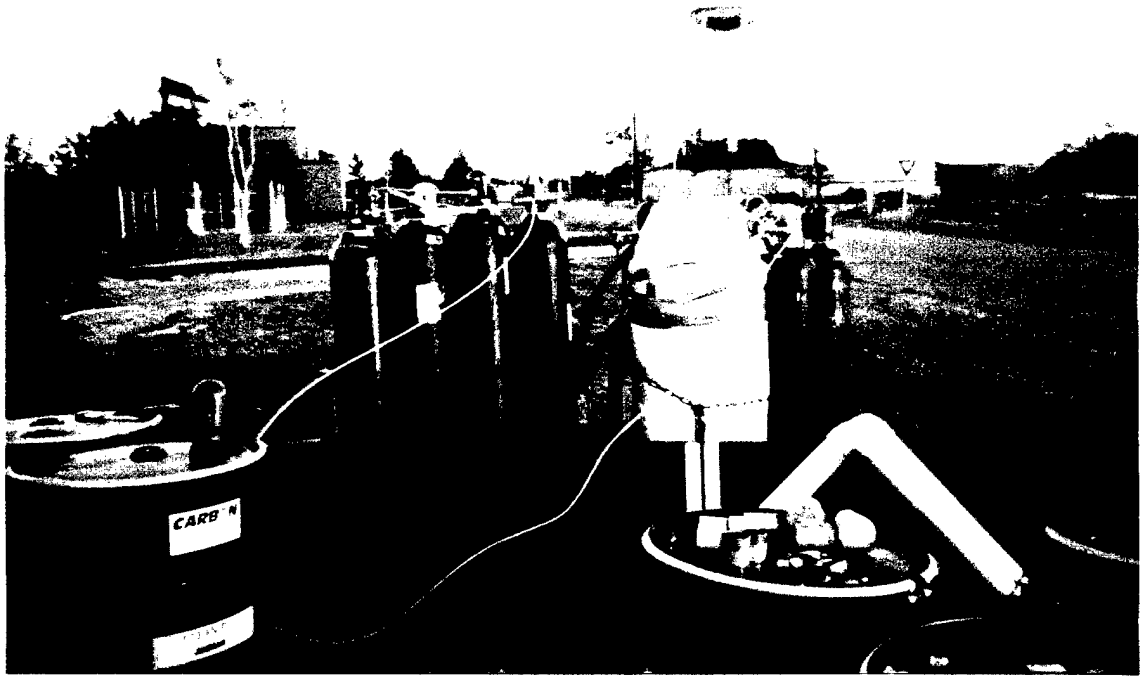

Photo 12: Carbon Changeout and Helium and Sulfur Hexafluoride Cylinders with Heat Pad 11-15-97

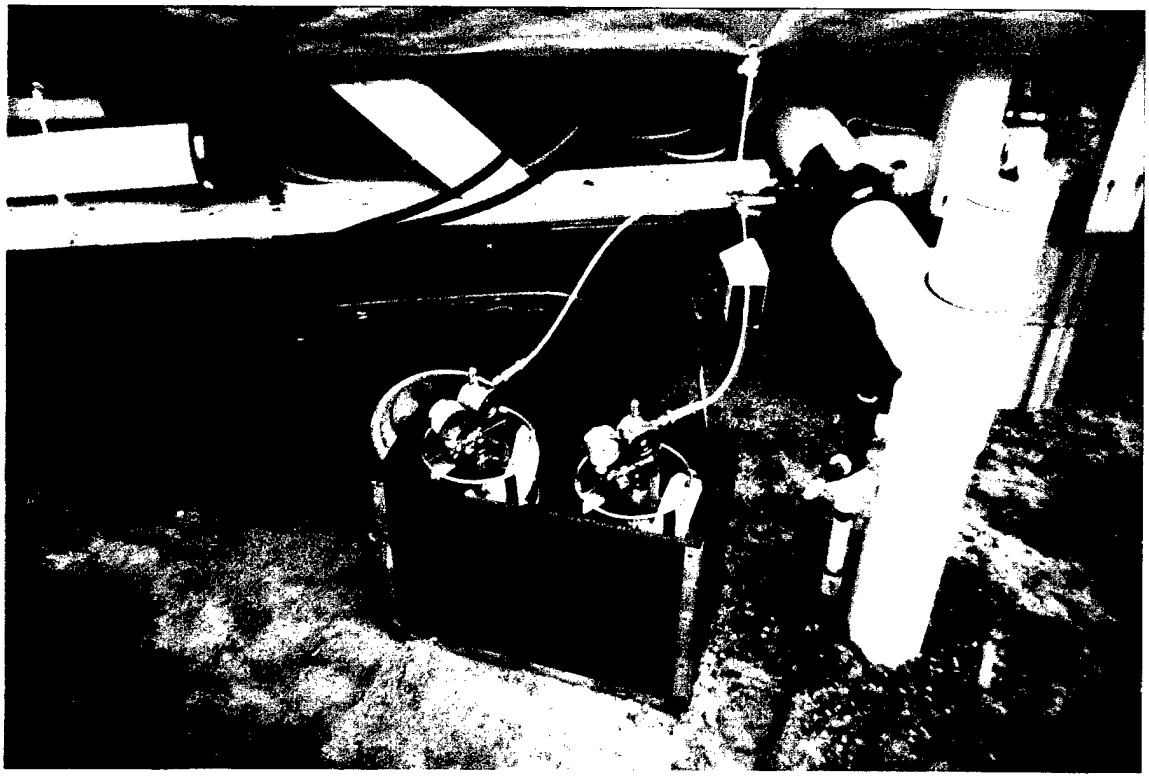

Photo 13: Summa Canister Vapor Sampling from Extraction Well (with Field Duplicate) 11-18-97

Photo 14: Drill Cuttings from SS-06 Well Installation 11-14-97

Photo 15: Drilling and Well Installation at Site SS-08A, SVE and Vapor Monitoring Wells — 11-11-97

Photo 16: SVE and Vapor Monitoring Wells and Soil Cuttings at Site SS-08A — 11-11-97

Photo 17: Vapor Monitoring Wells, Soil Cuttings, Bentonite Chip, and Fencing at Site SS-08A — 11-11-97

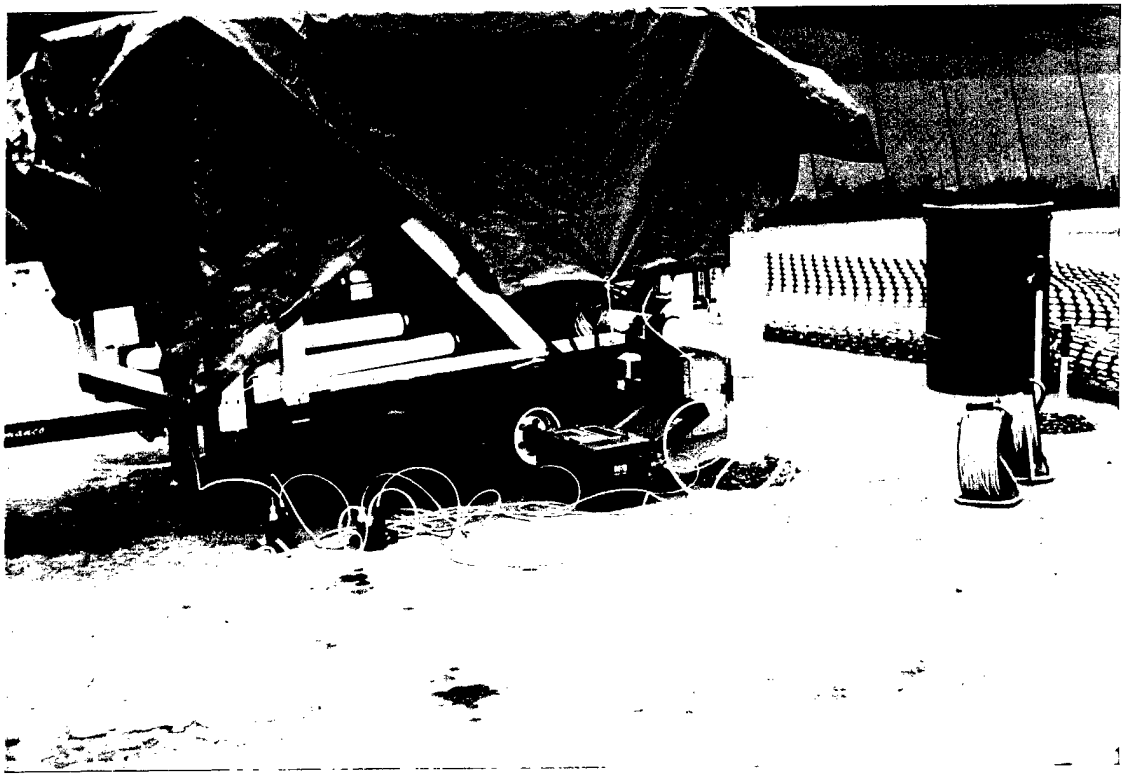

Photo 18: Transient SVE Test Using Hermit 2000 Data Logger and Two Transducers — 11-26-97

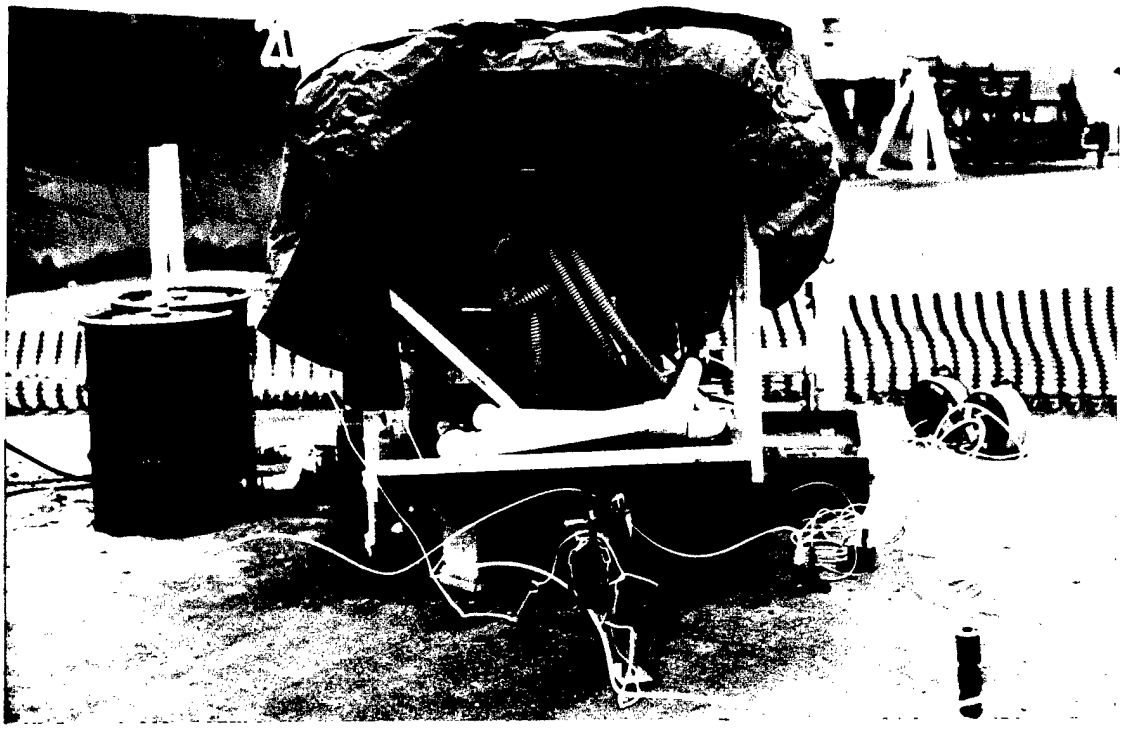

Photo 19: Soil Vapor Extraction Test at Site SS-08A 11-26-97

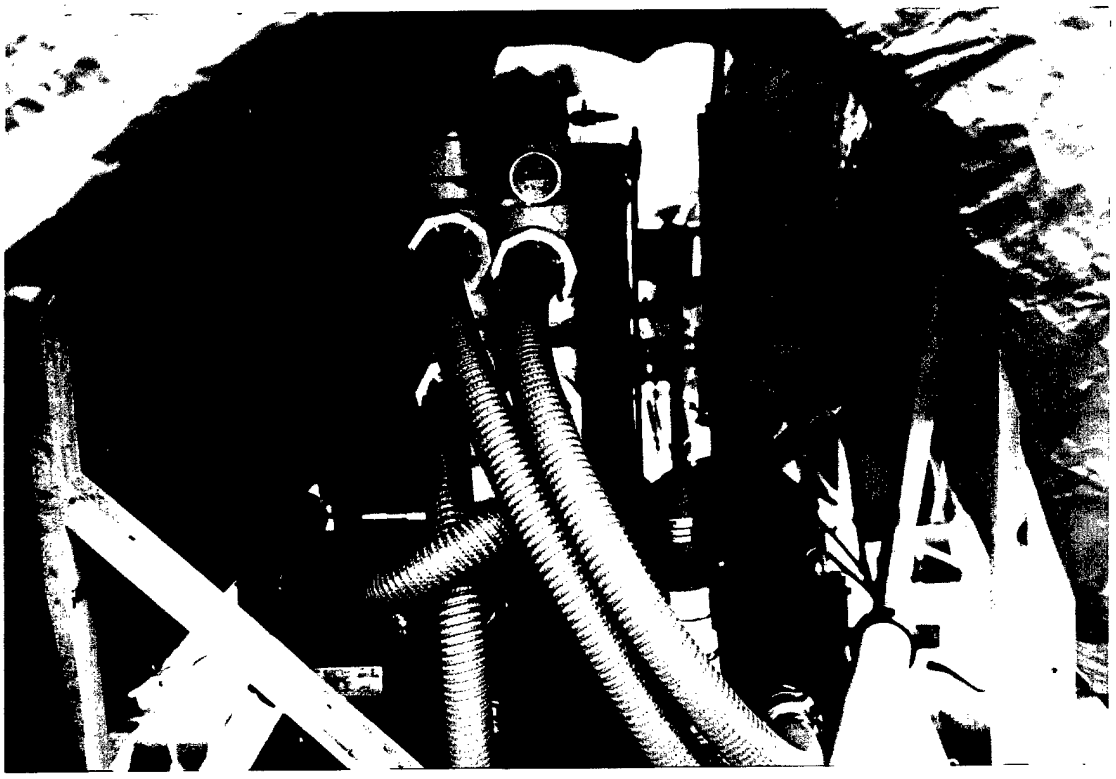

Photo 20: Vapor Extraction Header, Vacuum Blower, and Knock-out Tank 11-26-97

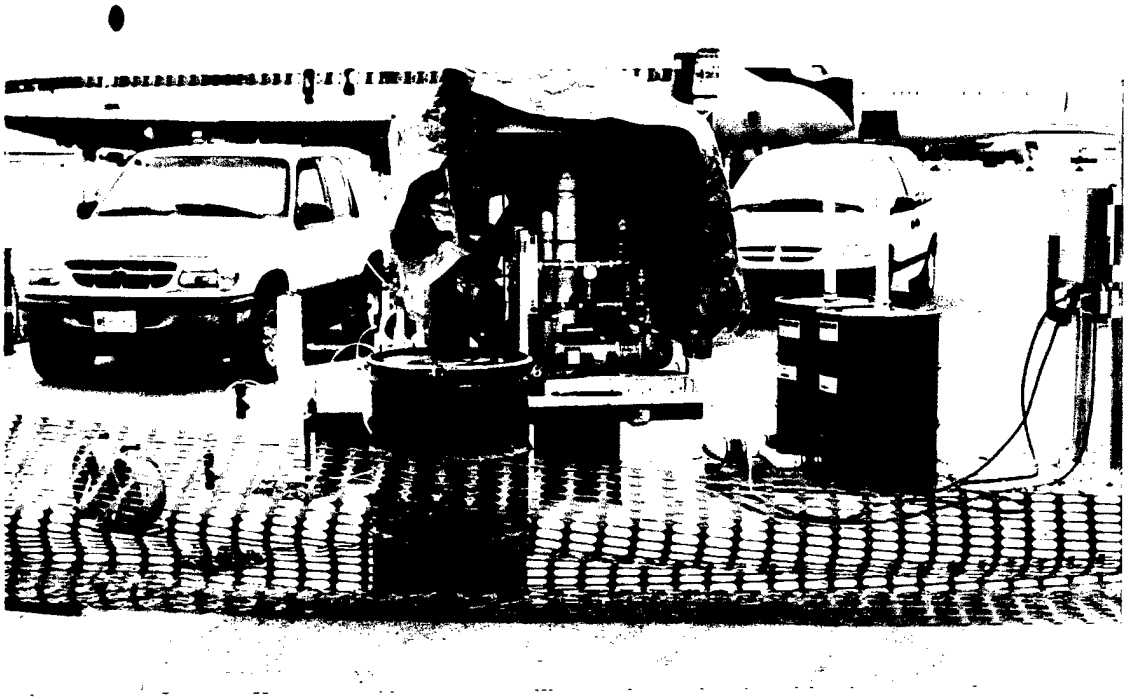

Photo 21: SVE and AS Trailer with Carbon Treatment System and Electrical Connection 11-26-97

Photo 22: Field Parameter Monitoring Equipment Set-up in Truck 12-5-97

Photo 23: Site SS-08 Location B (Hot Spot 3) with Ex. Groundwater Monitoring Wells H2S and H2D 5-21-97

Photo 24: Site SS-08B, at the NE Corner of Hangar Building 5063 5-21-97

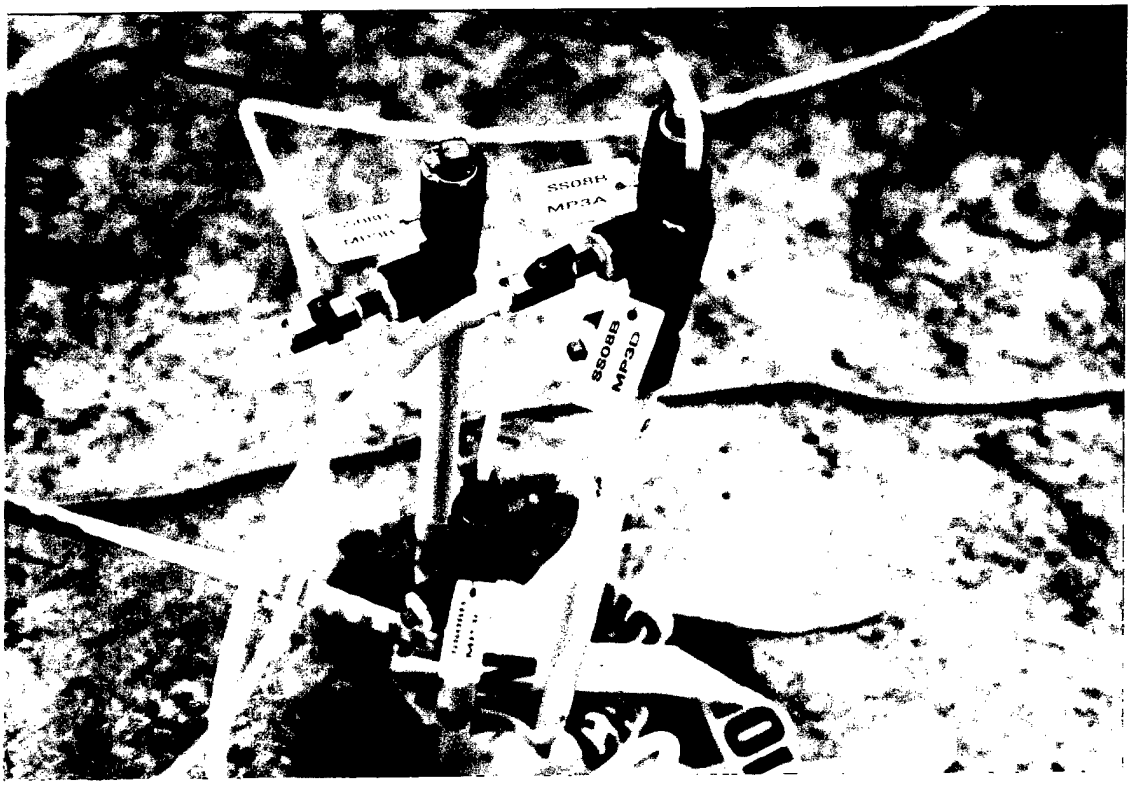

Photo 25: Soil Vapor Monitoring Test in Progress (Field Measurements of Various Gases) 12-3-97

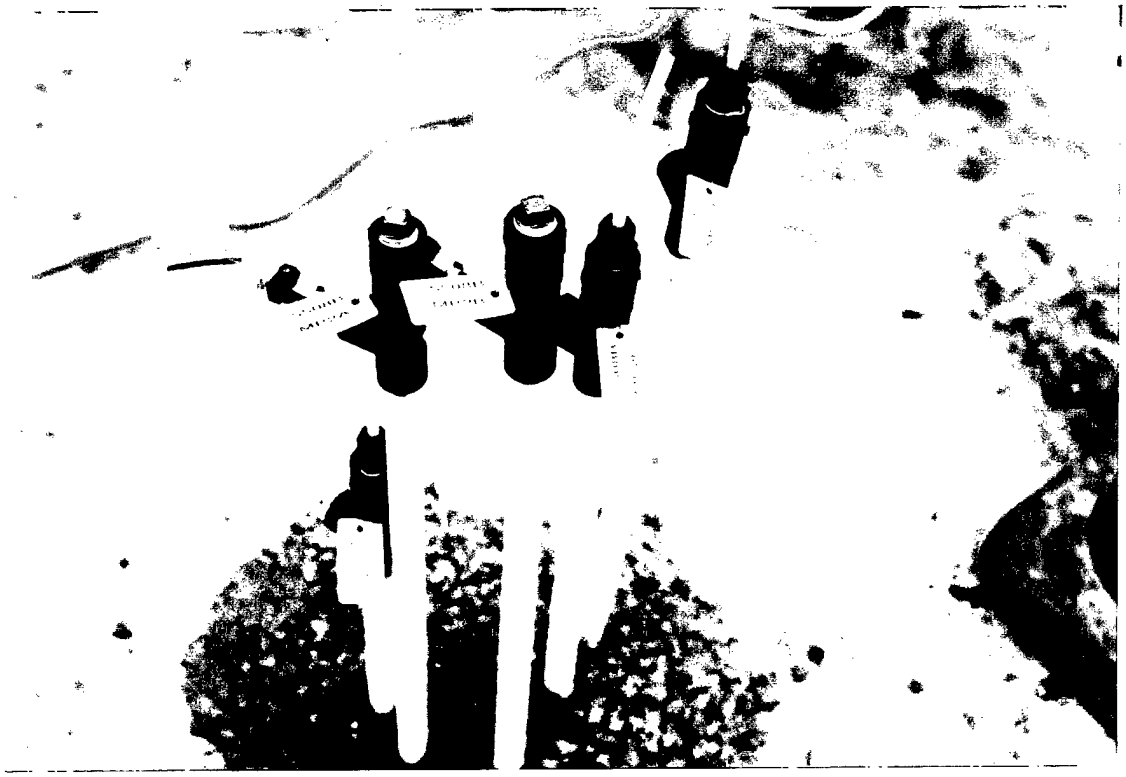

Photo 26: Groundwater Monitoring Test in Progress (Water Quality Indicator Parameter Measurement) 12-3-97

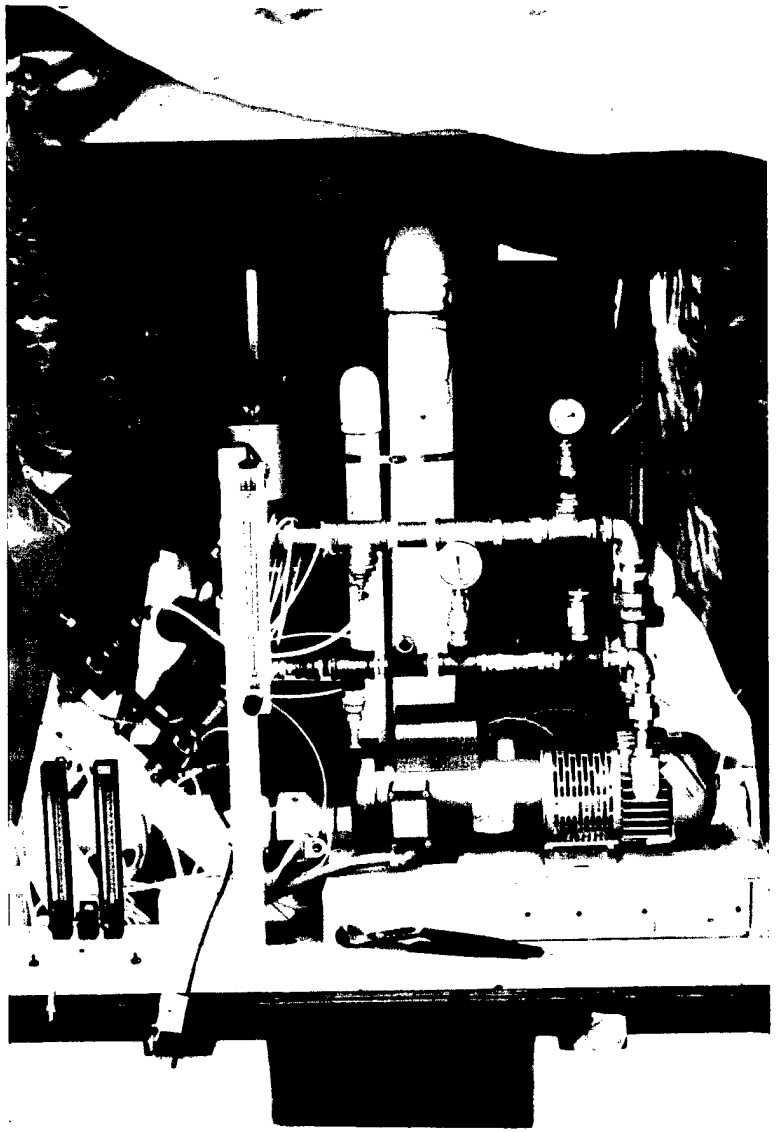

Photo 27: Air Sparging Test at SS-08B (See Solenoid Valve, Air Blower and Various Gauges) 12-5-97

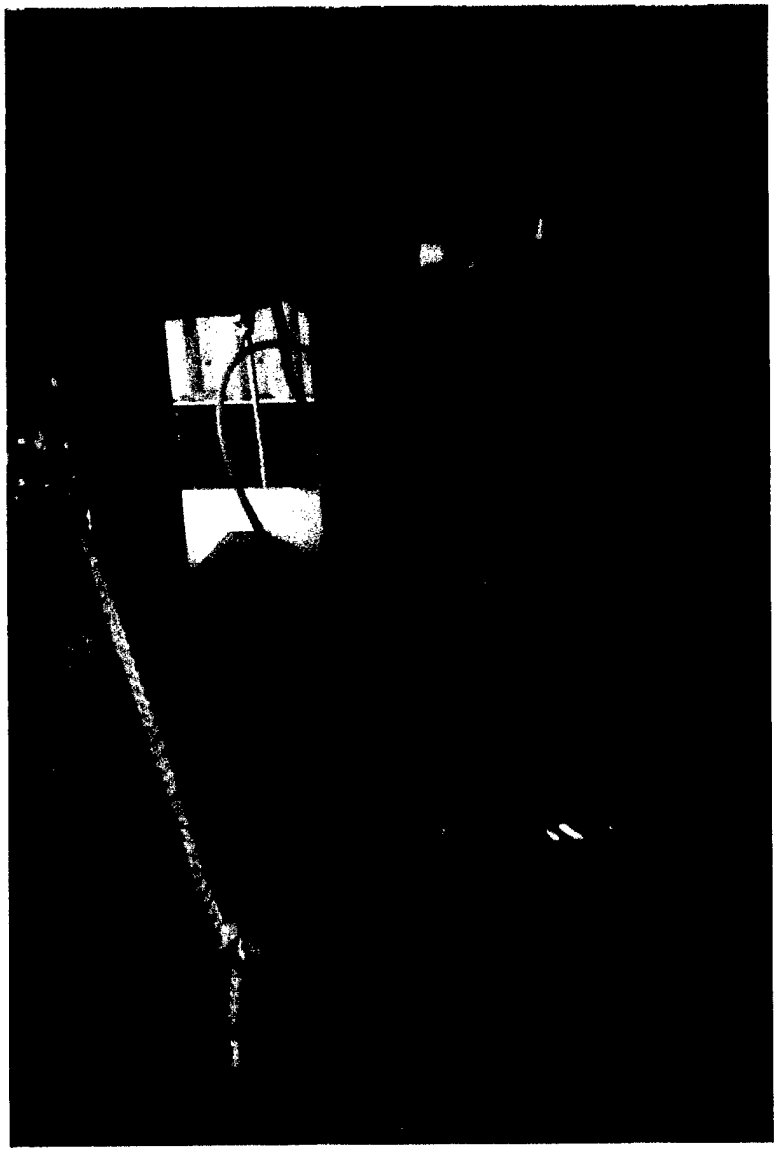

Photo 28: Helium and Sulfur Hexafluoride Flow Meters 12-5-97

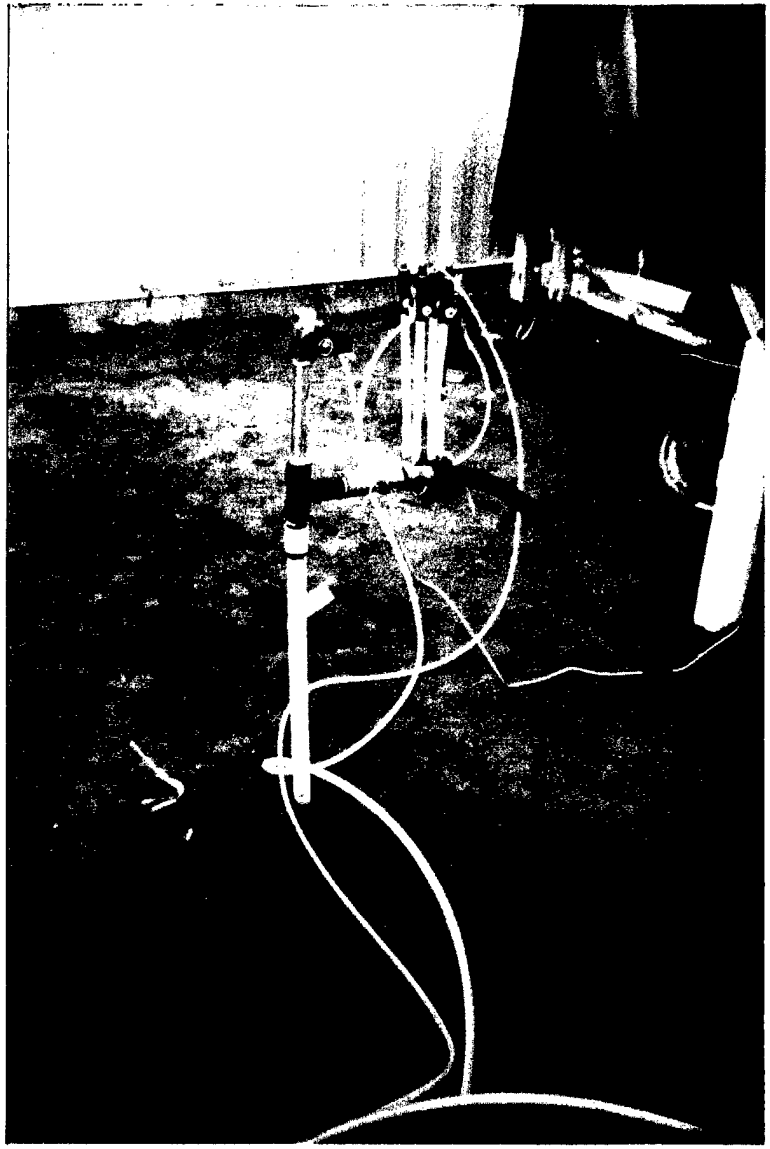

Photo 29: Site SS-08B Sparge Well and MP1 Well Cluster 12-5-97
Air Sparging in Progress (On and Off Cycle)

Photo 30: Trailer, He & SF6 Gas Cylinders and 12-5-97
MP3 Well Cluster

Photo 31: Groundwater Sampling Pump and Flow Cell 12-5-97

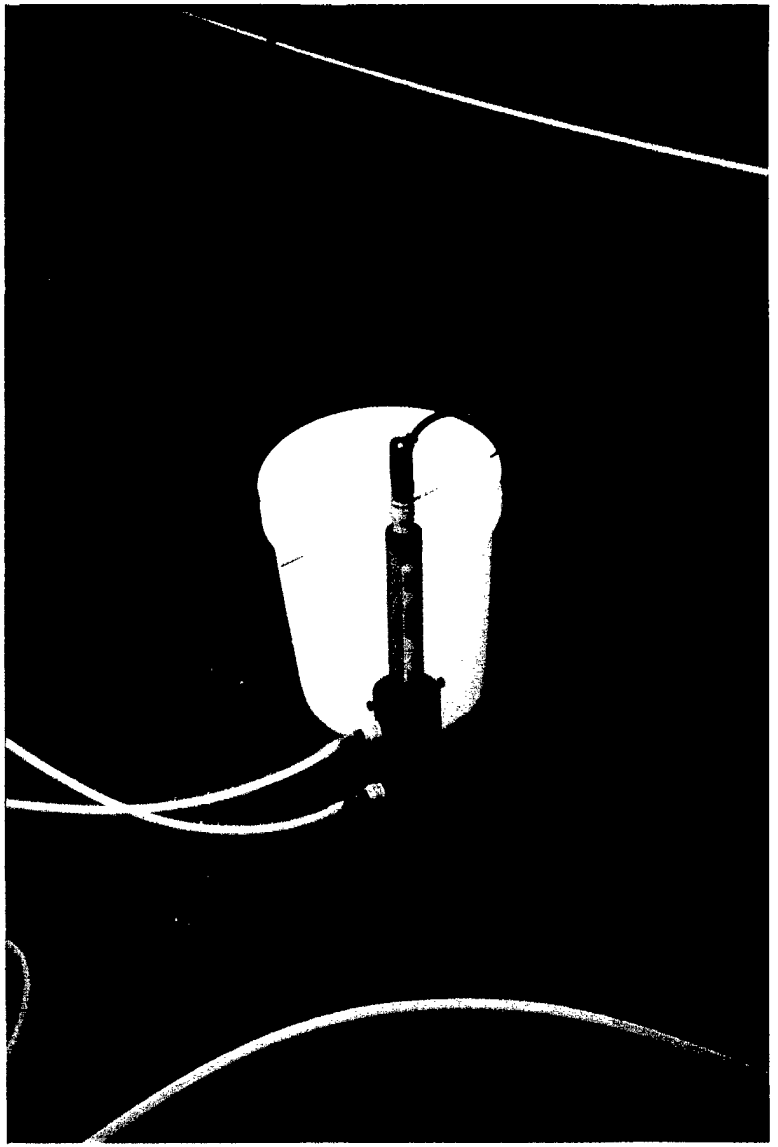

Photo 32: YSI Flow Cell with Tubing Connections 12-5-97

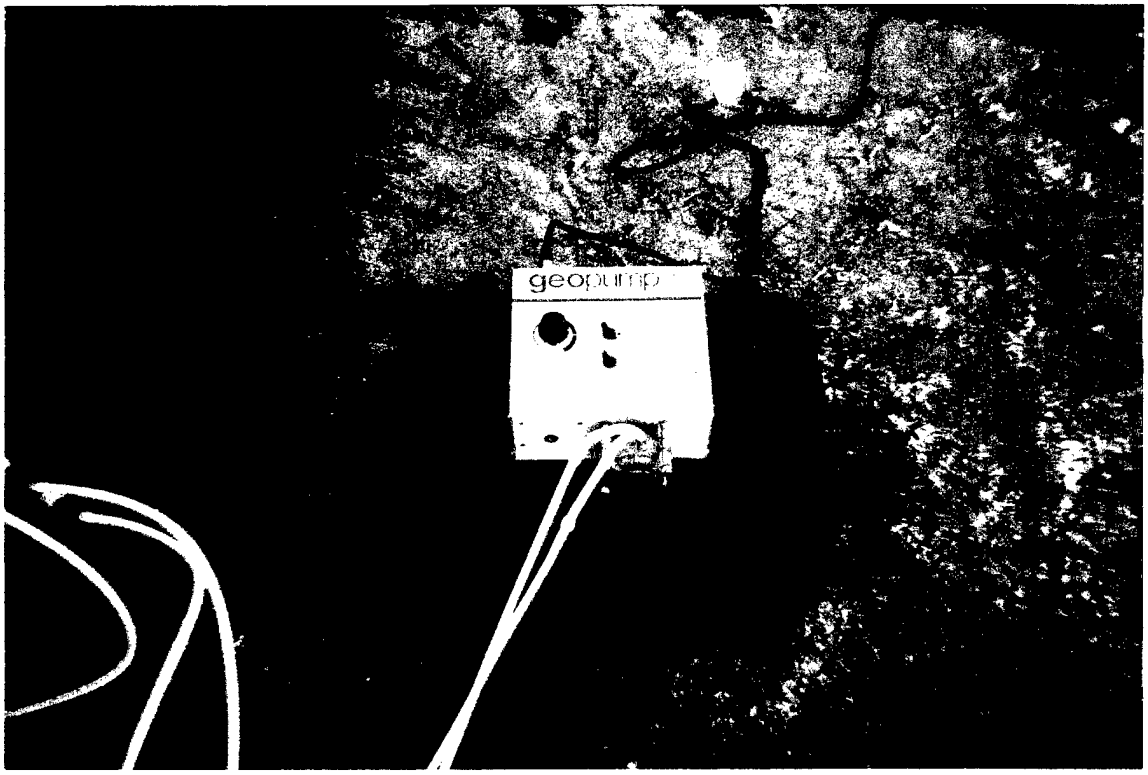

Photo 33: Peristaltic Groundwater Sampling Pump 12-5-97

Photo 34: Drummed Soil Cuttings from Site SS-08B, Moved and Stockpiled at 5092 (Sunrise Behind Wurtsmith Tower) 12-4-97