GALLIPOLIS LOCKS AND DAM

OHIO RIVER BASIN

MASON COUNTY, WV



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FOUNDATION REPORT

VOLUME 3 CORE LOGS

CONSTRUCTION OF TWO PARALLEL LOCKS AND CANAL

CONTRACT DACW-69-88-C-0001

23 JANUARY 1993

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HUNTINGTON DISTRICT

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Gallipolis Locks

Replacement

Ohio River Basin

Mason County West Virginia

Foundation Report

Volume III

Core Logs

Construction of Two Parallel Locks and Canal

Contract No. DACW69-88-C-0001

Huntington District

U.S. Army Corps of Engineers

Huntington West Virginia

March 1992

Gallipolis Lock Replacement

Ohio River Basin

Mason County W.V.

Foundation Report
Volume 3 Core Logs

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Abbreviations

Ang.	Angular
Appro.	Approximate(ly)
Bd.	Bed(ded)(ing)
Bk.	Black
Bkn.	Broken
Bou.	Boulder(s)
Bre.	Breccia(ted)
Br.	Brown
C.	Coarse
Cal.	Calcareous
Carb.	Carbonaceous
Cbl.	Cobble(y)
Cl.	Clayey
Comp.	Compaction
Conc.	Concretion
Cong	Conglomeratic
Cem.	Cement(ed)
Dia.	Diameter
Disc	Discontinuous
Dk.	Dark
Dn.	Dense
Dmp.	Damp
F.	Fine
Fer.	Ferruginous
Fis.	Fissile
Fil.	Filled(ing)
Fos.	Fossil(iferous)
Frac.	Fracture(d)
Frags.	Fragment(s)(al)
Fri.	Friable
F.W.	Free Water
G.	Grain(ed)
Gn.	Green
Gr.	Gray
Gra.	Gravelly
G.W.	Ground Water
H.	Hardness
Hi.	High(iy)(er)
Hor.	Horizontal(iy)
Inc.	Inclusions
Intbd.	Interbedded
Irr.	Irregular
Jt.	Joint(ed)
L.	Little
Las.	Laminat(ions)(ed)
Lay.	Layer(s)
Len.	Lens(es)
Lg.	Large
Lt.	Light
M.	Moderately
Ma.	Many
Mas.	Massive(ly)
Mat.	Material
Mic.	Micaceous
Mos.	Mostly
Mot.	Mottled
Mot.	Moist
Mtx.	Matrix
Nod.	Nodule(s)
Num.	Numerous
O.	Open
Occ.	Occasional(ly)
Org.	Organic
Part.	Particle(s)
Pl.	Plastic
Peb.	Pebble(s)
Pkt.	Pocket(s)
Pn.	Plane(s)
Pt.	Part
Pyr.	Pyrite(ic)
R.	Red
Ro.	Rock(s)
Rot.	Rotten (ed)
Rou.	Round(ed)
Rt.	Root(s)(let)
S.	Soft
Sa.	Sandy
Scat.	Scattered
Se.	Seams
Sev.	Severely
Sevr.	Several
Sh.	Shaly
Sil.	Siliceous
Sl.	Silty
Sli.	Slight(ly)
Slk.	Slickensided
Sm.	Small
So.	Some
Sol.	Solution
Sta.	Stain(ed)
Stf.	Stiff
Stks.	Streak(s)
Sty.	Stylolite
T.	Thin
Thr.	Throughout
Tk.	Thick
Tr.	Trace
Ve.	Very
Ver.	Vertical
Vu.	Vuggy
W.	Water
/W.	With
W.C.	Water Content
Wd.	Weathered
Xbd.	Cross Bedded
Y.	Yellow
Zo.	Zone

Rock

Symbols

Symbol	Name	Abbreviation
	Sandstone	SS.
	Conglomerate	CONG.
	Shale	SLS.
	Claystone	CLS.
	Limestone	LS.
	Coal	C.
	Indurated Clay	ICL.
	Dolomite	DO.

Hardness

Very soft or plastic - Can be indented easily with thumb

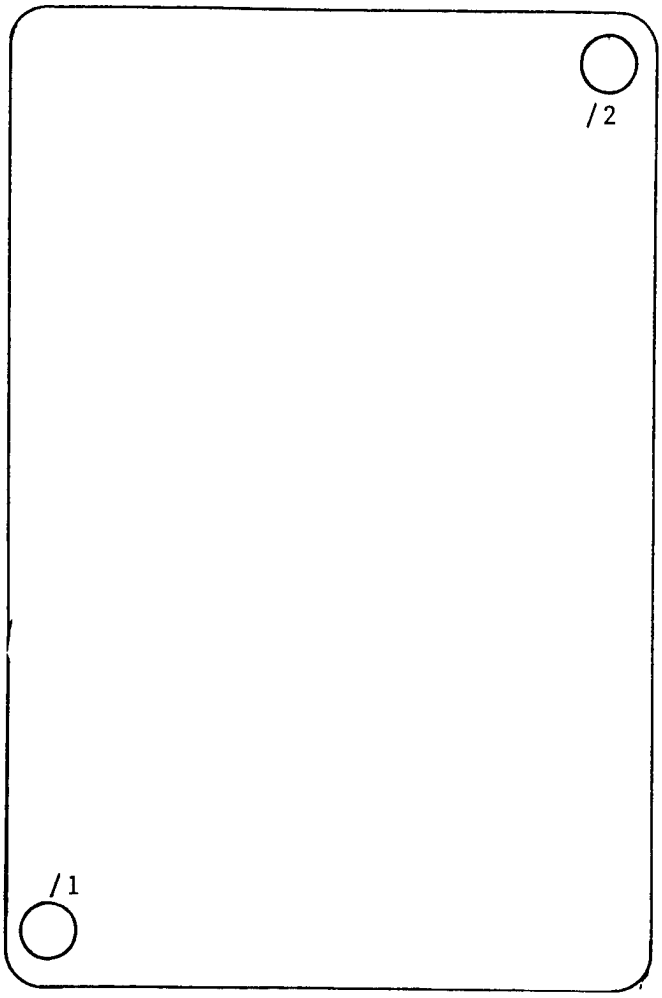
Soft - Can be scratched with fingernail

Moderately Hard - Can be scratched easily with a knife; cannot be scratched with finger -nail

Hard - Difficult to scratch with a knife

Very Hard - Cannot be scratched with a knife

Core Hole Layout in a Monolith



Example A. R-34/2 The R-34 is the Monolith Number. The /2 shows the location of the Core Hole in the Monolith. Refrence the Drawing on this page for core hole locations.

Hole No. 05/1

DRILLING LOG	DIVISION ORD	INSTALLATION OCH-CD	SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO 05/1 STA 16+96.5 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): 05/1
5. NAME OF DRILLER: DAVID HARDER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 495.4
8. DEPTH DRILLED INTO ROCK: 95.4
9. TOTAL DEPTH OF HOLE: 4500
10. SIZE AND TYPE OF BIT: 4 1/5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 4/25/89; COMPLETED 4/26/89
17. ELEVATION TOP OF HOLE: 495.4
18. TOTAL CORE RECOVERY FOR BORING: 45.4 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.4			SANDSTONE			PULL #1
	1		P.-m.g, m.gr, m.h.-h, mass			START 8:00
					Box	END 8:20
	2		brn, sly 0.0-1.4: pts on		1	TIME 20 min
						DRL 20 min
	3		irr. sly lam starting			RAN 4.7
						REC 4.7
					3.7	LOSS 0.0
	4		@ 60; grading			UNACC 0.0
						T/DEP 4.7
	5				Box	DEP 5.2
					2	PULL #2
	6					START 8:30
						END 8:50
488.2	7				7.2	TIME 20 min
						DRL 20 min
			SANDSTONE			RAN 4.4 UNACC 0
	8					REC 4.4
			sly, p.g, m.h, m.gr brn		Box	LOSS 0
	9				3	DEP + T/DEP 9.1
			w/tr. cl. coq 8.2-9.1			PULL #3
	10					START 9:20
			f 9.1-11.3 w/1.8 LC		10.5	END 9:45
	11					TIME 25 min UNACC 1.8
			(mech): brn mech			DRL 25 min
	12				Box	RAN 3.6
			12.7-13.0 & 19.1-19.5		4	REC 1.8 T/DEP 12.7
	13					LOSS 1.8 DEP 13.3
			w/core spins: sly			PULL #4
	14					START 9:25 RAN 2.9
			19.5-19.8			END 9:37 REC 2.9
						TIME 12 min LOSS 0.0
	15					UNACC 0.0
479.8						DRL 12 min
					15.6	DEP + T/DEP 15.6
	16		CLS			PULL #5
						START 9:50
	17		sly occ sa, m.gr, s.-mx.			END 10:18
			f pts sly: V.S. 17.4-17.5		Box	TIME 28 min
			f grading sa @ 18.6		5	DRL 28 min
	18					RAN 3.8
						REC 3.8
	19					LOSS 0
476.0					19.1	UNACC 0 T/DEP 19.4
					Box	DEP 19.8
	20		SANDSTONE (CONT)		6 CONT	

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.4 | Hole No. 05/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #6
	21		SLY, F.g, m.h, M.GR. w/occ			START 10:30
			M.GR SLY LAM & ZONES; CLOSE			END 11:10
	22		- MSPACED SLY. PTYS START			TIME 40 min
			@ 20.3; v. OKW 22.2 - 24.0			DRL 40 min
	23		W/0.5 L.C (PROB MECH)		22.7	RAN 4.6
			: 0.3 LC 24.0 - 24.3 (MECH)			REC 4.1
	24		BEADING		Box 7	LOSS 0.5
470.7						UNACC 0.5 T/DEP 24.0
						DEP 24.9
	25		SANDSTONE			PULL #7
						START 12:00
	26		F.-M.G, m.h. h. H.-M.GR			END 12:15 T/DEP 25.7
						TIME 15 min
	27		MIC, MINSS W/OCC PTS			DRL 15 min
					26.8	RAN 1.7
	28		ALONG MIC LAM: 0.7			REC 1.4
					Box 8	LOSS .3
	29		L.C (?) 6TWN 25.1 &			UNACC 0.3
			30.2 : M. SPACED PTS			DEP 29.9
	30					PULL #8
			ON NEAR HOR. THIN			START 12:15 RAN 4.5
	31					END 12:30 REC 3.8
			MID LAM STARTING @			TIME 5 min LOSS .7
	32					DRL 5 min UNACC .7
			31.0.		31.0	DEP 30.8
	33					PULL #9
						START 12:42
	34					END 12:55
					Box 9	TIME 13 min
	35					DRL 13 min
						RAN 4.5
	36					REC 4.5
						LOSS 0
	37				34.7	UNACC 0
						DEP & T/DEP 35.7
	38					PULL #10
						START 1.00
	39				Box 10	END 1.10
						TIME 10 min
	40					DRL 10 min
						RAN 5.1
	41					REC 4.8
					39.5	LOSS 0
	42					UNACC 0
						DEP 39.5
	43				Box 11	T/DEP 39.8
						PULL #11
	44		(CONT)			START 1.30
						END 1.45
						TIME 15 min
						DRL 15 min
					41.9	RAN 4.7
					Box 12	REC 5.0
						LOSS 0
						UNACC 0
					CONT	(CONT)

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.4 | Hole No. OS/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE		BOX 12	DEP+TIDE P 44.5 P-LL842
	45					START 2:15
450.0			BOTTOM HOLE		45.4	END 2:28
						TIME 13 min LOSS —
	46					DRL 13 min UNREC —
						PAN —
	47					REC 2.5
						DEP+TIDE P 47.0
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. OS/1

Hole No. OS-2

DRILLING LOG	DIVISION OCD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MOND OS-2 STA 17+15.34 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): OS-2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 495.0
8. DEPTH DRILLED INTO ROCK: 45.8
9. TOTAL DEPTH OF HOLE: 449.2
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 4/27/89; COMPLETED 4/28/89
17. ELEVATION TOP OF HOLE: 495.0
18. TOTAL CORE RECOVERY FOR BORING: 45.8 %
19. SIGNATURE OF INSPECTOR: [signature]

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.0			SANDSTONE F.9, sly, m.h, m.gr. SLS 0.6			PULL #1 START 7:20
494.1	1		-0.9: TOP CONTACT			END 7:30
			SANDSTONE			TIME 10 MIN
	2		F.m.g, lt. m.gr. m. h. -h		1	DRL 10 MIN
			MASS., w/CLAY THIN mic			RAN 4.8
	3		LAM. m.gr. sly INCLS			REC 4.8
			STARTING @ 3.7		3.8	LOSS Ø
	4					UNACC Ø
						T/DEP 4.8
	5					DEP 5.0
						PULL #2
488.8	6				2	START 7.45
			Interbdd CLS/SS. /CLS			END 8:00
	7		S.-m.h, m-dk.gr, SS.-			TIME 15 MIN
			F.g., m.h. f.-m.gr			DRL 15 MIN
	8		0.1 LC (mock) 6 TWN 4.8		7.5	RAN 5.0
			+ 9.8 CLS SE @ 6.2			REC 4.9
	9		- 7.5 ; 12.3 - 13.1 ; 18.2 -			LOSS 0.1
			21.5		3	UNACC 0.1
	10					T/DEP 7.8
						DEP 10.0
	11					PULL #3
						START 9.30
	12				11.0	END 9:40
						TIME 10 MIN
	13					DRL 10 MIN
						RAN 4.2
	14				4	REC 4.2 UNACC Ø
						LOSS Ø
	15					T/DEP/DEP 19.0
						PULL #4
	16				16.6	START 9.50
						END 10:05
	17					TIME 15 MIN
					5	DRL 15 MIN
	18					RAN 4.9
						REC 4.9
	19					LOSS Ø
					18.2	UNACC Ø
	20		(CONT)		6 (CONT)	T/DEP 18.8 DEP 19.0 PULL #5 (CONT)

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 475.0 | Hole No. OS-2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		Interbdd cls & ss			PULL #5
	21				6	START 10:10 END 10:20 TIME 10min
473.5					21.5	DRL 10min TIDE 21.5
	22		SANDSTONE			RAN 2.7 REC 2.7
	23		A.g: sly lcly, m.gr, m.l		7	LOSS 0 UNACC 0
	24		w/occ thin sly lam			DEP 23.7 PULL #6
	25		: bc coming more		25.2	PULL #7 START 10:40
	26		sa w/dep th 0.1 LC		8	END 10:58 TIME 18 min DRL 18min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	27		C mach) 29.6-33.9			START 10:30 END 10:35 TIME 5min DRL 5min RAN 3.1 REC 2.9 LOSS 0.2 UNACC 0.2
	28				28.9	
	29					DEPTIDE 29.6
	30					PULL #8
	31				9	START 11:02 END 11:15 TIME 13min
	32				32.1	DRL 13 min
	33					RAN 3.8 REC 3.7 LOSS 0.1
	34				10	UNACC 0.1 TIDE 33.4
	35					DEP 39.0 PULL #9
	36				35.7	START 11:25 END 11:35 TIME 10min DRL 10min
	37					RAN 3.2 REC 3.2 LOSS 0
	38				11	UNACC 0 TIDE 38.4
	39					DEP 38.9 PULL #10
	40				39.3	START 7.20 END 7.35 TIME 15min DRL 15min
	41					RAN 5.1 REC 5.1 LOSS 0
	42				12	UNACC 0 TIDE 42.4 DEP 42.9 PULL #11
	43				42.9	
	44		(cont)		13 (core)	START 9.45 END 9:50

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. OS-2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.0 | Hole No. 05-2

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44					PULLED
						TIME 5 MIN
	45				13	DRL 5 MIN
						PEN 4.1
449.7			BOTTOM HOLE		45.8	REC 4.1 T/DEP 45.8
	46					LOSS 0
						UNACC 0
	47					DEP 46.7

DRILLING LOG | ORD | ORH&CD | OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO RT-1 STA 3+32.8
3. DRILLING AGENCY: W.G. JAMES
4. HOLE NO. (As shown on drawing title and file number): RI 1/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.4
8. DEPTH DRILLED INTO ROCK: 34.6
9. TOTAL DEPTH OF HOLE: 462.8
10. SIZE AND TYPE OF BIT: 4 1/5 V2
11. DATUM FOR ELEVATION SHOWN (USM or USL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/27/69; COMPLETED 2/27/69
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 39.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE			PULL #1
496.1			LT GR, MN, H, F:M.g. LTL STAIN FLASSY BD			START 9:25
						END 9:37
	2		SLS		1	TIME 12 MIN
			GR, S-M, H, SH, OCC INTRBDD			DRL 12 MIN
	3					RAN 5.0
			W/CLS, CLS, GR, S, SH,			REC 4.8
	4				3.8	LOSS 0.2
			1.3-2.3, 3.4-3.6 6.5-7.3			UNACC 0.2
	5					DCP & T/DCP 5.0
			BKN 8.7-9.2, 9.8-10.1, 12.8			PULL #2
	6				2	START 7:42
			13.0, 13.9-15.0, 19.0-19.2			END 9:56
	7					TIME 14 MIN
			BKN 1.3-1.5, SCLSLS, 3.9-6.5		17.4	DRL 14 MIN
	8					RAN 3.6
			15.0-18.5, HIGH ANG			REC 3.1 T/DCP 8.6
	9				3	LOSS 0.5
			FRAC 5.4-6.4 CLSLS			UNACC 0.5
	10					DCP 10.0
			below 22.23.0			PULL #3
	11					START 10:03
					11.5	END 10.17
	12					TIME 14 MIN
						DRL 14 MIN
	13					RAN 5.0
					4	REC 4.9 T/DCP 13.4
	14					LOSS 0.1
						UNACC 0.1
	15				15.1	DCP 15.0
						PULL #4
	16					START 10 22
					5	END 10.36
	17					TIME 14 MIN LOSS 0
						DRL 4 MIN UNACC 0
	18					RAN 4.7
					18.7	REC 4.7 T/DCP 18.3 DCP 18.6
	19				6	PULL #5
					(CONT)	START 10.44
	20		(CONT)			END 10.56

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: RI 1/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497A | Hole No. RI 1/1

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-ED | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21				6	TIME 12 MIN
	22					DRL 12 MIN
	23					RAN 5.0
	24					REC 4.3
					22.5	LOSS 0.2 TIDCP 22.8
						UNACC 0.2 DCP 23.3
472.6	25		ICL			PULL #6
	26		R.-BR, S-M.H, SA. NUM.		7	START 11.02
	27		SLK, BRN, OCC MOTTLED			END 11:18
	28		W/GR-GNGR, CL			TIME 16 MIN
	29		DKGR. ABOVE 28.3, SPARSELY			DRL 16 MIN
	30		BRN 27.1-27.7, 31.1-31.8		26.1	RAN 4.3
	31		SLT below 32.3			REC 3.7 TIDCP 27.1
	32				8	LOSS 0.6
	33					UNACC 0.6 DCP 27.8
462.9	34		BOTTOM HOLE			PULL #7
	35					START 11.25
	36					END 11.45
	37				29.7	TIME 20 MIN
	38					DRL 20 MIN
	39				9	RAN 4.9
	40					REC 4.9 UNACC 0
	41					LOSS 0 TIDCP 31.7
	42					DCP 32.1
	43					PULL #8
	44					START 12:45
						END 1258
					33.2	TIME 13 MIN LOSS 0
					10	DRL 18 MIN UNACC 0
						RAN 2.5
						REC 2.3 TIDCP 39.9
					34.5	DCP 34.6

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: Gallipolis Lock + Dam | HOLE NO. RI 1/1

DRILLING LOG | ORD | ORH-CD | OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM	10. SIZE AND TYPE OF BIT: 4 7/8 V2
2. LOCATION (Coordinates or Station): MONO RI-1 STA 3+87A	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
3. DRILLING AGENCY: W. G. JAQUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
4. HOLE NO. (As shown on drawing title and file number): RI 1/2	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: DAVE HARPER	14. TOTAL NUMBER CORE BOXES: 9
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: @ 497.0	16. DATE HOLE: STARTED 2/27/89; COMPLETED 2/28/89
8. DEPTH DRILLED INTO ROCK: 33.8	17. ELEVATION TOP OF HOLE: 497.0
9. TOTAL DEPTH OF HOLE: 463.2	18. TOTAL CORE RECOVERY FOR BORING: 33.1 %
	19. SIGNATURE OF INSPECTOR: J MP

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SANDSTONE LT.GR., M.H. F.M.G. FLAGGY			PULL #1
496.0	1		Bd			START 1:15
			SLS			END 1:26
	2		GR, S-M.H, SH, OCC		1	TIME 11min
						DRL 11min
	3		INTERBDD W/CLS			RAN 5.0
					3.5	REC 4.5
	4		CLS, GR, S, SH 1.0-1.4			LOSS .5
						UNACC .5
	5		3.2-3.5, 13.0 13.6			DEP+TIDEP 5.0
					2	PULL #2
	6		22.3-22.8, BKN 1.2-1.9			START 1:30
						END 1:47
	7		9.1-9.3 BKN PNS 0.9		17.3	TIME 17min
						DRL 17min
	8		SPACING, BKN 0.2-0.1			RAN 9.1
						REC 9.1
	9		W/OCC CLAY COATING		3	LOSS 0 TIDEP 9.1
						UNACC 0
	10		1.4-2.9, 6.3-6.8, 10.7-11.0			DEP 10.0
						PULL #3
	11		CL LS 5.7-6.8 below		10.9	START 1:57
						END 2:15
	12		22.8, SA LS LS 13.6-15.7			TIME 18min
						DRL 18min
	13		4.7-5.2		4	RAN 9.1
						REC 9.1 TIDEP 13.0
	14					LOSS 0
						UNACC 0
	15				14.3	DEP 19.1
481.3						PULL #4
	16		SANDSTONE			START 2:35
			GR. M.H. VEF.G. SLT.		5	END 2:48
	17					TIME 13min
						DRL 13min
479.9						RAN 9.0 TIDEP 17.0
	18		SLS			REC 3.7 UNACC 0.3
			SAME AS ABOVE		17.8	LOSS 0.3 DEP 18.0
	19		GR, S.-M.H. SH OCC INTERBDD W/CLS			PULL #5
					6	START 2:53
	20		(CONT)			END 3:10
					CONT	TIME 17min
						DRL 17min
						RAN 3.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: RI 1/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. RI 1/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL#5 T/DCP20.5
	21				6	REC 2.6 LOSS 0.9 UNACC 0.9
	22				22.2	DCP 22.0
	23					PULL#6 START 7:20 END 7:45 TIME 25min DRL 25min
	24				7	RAN 5.0 REC 5.0 LOSS 0 UNACC 0
472.9					25.5	DCP 25.5 T/DCP 25.3
	25		ICL			PULL#7
	26		R.BR, S.-M.H, SA, NUM SLX, BLK MOTTLED W/ GR-GN.GR., DKGR ABOVE 25.8			START 800 END 813 TIME 13 min DRL 13min
	27				8	RAN 3.9 REC 3.5 LOSS 0.4 UNACC 0.4
	28				29.4	T/DCP 29.9
	29					DCP 30.3
	30					PULL#8
	31				9	START 8:23 END 8:43 TIME 20min DRL 20min RAN 3.7
	32					REC 2.7 LOSS 0
463.9	33		BOTTOM HOLE		33.1	T/DCP 33.1 UNACC 0 DCP 33.8
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG	DIVISION ORD	INSTALLATION ORN-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4 7/8 5 7/8"	
2. LOCATION (Coordinates or Station) MONO RT 3 STA 4792 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. 6. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) RI 3/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE: STARTED 3/1/89; COMPLETED 3/1/89	
7. THICKNESS OF OVERBURDEN Ø 497.9		17. ELEVATION TOP OF HOLE 497.9	
8. DEPTH DRILLED INTO ROCK 34.5		18. TOTAL CORE RECOVERY FOR BORING 34.5 %	
9. TOTAL DEPTH OF HOLE 463.4		19. SIGNATURE OF INSPECTOR LMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SANDSTONE			PULL #1
497.3			f.mg, m.h. STA DR. SR			
	1		CLS/SLS		Box 1	START 1:30
	2		s.-m.h, m.-dk.gR			END 1:40
						TIME 10 min
	3					DRL 10 min
494.1					3.8	RAN 5.1
	4		SANDSTONE			REC 5.1
			sLy, f.g, m.h., m.dk.gR			LOSS Ø
492.8	5					UNACC Ø DEP 5.1
			CLS		Box 2	PULL #2
	6		sLy, m.-dk.gR, s.m.h.			START 1:50
			w/SCAT sm-m. NOD			END 2:00
	7				7.5	TIME 10 min
	8					DRL 10 min UNACC Ø
						RAN —
	9				Box 3	REC 4.9
						LOSS Ø DEP 9.8
	10					PULL #3
487.1					10.8	START 2:10
	11		SLS/cLS			END 2:15
			s.-m.h., m.-dk.gR, occ sLy			TIME 5 min
	12		ANG ptg. w/slk @ 2.7		Box 4	DRL 5 min
	13					RAN —
484.9					14.5	REC 4.8
	14		SS			LOSS Ø
483.4			sLy, f.g, m.h., m.gR			UNACC Ø DEP 14.6
	15		CLS/SLS			PULL #4
			s.-m.h, m.-dk.gR, p.ltg, sLy		Box 5	START 2:20
	16		w/occ sdy. med. fine			END 2:40
481.0			sandy LS m.			TIME 20 min
	17		SANDSTONE			DRL 20 min
	18		sLy, f.g., m.h, m.gR. o. nons'd		19.0	RAN —
479.5			UCET. v'frac 16.9-17.6 ; SPAT. ng		Box 6	REC 5.1
	19		SLS			LOSS Ø
			sLy, occ sdy, s.-m.h, m.gR. w/			UNACC Ø
	20		sdy nod ESS Lens SPAT. ng		(CONT)	CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. RI 3/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. RI 3/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS (CONT)		Box 6	DEP 20.1 PULL #5 START 2:45 END 2:55 TIME 10 min DRL 10 min PAN — REC 5.0 LOSS 0 UNACC 0
470.8	21 22				21.8	
	23		CLS S.-m.h, m.-dk.gr w/occ SM. NOD' grading		Box 7	
473.9	24				25.1	DEP 25.1
	25		ICL		Box 8	PULL #6 START 2:00 END 3:15 TIME 15 min DRL 15 min PAN — REC 5.0 LOSS 0 UNACC 0
	26 27 28		GREENISH GR. R-BR, S.-m.h, SLK grading R.BR @ 27.7		28.9	DEP 30.1
	29 30				Box 9	PULL #7 START 3:30 END 3:50 TIME 20 min DRL 20 min PAN — REC 4.9 LOSS 0 UNACC 0
	31 32				32.3	
	33				Box 10	
463.9	34		BOTTOM HOLE		34.5	DEP 34.5
	35 36 37 38 39 40 41 42 43 44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: GALLIPOLIS Lock & Dam | HOLE NO. RI 3/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO RT 2 STA 3+87A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): RI-2/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.0
8. DEPTH DRILLED INTO ROCK: 33.8
9. TOTAL DEPTH OF HOLE: 463.2
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (USGS or USC&GS): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 3/1/89; COMPLETED 3/1/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 33.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SANDSTONE			PULL #1
	1		f.m.g., m.h. STA. br.gr THIN-m. bdd: 0.1 LC 0.0-0.1			START 1:00 LOSS 0.1
495.7					Box 1	END 1:10 UNACC 0.1
			CL			TIME 10 min
495.0	2		gr. S. ART			DRL 10 min
			SLS			RAN 9.1
	3		sa, s.-m.h., m.gr IRR, ucrt			REC 4.0
493.8			hld FRNG 2.0-2.8		3.8	
			CLS			DEP 9.1 T/DEP 4.0
493.0	4		sly, s-m.h, m.dk gr			PULL #2
492.9			S.S. LENS			START 1:18
	5		CL			END 1:30 LOSS 0.3
491.6			gr. s. (1.2 LC)		Box 2	TIME 12 min UNACC 0.3
	6		SANDSTONE			DRL 12 min
			sly, f.g. m.h, m.gr. bkn			RAN 3.0
	7		o, ucrt J.T. 7.9-8.0			REC 2.7 T/DEP 6.7
489.0						DEP 8.0
	8				8.0	PULL #3
			SLS			START 1:37
	9		s.-m.h, m.gr UE bkn			END 1:53
			(1.5 LC)			TIME 16 min
	10					DRL 16 min
486.6					Box 3	RAN 5.0
	11		SANDSTONE			REC 3.5
			sly, f.g m.h. m.gr.			LOSS 1.5
	12					UNACC 1.5
483.7	13				13.0	T/DEP + DEP 13.0
			CLS			PULL #4
482.7	14		sly, sly, s.-m.h. m.dk gr.			START 1:58
					Box 4	END 2:12
	15		SANDSTONE			TIME 14 min
						DRL 14 min
	16		UE. sly, f.g, m.h, m-dk			RAN 5.0
					16.9	REC 5.0
	17		gr. MASS GRADING		Box 5	LOSS 0
						UNACC 0
	18					DEP + T/DEP 18.0
						PULL #5
	19					START 2:18
						END 2:33
	20					TIME 15 min
					19.9	DRL 15 min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: RI-2/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. RI 2/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.6	20		SANDSTONE			PULL #5
	21		SLS sa, S-m.h, m.-dk.gR, PTS shy 0.2LC bTWN 21.2 - 22.0		Box 6	RAN 4.0 REC 3.1 UNACC 0.2 LOSS 0.2
475.1	22		CLS/SLS slY, S.-m.h., m.-dkgR.			DEP = 22.0 PULL #6 START 2:40 END 2:52
473.2	23				23.6	TIME 12min
	24		ICL			DRL 12min
	25		S.-mh, greenish gR-R.		Box 7	RAN 5.0 REC 5.0
	26		br., SLY; becoming R.br			LOSS 0 UNACC 0
	27		@ 27.0 1.6 L.C bTWN 27.0		27.0	DEP 27.0 PULL #7
	28		& 31.6			START 3:00 END 3:15
	29				Box 8	TIME 15min DRL 15min RAN 4.6
	30					REC 3.0
	31					LOSS 1.6 UNACC 1.6
	32				32.0	DEP 31.6 PULL #8
	33				Box 9	START 3:23 RAN 2.2 END 3:38 REC 2.2 TIME 15min LOSS 0 DRL 15min UNACC 0
463.2			Bottom HOLE		33.8	DEP 33.8
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam 15+26.5 B
2. LOCATION (Coordinates or Station): mono. LC5 STATION
3. DRILLING AGENCY: W G JAQUES
4. HOLE NO. (As shown on drawing title and file number): LC5/1
5. NAME OF DRILLER: Steve Fry
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0-497
8. DEPTH DRILLED INTO ROCK: 450
9. TOTAL DEPTH OF HOLE: 47
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED Na; UNDISTURBED Na
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: Na
16. DATE HOLE: STARTED 11-28-88; COMPLETED 11/28/88
17. ELEVATION TOP OF HOLE: 497
18. TOTAL CORE RECOVERY FOR BORING: 46.8 %
19. SIGNATURE OF INSPECTOR: Mike Neal

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SS lt gr. mod hd, med to f. gr, mic mech. bkn. 492.9 to 492.4			Pull #1
	2				1	START 8:21 End 8:31 Time 10 Drl 10 Ran 4.6 Rec 4.6 Loss 0 Unacc 0
	3					
	4				38	
	5					TI Depth 4.6 TP Depth 4.9
	6					Pull #2
					2	START 6:49 Loss -0.2 End 8.56 Unacc 0 Time 7 Drl 7 Ran 2.8 Rec 2.6
489.8	7				7.2	TI Depth 7.2 TP Depth 7.4
	8		ICV r. br. s cl. occ gr. CLS len; lt gr.: 489.8-489.5, Some core diamter loss to drill water			Pull #3
	9				3	START 9:20 Rec 3.5 End 9:25 Loss 1.5 Time 5 Unacc 0 Drl 5 Ran 2.0 TI Depth 9.4 TP Depth 9.3
	10					Pull # 4
486.9						START 10.01 Ran 2.3 End 10.07 Rec 1.4 Time 6 Loss 0.9 Drl 6
	11		CLS reddish br to gn, gr, s., sh silt @ 486.3 - 485.8 Some core diameter Loss Due To drill water		109	TI Depth 11.00 TP Depht 11.07
484.7	12					Pull #5
	13		interbedded CLS R. br, to gn., gr. s sh., silt @ 486.3 & 485.8 SLS. gr. S. to mod. hd. sh. grad sa. toward bottom mech bkn 481. to 479.6 485.8 To 483.7, 479.7. to 479.6 Clay stain 478.7. 0.03 thick 478.2 .005 Thick		4	START 10:25 End 10:29 Time 14 Drl 14 Ran 4.6 Rec 2.5 Loss 2.1 Unacc .6
	14				14.4	TI Depth 14.4
	15					TP Depth 15.3
	16					Pull #6
	17				5	START 10:58 End 11:17 Time 19 Drl 19 Ran 3.4 Rec 4.4 Loss 1.0
	18					
	19				18.5	TI Depth 18.5 TP Depth 18.7
	20				6	

G FORM 1836 4R 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & Dam | HOLE NO.: LC 5/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497. | Hole No. LC 5/1

PROJECT: Gallipolis Lock and Dam | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc... if significant) g
476.4						Pull # 7
	21		SS gr. to ltgr mod hd., mod. f. to gradational w/f @ top mod. g toward. bottom cross bd.		6	START 12.11 End 12.22 Time 11 Drl 11 Ran 4.9 Rec 4.1 Loss 0.8 Unacc
	22				22.1	TI Depth 21.8
	23		Sh. scom @ 472.4. + 469.7			TP Depth 23.6
	24		fe. sta bdd pl. @ 455.4.		7	Pull #8 START 12.48 End 1.03 Time 15 Drl 10 Ran 4.7 Rec 7.4 Loss 0.7 Unacc 0
	25				25.5	
	26					
	27				8	
	28					TI Depth 28.6
	29				29.2	
	30					TP Depth 30.6
	31				9	Pull # 9. START 1.26 End 1.36 Time 10 Drl 10 Ran 9.6 Rec 8.8 Loss 0.8 unacc 0
	32				32.8	
	33					
	34				10	
	35					
	36				36.6	
	37					TI Depth 37.0
	38				11	
	39					TP Depth 39.9
	40				40.3	Pull # 10
	41					START 2.00 End 2.15 Time 15 Drl 15 Ran 9.0 Rec 9.8 Loss 0.8
	42				12	
	43				43.4	
	44				13	

ENG FORM 1836-A JUN 67 | GPO 1969 O—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO LC 5/1

DRILLING LOG (Cont Sheet) 497 Hole No. LC-5/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORANCO | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	45					
	46					
450	47				47.0	TI Depth 46.8
	48					
	49					TI Depth 48.9
	50					

ENG FORM 1836-A JUN 67 GPO 1965 OF—329-243 PROJECT Gallipolis Lock & Dam HOLE NO LC 5/1

DRILLING LOG	DIVISION	INSTALLATION	SHEET 2 OF 5 SHEETS
	ORD	ORH-CD	

1. PROJECT: GALLIPOLIS Locks + DAM
2. LOCATION (Coordinates or Station): MONO STA
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): LC-18/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 495.0
8. DEPTH DRILLED INTO ROCK: 38.9
9. TOTAL DEPTH OF HOLE: 446.1
10. SIZE AND TYPE OF BIT: 4X5.5"
11. DATUM FOR ELEVATION SHOWN (USM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B- Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/11/89; COMPLETED 1/11/89
17. ELEVATION TOP OF HOLE: 495.0
18. TOTAL CORE RECOVERY FOR BORING: 38.9 %
19. SIGNATURE OF INSPECTOR: L.M.D.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.0	0		CLS			PULL #1
	1		DK.-M. GR, S-M.H.			START 6:05
			V. BKN. W/S. ZO.			END 6:20
						TIME 15 MIN
	2		0.0-3.9 W/1.6 LC			DRL 15 min
			: U.S., GR., S.4-			RAN 5.0
					Box 1.	REC 2.8
	3		6.9			LOSS 1.6
						UNACC 0
	4					
						T/DEP 4.6
	5					DEP 5.0
					5.4	
	6					PULL #2
488.1						START 6:30
	7		SANDSTONE			END 6:41
			M. C-G., M.H.,		Box 2.	TIME 11 MIN
	8		W. GR C.I S. GR.			DRL 11 MIN
			CL 10.8-10.7			RAN 4.6
						REC 3.5
	9					LOSS 0
						UNACC 0
						T/DEP 8.1
	10				8.9	
					Box 3	
						DEP 9.6
						PULL #3

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 495.0 **Hole No.** LC-18/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 5 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE		Box 3. CONT.	PULL # 3
484.2						START 8:00
	11		CLS			END 8:07
			SLY, M. dK. gR.,			TIME 7 min
	12		S. - M. h. bKN.,			DRL 7 min
			S. @ 12.9 CONTACT			RAN 3.6
						REC 4.2
						LOSS 0
482.1					12.3	UNACC 0 T/DEP R.3
	13		SLS		Box 4.	DEP 13.0
						PULL # 4
			SA, M.h., M. gR			START 8:27
	14		mech. PTS @ 17.4,			END 8:41
			17.8, 18.4: bKN.			TIME 14 min
	15		ALONG SMOOTH PTS			DRL 14 min
			@ 19.1: WEA HOR			RAN 4.3
	16		PTS. @ 20.1 & 20.5			REC 3.6
						LOSS 0
						UNACC 0
					15.9	T/DEP 15.9
	17				Box 5.	DEP 17.9
						PULL #5
	18					START 8.55
						END 9:07
						TIME 12 min
	19					DRL 12 min
						RAN ?
						REC 5.0
						LOSS 0
					19.7	UNACC 0
	20				Box 6	
474.1						DEP & T/DEP 20.9
	21		SAND STONE			PULL #6
	22		(CONT.)		CONT.	(CONT.)

ENG FORM 1836-A JUN 67 GPO: 1969 OF—328-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. LC-18/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.0 | Hole No. LC-18/1

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 3 OF 5 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SAND STONE		Box 6.	
					22.8	
	23		SLY., f.g., m.h.,			PULL #6
			M. GR. W/SLS ZOS.			START 9:20
						END 9:37
	24		HOR. PTG @ 21.7		Box 7.	TIME 17 MIN
						DRL 17 MIN
			M. SPACED MECH.			RAN P
	25					REC 5.0
			PTGS. THROUGHOUT			LOSS 0.0
						% NACL 0.0
			SEV. OVERCORE AREAS			
	26					
					26.6	
	27					
					Box 8	
	28					
	29					T/DEP 29.3
	30					
					30.3	
						DEP 30.5
	31					PULL #7
					Box 9.	
	32					
	33					
	34		(CONT)		34.0	(CONT.)

ENG FORM 1836-A JUN 67 | GPO 1968 OF—329-243

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. LC-18/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE: 495.0 **Hole No.** LC-18-1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 4 OF 5 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		SAND STONE			PULL #7
	35		SLY., F.G., M.H., M.GR			START 9:50
			W/SLS. ZOS. HOR.			END 10:05
						TIME 15 MIN
					Box 10.	DRL 15 MIN
	36		PTG @ 21.7 M.SPACED			RAN ?
			MECH. PFGS			REC 10.2
						LOSS 0
			THROUGHT OUT. SEV			UNACC 0
	37					
			OVER CORE AREAS.		37.7	
	38					
						T/DEP 38.7
	39					DEP 39.3
					Box 11.	PULL #8
	40					START 10:20
						END 10:35
						TIME 15 MIN
	41					DRL 15 MIN
						RAN 10.2 (?)
					41.4	REC 9.6
						LOSS 0
	42					UNACC 0
	43				Box 12.	
	44					
	45				45.2	
					Box 13	
	46		(CONT)		CONT.	(CONT)

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. LC-18-1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.0 | Hole No. LC-1811

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 5 OF 5 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	46		SANDSTONE			PULL #8
	47				Box 13.	
	48					T/DEP 38.0
446.1			...BOTTOM HOLE		48.9	DEP 38.9
	49					
	50					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. LC-1811

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA 12+96.41
3. DRILLING AGENCY: W.G. Jaques
4. HOLE NO. (As shown on drawing title and file number): LC. 24/1
5. NAME OF DRILLER: David Harper
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.1
8. DEPTH DRILLED INTO ROCK: 47.1
9. TOTAL DEPTH OF HOLE: 47.1
10. SIZE AND TYPE OF BIT: "B" 53
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL:
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A | UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/23/89 | COMPLETED 12/23/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 47.1 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1–19		SS gr. to lt. gr. mod. hd. med. to c. g. slightly mic. Sev. fr. staining 497.1 - 496.9 Cl. str. 496.1 - 496.0 (med. bkn.) 488.8 - 488.6 (sh.)		1 (3.7)	Pull # 1 START End Time Drl Ran Rec Loss unacc TP 3.1 TI 4.6
					2 (7.1)	Pull # 2 START End Time Drl Ran Rec Loss unacc TP 5.9 TI 7.8
					3	Pull # 3 START End Time Drl Ran Rec Loss unacc TP 7.8 TI 8.9
					4 (10.7)	Pull # 4 START 9:05 End 9:35 Time 5 Drl 5 Ran 9.0 Rec 5.6 Loss 0 unacc 0 TI & TP 12.8
484.3			SLS, gr. to gn. gr. S to med. hd. grad. w/Cl @ top to S. @ bot Interbdd CLS (gr S occ. w/ fatty CL) 483.5 - 483.4, 482.3 983.0, 478.8 - 478.7 Sev. to mod bkn. SLS. w interbdd CLS & fatty CL. w/ poss 1.1 loss 483.0 - 480.3 fatty Cl seams 479.8, 479.5 479.0 bkn. pl. w/ spacing		5 (14.1, 18.4)	Pull # 5 TP 13.0 START 9:22 End 9:35 Time 13 Drl 13 Ran 4.4 Rec 0.9 Loss 0 unacc 0 TI 17.2 Pull # 6 START 9:53 End 9:59 Time 8 Drl 8 TP 17.4 Ran 0.6 Rec 3.7 Loss 1.1 TI 17.8 unacc 1.1

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam. | HOLE NO.: LC 24/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 470.0 | Hole No. LC 24/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				21.1	Pull # 7 START 10.11 End 10.24 Time 16 Drl 16 Ran 9.5 Rec 9.3 Loss 0 Unacc 0 TP 20.7 TI 21.3
474.7	22		-			Pull # 8
	23		SS. gr. to lt. gr. mod. hd fine to mod. gl. mic few small hd. pyritic nod. & flahs : 473.0 - 472.0 num. mic bdd. pl. Chan. 465.0 Cal cemt 464.3 - 463.1 461.8 - 461.5 456.2 . 455.3 449.0 + 5.7		7	START 10.44 End 11.00 Time 16 Drl 16 Ran 8.5 Rec 8.8 Loss 0 Unacc 0
	24					
	25				25.7	
	26					
	27				8	
	28					
	29				29.1	
	30					TP 29.5 TI 29.8 Pull #9
	31				9	START 10.15 End 11.41 Time 26 Drl 26 Ran 1.7 Rec 1.7 Loss 0 Unacc 0
	32				32.6	
	33					
	34				10	
	35					
	36				36.3	
	37					
	38				11	
	39					TI & TP 39.4 Pull # 10
	40				39.9	
	41					START - 12.45 End 1:07 Time 22 Drl 22 Ran 18.0 Rec 10.1 Loss 0 Unacc 0
	42				12	
	43				43.4	

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 470.0 | Hole No. LC. 241

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 5 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	45				13	
	46					
					46.9	
424.50	47					
	48					
	49					
449.3						TLP TP 49.5
	10					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. LC 241

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): 11+884
3. DRILLING AGENCY: W G Jaques
4. HOLE NO. (As shown on drawing title and file number): 496.8
5. NAME OF DRILLER: Norris
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.8
8. DEPTH DRILLED INTO ROCK: 46.8
9. TOTAL DEPTH OF HOLE: 46.8
10. SIZE AND TYPE OF BIT:
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 57
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-28-88; COMPLETED 12-28-88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 46.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SS lt gr. to gr. mod. hd. f to c. gn. mic. bkn pl w/ 0.3 spacing 496.8-495.0			Pull #1
	1					START 18.15
						End 18.30
						Time 15
	2				1	Drl 15
						Ran 5.0
						Rec 5.1
	3					Loss ~~0~~
			c.gn. 492.2-490.1 l/f to med g, above & below		3.7	Unacc ~~0~~
	4		Clay stringers: 491.4-491.0			
			490.1. Cal. cemt. 483.8.			
			483.0 mech chipped.			
			482.0-481.8			
	5					TI & TP 5.0
						Pull #2
	6				2	
						START 18.35
						End 19.05
	7				7.1	Time 30
						Drl 30
	8					Ran 10.1
						Rec 9.7
	9				3	Loss ~~0~~
						Unacc ~~0~~
	10					
					10.7	
	11					
	12					
	13				4	
	14				14.3	
						TP 14.8
	15					TI 15.1
						Pull #3
	16				5	START 19.15
480.3						End 19.45
479.7	17		SLS gn.gr. s to med hd s. int bdd w/ f g. ss below 480.			Time 30
						Drl 30
478.8	18		SS gr. med hd. f. g.			Ran 5.9
					17.9	Rec 6.2
			SLS gr to gn. gr. s to med hd. c, sh. to cl 478.5			Loss ~~0~~
477.9			478.1 bkn 478.5-478.4			Unacc ~~0~~
	19		SS		6	

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PROJECT: Gallipolis Locks & Dam; HOLE NO. LC 29/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. LC 29/1

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 2 OF 9 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS lt gr. mod hd. f to med gr. mic sls. Stringers 474.6 few occ small) pyrite Nod. 477.9 475.5 thin c/ str. 472.5, -4723, 470.4 Sl 472.5 - 472.3 Small cls frag. 470.9 Cal Cemented 465.9-465.8 Num mic bdd pl. band. 462.8, 462.4, 461.6 461.5, 460.7-460.6. 455.0 458.8, 452.0-451.9, 451.0		6	TI & TD 21.0 Pull #4
	22				21.5	START 20.30 End 21.00 Time 30 Drl 30 Ran 6.7 Rec 7.2 Loss 0 Unacc 0
	23				7	
	24					
	25				25.1	
	26					
	27				8	TD 27.7
	28					TI depth 28.2
	29				28.7	Pull # 5
	30					START 21.55 End 22:25 Time 30 Drl 30 Ran 7.7 Rec 7.1 Loss 0 Unacc 0
	31				11	
	32				32.5	
	33					
	34				10	
	35					TD 35.2
	36					TI 35.5 Pull # 6
	37				35.9	
	38					START 21:45 End 22.10 Time 35 Drl 35 Ran 9.9 Rec 10.5 Loss 2 Unacc 2
	39				1.1	
	40				39.3	
	41					
	42				12	
	43					
					43.1	

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PROJECT Gallipolis Locks & Dam | HOLE NO. LC 29/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. LC 29/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44				13	
	45					TP 45.3
						TI 45.8
	46					Pull #7
						START 22.35
					46.8	End 22.55
	47					Time 20
						Drl 20
	48					Ran 1.7
						Rec 1.7
	49					Loss 0
						Unacc 0
	50					
451.7	51					TI&TP 47.5

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. LC-29/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 6 OF SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): 0+67.59 B Mem LC 33.1
3. DRILLING AGENCY: W G Jaques
4. HOLE NO. (As shown on drawing title and file number): LC.33/1
5. NAME OF DRILLER: Wayne Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.0
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 38.0
10. SIZE AND TYPE OF BIT
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 57
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 2-6-89; COMPLETED 2-6-89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.0 %
19. SIGNATURE OF INSPECTOR: ET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SS. lt. gr. mod hd, to hd. to C.g.) Fe stained & Sdy. bedding bkn pl 0-1' spa. 0.0-1.5			Pull #1
	2					START 14.10
494.2					1	END 14.20
	3		SLS. gr s to med hd. sh. bkn. 3.0-3.1 47.-4.9 5. 2.8-3.4			TIME 10 min
	4		c/s gr. s. sh. 4.1-4.7		3.6	DRL 10 min
						RAN —
491.8	5					REC 5.2
	6		SS gr. to lt. gr. med hd. f.g. ang. pl. w/Cl Coating ~30°; 5.5.-5.7, 6.1-6.3 Calcucous Cem. 6.3-6.8			Loss 0
					7.1	UNACC 0
489.6	7					TI 5.2 TP 5.0
	8		CLS gr. s. sh. grad. becoming more silty w/depth. occ. ang. pl. ~30° bkn. 9.0-9.4, 10.7.-11.1, 13.3 13.5 ang. pl. w/Cl coating 45° 9.9.-10.2 SLS gr. s. sh. 10.2-10.7 s/t. below 13.0 ang. pl. ~30° w/s/k: 12.4-12.5			Pull #2
	9				2	START 14.30
	10					END 14.38
						TIME 8 min
	11					DRL 8 min
						RAN
	12					REC 5.0
	13					Loss 0
						UNACC 0
	14				3	
					10.9	TI 10.1 TP 10.5
482.	15					Pull #3
	16		SLS gr. s. to mod hd sh. s. 15.0-17.4 Vert frac. 15.0-17.2 CLS gr. s. sh. 20.9-21.2 23.5 25.0 bkn. 22.1 22.3 ang. pl. w/s/kn 20.5-20.7			START 15.13
	17					END 15.20
					5	TIME 7 min
	18					DRL 7 min
						RAN 3.4 UNACC 0
						REC 3.0
					18.1	Loss 0
	19					TP 18.4
						TI 18.6
						Pull #5
					6	START 330 REC 1.0
						END 351 Loss 0
						TIME 21 UNACC 0
						DRL 21 TP 19.8
						RAN 1.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam
HOLE NO.: LC 33/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. LC-33/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21					TI 20.1 Pull #6
	22				21.2	START 3:50 END 4:07 TIME 17min DRL 17min RAN 5.2 REC 5.2 LOSS 0 UNACC 0
	23				7	
	24				24.6	
471.8	25					TI 25.1 TP 25.0
	26		ICL. dk gr. to r. br. s to med. hd. sh. occ slK dk. gr. above 28.8 r. br. below 28.8 Sev. bKn. 29.9 - 31.4 occ. mot.		8	Pull #7 START 4:10 END 4:45 TIME 35min DRL 35min RAN 9.9 REC 9.9 LOSS 0 UNACC 0
	27					
	28				28.1	
	29				9	
	30					TP 30.2
	31					Pull #8 START 5.00
	32				31.4	END 5.30 TIME 30 min DRL 30 min RAN 4.3 REC 4.3 LOSS 0 UNACC 0
	33				10	
	34				34.5	DEP 34.5
	35					Pull #9 START 5.40 END 6.10 TIME 30min DRL 30min RAN c REC 4.6 LOSS 0 UNACC 0
	36					
	37				11	
458.9	38				38.8	DEP 38.8

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. LC-33/1

Hole No. LC-91/1

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	ORD	ORH-CD	

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO LC-91 STA 143RA
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): LC 4/1
5. NAME OF DRILLER: DENNIS THOMPSON
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 496.1
8. DEPTH DRILLED INTO ROCK: 39.8
9. TOTAL DEPTH OF HOLE: 456.3
10. SIZE AND TYPE OF BIT: 4¼ S
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/9/89; COMPLETED 2/10/89
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 39.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		SLS			PULL #1
			gR, m-H.gR w/zones (LLSS)		Box 1	START 21:40
	2		of SANDSTONE, bkn, shaley			END 22:05
			gRAd contact			TIME 25min
493.1	3					DRL 25min
						RAN 4.8
	4		SANDSTONE			REC 4.8
			m-h.gR F.G. MASS			LOSS 0
	5		0.6 bN IRR FRAC @ 6.4			UNACC 0
					3.7	
	6					DEPTH/DRD 4.8
						PULL #2
488.9	7				Box 2	START 22:15
						END 22:32
	8		CLS/SLS			TIME 17min
						DRL 17min
	9		INTERBDD, m-h, gR		7.2	RAN 5.0
					Box 3	REC 5.0
	10		FLAGGY - MASS 0.1 bkn			LOSS 0
						UNACC 0
	11					DEPTH/DRD 5.0
			@ 10.2 0.7 SOFT			PULL #3
	12				10.7	START 22:45
			bkn CLS @ 17.7 GRADING			END 23:00
	13				Box 4	TIME 15min
			GRADING FROM CLS TO ICL			DRL 15min
	14					RAN 4.9 UNACC 0
						REC 4.9
	15				14.2	LOSS 0
						DEPTH/DRD 4.9
	16					PULL #4
					Box 5	START 7:27
	17					END 8:01
						TIME 34 min
	18					DRL 34 min
					17.7	RAN 5.1
	19				Box 6	REC 5.1
						LOSS 0
	20		(CONT)			UNACC 0
					(CONT)	DEPTH/DRD 5.1

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. LC-91/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. LG-41/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS		Box 6	PULL #5
	21				21.3	START 8:12
	22					END 8:30
					Box 7	TIME 18 min
	23					DRL 18 min
	24					RAN 5.2
						REC 5.2
						LOSS 0
						UNACC 0
471.1	25				25.0	DEPTH/DEP 5.2
			ICL			PULL #6
	26				Box 8	START 8:45
			MED. H, SLK-CR-TO RED			END 9:16
	27					TIME 31.0 min LOSS 0
			FAIRLY MASS 0.6 LOSS			DRL 31.0 min UNACC 0
	28					RAN 4.4
			29.4 - 34.8		28.8	REC 4.4
	29					DEPTH/DEP 4.4
						PULL #7
	30				Box 9	START 9.28
						END 10:06
	31					TIME 38 min
						DRL 38 min
	32					RAN 5.4
					32.5	REC 4.8
	33					LOSS 0.6
					Box 10	UNACC 0.6 T/DEP 4.8
	34					DEP 5.9
						PULL #8
	35					START 12:22
	36					END 12:45 UNACC 0
					36.5	TIME 23 min
	37					DRL 23 min
					Box 11	RAN 5.0
	38					REC 5.0
						LOSS 0
	39					
456.3			BOTTOM HOLE		39.8	T/DEP + DEP 39.8
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. LG-41/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO LC-49 STA 3+55.06 A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): LC-49/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.7
8. DEPTH DRILLED INTO ROCK: 38.8
9. TOTAL DEPTH OF HOLE: 958.9
10. SIZE AND TYPE OF BIT: 4X5 VL
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/10/89; COMPLETED 2/10/89
17. ELEVATION TOP OF HOLE: 497.7
18. TOTAL CORE RECOVERY FOR BORING: 38.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.7	1		SLS			PULL #1
496.3			GR. S - M. H. SH BTN W/0.1 SPACING			START 8.22
	2		SANDSTONE			END 8:35
			GR, M. H, F - UE. F. 9. SLT		1	TIME 13 MIN
	3					DRL 13 MIN
			SLS GR, M. H, S, 3.9-3.7			RAN 3.9
	4					REC 2.9
					4.2	LOSS 1.0
	5					UNACC 1.0
492.2						DCD + TIDCP 3.9
	6		SLS/CLS			PULL #2
			SLS, GR, S - M. H, SH 5.5-5.8			START 9:40
	7		6.3-7.2 8.0 CLS GR, S, SH, 5.8-			END 9:55
			6.3, 7.2 - 8.0 BTN 5.8-5.9, 6.5		2	TIME 15 MIN
489.7	8		6.6, 6.9-7.1			DRL 15 MIN
						RAN 4.6
	9		SLS			REC 4.2
			GR. S, - M. H, SH, CL			LOSS 0.4
	10					UNACC 0.9
			8.4 - 10.5, 10.8 - 11.0 SA M.S-			
	11				8.0	T/DCP 8.0
			15.5 CL COOPING PN 19.2			DCP 8.9
	12					PULL #3
						START 10:15
	13				3	END 10:35
						TIME 20 MIN
	14					DRL 20 MIN
						RAN 4.4
	15				11.7	REC 4.3
						LOSS 0.1 T/DCP 12.9
	16					UNACC 0.1 DCP 12.8
						PULL #4
	17					START 10.97
					4	END 11.05
	18					TIME 18 MIN
						DRL 18 MIN
	19				15.3	RAN 3.6
						REC 3.5 T/DCP 16.0
	20		(CONT)			LOSS 0.1
					5	UNACC 0.1
						DCP 17.9
						PULL #5
						START 11.20
						END 11.37
					18.0	TIME 17 MIN
					6 (CONT)	DRL 17 MIN T/DCP 19.2
						RAN 3.2
						REC 3.1 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: LC-49/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. LC-99/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL#5
						LOSS 0.1
						UNACC 0.1
	21					DCP 21.0
						PULL#6
					6	START 12:25
						END 12:40
475.7	22					TIME 15 min
			CLS			DRL 15min UNACCD
			9R. S, SH.		22.6	RAN 4.6
	23					REC 4.6
						LOSS 0
473.9						DEPTH DCP 23.6
	24					PULL#7
			JCL		7	START 12:56
	25					END 1:10
			R.BR, S-M.H. SH, occ SLK			TIME 14min
	26					DRL 14min
			occ mottled, securely		26.2	RAN 4.7
	27					REC 4.7
			BRN 25.5-26.2, 33.1-33.9			LOSS 0
	28				8	UNACC 0
			33.8-34.3, 36.8-37.1			T DCP 28.5
						DCP 28.8
	29					PULL#8
			37.7-37.9, dk gy, NBCUE			START 1:25
					29.8	END 1:48
	30		25.5			TIME 23min
						DRL 23min
	31				9	RAN 9.9
						REC 4.5
	32					LOSS 0.9
						UNACC 0.9
	33					DCP 33.5 T DCP 33.9
					33.8	
	34					PULL#9
						START 2:04
	35					END 2:30
					10	TIME 26min
	36					DRL 26min
						RAN 5.1
	37					REC 0.5
						LOSS 0.2
					37.7	
	38				11	UNACC 0.2
459.2			BOTTOM HOLE		39.5	T DCP 38.5
						DCP 38.8
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. LC-99/1

Hole No. LC-54(1

DRILLING LOG | DIVISION: ORH | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO LC-54 STA. 4+10.6 A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): LC-54
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.0
8. DEPTH DRILLED INTO ROCK: 38.9
9. TOTAL DEPTH OF HOLE: 458.1
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (USGS or USC&GS): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOB. LE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/27/89; COMPLETED 2/27/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			CLS			PULL #1
	1		Sly, S.-m.h, m.-dk.gy			START 10:40
						END 10:50
	2				Box 1	TIME 10 min
						DRL 10 min
494.2						PAN 4.9
	3		SANDSTONE			REC 4.9
	4		Sly, f-g, m.h., m.gr.		3.6	LOSS 0
						UNACC 0
	5		Grading sly, w/dep			DEP 9.9
491.5					Box 2	PULL #2
	6		CLS/SLS			START 11:00
	7		S.-m.h, m.-dk.gr. w/occ			END 11:10
					7.2	TIME 5 min
	8		sm. nod f.-gr. 8.3'-8.8			DRL 5 min
						PAN 5.1
	9		10.3 seams 10.1-10.4		Box 3	REC 5.1
						LOSS 0
	10		11.5-11.7, 11.8, 12.6			UNACC 0
						DEP 10.1
	11				10.9	PULL #3
						START 11:20
	12					END 11:25
					Box 4	TIME 5 min
	13					DRL 5 min
						PAN 5.1
	14					REC 5.1
					14.7	LOSS 0
481.8	15					UNACC 0 DEP 15.2
			SLS			PULL #4
	16				Box 5	START 11:30
			SLI., Sa, m.h, m.-f, sm			END 1140
	17		SLKS @ 15.7 D.T. sm slk			TIME 10 min
			surface @ 16.3' grading Sa			DRL 10 min
	18		@ 17.3 w/sm intervals		18.0	PAN 5.0
			slk. seams / lenses		Box 6	REC 5.0
478.0	19		19.0-19.3			LOSS 0
477.7			Lel -s.m.h, f.-gr, slk			UNACC 0
	20		CLS (CONT.)		CONT	(CONT.)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: Gallipolis Lock & Dam | HOLE NO. LC-54(1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. LC-54/1

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	DEP 20.2 PULL #5
	21		S.M.h. m.-dk.gr			START 12:25
475.4			GRADING		21.4	END 12:45
	22		TCL			TIME 20 min
			GREENISH GRAY - R. BR,		Box 7	DRL 20 MIN
	23		SLK S.M.h			RAN 5.0
	24		BECOMING R. BR @ 23.0			REC 5.0
						LOSS 0
	25					UNACC 0
					25.0	DEP 25.2
	26					PULL #6
					Box 8	START 12:55
	27					END 1:20
						TIME 25 min
	28					DRL 25 min
						RAN 4.8
	29				28.3	REC 4.8
						LOSS 0
	30					UNACC 0
					Box 9	DEP 30.0
	31					PULL #7
						START 1:25
	32					END 1:40
						TIME 15 min
	33				31.9	DRL 15 min
						RAN 4.6
	34				Box 10	REC 4.6
						LOSS 0
	35					UNACC 0
						DEP 34.6
	36					PULL #8
					35.5	START 1:50
	37					END 2:10
						TIME 20 min
	38				Box 11	DRL 20 min
						RAN 4.3
458.1			BOTTOM HOLE			REC 4.3
	39					LOSS 0
					38.9	UNACC 0
	40					DEP 38.9
	41					
	42					
	43					
	44					

ENG FORM 1836-A AUG 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. LC-54/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mono MC 7/1 Sta 14+83.8B
3. DRILLING AGENCY: W G Jaques
4. HOLE NO. (As shown on drawing title and file number): MC 7/1
5. NAME OF DRILLER: David Harper
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.6
8. DEPTH DRILLED INTO ROCK: 46.6
9. TOTAL DEPTH OF HOLE: 46.6
10. SIZE AND TYPE OF BIT: 4x5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 14
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 1-29-88; COMPLETED 1-29-88
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 46.6 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1–7		SS lt gr mod hd, , mod f g, occ mica, Sg, above 495.5 mech bkn. 496.6 - 476.3 bdd pl cl coated 496.1		1	Pull #1 START 8:12 End 8:22 Time 10 Drl 10 Ran 5.1 Rec 5.1 Loss 0 unacc 0
					3.6	TP & TI 5.1
					2	Pull #2 START 8:36 End 8.45 Time 9 Drl 9 Ran 2.2 Rec 2.3 Loss 0.1 Unacc 0.0
489.2					7.1	TI & TP Depth 7.3
	8–10		ICL. r. br. S. to very fi. cl. occ mot. w/ lt gr. gn. bn. cl. occ lt. gr. 488.5 488.5' core loss due to wash. or elongation Sev. Bkn. 486.0 - 486.6		3	Pull #3 START 8.57 End 9.12 Time 15 Drl 15 Ran 2.1 Rec 1.4 Loss 11.4 unacc 0
					8.9	TI Depth 9.4 TP 9.3
485.9					4	Pull #4 START 9.42 End 9.57 Time 9 Drl 9 Ran 2.0 Rec 1.6 Loss 0.4 unacc 0.0
	11–12		CLS. gr. to lt gr. occ Fe. incl. Sev bkn. 485. 484.6			TP 11.0
						TI Depth 11.4
484.6					12.0	START 0.20 Pull #5 4.5' unacc Brl 10.27 Ran 1.0 Time 7 Rec 1.0 Drl 7 Loss 0 TP 12.0
	13–17		SLS. gr. S. med. ha., s. graci. int. SS & common. f, sh., scams 484, 481.0, 479.0. 475.9. 473.7. Mech. spin loss @ 477.8 - 0.5 Loss Sh. + 75. to. 474.2 w/ num cl scams Sev. mech. bkn. @ 473.6 473.3			TI Depth 12.4
					5	Pull #6 START 10.44 End 10.59 Time 15 Drl 15 Ran 3.0 Rec 3.0 Loss 0 unacc 0 TP Depth 15.0
					15.6	TI Depth 16.0
					6	Pull #7 START 11.16 End 11.23 Time 7 Drl 7 Ran 3.2 Rec 3.5 Loss 0.3 Unacc 0
						TI 18.2
						TI Depth 18.9
						Pull #8 START 12:14 End 12:22 Time 8 Drl 8 Run 1.2 Rec 0.7 Loss 0.5 Unacc 0.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO.: MC 7/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE: 496.6 | Hole No. MC. 7/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH CD | SHEET 2 OF 9 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21					TP 19.7
	22					TI Depth 20.9
	23				7	Pull. # 9 START 12:40 End 12.55 Time .15 Drl 15 Ran 3.3 Rec 3.3 Loss 0 unacc 0
473.6					23	TP 23.6
	24		SS. gn to lt gr mod hd. f. to med. g. mic grad. w/ f g. @ top. med. g. @ bot., occ x-bdd. pl. t. Cl seams. 471.5. 471.2 & 470.6 @ 0.3" thick mech. bkn. 468.6 - 468.3			TI Depth 23.6 Pull # 10
	25					START 1:17 End 1:29 Time 12 Drl 12 Ran 4.4 Rec 5.0 Loss 0
	26				8	unacc 0
	27				26.5	TP 27.3 TP 27.6
	28				9	TI 28.0 Pull # 11
	29					START 2.04 End 2.10 Time 6 Drl 6 Ran 0.3 Rec. 0.3 Loss 0 unacc 0
	30				29.9	TI 28.3
	31					Pull # 12
	32					START 2.26 End 2.42 Time 22 Drl 22 Ran 9.9 Rec 9.5 Loss 0.4 unacc 0
	33				10	
	34				33.7	
	35				11	
	36					
	37					
	38				37.5	TP 37.8
	39					TI 38.2
	40					Pull # 13
	41				12	START 3.06 End 3.17 Time 11 Drl 11 Ran 9.8 Rec 9.8 Loss + 0.4 unacc 0
	42				40.9	
	43				13	

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. MC. 7/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. MC-7/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
					44.5	TP 45.9
	46					
450.0					14	
	47					
449.0			BOTTOM HOLE		47.6	TI 47.6
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. MC-7/1

Hole No. MC-2/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO MC-2 STA 16+10.25 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): MC-2/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.4
8. DEPTH DRILLED INTO ROCK: 46.4
9. TOTAL DEPTH OF HOLE: 450.0
10. SIZE AND TYPE OF BIT: 4 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 4/28/89; COMPLETED 4/28/89
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 46.4 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4						PULL #1
			SANDSTONE			START 8:55
	1		F.M.G., M.GR, M.H, W/THIN			END 9:00
			SLI, ANG, CARB LAM.		Box 1	TIME 5 MIN
	2		HA - NCAM UCRT, O. JT. 0.0 -			DRL 5 MIN
			2.0 W/ LCA 0.0 - 1.5 !			RAN 5.0
	3		0.4 C.C. (MECH) (0.0 - 0.4)			REC 4.6
					3.6	LOSS 0.4
	4					UNACC —
						DEPTH/DEP 5.0
	5				Box 2	PULL #2
						START 7:08
489.8	6					END 9:16
			CL			TIME 8 MIN
	7		M.GR, U.S W/ POSS RO. FRAC			DRL 8 MIN
488.9					7.5	RAN 5.0
	8					REC 5.0
			ICL			LOSS —
	9		S.-M.H, R. BR, SLK V. BRN		Box 3	UNACC —
			8.5 - 10.0 : 3 SEGMENTS			DEPTH/DEP 10.0
	10		10.0 - 11.4 GRADING SLY			PULL #3
			US W/ DEPTH.			START 9:50
485.0	11				11.0	END 9:56
						TIME 4 MIN
	12		SLS			DRL 4 MIN
			CLY. M.GR, S.-M.H. W		Box 4	RAN 4.4
	13		CLOSELY SPACED THIN CLY			REC 4.2
			SEAMS 0.2 L.C. BTWN 10.0			LOSS 0.2
	14		& 14.4 GRADING INTO			UNACC 0.2
481.9	15				14.7	DEPTH/DEP 14.9
						PULL #4
			SLS/SS			START 10:00
	16					END 10:08
			INT-LCL, S.-M.H. M.GR		Box 5	TIME 8 MIN
	17		W/ OCC SLY HOR. PTG.			DRL 8 MIN
			GRADING INTO			RAN 5.0 UNACC —
	18				18.9	REC 5.0
					Box 6	LOSS —
477.0	19					DEPTH/DEP 19.4
			SANDSTONE			PULL #5
	20		(CONT)		CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. MC-2/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. MC-7/1

PROJECT GALLIPOLIS Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20				Box 6	PULL #5
	21					START 11:35
						END 11:43
	22				21.7	TIME 8 min UNACC —
			SANDSTONE			DRL 8 min
	23				Box 7	RAN 4.9
			P.S., M.h., M.GR. W/			REC 4.9
	24					LOSS —
						DEP 24.9 T/DEP 29.3
	25		SH. LAM & ZOE, OCC			PULL #6
					28.4	START 11:50
	26		PTS ALONG SH. LAM			END 12:00
						TIME 10 min
	27		0.1 L.C. 6 TWN 29.3'		Box 8	DRL 10 min
						RAN 3.5
	28		27.8 (MECH)			REC 3.4
						LOSS 0.1 T/DEP 27.8
	29		0.3 LC 6 TWN 32.3'		28.8	UNACC 0.1
						DEP 29.3
	30		37.4 (MECH)			PULL #7
					Box 9	START 12:05
	31					END 12:11
						TIME 6 min UNACC —
	32					DRL 6 min
						RAN 4.5
	33				32.3	REC 4.5 T/DEP 32.3
						LOSS — DEP 32.3
	34					PULL #8
					Box 10	START 12:17
	35					END 12:25
						TIME 8 min
	36					DRL 8 min
					35.7	RAN 5.1
	37					REC 4.6
						LOSS 0.3
						UNACC 0.3
	38				Box 11	DEP# T/DEP 37.4
						PULL #9
	39					START 12:33
						END 12:40
	40				39.4	TIME 7 min
						DRL 7 min
	41				Box 12	RAN 4.9
						REC 4.5
	42					LOSS —
						UNACC —
	43					DEP 42.9 T/DEP 42.3
					42.9	PULL #10
	44		(CONT)		Box 13	START 12:49
						END 1:05
					CONT	TIME 16 min

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS Lock & DAM | HOLE NO. MC-7/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.4

Hole No. MC-2/1

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE		Box	DRL 16 min PULL #10.
	45		(CONT)		13	RAN 4.4
						REC 4.4
						LOSS —
	46					WATER —
450.0			BOTTOM HOLE		46.4	
						T/DCP 46.7
	47					DEP 47.2
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. MC-2/1

Hole No. RC-5/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MENO RC-5 STA 15+15.05 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): RC-5/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 493.5
8. DEPTH DRILLED INTO ROCK: 47.8
9. TOTAL DEPTH OF HOLE: 445.7
10. SIZE AND TYPE OF BIT: 4 X 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 19
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 4/28/89; COMPLETED 4/29/89
17. ELEVATION TOP OF HOLE: 493.5
18. TOTAL CORE RECOVERY FOR BORING: 47.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493.5	1–6		SANDSTONE F-M.G, M.GR, M.H W/THIN SLI ANG. CARB. LAM 0.2 ACC LOSS (MECH. PROB AT T/H) BTWN 0.0 & 5.0		Box 1	PULL #1 START 1:20 END 1:28 TIME 8 MIN DRL 8 MIN RAN 5.0 3.6 REC 4.8 LOSS .2 UNACC .2 DEP+TIDE P 5.0
486.8	7		CLS S.-M.H, GR, WEA. CONT @ 6.7 VS 7.2-7.6		Box 2	PULL #2 START 1:32 END 1:48 7.2 TIME 11 MIN DRL 11 MIN UNACC — RAN 4.5 REC 4.5 LOSS —
485.9	8–11		ICL S.-M.H, R.BR, BKN, SLK		Box 3	DEP+TIDE P 9.5 PULL #3 10.3 START 2:55 END 3:07 TIME 12 MIN DRL 12 MIN RAN 3.6 REC 3.3 T/DEP 13.1 LOSS 0.3 UNACC 0.3 19.3 DEP 19.5
481.6	12–16		SLS GR., S.-M.H. W/OCC F. SA. LENSES: VF BKN 13.1-19.3 (MECH.) WEATHERED W/ TR. CL FLD @ 16.0: GRADING INTO		Box 4	PULL #4 START 9:00 END 9:10 TIME 10 MIN DRL 10 MIN RAN 4.9 18.0 REC 4.9 T/DEP 18.0 LOSS 0 UNACC 0 DEP 17.6
476.9	17–20		SANDSTONE SLY. FOG., M.H, GR W/INCR MAF, MIC PTGS. V.SLY 19.0-20.0 (0.3 LL) ETWN 18.0 &		Box 6 CONT	PULL #5 START 9:19 END 9:29 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. RC-5/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.5 | Hole No. RC-5/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		+20.4 (mech) grading into		Box 6	PULL #5 T/DEP 20.9 TIME 11min DRL 11min
472.5	21				21.5	RAN 2.9
	22		SLS SA., M.GR., M.H., W/OCC		Box 7	REC 2.1 LOSS 0.3 4 UNACC 0.3
	23		SA LENSES, 0.3 LC BTWN			DEP 23.0
	24		24.2 ' 28.4, GRADING INTO			PULL #6 START 9:55 END 9:43 TIME 8min T/DEP 29.2
	25				25.0	DRL 8min LOSS 0.4 RAN 9.2 UNACC 0.4 REC 3.8
	26				Box 8	DEP 25.9 PULL #7 START 9:49
	27					END 10:00 TIME 11min DRL 11min UNACC 0.3
	28				28.4	RAN 9.7 REC 4.4
464.5	29		SANDSTONE			LOSS 0.3 T/DEP 28.9 DEP 29.2
	30		F-M.G, M.GR, M.H-H,		Box 9	PULL #8 START 10:05 END 10:10
	31		MASS W/OCC, SM, PYRITE			TIME 15min DRL 15min
	32		INCLUSIONS TO 33.0		32.0	RAN 4.5 REC 4.5
	33		0.2 LC (MECH) BTWN			LOSS — UNACC — T/DEP 33.4
	34		38.2 ' 42.8		Box 10	DEP 32.9 PULL #9
	35					START 10:15 END 10:23
	36				35.5	TIME 8min DRL 8min
	37					RAN 4.5 REC 4.8
	38				Box 11	LOSS — UNACC —
	39					DEP T/DEP 38.2
	40				39.0	PULL #10 START 10:30
	41					END 10:35 TIME 5min
	42				Box 12	DRL 5min UNACC 0.2 RAN 4.6
	43					REC 4.4 LOSS 0.2
	44		(CONT)		42.5	DEP T/DEP 42.8
					Box 13	PULL #11 START 10:43 (CONT)

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.5 | Hole No. RC-5/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE.		Box 13	PULL #11
	45					END 10:56
						TIME 13 min
						DRL 13 min
	46					RAN —
					46.1	REC 5.0
					Box 14	LOSS —
	47					UNACC —
445.7			BOTTOM HOLE		47.8	DEPTH DRILLED 47.8
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. RC-5/1

Hole No. RC-4/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA- 18+28.37
3. DRILLING AGENCY: W G Jones
4. HOLE NO. (As shown on drawing title and file number): 496.1
5. NAME OF DRILLER: David Harper
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.1
8. DEPTH DRILLED INTO ROCK: 48.
9. TOTAL DEPTH OF HOLE: 48
10. SIZE AND TYPE OF BIT: 4x5½
11. DATUM FOR ELEVATION SHOWN (MSL or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 12-6-88; COMPLETED 12/6/88
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 43 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		SS. gr. to lt gr. mod hd. med to f. g. sli mic. Mec, bkn. @ 491.5		1	Pull # 1 START 12.27 End 12.55 Time 28. Drl 28 Ran 5.0 Rec 5.0 Loss 0 unacc 0
	2					
	3					
	4				4.8	TI & TP 5.0
490.9	5					
	6		ICL. r. brn. s mot w/gn & gn. gr. cl., Mar. being CLS bkn. 488.9 - 488.6 Sev. w/ poss loss lt. gr. fat cl @ 490.9 - 490.7 mech bkn. 490.3 - 489.9		2	Pull #2 START 1.10 Loss 0 End 1:17 unacc 0 Time 7 Drl 7 Ran 0.8 TP 5.8 Rec 0.8 TI 6.7
	7				7.2	Pull # 3 START 1.30 unacc 0.8 End 1:40 Time 10 Drl 10 Ran 3.1 Rec 2.8 Loss 0.3 TP 8.9
488.6	8				3	TI 9.3
	9		SLS. g. to. gn. gr. s. to. mod. hd. grad. w/ sh @ top to sh. @ bot. mech. spin 487.7 bkn. w/cl seams 487.2 485.8			Pull #4 START 2.03 Loss 0.3 End 2.18 unacc 0.3 Time 15 Drl 15 Ran 1.6 Rec 1.3 TP 10.5
	10				10.2	TI 10.9
	11					Pull # 5 START 2.39 End 2.50 Time 11 Drl 11 Ran 3.2 Rec 3.1 TP 13.7 Loss 0.1 unacc 0.1
	12				4	
	13					
	14				14.5	
	15					TI 15.7
	16				5	Pull # 6 START 3.18 End 3.29 Time 11 Drl 11 Ran 7.3 Rec 7.5 Loss 0 unacc 0
	17					
	18				17.5	
478.6	19		Cont. next Page		6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. RC/4/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. RC 14/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS gr to ltgr med hd f, to med. g. mic. grad. Contact. w/ SLS, c. w/dep. occ x-bdd.		20.4	TP 21.4
	22		redrill 471.4 To 470.6			TI 21.0
	23		Nod @ 466.2			Pull # 7
	24		Small vu @ 461.5		7	START 8.25 End 8.54 Time 29 Drl 29 Ran 3.5 Rec 3.1 Loss 0.4 Unacc 0.4
	25		Ang pl. 30° @ 476.0			TP 24.7
	26		475.9		25.2	TI 25.5
	27					Pull 8
	28				8	START 9.20 End 9.48 Time 28 Drl 28 Ran 7.8 Rec 8.2 Loss ~~0~~ Unacc 0
	29				29.1	
	30				9	
	31					
	32				32.7	TP 32.5
	33					TI 32.9
	34					Pull #9
	35				10	START 10.26 End 10.54 Time 34 Drl 28 Ran 9.9 Rec 9.9 Loss 0 Unacc 0
	36				36.3	
	37					
	38				11	
	39					
456.0	40				40.2	
	41					
	42				12	TP 42.5
453.1	43		BOTTOM HOLE		43.0	TI 43.0

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. RC 14/1

Hole No. RC 26/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH CD
SHEET 1/ OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam 2
2. LOCATION (Coordinates or Station): STA. 2+83.2 "A"
3. DRILLING AGENCY: W. G Jaques
4. HOLE NO. (As shown on drawing title and file number): RC-26/1
5. NAME OF DRILLER: David Harper
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.8
8. DEPTH DRILLED INTO ROCK: 22.8
9. TOTAL DEPTH OF HOLE: 22.8
10. SIZE AND TYPE OF BIT: 4x5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 7
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 2-24-89; COMPLETED
17. ELEVATION TOP OF HOLE: 497.8
18. TOTAL CORE RECOVERY FOR BORING: 22.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.13	1		SS lt gr. med hd. med c 9" thin bdd 0.1 spacing fe. stained 0.0-0.9			Pull #1 START 9:20 End 9.33 Time 13 Drl 13 Ran 4.8 Rec 4.8 Loss Unacc 0.2
	2		SLS/CLS/SS. Interbedded SLS gr. S to med hd., Sh. 1.5-2.1, 3.4-5.1, 6.0-6.7 CLS gr. S. sh. 2.9-3.4, 5.0-6.0 SS gr. med. hd. v.f. gr. 2.1-2.9 fe, sta. 1.5-1.8 Sr SLS. 3.7-5.1, 6.0-6.7 bkn. 3.8-5.0		1	
	3					
	4				3.8	
	5					TI & TP 5.00
	6					Pull #2
491.1	7		SS. lt gr. med. hd. f gr., bkn. pl. ~0.3. spacing ang. 45° pl. w/cl coating 7.0-7.2.		2	START 9:40 End 9.55 Time 15 Drl 15 Ran 4.2 Rec 4.6 Loss Unacc 0.4
	8				7.3	
488.7	9				3	
	10		SLS gr. S. to med hd. Sh. occ. 11.7 bdd. w CLS SS CLS. gr. S. sh. 9.1-10.3 10.8,-11.2. bkn 10.9.-11.2 14.1-14.5 SS. scatt. gr. med. hd. f.g. 11.7-11.9 15.5-16.6. 17.6-17.7 intbdd SLS & CLS w/bkn pl. 0.1 spacing w/occ cl Coating 12.4-15.0 20.0 21.6 S, SLS, 15.3-15.5 17.7.-18.3 cl, SLS 22.2.-22.8			TI & TP 10.0
	11				11.2	Pull #3 START 10.04 End 10:17 Time 13 Drl 13 Ran 4.1 Rec 4.3 Loss - Unacc 0.2
	12				4	
	13					TP 14.5
	14				14.9	TI 15.0
	15					Pull #4
	16					START 10.22 End 10.33 Time 11 Drl 11 Ran 4.4 Rec 4.4 Loss 0 Unacc 0
	17				5	
	18				18.6	TP 18.9
	19					TI 19.5
					6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam 2 HOLE NO. RC 26/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.8 | Hole No. RC 26/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.6	21				6	Pull #5 START 10:42 End 10:55 Time 13 Dri 13 Ran 5.0 Rec 5.0 Loss 0 Unacc 0
	22				22.2	
474.6	23				7	
473.9			CLS dk gr. S cl		23.9	TP 23.9
	24					TI 24.5
	25					
	26					
	27					
	28					
	29					
	30					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. RC 26/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORHCD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT: 4 7/8 L	
2. LOCATION (Coordinates or Station): MONO R-19 STA 18+21.8		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W.G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-19/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRY		14. TOTAL NUMBER CORE BOXES: 6	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.4		16. DATE HOLE: STARTED 2/10/89; COMPLETED 2/13/89	
8. DEPTH DRILLED INTO ROCK: 22.5		17. ELEVATION TOP OF HOLE: 496.4	
9. TOTAL DEPTH OF HOLE: 493.9		18. TOTAL CORE RECOVERY FOR BORING: 22.5 %	
		19. SIGNATURE OF INSPECTOR: LMD.	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4			SANDSTONE			PULL #1
	1					START 22:00
			LT. GR: M.H.-H, M.-C.GR.			END 22:15
	2				1	TIME 15 MIN
			FEW BRN PN, CAL.			DRL 15 MIN
	3					RAN 5.0
			CEM. 0.0-0.2, 0.7-1.0			REC 5.0
	4				3.9	LOSS Ø
			CLAY coating @ 7.0			UNREC Ø
	5					DEPTH DEP 5.0
						PULL #2
	6				2	START 22:21
						END 22:29
489.4	7					TIME 8 MIN
			SLS		7.4	DRL 8 MIN
	8		GR. M.H, SA			RAN 4.7
487.7						REC 4.7
	9		CLS			LOSS Ø
					3	UNREC Ø
486.7			GR.S. SH, SC, SLS 9.3-9.4			DEPTH DEP 9.7
	10					PULL #3
			SANDSTONE			START 22:38
	11				11.0	END 22:54
			GR., M.H, F-VF.GR			TIME 16. MIN
	12					DRL 16 MIN
			SLT, SA, SLS, SA SLT		4	RAN 5.1
	13					REC 5.1
			LAM 12.4-13.2, 16.9			LOSS Ø
	14					UNREC Ø
			-17.5, 20.5-21.1,		19.7	DEPTH DEP 19.8
	15					PULL #4
			MICA LAM 14.6-14.9			START 23:08
	16				5	END 23:22
			SH			TIME 14 MIN
	17					DRL 14 MIN
						RAN 4.1 LOSS Ø
	18				18.2	REC 4.1 UNREC Ø
						DEPTH DEP 18.9
	19					PULL #5
					(cont.)	(CONT)
	20		(CONT)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-19/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 4964 | Hole No. R-191

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5 START 16:20 REC 3.6 END 16:29 1035 0 TIME 9min UNAC 0 DEL 9min RAN 3.6
	21					
	22					
473.9			BOTTOM HOLE		22.5	DEPTH/DRP 22.5
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock+Dam | HOLE NO. R-191

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CP | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock + Dam
2. LOCATION (Coordinates or Station): Mono R-M STA 17488.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-19/2
5. NAME OF DRILLER: Dennis Thompson
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.1
8. DEPTH DRILLED INTO ROCK: 21.6
9. TOTAL DEPTH OF HOLE: 474.5
10. SIZE AND TYPE OF BIT: 7 7/8"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B. 57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/13/89; COMPLETED 2/13/89
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 21.6 %
19. SIGNATURE OF INSPECTOR: ZMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		SLS DK.GR., S-M.H., SA, BKN SHALY 0.0-0.3, 1.1-2.3			PULL #1 START 17:10 END 17:20 TIME 10 MIN
493.8	2				1	DRL 10 MIN RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	3		SANDSTONE GR.-LT.GR, M.H.-H, M-		3.8	DEPTH/DRP 5.0
	4		C.GR, CAL. CEM. 3.4-3.8			
	5				2	PULL #2 START 18:10 END 18:20 TIME 10 MIN
490.0	6				7.3	DRL 10 MIN RAN 5.0 REC 4.8 LOSS 0.2 UNACC 0.2
489.4			CLS GR. S.			DEPTH/DRP 10.0
	7		SLS GR- DK.GR., S-M.H., SA,			PULL #3
	8		SS. GR., M.H., VF.GR.		3	START 18:30 END 18:40 TIME 10 MIN
486.9	9		CAL. CEM. 6.7-7.0		11.0	DRL 10 MIN RAN 5.0 REC 4.9 LOSS 0.1 UNACC 0.1
	10		CLS DK.GR., S. SH., CL. SEAM 1.0 S THICK @ 10.6			DEPTH/DRP 15.0
485.5	11		SANDSTONE		4	PULL #4
	12		GR., M.H., F.GR			START 18:50 END 19:00 TIME 10 MIN
	13		SLS SEAMS 12.3-12.7			DRL 10 MIN RAN 4.3 REC 4.3 UNACC 0 LOSS 0
	14		.05 THICK 12.9, 13.2-13.3		14.8	DEPTH/DRP 19.3
	15		.05 THICK 15.5		5	PULL #5 CONT
	16		SA: 19.7-20.5, 20.9-21.6			
	17		SLT below 19.1		6 (CONT)	
	18					
	19					
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-19/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. R-19/2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULLAS
	21					START 19:15
979.5			BOTTOM HOLE		21.6	END 19:25 DCP+TI DCP 21.6
						TIME 10 min
						DRL 10 min
						RAN 2.3
						REC 2.3
						LOSS 0
						UNACC 0
	22					
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603 | PROJECT Gallipolis Lock+Dam | HOLE NO. R-19/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-20 STA 17+78.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-20/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.5
8. DEPTH DRILLED INTO ROCK: 22.9
9. TOTAL DEPTH OF HOLE: 474.1
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/13/89; COMPLETED 2/13/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 22.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1–3		SANDSTONE dk.gr., m.H, F.gr, occ SLT BKN PN. @ 4 SPACING		1	PULL #1 START 16:55 END 17:12 TIME 17min DRL 17min RAN 4.7 REC 4.7 LOSS 0 UNACC 0 DEPTH/DEP 4.9
493.5					3.6	
492.8			CLS gr.s. scurly BKN 3.2-3.6			
	4–7		SANDSTONE LT.gr., m.H.-NN m-c gr. CALCEM. 3.7-9.7 BKN PN, 3 SPACING Few occ. CLS FRAG + STRINGERS THROUGHOUT		2	PULL #2 START 17:18 END 17:26 TIME 8min DRL 8min RAN 5.2 REC 4.9 LOSS 0.2 UNACC 0.2 DEPTH/DEP 9.9
488.7					7.2	
488.2	8		CLS gr. s. sh.			
	9–10		SLS gr-DK.gr, m.H, sa CL SEAM 9.9-10.0 BKN 10.3-10.7		3	PULL #3 START 17:37 END 18:06 TIME 29min DRL 29min RAN 4.6 REC 4.6 LOSS 0 UNACC 0 DEPTH/DEP 19.5
485.8					10.9	
	11–20		SANDSTONE gr. m. H. F. gr, occ SLT COL, CCM., 11.0-11.8, 14.0-15.2, SILTY w/BKN PN. @ 15.2-15.5, 12.9-13.5 PN w/CL COATING @ 13.5 BKN 15.5-15.7, 18.1-18.2 SLT gr, s., sh. (CONT)		4	
					19.9	
					5	PULL #4 START 18:14 END 18:22 TIME 8min DRL 8min RAN 5.1 REC 5.1 LOSS 0 UNACC 0 DEPTH/DEP 19.6
					17.5	
					6 (cont)	PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS + DAM | HOLE NO.: L-20/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-70/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					
476.5	21		SLS GR. m. H. Sq		6	PULL #5 START 18:36 END 18:45 TIME 9min
	22		BOTTOM HOLE		22.4	DCP + 1 IN @ 22.4 DRL 9min RAN 2.8 REC 2.8 LOSS Ø UNACC Ø
474.1	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
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	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-70/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORM-2D	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-20 STA 17+49.8
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-20/2
5. NAME OF DRILLER: DENNIS THOMPSON
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.2
8. DEPTH DRILLED INTO ROCK: 22.1
9. TOTAL DEPTH OF HOLE: 479.1
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 7
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/13/89; COMPLETED 2/13/89
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 22.1 ft
19. SIGNATURE OF INSPECTOR: ZMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	1		SANDSTONE / SLS			PULL #1
			gr, m. H, F-VF. gr, SLT,			START 20:30
	2		0.4-0.8, 1.9-2.2, SLS gr. m H			END 20:40
			Sa 0.0-0.9-0.8-1.9, 2.2-2.8		1	TIME 10 min
493.9			num ANG 20°; 30° bd, 02 SPACING			DRL 10 min
	3		BKN THROUGHOUT			RAN 4.7
			SANDSTONE			REC 4.7
	4		gr-LT.gr., m.H., F.gr		3.8	LOSS 0
			SLS gr. m.h. S. 4.5-5.0			UNACC 0
	5		FATTY cl. SEAM 5.6-5.8			DCP 4.7
			gr m. gr below 6.1 + cal			PULL #2
	6		com @ 6.3-6.5		2	START 20:55
489.9						END 21:05
	7					TIME 10 min
			SLS			DRL 10 min
	8		gr-gn.gr. S-m.H, Say FATTY		7.9	RAN 5.1
			cl. SEAM (gr.) 6.8-6.9			REC 5.1
	9		gr. sh. below 9.8		3	LOSS 0
			CLS gr-gn-gr, S. SA BKN 6.9			UNACC 0
486.2	10		TA BKN 9.3-9.8		10.0	DEP 9.8
			SANDSTONE			PULL #3
	11		LT. gr., m. H, F. gr.,			START 21.37
						END 21.47
	12		SH SEAM 12.0-12.2		4	TIME 10 min
						DRL 10 min
	13		13.4-13.5, 15.9-16.0			RAN 4.8
						REC 4.8
	14		SLT below 20.6		13.7	LOSS 0
						UNACC 0
	15					DCP 14.6
						PULL #4
	16				5	START 22:00
						END 22:10
	17					TIME 10 min
					17.3	DRL 10 min
	18					RAN 4.8
					6	REC 4.8
	19					LOSS 0
					(cont)	UNACC 0
	20		(CONT)			DCP 19.5
						PULL #3 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-20/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. P-20/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21				21.0	START 22:20
					7	END 22:30
						TIME 10 min
479.1	22		BOTTOM HOLE		22.1	DRL 10 min DCP 22.1
						RAN 2.6
						REC 2.6
						LOSS 0
						UNREC 0
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. P-20/2

Hole No. R-21/1

DRILLING LOG	DIVISION OCD	INSTALLATION ORH-CP	SHEET 1 OF 1 SHEETS

1. PROJECT: Gallipolis Lock + Dam
2. LOCATION (Coordinates or Station): MONO R-21 STA 17+29.8
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-21/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 – 496.2
8. DEPTH DRILLED INTO ROCK: 22.4
9. TOTAL DEPTH OF HOLE: 473.8
10. SIZE AND TYPE OF BIT: 4 X 5½ "
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/13/89; COMPLETED 2/13/89
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 22.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	1–2		SANDSTONE M.H., F.G., gr BK, ID FRAC @ 2.3		BOX 1	PULL #1 START 19.18 END 20:05 TIME 47 min DRL 47 min RAN — REC 4.8 LOSS 0 UNACC 0 TIDE 4.8
493.7	3–10		ICL S. PLASTIC, gr, CL, @ 5.2 0.4 SS, 5.6, 0.1, S., CL @ 6.0 Sa, SLS, 6.0 TO 9.6 2.0 LOSS @ 4.8-9.6, 0.6, S. CLS @ 9.6	3.9	BOX 2	PULL #2 START 20:30 END 20:45 TIME 15 min DRL 15 min RAN — REC 2.8 LOSS 2.0 UNACC 2.0 TIDE 9.6
486.0	10–20		SANDSTONE M.H. F.G. gr. MASS 0.1, SCL, @ 10.9 0.3 CLS 13.2 0.4 LOSS 9.6-14.4 grad FINER grain + S/W/DEP 0.1 CLS @ 17.0 grading TO CL/SLS @ 19.0 (CONT)	7.3	BOX 3	PULL #3 START 20.55 END 21.06 TIME 11 min DRL 11 min RAN — REC 9.4 LOSS 0.4 UNACC 0.4 TIDE 14.4
				12.8	BOX 4	PULL #4 START 21.30 END 21.45 TIME 15 min DRL 15 min RAN — REC 5.0 LOSS 0 UNACC 0 DEP 19.4
				16.7	BOX 5	PULL #5 (CONT)
				20.0		

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R21/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. R-21/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #5
	21				Box 5	START 21:55 REC 29 END 22:04 LOSS 0 TIME 9min GNAIC 0 DRL 9min RAN —
	22					TIDE P 22.3
473.8			CLS		22.9	
	23					
	24					
	25					
	26					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-21/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-21 STA 17+19.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-21/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.6
8. DEPTH DRILLED INTO ROCK: 21.7
9. TOTAL DEPTH OF HOLE: 479.9
10. SIZE AND TYPE OF BIT: 4 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/20/89; COMPLETED 2/20/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 21.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6			SLS			
			GR. m.H, Sa BKN .01 spacing			PULL #1
495.5	1		scurely BKN 0.0 - 0.2			START 10:52
			SANDSTONE			END 11:07
			SR.-LT.GR., M. H. F.GR		1	TIME 15 min
494.5	2					DRL 15 min
			SLS			RAN 4.8
			GR., M.H., Sa, DN, ANG. 45°			REC 4.5
493.4	3		2.8 - 3.1		3.8	LOSS 0.3
			CLS			UNACC 0.3
	4		DK GR. S. Scurely BKN 3.4-4.8			T/DEP 9.0
			W/0.3 LC			
491.1	5				2	DEP 5.6
			SANDSTONE			PULL #2
	6		LTGR, MH-HH. M-FGR. BKN DN			START 11:17
			.4 SPACING, CALCEM., 5.7-6.1-6.5-7.1			END 11:39
488.5	7				7.6	TIME 12 min
			CLS			DRL 12 min UNACC 0
488.5	8		SR. S. SH.			RAN 4.7
			SLS		3	REC 4.7
	9		GR, S - M.H. SH., SS. GR, M.H.			LOSS 0 T/DEP 9.5
			F. - VE.F., SLT 8.1-8.9, Scurely			DEP 9.8
486.4	10		BKN 9.2-9.5			
			SANDSTONE			PULL #3
	11				11.1	START 11:40
			GR - LTGR., M.H. F.GR., BKN			END 11:52
	12					TIME 12 min
			DN. 0.7 SPACING, SCURELY			DRL 12 min
	13				4	RAN 4.9
			BKN 12.3 - 12.5 W/LC. 1			REC 4.9
	14					LOSS 0 T/DEP 14.8
			SLT 12.3 - 19.0			UNACC 0 DEP 14.9
	15				14.5	
						PULL #4
	16					START 12.40
					5	END 12.53
	17					TIME 13 min
						DRL 13 min
	18					RAN —
					18.0	REC 3.7 T/DEP 17.8
477.6	19				6	LOSS 0.1
					(CONT)	UNACC 0.1 DEP 18.8
			SLS			PULL #5
	20		(CONT)			START 1.05
						END 1.73

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-21/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE: 496.6 | Hole No. R-21/2

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS.		6	PULLED TIME 8 min DRL 8 min LOSS 0
	21		gr.; s-mH., sd, clayey f.o-fg			PAR – UNACC 0
475.9			Sa below 20.1		21.7	REC 3.9 DEPTH 7
	22		BOTTOM HOLE			
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603 | PROJECT: Gallipolis Lock + Dam | HOLE NO. R-21/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-22 STA 16+90B
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-22/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.5
8. DEPTH DRILLED INTO ROCK: 22.1
9. TOTAL DEPTH OF HOLE: 479.4
10. SIZE AND TYPE OF BIT: 4 1/5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/13/87; COMPLETED 2/20/87
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 22.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			SANDSTONE			PULL #1
	1					START 22:35
			GR-LT GR. M.H.-HH., F-MGR.			END 22:42
	2				1	TIME 7 min
			occ. CAL, COM. BKN PN 1.0			DRL 7 min
	3					PEN 4.4
			SPACING, BKN PN 0.3			REC 4.3
	4				3.8	LOSS 0.1
			SPACING ABOVE 1.3, CAL, COM,			UNREC 0.1 DCP 4.4
	5					PULL #2
			1.2-1.6 SEVERAL BKN		2	START 22.53
	6					END 23.03
490.8			5.0 - 5.1			TIME 10 min
	7		CLS			DRL 10 min
488.7			BR-GR., S, ANG PN, 30° 6.8-6.9 SG BELOW 7.4		7.4	PEN 9.6
	8		SONDSTONE			REC 4.1
						LOSS 0
	9		GRAY, M-H, F.GR		3	UNREC 0 DCP 9.0
						PULL #3
	10		FEW BKS, VF. FGR (SLT)			START 23.12
						END 23.24
	11		7.8 - 9.7, 13.7 - 15.5		11.0	TIME 12 min
						DRL 12 min
	12		SLS GR. M.H. SG 17.3			PEN 5.1
						REC 5.1
	13		18.4		4	LOSS 0
						UNREC 0
	14					DCP 14.1
					14.6	PULL #4
	15					START 7:40
						END 8:02
	16				5	TIME 22 min
						DRL 22 min
	17					PEN 3.7
						REC 3.5
	18					DCP 17.8
					18.3	LOSS 1.2
	19				6	UNREC 0.2
477.1					(CONT)	
	20		SLS (CONT)			PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-22/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. L-22/1

PROJECT Gallipolis Lock + DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULLAS
	21		gr., m.n., sa, HISHANG			START 8:20
			FRAC A.S-A.9			END 8:35
479.7						Time 15 min DCP22.1
	22		SANDSTONE		22.1	DRL 15 min
479.5			gr. m. H. F. gr.			RAT 4.3
	23		BOTTOM HOLE			REC 4.3
	24					LOSS 0
						6 NAILS
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603 | PROJECT Gallipolis Lock + DAM | HOLE NO. L-22/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: Gallipolis Locks & Dam		10. SIZE AND TYPE OF BIT: 4"x5¼"	
2. LOCATION (Coordinates or Station): Mono. R-22		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. G. Jaques Co.		12. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-53	
4. HOLE NO. (As shown on drawing title and file number): R-22/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: Frank Baker		14. TOTAL NUMBER CORE BOXES: 6	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
		16. DATE HOLE: STARTED 11-15-88; COMPLETED 11-15-88	
7. THICKNESS OF OVERBURDEN: 0.0		17. ELEVATION TOP OF HOLE: 496.4	
8. DEPTH DRILLED INTO ROCK: 22.0		18. TOTAL CORE RECOVERY FOR BORING: 100 %	
9. TOTAL DEPTH OF HOLE: 22.0		19. SIGNATURE OF INSPECTOR: David Rogan	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4	0.0		SANDSTONE - sly., m.g., m.h., m.gr. w/occ. sli. ang., dk. mic. bdd. plns.		BOX	11-15-88 USING 4 x 5½ double Tube core bbl.
	1					PULL-1 START 0818 END 0830 TIME 12 min. DRL. 12 min RAN 3.1 REC. 3.1 LOSS 0.0 UNACC. 0.0
	2		bkn. (mech.) bkn. (mech.)		1.	tent. Found. El. 495.8
	3					DEP. & T. DEP.
	4				3.7	PULL-2 STRT - 0902 END - 0920 TIME - 18 min. DRL. - 18 min. RAN - 3.7 REC. - 3.7 LOSS - 0.0 UNACC. - 0.0
	5				2.	
	6		bkn. (mech.)			T. DEP 6.3 (soft.)
	7					DEP. 6.8
489.0	7.4		tight contact		7.4	PULL-3 START - 1023 END - 1055 TIME - 32 min DRL. - 27 min RAN - 4.4 REC. - 3.7 LOSS - 0.7 UNACC. - 0.0
			CLAY, s., gr., fat			
488.5	7.9		grading			
	8	+ + + + + + + + + + + +	INDURATED CLAY - s., r. & gr., slk.			
			bkn., frac. 488.0 - 479.6		3.	
	9					
486.9	9.5		Q. seam contact			
			SILTSTONE, shy., gr., s.-m.h.,			
486.4	10		grading sandy			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & Dam | HOLE NO. R-22/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. R-22/2

PROJECT: GALLIPOLIS Locks & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION 486.4 (a)	DEPTH 10.0 (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
			SANDSTONE - sly., f.g., gr., m.h.		BOX 3 cont.	T. DEP. 10.1 (PULL-OFF) PULL-3 (Cont.)
	11		bkn. (mech.) 485.9-485.2		11.0	DEP 11.1
			bkn. (mech.) 484.8			PULL-4 START-1140 END-1157 TIME-17 min. DRL.-17 min RAN-3.4 REC. 4.1 GAIN 0.7 UNACC. 0.0
	12		o., hor., sli. coa. ptg. @ 484.2		4	
	13		Sand content increasing w/ depth			
	14					
482.1	14.3		grading SANDSTONE, sly., m.g., m.h.-h., m.gr w/ occ., sli. ang., shy ptg.		14.6	T. DEP. & DEP. 14.6
	15					PULL-5 START-1300 END-1314 TIME-14 min. DRL.-14 min RAN-4.1 REC.-4.0 LOSS-0.1 UNACC.-0.0
	16				5	
	17					
	18		cl. coa., ang. ptg. @ 478.4			T. DEP. 18.0 (Soft.)
					18.4	DEP. 18.7
	19					PULL-6 START-1345 END-1355 TIME-10 min. DRL.-10 min. RAN-3.3 REC.-3.4 GAIN-0.1 UNACC-0.0
	20				6	
	21					
474.4	22		Bottom of Hole (required depth)		22.0	DEP. & T. DEP 22.0

ENG FORM 1836-A JUN 67 — PROJECT: GALLIPOLIS Locks & DAM — HOLE NO. R-22/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF SHEETS

1. PROJECT: Gallipolis Locks & Dam
2. LOCATION (Coordinates or Station): Mond. R-23
3. DRILLING AGENCY: W.G. Jaques Co.
4. HOLE NO. (As shown on drawing title and file number): R-23/1
5. NAME OF DRILLER: Frank Baker
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 36.3
9. TOTAL DEPTH OF HOLE: 36.3
10. SIZE AND TYPE OF BIT: 4" x 5½"
11. DATUM FOR ELEVATION SHOWN (USM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-53
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER:
16. DATE HOLE: STARTED 11-15-88; COMPLETED 11-16-88
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR: Howard Nugent

ELEVATION 496.6 a	DEPTH 0.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			0.1 LC @ 496.6 - 496.5		Box	
			SANDSTONE, sly., f.-m.g., m.h. w/occ. dk., mic. lam.			PULL-1
	1		closely spaced, near hor. plgr. along mic. lam. 496.3 - 495.1			START - 1446
						END - 1500
						TIME - 14 min
					1.	DRI - 14 min
	2					RAN - 4.7
						REC - 4.6
						LOSS - 0.1
						UNACC. - 0.1
	3					
					3.8	
	4					
						END OF SHIFT DEP & T. DEP 4.7 11-16-88
	5					
					2	PULL-2
						START 0830
						END 0842
						TIME 12 min
						DRI. 12 min
	6					RAN. 2.7
						REC. 2.1
489.9	6.7				6.5 T. Dep Soft. 6.9 Bdn (est.)	LOSS -0.6
			0.1 S. gr. cl. 489.9 - 489.8			UNACC -0.0
	7		INDURATED CLAY, S., r. br. slk.		7.2	
			vc. bkn 489.8 - 489.4			DEP. 7.4
						PULL-3
	8					START 0901
						End 0913
						Time 12 min
						DRI. 12 min.
					3.	RAN 4.0
	9					REC. 3.8
						LOSS 0.2
						UNACC 0.3
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & Dam | HOLE NO. R-23/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-23/1

PROJECT GALLIPOLIS Locks & Dam | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.6	10.0		ICL (cont.)		3	
			0.3 L.C. Accum. btwn. 489.9 & 486.3		10.3	10.3 T. Dep. & B/H (est.)
486.3	10.3		SILTSTONE, cly/sa., gr., s.-m.h.		Box	(Soft)
	11					DEP. 11.4
			ve. bkn. (mech.) 485.7 - 484.1 w/ 0.5 L.C.		4.	PULL - 4 START - 0944 End - 0954 Time - 10 min. Drl - 10 min Ran. 1.9 Rec. 2.2 Gain. 0.3 Unacc. 0.3
	12					
			CLS., sly. 484.1 - 483.6			B/H 13.0 (est.)
483.6	13		SILTSTONE - sly, m.h., gr., mic., occ. shy. overcored 483.4 - 483.4			DEP & T. Dep. 13.3
			ptg. (mech.) @ 482.6			PULL-5 START- 1020 END - 1030 Time - 10 min Drl. - 10 min RAN - 4.3 REC. - 4.5 Gain. - 0.2 Unacc. - 0.0
	14				14.4	
			shy. ptg. @ 481.9			
	15		ptg. (mech.) @ 481.5			Est. Found ELEV. (481.0)
					5.	
	16		shy. ptg. @ 480.1			T. Dep. 16.5 Soft
479.6	17		grading SANDSTONE - sly., f.g., m.h. @., ha., irr. frac. 479.1 - 478.7			B/H 17.5 (est.) DEP 17.6
					17.8	PULL-6 START- 1050 End - 1100 Time - 10 min Drl. - 10 min Ran - 5.0 REC. 5.0 Loss. 0.0 Unacc. 0.0
	18		ptg. (mech.) @ 478.1			
	19		ptg. (mech.) @ 477.4			
					6	
	20		ptg. (mech.) @ 476.6 ptg. (mech.) @ 476.4			
			ptg. (mech.) @ 475.9			
	21					
475.2	21.4		grading SANDSTONE, sly., f.-m.g., m.h., gr., occ. sly.		21.7	
					7	
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS Locks & Dam | HOLE NO. R-23/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-23/1

PROJECT GALLIPOLIS LOCKS & DAM | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.8	22.0				Box	T. Dep. & B.H. 22.5 DEP 22.6
						PULL-7
	23		ptg. (mech.) @ 473.5		7.	START-1220 End-1225 Time-5min. Drl.-5min. Ran-4.9 Rec-4.2 Loss-0.7 Unacc. 0.0
	24		ptg. (mech.) @ 472.5			
			ptg. (shy.) @ 472.1			
	25		ptg. (shy.) @ 471.9		25.3	
	26					T. Dep. 26.0
					8	Qtz (est.) 26.7
	27					
			ptg. (mech.) 469.3			DEP 27.5
			ptg. (mech.) @ 469.0			PULL-8
	28					START-1315 End-1324 Time-9min Drl.-9min Ran-4.1 Rec. 4.9 Gain. 0.8 Unacc. 0.0
	29				29.0	
			shy. ptg. @ 467.2			
	30					
			sly. w/ptg. along ha. fracs. 466.1 - 465.5		9.	
	31					T. DEP. & DEP 31.6
						PULL-9
	32					START-1343 End-1348 Time-5min Drl. 5min Ran 4.8 Rec. 4.7 Loss. 0.1 Unacc 0.0
					32.6	
	33				10.	
	34		ptg. (mech.) @ 462.6			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS LOCKS & DAM | HOLE NO. R-23/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-23/1

PROJECT: GALLIPOLIS Locks & Dam | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.6	34.0				BOX	
	35		ptg. (mech.) @ 461.6		10	
	36					
460.3	36.3		BOTTOM OF HOLE (REQUIRED DEPTH)			B/H & T. DEP. 36.3' O.1' IN HOLE DEP. 36.4
	37					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS Locks & Dam | HOLE NO. R-23/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-23 / STA
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-23/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 496.5
8. DEPTH DRILLED INTO ROCK: 35.6
9. TOTAL DEPTH OF HOLE: 460.9
10. SIZE AND TYPE OF BIT: 4 1/5 8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 11/17/88; COMPLETED 11/17/88
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 35.5 %
19. SIGNATURE OF INSPECTOR: DAVID NUGEN, JMD

ELEVATION 496.5 (a)	DEPTH 0.0 (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
			SANDSTONE - f.-m.g., m.h., gr. w/ dk. mic. lam.		Box	PULL-1
			m. spaced ptg. along mic. lam. throughout			START 1410
						End 1423
						Time 13 min
						Drl. 13 min
						Ran 4.7
					1	Rec. 4.7
						Loss 0.0
						Unacc 0.0
					3.7	
						D.W.R. Goods, gr.
						DEP & T. DEP. 4.7
						PULL-2
						START 1432
						End 1438
					2	Time 6 min
						Drl. 6 min
						Ran 2.7
						Rec. 2.5
						Loss 0.2
						Unacc 0.0
489.3	7.2		S., fel gr. cl. ~~sm~~ contact		7.2	T. Dep. 7.0 B/H Ext. 17.2
			INDURATED CLAY - S., slt., gr. - r.br.			DEP 7.4
			ve. bkn. 488.8 - 488.5			PULL 3
						START 1452
			ve. bkn. 488.0 - 487.5			End 1500
						Time 8 min
						Drl. 8 min
						Ran 2.3
					3	Rec. 2.5
						GAIN 0.2
						Unacc. 0.0
						T. Dep. 9.5 End shift.
						B/H & Dep. 9.7
						11-18-88

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. A-23/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.5 **Hole No. R-23/2**

PROJECT | INSTALLATION | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.5	10.0		ICL (Cont.)		BOX 3	PULL-4 START-0752 End-0804 Time-12 min Drl.-12 min Ran.-2.8 Rec.-2.2 Loss-0.6 Unacc-0.0
	10.8				10.8	
	11					
484.6	11.9		S. gr. cl. coa. contact			T. Dep.-11.9
	12		SILTSTONE, sa., shy., m.h., gr.		4	
						DEP.-12.5
	13					PULL-5 START-0828 End-0844 Time-16 min Drl.-16 min Ran.-3.8 Rec.-4.1 Gain-0.3 Unacc.-0.0
			bkn. @ shy. sa. 482.8-482.7			
	14				14.2	
	15					
						Temp. found 481.0
					5	
	16		overcored 480.6-480.4			T. DEP. 15.9
						DEP 16.3
						USING 10' I.L. Double tube, 4"x5¾" core bbl.
			shy. ptg. @ 479.9			
	17					PULL-6 START-0922 End-0949 Time-27 min Drl.-27 min Ran-7.9' Rec-8.0' Gain-0.1' Unacc-0.0
					17.8	
	18					
	19					
					6	
	20					
	21					
474.9	21.6		Grading into SANDSTONE, sly., f.g., m.h., m.c. gr.		21.6	
	22		thar, Spun ptg. @ 474.6		7	

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-23/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-23/2

PROJECT | INSTALLATION | SHEET 3 OF 4 SHEETS

ELEVATION 474.5 (a)	DEPTH 22.0 (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
			SS. (Cont.) occ. dk. sly. lam. & EOS.		Box	
			spun. mech. ptg. @ 473.8			
	23		spun. mech. ptg. @ 473.4		7	
						23.9 T. Dep.
	24					DEP 24.2
						PULL-7
						START- 1015
	25				25.1	End - 1028
						Time - 13 mm
						Dri - 13 min
						Ran. 9.5
	26		ptg. (mech.) @ 470.3			Rec. 9.8
						Gain. 0.3
						Unacc. 0.0
					8.	
	27					
	28		ptg. (mech.) @ 468.3			
					28.8	
	29		m. spaced ptgs. along dk. sly. lam. 467.7 - 466.4			
	30				9	
	31		ptg. (mech.) 465.4			
	32					
					32.4	
	33				10	
						DEP. & T. DEP. 33.7
	34					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. R-23/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-23/2

PROJECT | INSTALLATION | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.5	34.0		SS. (Cont.)		Box 10.	
	35		BOTTOM OF HOLE (REQUIRED DEPTH			PAY DEP. 35.6
	36					
	37					Drilled DEP. 37.1
	38					
	39					

ENG FORM 1836-A JUN 67 | GPO. 1969 O—329-243 | PROJECT GALLIPOLIS Lock & DAM | HOLE NO. R-23/2

DRILLING LOG | DIVISION: ORH | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-24
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-24/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 — 496.5
8. DEPTH DRILLED INTO ROCK: 35.5
9. TOTAL DEPTH OF HOLE: 461.5
10. SIZE AND TYPE OF BIT: 4" VSH"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL:
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11-16-88; COMPLETED 11-16-88
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 35.5 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION 496.5 (a)	DEPTH 0.0 (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
			SANDSTONE - f.-m.-g., m.h., gr. mc.		Box	11-16-88
			Sta. 496.5-496.4			PULL - 1
			mic. pty. @ 496.3; 495.9; 495.5, 495.2, 495.0, 494.4 & 494.1:			START - 1437
	1					End - 1446
						Time - 9 min.
						Drl. - 9 min
						RAN - 5.0
	2				1	REC - 4.9
						Loss - 0.1
						UNACC. 0.0
	3					
					3.9	
	4					
						4.9 T. DEP
	5					DEP. 5.0
						PULL - 2
						START - 1453
						End - 1500
	6				2	Time - 7 min
						Drl. - 7 min.
						RAN - 2.4
						REC - 1.9
489.7	6.8		S. gr. cl. coa. Contact.			Loss - 0.5
			INDURATED CLAY, - S.,			6.8 T. DEP UNACC - 0.0
	7		f. br., slk,			
			prob. Area of 0.6 ft. L.C. (mech.)			End. OF SHIFT
						DEP. 7.4
					7.7	11-17-88
	8		- vc. bkn., s. 489.1 - 488.3			START - 0735
						End - 0746
						Time - 11 min.
						Drl. 11 min.
						RAN 2.1
					3	REC. 2.1
	9				9.0 T. DEP	Loss 0.0
						UNACC
						B/H & DEP 7.5
			- prob. Area of 0.1 LC. (mech.			
486.6	7.9					
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-24/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-24/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
486.5	10.0		CLAYSTONE, gr., s., w/ occ. slk. ptgs.		Box 3.	PULL-4 START-0830 End-0834 Time-4 min Drl.-4 min Ran-1.6 Rec-1.2 Loss-0.4 Unacc-0.1
					10.5 T. DEP.	
					10.9	10.9 EST. DEP
	11					DEP 11.1
						PULL-5 START-0856 End-0902 Time-10 min Drl.-10 min RAN-3.0 REC-3.2 GAIN-0.2 UNACC-0.0
484.5	12		grading into			
			SILTSTONE - gr., shy., m.h.			
			- ptg. @ 484.0, 483.8, 483.5, 483.3		4.	
	13					
					13.5 T. DEP	
	14					B/H & DEP. 14.1
						PULL-6 START-0933 End-0942 Time-9 min Drl-9 min RAN-2.0 REC-2.0 Loss-0.0 UNACC. 0.0
					14.6	
			bkn. w/ core spins @ 481.7-481.5			
481.4	15 15.1		grading into			
			SANDSTONE, sly., f.g., m.h., gr.; occ. shy. lam/bds.			
			- mech. ptg. @ 480.6			
	16					
			- ptg. @ shy bd. @ 480.1		5.	
			- ptg. @ shy lam. @ 479.9			
	17		- ptg. @ shy bd. @ 479.4			
						PULL-7 START-1000 End-1015 Time-15 min Drl.-15 min RAN-4.3 REC-4.3 Loss-0.0 UNACC-0.0
	18				18.1	
			- mech. ptg. @ 478.2			
			- bkn. ptgs @ shy. bd @ 477.6			
	19		- mech. ptg. @ 477.2			
					6.	
			- closely spaced, hor ptgs. (prob. mech.) 476.7-476.1			
	20					20.0 T. DEP
						B/H & DEP-20.4
			sand content increasing w/depth			
	21					
			- mech. ptg. @ 475.1			
					21.6	
					7	
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-24/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.5 **Hole No.** R-24/1

PROJECT Gallipolis Lock & Dam INSTALLATION ORH-CD SHEET 3 OF 4 SHEETS

ELEVATION 479.5 a	DEPTH 22.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SS. (cont.)		Box	PULL-8
			mech. ptg. @ 474.3			START - 1044
			mech. ptg. @ 474.0			End - 1055
	23		mech. ptg. @ 473.3			Time - 11 min.
			mech. ptg. @ 473.0			Drl. - 11 min.
			mech. ptg. @ 472.8		7.	RAN - 4.9
	24					REC. - 4.9
			mech. ptg. @ 472.0			Loss - 0.0
						Unacc. - 0.0
						24.4 T. DEP
	25				25.3	B/H & DEP. 25.2
						PULL - 9
						START - 1123
						End - 1135
	26					Time - 12 min.
						Drl - 12 min.
			mech. ptg. @ 469.7			RAN - 3.9
	27				8.	REC. - 3.9
						Loss - 0.0
			mech. ptg. @ 468.8			Unacc. 0.0
	28					
			mech. ptg. @ 468.0			28.7
					28.9	
	29					B/H & DEP. 29.2
						PULL - 10
			mech. ptg. @ 466.8			START - 1240
	30					End - 1248
			mech. ptg. @ 466.3			Time - 8 min
						Drl - 8 min
					9.	RAN - 4.6
	31		mech. ptg @ 465.7			REC - 4.4
						Loss - 0.2
						Unacc. - 0.0
			mech. ptg @ 464.8			
	32		mech. ptg. @ 464.5			
					32.6	
	33		mech. ptg. @ 463.5			33.0 T. DEP
					10.	33.4 EST. DEP.
	34					DEP. 33.8

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243 PROJECT Gallipolis Lock & Dam HOLE NO R-24/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-24/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.5	34.0		SS. (cont.)		Box	Pull - 11
			Mech. plg. @ 462.4			Start - 1321
						End - 1330
					10	Time - 9 min.
						Dri - 9 min
						Ran - 1.7
	35					Rec. - 1.9
						Gain 0.2
			Thin. mic. lam., sli. wea.			Unacc. 0.0
			461.3 - 460.8			
460.8	35.7		BOTTOM OF HOLE (REQUIRED DEPTH)			B/H - DEP 35.7
	36					
	37					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-24/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF SHEETS

1. PROJECT: GALLIPOLIS Locks & DAM
2. LOCATION (Coordinates or Station): MONO. R-24
3. DRILLING AGENCY: W.G JAQUES Co.
4. HOLE NO. (As shown on drawing title and file number): R-24/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 (496.8)
8. DEPTH DRILLED INTO ROCK: 35.9
9. TOTAL DEPTH OF HOLE: 35.9 (460.9)
10. SIZE AND TYPE OF BIT: 4" x 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: —
16. DATE HOLE: STARTED 11-18-88; COMPLETED 11.21-88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR: David Harper

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.8	0.0		SANDSTONE - sly., f.-m.g., m.h., m.gr. w/ thin mic. lam.		Box	PULL-1 START- 1245 END - 1300 TIME - 5 min. Drl. - 5 min. RAN - 4.6 REC. - 4.0 Loss - 0.6 UNACC. - 0.1
			0.1 L.C (mech.) 496.8-496.7			
			o., lea., vert. frac. 496.7-496.3 :		1	
	1					
	2					
	3					
					3.6	
	4		spun, overcored 492.7 - 492.3			4.1 T. DEP
						DEP 4.6
	5					PULL-2 START- 1318 END - 1321 TIME - 3 min. Drl. - 3 min. RAN - 2.9 REC. - 3.2 GAIN - 0.3 UNACC. - 0.0
					2.	
	6					
489.7	7				7.1	
			INDURATED CLAY, s., r. br.-gr., slk. s., fat, gr. cl. 489.7-489.5			7.3 T. DEP.
						DEP. 7.5
	8					PULL-3 START - 1352 END - 1405 TIME - 13 min. Drl. - 13 min. RAN - 1.9 REC. - 2.1 GAIN - 0.3 UNACC. - 0.0
					3.	
	9					T. DEP & DEP. - 9.4
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Locks & Dam | HOLE NO.: R-24/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R-24/2

PROJECT: GALLIPOLIS Locks & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.8	10.0		ICL (cont.)		BOX 3. 10.5	PULL-4 START- 1448 END - 1502 TIME - 14 min. Drl. - 14 min. RAN - 4.3 REC. - 3.8 Loss - 0.5 UNACC. - 0.2
	11		prob. Area of 0.5 L.C. (mech.) 486.3 - 485.8			
			s. 485.2 - 484.6			
484.6	12 12.2				4.	
	13		CLAYSTONE - sly., gr., s.			13.4 T. DEP END OF SHIFT DEP. 13.7
			0.15 s. gr. cl. @ 483.1 - 482.95'			11-21-88
482.7	14		cl. coa. ptg. @ 482.8		14.1	PULL-5 START- 0752 END - 0800 TIME - 8 min. Drl. - 8 min. RAN - 3.9 REC - 3.9 Loss - 0.0 UNACC - 0.0
			SILTSTONE - sa., occ. shy., gr., m.h.			
	15		gr. cl. coa. ptg. @ 481.3			
	16		mech. ptg. @ 480.6		5.	Found. (EL. 481.0)
			mech. ptg. @ 480.2			16.5 T. DEP.
	17		mech. ptg. @ 479.6			17.3 Est. DEP.
			Sand content increasing w/depth.		17.6	DEP. 17.6
478.0	18.8					USING 10' core bbl.
	19		SANDSTONE, sly., f.g., m.h., m.q. w/occ. sly. lam. & Zos.		6.	PULL-6 START- 0840 END - 0900 TIME - 20 min Drl. - 20 min. RAN - 8.1 REC. - 8.1 Loss - 0.0 UNACC. - 0.0
			sly. zo. 479.6 - 477.3			
	20					
	21		sly. zo. 475.6 - 475.4		21.4	
	22		closely spaced hor. ptgs. 475.1 - 474.3		7.	

ENG FORM 1836-A JUN 67 | GPO 1965 OF—329-243 | PROJECT GALLIPOLIS Locks & Dam | HOLE NO. R-24/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R-24/2

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION 474.8 a	DEPTH 22.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			55. (Cont.)		BOX	
	23				7.	
	24					24.6 T. DEP
	25				25.0	25.4 EST. DEP
471.1	25.7		grading			DEP. 25.7
	26		SANDSTONE, sly., f.-m.g., m.h., gr. w/ thin, dk. mic. lam.		8.	PULL-7 START- 0936 END - 0951 TIME - 15 min. Drl. 15 min. RAN 8.8 REC. 8.8 Loss 0.0 Unacc. 0.0
	27		occ. ptgs. along mic. lam.			
	28				27.8	
	29				9.	
	30					
	31				31.4	
	32				10.	
	33					
	34					33.9 T. DEP.

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Locks & Dam | HOLE NO R-24/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R-24/2

PROJECT: GALLIPOLIS Locks & DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.8	34.0		55. (Cont.)		Box 10.	34.2 EST. DEP. DEP. 34.5
	35				35.0	PULL-B START - 1025 END - 1035 TIME - 5 MIN. DRI. - 5 MIN RAN - 1.4 REC - 1.7 LOSS - 0.0 UNACC. 0.0
					11.	35.6 T. DEP. DEP 35.9
	36		BOTTOM OF HOLE (REQUIRED DEPTH)			
	37					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS Locks & DAM | HOLE NO R-24/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS Locks & DAM
2. LOCATION (Coordinates or Station): Mond. R-25
3. DRILLING AGENCY: W. G. JAQUES Co.
4. HOLE NO. (As shown on drawing title and file number): R-25/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 (496.7)
8. DEPTH DRILLED INTO ROCK: 35.7
9. TOTAL DEPTH OF HOLE: 35.7 (461.0)
10. SIZE AND TYPE OF BIT: 4" x 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: —
16. DATE HOLE: STARTED 11-21-88; COMPLETED 11-22-88
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR: David Harper

ELEVATION 496.7 (a)	DEPTH 0.0 (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
			SANDSTONE - s1y., F.-m.g., m.h., m.gr. w/ occ. dk. mic. lam.		Box	PULL-1 START - 1200 END - 1212 TIME - 12 min Drl. - 12 min RAN - 4.6 REC. - 4.6 LOSS - 0.0 UNACC. 0.0
			ptgs. along mic. lam. @ 496.5, 496.2, 495.9, 495.4, 495.0, & 493.8		1.	
					3.8	T. DEP & DEP 4½
					2.	PULL-2 START - 1225 END - 1232 TIME - 7 min Drl - 7 min RAN - 2.9 REC - 2.7 Loss - 0.2 UNACC - 0.0
489.4	7.3		0.1' s. gr. cl. @ Contact		7.3	7.3 T. DEP
			INDURATED CLAY, s., s1k, gr./r. br.			DEP 7.5
			0.8 L.C. (Accum.) btwn 489.4 - 486.5'		3.	PULL-3 START 1245 END - 1300 TIME - 15 min Drl. - 15 min RAN - 2.9 REC - 2.1 Loss - 0.8 UNACC. - 0.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Locks & DAM | HOLE NO. R-25/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R-25/1

PROJECT: GALLIPOLIS Locks & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION 486.7 a	DEPTH 10.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			ICL (cont.)		Box	10.2 T. DEP
486.3	10.4					DEP. 10.4
			CLAYSTONE - Shy., gr./r.br. S.		3	PULL-4 START- 1325 END - 1340 TIME - 15min Drl. - 15min RAN - 2.8 REC. - 2.3 Loss - 0.5 UNACC. - 0.0
	11		Closely spaced ptgs w/ Spins		11.4	
	12					12.5 T. DEP.
	13				4.	DEP. 13.2
						PULL-5 START- 1355 END - 1414 Time - 19 min Drl. - 19 min RAN - 4.2 REC - 1.9 Loss - 2.3 UNACC. - 0.7
	14					
	15					15.1 T. DEP.
					15.4	
	16					
480.2	16.5		s. gr. cl. cgs. ptg.			
			SILTSTONE - sz., gr., m.h., w/ occ. ss. lens.		5.	
	17					DEP. 17.4
						17.3 T. DEP. PULL-6 START 1435 End 1438 Time 3 min. Drl. 3 min. RAN 1.2 REC. 2.8 GAIN 1.6 UNACC. 0.0
	18		Core spins btwn. 478.3 - 477.9			17.9 EST.
						DEP. - 18.6
					18.8	PULL-7 START- 1500 End. - 1505 Time - 5min. Drl. - 5min. Ran - 1.3 REC. - 1.8 GAIN - 0.5 UNACC - 0.0
	19					19.1 T. DEP.
			bkn. (mech.) 477.0 - 476.6			19.7 EST. End of SHIFT
						DEP. 19.9
	20					11-22-88 PULL-8 START- 0732 END - 0741 TIME - 9 min. Drl. - 9 min RAN - 3.4 REC. - 3.2 Loss - 0.2 UNACC - 0.0
476.1	20.6		Shy. ptg. @ contact		6	
			SANDSTONE - sly., F.g., m.h., m.gr. w/ sly. lam. & zns.			
	21					
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS Locks & DAM | HOLE NO. R-25/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R-25/1

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION 474.7 a	DEPTH 22.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			55 (cont.)		Box 6	
474.2	22.4		grading SANDSTONE - f.-m.g.; m.h., gr. bkn. (mech.) 473.8 - 473.4		22.4	22.5 T. DEP 22.9 EST. DEP. 23.2
	23					PULL - 9 START - 0759 END - 0807 TIME - 8 min. Drl. - 8 min. RAN - 4.9 REC. - 4.4 Loss - 0.5 Unac - 0.0
	24		- cls. lam. @ 472.6 - 472.5 w/ gr. cl. coq.		7.	
	25				25.7	
	26					
	27		bkn. (mech.) 469.4 - 469.1		8.	26.9 T. DEP. 27.3 EST
	28		occ. plg. along lam. c, f.			DEP - 28.1 USING 10' bbl. PULL - 10 START - 0828 END - 0840 TIME - 18 min Drl. - 18 min RAN - 9.4 REC. - 9.8 GAIN - 0.4 Unac - 0.0
	29				29.4	
	30					
	31				9.	
	32					
	33				33.2	
	34				10	

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Locks & Dam | HOLE NO. R-25/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R-25/1

PROJECT GALLIPOLIS Locks & DAM | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.7	34.0		SS (cont.)		Box 10.	
	35				35.7	
			REQUIRED DEPTH.			36.0 T. DEP.
	36					
						37.1 EST.
	37					(overdrilled) DEP 37.5
	38					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS Locks & DAM | HOLE NO. R-25/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-25 / STA
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-25/2
5. NAME OF DRILLER: A TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 497.1
8. DEPTH DRILLED INTO ROCK: 36.1
9. TOTAL DEPTH OF HOLE: 461.0
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11-22-88; COMPLETED 11/22/88
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 36.1 %
19. SIGNATURE OF INSPECTOR: DAVID NUGEN JMD

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
497.1	0.0		SANDSTONE - sly, m.g., m.h., mc., m.gr. w/occ. sly. lam. Sta. 496.8-496.7		BOX	PULL-1 START- 0917 END - 0927 Time - 10 min Drl. - 10 mm RAN - 4.6 REC - 4.3 Loss - 0.3 Unacc - 0.3
	1		0.3 L.C. (mech.) 497.1-496.8			
	2		m. spaced ptgs. along sly. lam.		1.	
	3					
	4				3.9	T.DEP. & DEP 4.6
	5					PULL-2 START- 0937 End - 0943 Time - 6 min Drl - 6 min Ran - 3.6 REC - 3.6 Loss - 0.0 Unacc - 0.0
	6				2.	
	7				7.5	II T.DEP
489.0	8		S. gr. cl. 489.0-488.9 INDURATED CLAY - s., f. br./gr., slk.			DEP. 8.2
	9		bkn., s. throughout		3.	PULL-3 START 1027 End 1033 Time 6 min Drl 6 min RAN 2.0 REC 2.0 Loss 0.0 Unacc 0.0
	10					T DEP 10.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-25/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-25 1/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION 487.1 a	DEPTH 10.0 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			ICL - (cont.)		Box 3	DEP. 10.2
	11				10.6	PULL-4 START- 1053 End - 1101 Time - 8 min Drl. - 8 min RAN - 2.0 REC - 2.0 Loss - 0.0 UNACC - 0.0
						11.2 T. DEP
	12					DEP. 12.2
484.5	12.6		- 0.2' L.C. @ 484.7 - 484.6		4	PULL-5 START- 1115 End - 1124 Time - 9 min Drl. - 9 min RAN - 2.8 Rec - 2.7 Loss - 0.1 UNACC. 0.1
	13		CLAYSTONE, sly., gr., s.-m.h.			
	14				14.7	
						14.7
	15		hor. ptg. (mech.) @ 481.8			DEP. 15.0
					5	PULL-6 START- 1134 End - 1141 Time - 7 min Drl. - 7 min Ran - 2.4 REC - 2.4 Loss - 0.0 UNAC - 0.0
	16		hor. ptg. (mech.) @ 480.5			
	17					
479.9	17.2		grading			12.3 DEP 17.4
	18		SILTSTONE, sa., gr., m.h. occ. shy.; w/occ. ss. len. 0.3' L.C. (mech.) prob. @ start of run mech. ptg @ 479.0 mech. ptg @ 478.6			PULL-7 START- 1225 End - 1236 Time - 11 min Drl. - 11 min RAN - 5.0 REC - 4.1 Loss 0.9 UNACC. 0.3
	19					
477.7	19.4		grading			
	20		SANDSTONE - sly., f.g., m.h., gr., mic. m. spaced shy. plys throughout.		6	
	21				21.5	
						21.7 T. DEP
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO R-25/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-25/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.1	22.0		SS (cont.)			DEP. 22.4
						PULL-8 START- 1251 End - 1301 Time - 10 min Drl. - 10min Ran - 4.0 REC - 4.1 Gain - 0.1 Unacc-0.0
	23				7	
	24					
	25				25.2	
						25.8 T. DEP.
	26					DEP. 26.4
					8	PULL-9 START- 1315 End - 1323 Time - 8 min Drl. - 8 min RAN - 4.9 REC - 5.0 GAIN - 0.1 Unacc - 0.0
	27					
	28				28.7	
	29					29.3 T. Dep.
	30				9	
	31					DEP. 31.3
						PULL-10 START- 1347 End 1402 Time 15 min Drl. 15 min Ran 6.2 Rec. 5.2 Loss 1.0 Unacc 0.0
	32				32.2	
	33				10	
	34					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. R-25/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-25/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
463.1	34.0		SS (Cont.)			
					10,	
	35					
461.1	36		BOTTOM OF HOLE REQUIRED DEPTH			36.0 T. DEP. 1.0' core left in Hole
	37					(Coverdrilled) DEP. 37.0

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-25/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONOLITH R-26
3. DRILLING AGENCY: W.G. JACOBS
4. HOLE NO. (As shown on drawing title and file number): R-26/1
5. NAME OF DRILLER: DAVID HARDER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 (496.9)
8. DEPTH DRILLED INTO ROCK: 35.9
9. TOTAL DEPTH OF HOLE: (461.0)
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER:
16. DATE HOLE: STARTED 11/22/88; COMPLETED 11/23/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 35.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION 496.9 a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		SANDSTONE Light GRAY, M.H. MED to FINE GRAINED, MICACEOUS MECH BROKEN 496.4 - 491.2		BOX	START 2:58 Pull #1 RAN 0.7 END 3:08 REC 0.7 TIME 10 MIN LOSS 0 DRL 10 MIN UNACC 0 T. DEP + DEP .7 Pull #2 START 8:05 END 8:15 TIME 10 MIN DRL 10 MIN RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	2				1	
494.5			SANDSTONE M.H, C.G OCC - X-Bedding NON MICACEOUS.		3.5	
	3					
	4					
	5				2	
	6					T. DEP + DEP 5.7 Pull #3 START 8:33 RAN 1.6 END 8.37 REC 1.5 TIME 4 MIN DRL 4 MIN LOSS .1
489.9	7				6.9	7 T. DEP UNACC 0 DEP 7.3
	8		INDURATED CLAY S., LIGHT GRAY to reddish BROWN, OCC broken GRAY Above 488.9 - Reddish BROWN Below. OCC GRAY-SH-GREEN CLAYSTONE NODULES		3	Pull #4 START 8:47 REC 2.9 END 8:56 LOSS .2 TIME 9 MIN UNACC 0.0 DRL 9 MIN RAN 2.7 9.2 T Dep
	9					
	10				10.	DEP 10.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO.: R 26/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-26/1

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CP | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			INDURATED CLAY Light gray to reddish BROWN, SOFT, occ BROKEN		Box	Pull #5 Loss .1 START 9:27 UNACC 0.0 END 9:34 T. DEP 10.5 TIME 7min DRL 7min RAN 1.7 REC 1.1 DEP 11.2
	11					Pull #6 START 10:19 END 10:24
	12				4	Time 5 min DRL 5 min RAN 3.9 REC 2.9 Loss -1.0 UNACC .4
484.4					13.7	
	13		SHALE gray to greenish-gray SOFT, clayey			
	14					T. DEP 14.3
	15					DEP 15.1
	16				5	Pull #7 START 10:36 END 10:51 TIME 15min DRL 15 min RAN 3.7 REC 4.9
	17				17.1	Loss +0.4 UNACC 0.0
	18					T Dep 18.5
477.8	19					DEPT 19.0
			SILTSTONE gray, S to m.H. m Tc F.g. shaley grading to undulation with depth.			Pull #8
	20				6	START 12:05 END 12:16 Time 11min DRL 11min RAN 3.8 REC 3.6 Loss -0.2 UNACC 0.2
476.1			SHALE		20.8	
	21		SANDSTONE gray m.H., mafic F.g micaceous, Fine Bd Plans		7	
	22					

ENG FORM 1836-A JUN 67 | GPO 1965 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-26/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-26/1

PROJECT GALLIPOLIS | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.8			SANDSTONE		Box	Pull #8
474.5			SAALE GREEN SHALE M.H. F.g.			
	23					Pull #9
					7.	START 12:33
						END 12:43
						TIME 10 min
	24					DRL 10 min
					24.4	RAN 4.9
						REC 4.8
						LOSS -0.1
	25					UN ACC 0.6
	26					I Dep 25.7
					8.	
	27					
						Dept 27.7
	28				28.00	Pull #10
						START 1:04
						END 1:23
	29					TIME 19 min
						DRL 19 min
						RAN 9.8
						REC 9.5
						LOSS .3
	30					UN ACC 0.0
					9	
	31					
					31.9	
	32				10.	
	33					
	34					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-26/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R 26/1

PROJECT | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION 462.9 a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SANDSTONE		Box	Pull H TO
			GRAY mH Fg to mlg		10	
			micaceous, Fine Bd Plane			T. Depth 34.8
	35					
461.2			Bottom Hole		35.7	Box To 35.7
	36					
	37					Dep 37.5
	38					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. R 26/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Mono 14+80.0 "B"
3. DRILLING AGENCY: W. G. Jaques
4. HOLE NO. (As shown on drawing title and file number): R-26/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 494.4
8. DEPTH DRILLED INTO ROCK: 33.7
9. TOTAL DEPTH OF HOLE: 461
10. SIZE AND TYPE OF BIT:
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11-30-88; COMPLETED 11-30-88
17. ELEVATION TOP OF HOLE: 494.4 '
18. TOTAL CORE RECOVERY FOR BORING: 33.7 %
19. SIGNATURE OF INSPECTOR: [illegible]

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		SS lg. md., m.fg., occ mic.			Pull #1 START 7:51 Ran .05 End 8:04 Rec .05 Time 13 Loss 0 Drl 13 unacc 0 TI & TP Depth 0.5
	2				1	Pull #2 START 8:13 Loss 0.4 End 8:32 unacc .04 Time 19 Drl 19 Ran 3.6 3.5 Rec 3.1
491.5	3		ICL. Sy Mech. bk @ 494.7 to 492.2		3.7	TI Depth 4.0 TP Depth 4.1
	4					Pull #3 START 8:50 Rec 2.4 End 9:06 Loss .01 Time 16 unacc 0 Drl 16 Ran 2.1
	5				2	
	6					TP Depth 6.2 TP Depth 6.3
487.6	7		CLS sfr @ 492.8 To 492.5		6.6	Pull #4 START 9:46 Loss 0 END 9.55 unacc 0 Time 15 Drl 15 Ran 2.2 2.4 Rec 2.3
486.6	8		ICL. r, br., s. ves. occ. mot. w/gr. gn.gr. Cl., occ gr cl/s frags			TI Depth 8.5 TP Depth 8.6
	9				3	Pull #5 START 10:07 Ran 1.1 End 10:19 Rec 1.0 Time 12 Loss 0 Drl 12 unacc 0
	10		SLS lt. gr. cls, @ 491.5 to 490.7 sevr. mech. bkn : 490.2 to 489.7, 488.6		10.1	TI Depth 9.6 TP Depth 10.0
	11		CLS. gr. s sh.			Pull #6 START 10.35 Ran 0.8 End 10.42 Rec 0.8 Time 7 Loss 0 Drl 7 unacc 0 TI Depth 10.4
	12				4	TP Depth 10.7
	13					Pull 7 START 10:59 Loss 0.2 End 11:04 unacc 0.2 Time 10 Drl 10 Ran 3.4 3.7 Rec 3.6
	14				13.5	TI Depth 13.8 TP Depth 14.4
	15					Pull #8 START 11.25 Loss 0 End 11.31 unacc 0 Time 6 Drl 6 Ran 0.8 0.7 Rec 0.8
	16				5	TI Depth 14.6
	17				17.0	TP Depth 15.1
	18					Pull # 9 START 12:41 unacc .04 End 12:59 Time 18 Drl 18 Ran 4.2 Rec 3.8 Loss .04
	19				6	TI Depth 18.8 TP Depth 19.3
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO.: R-26/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 494.7 | Hole No. R 26/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21					Pull 10
					20.8	START 1.19 End 1.35 Time 16 Drl 16 Ran +5.0 4.9 Rec 5.0 Loss 0 Unacc 0
	22					
472.3						
	23		SLS gr. to gn.gr. S. to m.hd sh@ top grading S.		7	
			Sev mech. bkn: 479.7 = 480.1, 486.1 = 485.6, 475.9, 475.7, 484.5, 484.9			TI Depth 23.8
	24					TP Depth 24.2
			mech spin: 485.4, 483.0, 485.3, hi ang mech frags 486.5 & 486.1, 475.2		24.3	Pull # 11
	25					START 1.56 End 2.16 Time 20 Drl 20 Ran 10.0 Rec 9.9 9.8 Loss 0.2 Unacc 0.2
	26		slk @ 483.6 bkn 482, 482.6 sh. 479.0 & 478.9		8	
	27		SS gr. lt gr med hd mod S.			
			gy, occ mic grad C w/ depth occ @ 6dd.		27.8	
	28		bkn 471.6			
	29		mech spin loss 466 = 461.9			
					9	
	30					
	31				31.4	
	32				10	
	33					
461			Bottom Hole		33.8	TI Depth 33.8 TP Depth 34.1

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. R26-2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mono R27 Sta 14470 "B"
3. DRILLING AGENCY: W. G. Jaques
4. HOLE NO. (As shown on drawing title and file number): R-27/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 499.5
8. DEPTH DRILLED INTO ROCK: 34.1
9. TOTAL DEPTH OF HOLE: 460.1
10. SIZE AND TYPE OF BIT:
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/a; UNDISTURBED N/a
14. TOTAL NUMBER CORE BOXES: 8
15. ELEVATION GROUND WATER: n/e
16. DATE HOLE: STARTED 12-1-88; COMPLETED 12-1-88
17. ELEVATION TOP OF HOLE: 494.5
18. TOTAL CORE RECOVERY FOR BORING: 34.1 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
494.0			SLS			Pull #1
	1		SH g.s. CL brn w/poss			START 7:25
			0.1 Loss			End 7:49
	2					Time 24
						Drl 24
	3				1	Ran 4.3* 4.5
						Rec 4.2
					3.5	Loss 0.1
490.2	4					Unacc 0.1
						TL Depth 4.3
						TP Depth 4.5
			ICL r. brn's to ve s. occ			Pull #2
	5		mot. w/g to gr. g. cl,			START 8:04
			occ gr. g. CLS frags. If			End 8:28
	6		g. fatty CL @ 490.2 - 490.0		2	Time
			sev, br (poss mech) 489. - 488.0			Drl 24
	7		poss loss - Spin loss @ 486.9 &			Ran 3.8* 4.1
			486.7 poss.			Rec 2.2
486.4	8					Loss 1.6
						Unacc 1.6
					8.1	TL Depth 8.1
						TP Depth 8.6
						Pull #3
	9		SLS g., S., to mod. h., gradational			START 8:58
			w/sh. toward top, & Sa &			End 9:13
	10		bottom		3	Time 15
						Drl 15
			- Clay seams' 484.0, 488.2			Ran *4.2 4.0
	11		SS			Rec 4.2
						Loss 0
						Unacc 0
	12				12.1	TL Depth 12.3
						TP Depth 12.8
	13					Pull #4
					4	START 9.33
	14					End 9.44
						Time 11
						Drl 11
	15				15.1	Ran 3.2* 3.9
						Rec 4.0
						Loss 0
	16					Unacc 0
						TL Depth 16.3
						TP Depth 16.7
	17				5	Pull #5
						START 10:00
	18					End 10:10
						Time 10
						Drl 10
					18.6	Ran *4.4 5.0
	19					REC 4.9
					6	Loss 0
						Unacc 0
						TL Depth 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & DAM | HOLE NO.: R-27-1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 494.5 | Hole No. R 27/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	TP Depth 21.7
473.0						Pull #6
	22		SS gr to lt gr. med h med to f. g, occ mic. gradational c with/ depth		22.3	START 10:26 End. 11:04 Time .38 Dr/ 21. Ran 4.8 Rec 4.8 Loss 0 Unacc 0
	23					
	24				7	
	25					
	26				26.0	TI Depth 26.0
						TP Depth 26.6
	27					Pull #7
	28				8	START 11:25 End 11:37 Time 12 Dr/ 12 Ran 4.0 Rec 4.5 3.6 Loss 0
	29				29.6	TI Depth 28.7
	30					TP Depth 30.0
	31					Pull #8
	32				9	START 12:31 End 12:46 Time 15 Dr/ 15 Ran 4.3 4.7 Rec 4.8 Loss 0 Unacc 0
	33				33.0	
461.0					10	
	34		Boring Hole		34.1	
460.1						TP Depth 34.7
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					

ENG FORM 1836-A JUN 67 | GPO 1969 OP—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R 27/1

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mono STR. 14+36 "B"
3. DRILLING AGENCY: W. G Jaques
4. HOLE NO. (As shown on drawing title and file number):
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 – 490.9
8. DEPTH DRILLED INTO ROCK: 29.9
9. TOTAL DEPTH OF HOLE: 461.0
10. SIZE AND TYPE OF BIT: 4 X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B 53 Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES:
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-1-88; COMPLETED 12-2-88
17. ELEVATION TOP OF HOLE: 490.9
18. TOTAL CORE RECOVERY FOR BORING: 29.9 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
490			SS			Pull #1 START 2:38 End 2:51 Time 13 Drl 13 Ran 1.9 2.0 Rec 1.5 Loss 0.3 Unacc 0.3 TI Depth 2.0 TP Depth 1.9
	1		SS r. gr., med hd., med tot. 9		1	
	2					
	3				3.0	Pull #2 START 7:42 End 8:02 Time 20 Drl 20 Ran 1.1 2.1 Rec 1.1 Loss 0.0 Unacc 0.0 TI Depth 4.1
487.9					2	TP Depth 3.6
	4		ICL. r. br., s to ve s, occ mot. w/gr. & gn CL. occ gn gr CLS frags. ll. gr @ 487.4 to 487.1 sev bkn 489.8 to 489.4 w/ poss loss 0.3, 489.0 to 487.4			Pull #3 START 8:23 End 8:45 Time 22 Drl 22 Ran 5.7 8.0 Rec 8.6 Loss 0.1 Unacc 0.1 TP Depth 5.7
	5					
	6				6.3	TI Depth 6.1
	7		SLS gr. to gn gr., s to med hd., gradation w/sh. @ top to sa @ bottom, occ SIK.			Pull #4 START 9:08 End 9:32 Time 24 Drl 24 Ran 5.4 Rec 3.5 Loss 0 unacc 0
	8				3	
	9		sev bkn; 487.4 to 485.2 poss. mech. ll. bkn., sh., scam w/ SIK @ 482.2 Sa blow. 479.6			TP Depth 9.5
	10				9.8	TI Depth 9.5
	11		ll. bkn @ 480.5			Pull #5 START 9:49 End 10:00 Time 19 Drl 19 Ran 9.5 Rec 3.4 Loss unacc
	12				4	TP 11.9
	13				13.1	TI Depth 13.0
	14					Pull #6 START 10:26 End 10:34 Time 8 Drl 8 Ran 3.8 5.1 Rec 4.9 Loss 0.0 Unacc 0.0
	15				5	TP Depth 15.7
	16					
	17				16.5	
473.9						TI Depth 18.1
	18				6	Pull #7 START 10:51 End 11:02 Time 11 Drl 11 Ran 5.2 Rec 4.9 Loss 6.6 Unacc 0
	19					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO. R27/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 490.9 | Hole No. R 27/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH - CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21					TP Depth 20.9
	22				4	
	23		SS gr. to lt gr., mod hd., med. to fi g, occ mic, grad. c w/depth, occ x bdd - sev. mec. bkn 468.8 - 468.5			TI Depth 22.9 Pull # 8
	24				23.5	START 11:18 End 11:30 Time 12 Drl 12 Ran 3.3 3.5 Rec 3.5 Loss 0 Unacc 0 TP Depth 24.2
	25		1; mech. bkn @ 464.6		8	
	26					TI Depth 26.4 Pull #9
	27				26.9	START 12.30 End 12.55 Time 5 Drl 5 Ran 0.8 1.1 Rec 1.0 Loss 0 Unacc 0 TP Depth 26.9
	28				9	
	29					Pull # 10
461	30					START 12.56 End 1.02 Time 12 Drl 12 Ran 4.5 4.2 Rec 4.3 Loss 0 Unacc 0 TP Depth 30.6
460.3			BOTTOM HOLE		30.6	
	31					TI Depth 31.7
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Locks & Dam | HOLE NO. R 27/2

DRILLING LOG | DIVISION: CRD | CRD - CD | OF 4 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): monolith R/75 / sta 7410 A
3. DRILLING AGENCY: W. G Jaques. Co.
4. HOLE NO. (As shown on drawing title and file number): R-75-1
5. NAME OF DRILLER: STeve fry.
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 497.0
8. DEPTH DRILLED INTO ROCK: 33.4
9. TOTAL DEPTH OF HOLE: 463.6
10. SIZE AND TYPE OF BIT: 4" x 5 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: Na
16. DATE HOLE: STARTED 9-11-87; COMPLETED 9-11-87
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 33.4 %
19. SIGNATURE OF INSPECTOR: DET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	0		CLS/SLS interbdd: m.-clk. gr., s-m.hd.; v. bkn 0.8.-2.7 w/0.9. LC. (mech); s.cl. 3.2.-3.7. overcoved 4.0-4.3: closely spaced cl CO2. hor. (shy) ptgs. 5.6.-7.0. w/0.4 LC. & 7.9 12.2!			Pull #1
	1					Start.- 10:32
						End - 10:44
						Time - 12
						Drl - 12
						Ran - 4.0
	2					Rec. 3.1
						Loss. 0.9
						Unacc -
					1	
	3					
						TI Depth 4.0
	4				4.0	TP Depth 4.0
						Pull #2
	5					Start 10:49
					2	End. 10.44
						Time 12
						Drl 12
	6					Run. 4.0
						REC 3.5
						Loss 0.9
						Unacc -
	7					
					7.9	T Depth 7.9
	8					Depth 8.0
						Pull # 3
	9					START - 11 09
					3	STop 11.19
						Time 10
						Drl 10
	10		Co.U.			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-75-1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497 Hole No. R 75/1

PROJECT Gallipolis Lock & Dam INSTALLATION ORD - CD SHEET 2. OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Ran - 5.3 Rec 5.2 Loss. 0.9 unacc 0
	11				3	
					11.6	
	12					
484.9						
			SLS. cly., m. dk. gr., s. m. h. hor. cly. ptg. @ 12.7: cly 12.7-13.1: shy ptgs. @ 13.4, 13.5, & 13.6			
	13				4	TP Depth 13.1 TI ~~Depth~~ 13.3
483.8						Pull #4
			SS., v. sly., f.g., m.h., m.gr.: hor. ptg. @ 14.3: over cored 14.3-14.5 grading			START 11.36 End. 11.46 Time 10 Drl 10 Ran. 4.2 Rec- 3.7. Loss. 0.6 unacc
	14					
	15				15.1	
481.2						
	16					
	17					TP Depth 17.4 TI Depth 17.5
					5	Pull #5
	18					START 12.36 End 12:45 TIME 9 Drl 9 Ran 5.0 Rec. 4.9 Loss 0.1 Unacc ~~0~~
	19				19.2	
	20					
					6	
	21					
	22		Cont			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Locky Dam HOLE NO R75-1

DRILLING LOG (Cont Sheet) 44?.0 Hole No. R-75-1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORD - CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.9	22					
			Cls/inc transition: s., m.-dk. gr.-r.br., SIK. ve. bkn w/SIK. pins 22.3.-22.8 grading			TP Depth 22.3
						TI Depth 22.5
					22.9	Pull #6
	23					START 12.56
						End. 12.59
						Time 3
					7	Drl —
						Ran. 2.4
	24					Rec. 3.0
						Loss 0
472.6						Unacc 0
			Inc., s., r.bkn. bkn., s/ks			
						TP Depth 24.9
	25					TI Depth 25.3
						Pull #7
						START 1:10
						End 1:30
	26					Time 20
						Drl
					26.5	Ran. 4.5
						Rec. 4.5
	27					Loss. 0
						Unacc 0
					8	
	28					
	29					
						TP Depth 29.4
						TI Depth 29.8
	30					Pull #8
					30.2	
						START 1:40
						End. 1:52
						Time 12
	31					D/r 12
					9	
						Ran. 5.0
						Rec. 3.6
						Loss. -0
	32					Unacc
	33					
463.6					33.4	TP Depth 33.4

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-75-1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.0 **Hole No.** R 75/1

PROJECT Gallipolis Lock & Dam | INSTALLATION - ORD - CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34					DI Depth. 34.4'

ENG FORM 1836-A JUN 67

GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO R 75/1

DRILLING LOG | DIVISION: ORH | INSTALLATION: ORH.CD | OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam 2
2. LOCATION (Coordinates or Station): mono R 175/2 Sta. 7+45 A.
3. DRILLING AGENCY: W. G. Jaques
4. HOLE NO. (As shown on drawing title and file number): R-75/2
5. NAME OF DRILLER: Steve Fry
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.4
8. DEPTH DRILLED INTO ROCK: 33.4
9. TOTAL DEPTH OF HOLE: 464.0
10. SIZE AND TYPE OF BIT: 4" x 5 1/4"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B53 - Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A | UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/14/89 | COMPLETED 9/14/89
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 33.4 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	0		Cl/sh s, m.d.K.gr, BKN Cl. coP w/occ. Cl/sh Lens: 2.0-3.1 Loss .4		1	Pull 1 # Start 8:08 End 8:16 Time 8 Dr/ 8 Run 4.9 Rec 4.5 Loss 0.5 Unacc -0-
	1					
	2					
	3					
	4				3.8	
492.3	5					TP: coal 4.9 TE Depth 5.0
	6		ss shy m.h. mgr. w/shy		2	Pull #2 Start 8.23 End 8:30 Time 7 Dr/ 7 Run 5.0 Rec 3.2 Loss 0 Unacc 4
490.1	7					
	8		Cl/sh S.m.dK.gr w/occ CL. coH. Sn. 8.8 9.6 Loss 1.1 siltstone Len. 14.0 14.6 Cly 14.9 + 15.2. SLK		7.8 TE Depth 8.0
	9				3	
	10		Cont.			TE Depth 9.9

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PROJECT: Gallipolis Lock & Dam | HOLE NO.: R-75-2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. R 75/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CO | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3
						START 8:41
						End 8:46
						Time 5
						Drl 5
	11				11.3	Ran 2.5
						REC 3.6
						LOSS 1.1
						UNDOC 0
	12					TP Depth 12.4
					4	TI Depth 12.9
	13					Pull #4
						START 9:04
						End 9:10
						Time 6
						Drl 6
						Ran 2.6
	14					REC 2.7
						LOSS 0
						UNDOC 0
						TP Depth 14.9
	15					TI Depth 15.0
482.2						Pull #5
			ES. V. SLT. M.GR. OKN. 15.9 – 16.5		15.6	START 9.22
	16					End. 9.31
						Time 9
480.9						Drl 9
						Ran 5.9
						REC 5.2
	17		CL. SH. INTER-BED S. M.d.K. GR. SL. LEW 18.8 - 19.8			LOSS .0
					5	UNDOC 0
	18					
	19				19.4	
	20					TP Depth 20.1
					6	TI Depth 20.9
	21					Pull.
						START 9.51
						End. 9:57
						Time 7
	22		Cont			

DRILLING LOG (Cont Sheet) 447.4 Hole No. K-15/16

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Pull #6 cont
						Drl. 7
						Ran 2.6
447.44	23				23.0	REC 4.6
						Loss 0
						Unacc 0
			CL/Icl Trans s.gr-r br.			TP Depth 23.5
	24					TI Depth 24.1
						Pull #7
						START 10.06
					7	End 10:13
	25					Time 7
						Drl 7
421.8						Ran 4.3
						REC. 4.1
						Loss 0
	26		Icl s r.br. slk			Unacc 0
					26.6	
	27					
						TD Depth 27.8
	28				8	
						TI Depth 28.9
	29					Pull # 8
						START - 10:24
						End - 10:38
						Time 14
						Drl 14
	30				30.2	Ran 6.1
						REC. 4.7
						Loss 0
	31					Unacc 0
					9	
	32					
	33					
464.0			Bottom Hole			TD Depth 33.4
						TI Depth 33.9

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. D75/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: Gallipolis Lock & DAM
2. LOCATION (Coordinates or Station): Mono R-76 / STA. 7+55 'A"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-761
5. NAME OF DRILLER: Steve Frye
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 497.2
9. TOTAL DEPTH OF HOLE: 33.2
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (MSL or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-59 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: 0 - 497.2
16. DATE HOLE: STARTED 9-11-89; COMPLETED 9-12-89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 33.2 %
19. SIGNATURE OF INSPECTOR: ET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	0		CLSH S. M. dk. gr, bkn gr bkn Cl. Coz. w/occ cly. SLS. lens: SLS. 2.6-3.6		1	Pull #1 Start 2.08 End 2.20 Time 12 Drl 12 Ran 4.9 Rec 4.7 Loss 0 Unacc 0
	1					
	2					
	3				3.8	
	4					
492.2	5		SS: slyfig, m.h., mgr. w/sly. lam. & incls		2	TP Depth 4.7 TI Depth 4.9 Pull #2 START 2.25 End 2.36 TIME 11 Drl 11 RAN 5.0 REC 4.9 LOSS 0 UNACC 0
	6					
	7				7.3	
488.8	8		CLSH., S., m. dk. gr. br w/fr gr. cl. coal/fla. sly 9.6-10.4: hvy cl/fla bdd. plns 11.3-13.4.		3	
	9					TP Depth 9.6 TI Depth 9.9
	10					

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PROJECT: Gallipolis Lock & DAM | HOLE NO.: R-761

DRILLING LOG (Cont Sheet) 4774 Hole No. K 76/1

PROJECT: GALLIPOLIS Lock & DAm | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CL/Sh			Pull #3
					10.8	Start 2:42 End 2:58 Time - 16' Drl 16 RAN 4.5 REC 4.6 Loss 0 unacc 0
	11					
	12					
					4	
	13					
493.5						
	14		SS. ve. shy; fig, m.l.h. m.-dk.gr.; cj fld ptgs @ 16.2, -16.4, 16.7		14.2	TD Depth 14.2 TI Depth 14.4
						Pull #4 Date. 9.12.89 START 7:30 End 7:41 Time 11 Drl 11 Ran. 4.4 REC 4.3 Loss 0.2 unacc 0
	15					
	16				5	
	17					
480.2						
	18		CLS/SLS. inter bdd, s, m. dk. gr., bkn 17.5 17.9 w/o.2 CC., Closley spaced hor. ptgs. 18.1 grading more clayey w/depth		18.0	TP Depth 18.7 TI Depth 18.8
	19					Pull #5 START 7:49 End 8:00 Time 11 Drl 11 RUN 5.1 Rec 5.2 Loss 0 unacc 0
	20				6	
	21				21.5	
	22		(CONT)			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO: K-76/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 **Hole No.** R-7611

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLS/SLS			
	23				7	TI & TP Depth 23.9
	24					Pull # 6 START - 8:11 End - 8:19 Time - 8 Drl 8 RAN 3.7 Rec 3.8 Loss 0 Unacc 0
	25				25.1	
471.2	26		±CL., r.b.r., S, SIK.		8	
	27					
	28					Pull # 7 START - 8:24 End 8:32 TIME 8 Drl 8 RAN. 5.0 Rec 5.0 LOSS 0 UNACC 0
	29				28.7	
	30				9	TP Depth 30.6
	31					
	32				32.5	TI Depth 32.7
	33				10	Pull # 8 Start - 8:40 RAN — End - 8:47 Rec 0.8 Time - 7 Loss 0 Drl 7 Unacc 0
463.7			Bottom Hole		33.5	TI & TP Depth 33.5

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-343

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-7611

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-76 / STA 7+91-A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-76/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.2
8. DEPTH DRILLED INTO ROCK: 34.5
9. TOTAL DEPTH OF HOLE: 962.7
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (MSL or MLL): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B- MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-14-89; COMPLETED 9-14 89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 34.5 %
19. SIGNATURE OF INSPECTOR: SET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	0		CLSH, s, m. dk. gr., w/hvy cl. s.			Pull #1
	1					START 11.02
						END 11:10
						TIME 8 min
						DRL 8 min
					1	RAN 5.2
	2					REC 5.1
						LOSS 0.1
						UNACC 0.1
	3					
493.6						
	4		SS., Sly., frq., m.b. m. gr.		3.7	
493.4						
493.2			CLS., S., m. dk gr.			
	5		SS. Sly, Sig., m.b., m. gr			
492.7						T/DCP 5.1 DCP 5.2
			CLS-S., m. dk. gr., okn. ulong hor. pl. w/ nuy gr cl cos/ fkl 5.6-12.3 w/ c.a k.c. blwn 5.6 & 8.8: s/s 6m: 9.7-10.6		2	Pull #2
	6					START 11.19
						END 11.27
						TIME 8 min
						DRL 8 min
						RAN 3.7
	7					REC 3.3
					7.8	LOSS 0.4
						UNACC 0.4
	8					
					3	
	9					T/DCP 8.6 DCP 8.9
						Pull #3
	10		(CONT)		(CONT)	(CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-76/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.2 Hole No. R-76/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS			PULL #3
						START 11:34
						END 11:46
					10.8	TIME 12 min
	11					DRL 12 min
						RAN 9.5
						REC 9.0
						LOSS 0
	12					UNACC 0
484.9						
			SLS, s., sm. hd., m., dk gr		4	
484.4						T/DCP 12.8
	13		CLS, s m.-dk. gr.,			
484						DCP 13.9
						PULL #4
	14					
						START 12:39
					14.2	END 12:46
						TIME 7 min
						DRL 7 min
482.2	15					RAN 5.1
			SLS/CLS, interbdd., s-m.h. m., dk., gr tr-hvy. gr c/, cos. along hor. bdd p/ns ve bkn 16.0-18.0 w/ 0.2 LC			REC ≤ 0
	1					LOSS 0.2
						UNACC 0.2
	16				5	
	17					
	18				18.0	T/DCP 18.0
						DCP 18.5
						PULL #5
	19					START 1:00
						END 1:10
					6	TIME 10 min
						DRL 10 min
	20					RAN 9.5
						REC 3.2
					20.5	LOSS 0
						UNACC 0
	21					T/DCP 21.0
					7	
			(CONT)			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO R-76/2

DRILLING LOG (Cont Sheet) 497.2 Hole No. K-76/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		Trans CLS/SCC. S, SLK, gr-r-hr			PULL #5
	23				7	DCP 23.0
						PULL #6
	24					START 1:19
472.9						END 1:25
						TIME 6min
						DRL 6min
						RAN 2.9
			Ict. vbr., s., bkn, slt			REC 3.1
	25					LOSS Ø
					25.6	UNACC Ø
						DCP 25.9
	26					PULL #7
						START 1:35
						END 1:42
	27				8	TIME 7min
						DRL 7min
						RAN 4.0
						REC 5.2
	28					LOSS Ø
						UNACC Ø
					28.7	
	29					T/DCP 29.0
						DCP 29.5
	30					PULL #8
						START 1:59
						END 2:10
	31				9	TIME 11min
						DRL 11min
						RAN 4.6
						REC 4.0
	32					LOSS Ø
						UNACC Ø
					32.5	
	33				10	
463.7			BOTTOM HOLE		33.5	T/DCP 33.5
						DCP 34.5

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO: K-76/2

DRILLING LOG	ORD	ORH-CD	of 3 SHEETS

1. PROJECT	GALLIPOLIS Lock & DAM
2. LOCATION (Coordinates or Station)	MONO R-77 STA 7+101.4
3. DRILLING AGENCY	W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number)	R-77/1
5. NAME OF DRILLER	STEVE Frye
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	0 - 496.9
8. DEPTH DRILLED INTO ROCK	32.9
9. TOTAL DEPTH OF HOLE	464
10. SIZE AND TYPE OF BIT	4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL	B-53 Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED: n/a; UNDISTURBED: n/a
14. TOTAL NUMBER CORE BOXES	9
15. ELEVATION GROUND WATER	00 496.9
16. DATE HOLE	STARTED 9-12-89; COMPLETED 9/12/89
17. ELEVATION TOP OF HOLE	496.9
18. TOTAL CORE RECOVERY FOR BORING	32.9 %
19. SIGNATURE OF INSPECTOR	JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			CLSH., s., m.-dk gr.: occ. sly., hvy gr. cl. coa in bkn & closely spaced hor ptgs: 0.2-.50 lam. 3.8-40. sly. 9.0-55': c.2. LC. blwn s. 5-8.4			Pull #1 START - 9.20 End 9:29 Time 9 Drl 9 Ran 4.9 REC 4.5 Loss 0 unacc 0
	1					
	2				1	
	3					
					3.7	
	4					TP Depth 4.5
						TI Depth 4.9
	5					Pull #2 START 9.36 End 9.45 TIME 9 Drl 9 Ran 3.7 REC 3.7 Loss .02 unacc 0
	6				2	
	7					
					7.3	
	8					TP Depth 8.4 TI Depth 8.76
					3	
488.7	9					
			SS, sly. f.g., m.hi., m.gr.: bkn, sly 9.8-10.2 (CONT)		(CONT)	(CONT)
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO.: R-77/1

DRILLING LOG (Cont Sheet) 496.9 Hole No. R/1111

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.7	10					
			CLS/SLS interbdd, s., m.h., m.dk.gr: ve bkn 10.2-11.2 & 12-13.4: 0.4 LC 13.4-13.8		3	Pull #3 START - 9:52 End 10:00 Time 8 Drl 8 Ran 5.3 REC 5.0 Loss 0 Unacc 0
	11				11.1	
	12				4	
	13					TD Depth 13.9
482.9	14					TI Depth 13.9
			SS. sly.f.g., m.h., m.gr: hor. ptg: w/tr.gr.CL cuo @ 14.4': lm, o, sli.slk.ti 14.5'-15.1 grading into SLS. w/depth			Pull #4 START 10.12 End - 10.23 Time 11 Drl 11 Ran 7.00 (?) Rec 2.3 Loss 0 Unacc 0 TD Depth 16.1
	15				14.4	
480.8	16					
			SLS. s/. sa. to 18.0; m.gr, m.hd. occ closely spaced hor. ply w/tr. cl. cuz. grading w/depth		5	
	17					
	18				18.0	TI Depth 20.9 (?)
	19				6	Pull # 5 START 10:30 End 10 40 Time 10 Drl 10 Ran 0.1 (?) Rec 4.1 Loss 0 Unacc 0 TD Depth 20.2
	20					
475.9	21					TI Depth 21.0
			CLS. s,m.dk.gr. Closely spaced hor. ptgs			
					21.7	
	22				7	

ENG FORM 1836-A JUN 67 GPO 1969 O-329-243

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-77/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.9 **Hole No.** R77/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLS			Pull # 6
474.1					7	Start 10:48
	23		Trans CLS/JCL			End 11.00
						Time 12
						Drl 12
						Ran 3.9
	24					Rec 4.7
						Loss 0
						Unacc 0
471.9	25					TI & TP Depth 24.9
			JCL., rbn., bkm, slt., S			Pull #7
					25.3	
						Start 11.13
						End 11.25
	26					Time 12
						Drl 12
						Ran 3.3
						Rec 4.7
						Loss 0
	27					Unacc 0
					8	
	28					TP Depth 28.2 For Pull 8
					29.1	
	29					TI Depth 29.6
						Pull #8
	30					Start 12.20
						End 12.34
						Time 14
					5	Drl 14
	31					Ran 5.7 C
						Rec 3.3
						Loss 0
	32					Unacc 0
464.0	33		Bottom Hole		32.9	TD Depth 32.9
					33.9	TI Depth 33.9

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO R-77/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO - R-77 / STA 6+10'12'
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R 77/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.7
8. DEPTH DRILLED INTO ROCK: 35.9
9. TOTAL DEPTH OF HOLE: 461.8
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: N/A; UNDISTURBED: N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: 00 - 496.7
16. DATE HOLE: STARTED 9-14-89; COMPLETED 9-15-89
17. ELEVATION TOP OF HOLE: 497.7
18. TOTAL CORE RECOVERY FOR BORING: 34.2 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	0		CLS - S. dk. gr., shy., occ. shy ve.s 0.0 - 4.5: 0.2' ss incl. @ 2.8. - 2.2. ve.s. 2.8 - 4.5 w/0.4 LC. ve. bk. ll w/hvy. gr. cl. coa. 4.9 - 7.7 s., 7.7 - 9.7: shy., s 9.7 - w/s., m. gr. cl, coa./sld. SLS len. @ 12.2 - 12.6 & 13.5 - 13.7, sly ss len 14.3 - 14.6 sli. sly 15.9 - 17.1 w/hvy dk. gr sld. @ 16.3 & 16.5, 16.7 & 16.9 - 17.0 ve bkn., s w/cl. coa 17.1 - 18.7 bkn, sly, 18.7 - 19.5 ves., bkn. 20.5 - 21.7: sly. 21.7 - 22.5: ve bkn 22.5 - 26.9		1	Pull #1 START 2.26 End 2.33 TIME 7 Dri 7 Ran 4.9 REC 4.1 LOSS .04 unacc 0
	1					
	2					
	3				3.7	
	4					TI Depth 4.5 TP Depth 4.9
	5					Pull #2 START 2.51 End 3.00 TIME 9 Dri 9 Ran 5.0 REC 5.2 LOSS 0 unacc 0
	6				2	
	7				7.7	
	8				3	
	9					TI Depth 9.7 TP Depth 9.9
	10		(CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: R-77/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.9 **Hole No.** R-771-2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		cont. CLS-			Pull #3
						START 7.35
						End 7.45
						TIME 10
	11					Drl 10
					11.1	Ran 2.9
						REC 3.3
						LOSS 0
						unacc 0
	12					
					4	TI Depth 12.8 ?
						TP Depth 13.0
	13					Pull # 4.
						START 7.56
						End 8.05
						TIME 9
	14					Drl 9
						Ran 3.1
						REC 5.1
						LOSS 0
					14.7	unacc 0
	15					
						TI Depth 15.9 ?
	16				5	
	17					
					18.1	TP Depth 18.1
	18					Pull #5
						START 8.17
						End 8.33
	19					TIME 16
						Drl 16
						Ran 5.9?
					6	REC 3.6
	20					LOSS 0
						unacc 0
					21.7	
	21					
					7	TI Depth 21.7
						TP Depth 21.8
	22		(CONT)		(CONT)	

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.7 Hole No. L-77/2

PROJECT GALLIPOLIS Lock & DAM INSTALLATION ORH-CD SHEET 4 OF 9 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					Pull #6
						START 8.50
						End 8:59
						TIME 9
	23					Drl 9
					7	Ran 4.3
						Rec 5.2
						Loss 0
	24					Unacc 0
	25				25.5	
	26					TI Depth 26.1?
						TP Depth 26.9
						Pull #7
	27					START 9:10
						End 9:17
						Time 7
					8	Drl 7
	28					Ran 6.0?
						Rec 5.2
						Loss 0
						Unacc 0
					28.9	
	29					
					9	
	30					
	31					
	32				32.1	TI Depth 32.1
						TP Depth 32.4
						Pull #8
						START 9.24
						End 9.30
	33					Time 6
					10	Drl 6
						Ran 3.5
						Rec 2.1
						Loss 0
						Unacc 0
	34		(CONT)		(CONT)	

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS Lock & DAM HOLE NO L-77/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. R-77/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
462.5	34		ICL, s.,r.br. slt, bkn			TI Depth 34.2
	35					TP Depth 35.9

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. R-77/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-78 / STA 8+47 A
3. DRILLING AGENCY: W.G JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-78/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 00 (496.7
8. DEPTH DRILLED INTO ROCK: 4
9. TOTAL DEPTH OF HOLE: 32.6
10. SIZE AND TYPE OF BIT: 4" & 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-12-88; COMPLETED 9-13-88
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 32.6 %
19. SIGNATURE OF INSPECTOR: ET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SLS/CLS - interbdd., s., m.-dk.gr. occ. shy.; bkn. throughout w/cl. coz. & s.cl. zos. (max. core 0.2) overcoring 9.3-10.0' CLS. 10.0-13.0. SLS - 13.0-13.3' Ve.s. 13.3-13.8 w/ 0.4 L.C. (Prob mech)		1	Pull # 1 START 1.31 End 1:44 Time 13 Drl 13 RAN 5.0 REC 4.1 LOSS Unacc
					3.8	TI Depth 4.1 TP Depth 5.0
					2	Pull # 2 START 1.55 End 2.10 TIME 15 Drl 15 RAN 4.9 REC 5.2 LOSS Unacc over Drl.
					7.5	
					3	TI Depth 9.3 TP Depth 9.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-78/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R78/1

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10				3	Pull #3
						START 2.20
						End 2.25
					10.8	Time 5
	11					Drl 5
						Ran 4.0
						REC 4.1
						Loss 0.4
						unacc
	12					
					4	
	13					
482.9						TI Depth 13.8
						TP Depth 13.9
	14		SLS., cly srm.-h.; m.-dk.gr; 0, hor conta			
482.5						Pull #4
			SS., vc. sly, v.f.g., mh., m. gr. w/occ thin dk.gr. sly. lam. & incl. grading w/depth		14.6	START 2.40
						End 3.00
						Time 20
	15					Drl 20
						Ran 5.0
						REC 3.8
481.1						Loss 0.5
						unacc
			CLSH, sly.-m, dk.gr., s., w/s gr.cl coz & fld. bdd. plns., b furn 16.2 & 18.1 w/ 0.5' LC			
	16				5	
	17					
478.6	18				18.1	TI Depth 18.9
			SS., m.g. mh.-hd., mic. (Spun contact)			
477.8						Tp Depth 18.1
	19		CLS, S., m.-dk.gr., w/occ sly lens sly. w/dk.gr coa & fld. bdd plns.			Pull #5
						START 7:35
						END 7:41
					6	TIME 6
	20					Drl 6
						RAN 3.7
						REC 4.4
						LOSS
						unacc
	21					
					21.9	
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—328-243 | PROJECT Gallipolis Lock & DAM | HOLE NO R-78/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.7 Hole No. R78/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					
474.4			CLS/ICL, s., dk gr. n. br., slk TRANS, zone			TI Depth 22.5 TP Depth 22.6 Pull # 6
	23		ICL. s., n. br., slk., ve. bkm		7	START 8.00 End 8.11 TIME 11 Drl 11 Ran 4.9 REC 4.9 Loss unacc
	24					
	25				25.5	
	26					
	27				8	TI Depth 27.4? TP Depth 27.5
	28					Pull # 7 START 8.14 End 8.20 TIME 6 Drl 6 Ran 5.2 REC 5.2 Loss unacc
	29				29.1	
	30				9	
	31					
	32					
464.1			Bottom HOLE		32.6	TI Depth 32.6 TP Depth 32.7

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam HOLE NO R-78/1

HOLE NO.

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 11 OF 5 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4" X 5 1/2"	
2. LOCATION (Coordinates or Station): MONO R-78 / STA 9+33 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. 6. JAMES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-78/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRYE		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: 00 - 496.7	
7. THICKNESS OF OVERBURDEN: 496.5		16. DATE HOLE: STARTED 9-20-89; COMPLETED 9-20-89	
8. DEPTH DRILLED INTO ROCK: 464.0		17. ELEVATION TOP OF HOLE: 496.5	
9. TOTAL DEPTH OF HOLE: 32.5		18. TOTAL CORE RECOVERY FOR BORING: 32.5 %	
		19. SIGNATURE OF INSPECTOR: JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	10		CLSH., S., M. dK. gr.			Pull #1
						START 9.00
						End 9.10
						Time 10
						Drl 10
						Ran 3.3
						REC 2.0
						Loss 1.3
						Unacc ~
495.7	1		SLS, clyy, s, -m.h., m.-dK.gr. max (0.4)			
494.7	2		CLSH, S.-m.-dK. gr., bKn occ w/o .7 LC. blwn. 2.2. & 3.8' Sly len. 4.1-5.0 closely spaced & hor plys w/tr hvy dK. gr. cos/fld S.0 - 8.4 w/I.I.LC.		1	
	3					TI & TD Depth 3.3
						Pull # 2
					3.8	START 9.25
	4					End 9.36
						TIME 11
						Drl 11
						Ran 5.6
						REC 4.1
	5					Loss 0.1
						Unacc ~
	6				2	
	7					TI Depth 7.3
	8				8.4	
						TD Depth 8.9
	9					Pull #3
					3	START 9:46
						End 9:55
						Time 9
						Drl 9
	10		(CONT)		(CONT)	Ran 3.2

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM

HOLE NO. R 78/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-78/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Rec. 4.5 Loss 0 unacc 0
	11				3	
	12					TI Depth 11.8
					12.2	TP-Depth 12.1
	13					Pull # 4 START 10:02 End 10:08 Time 6 Drl 6 Ran 5.00 REC 4.1 Loss 0 Unacc 0
483.2	14		S.S., slty, fg, m.h., m.dk. gr. bkn 14.0-14.4: hvy. gr. cl. coa., irr. ptg @ 14.6 & 15.5:		4	
	15					
481.6						
	16		CLS. slty m-dk.gr., S, vc bkn. S, - 15.6 - vc. bkn Along vent. face. 15.8 - 17.0		15.9	TI Depth 15.9
480.2	17					TP Depth 17.1
	18		CLSH, dr.gr., S. w/Hr. cl. coz. on hor. bdd plns		5	Pull # 5 START 10.20 End 10:30 Time 10 Drl 10 Ran 5.0 REC 4.1 Loss 0 unacc 0
	19				18.8	
	20					TI & TP Depth 19.7 Pull # 6 START 10.41 End 10.48 Time 7 Drl 7 Ran 4.0 REC 4.0 Loss 0 unacc 0
476.7					6	
	21		CL/SH			
	22		(CONT)		(CONT)	

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. R-78/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.5 Hole No. R 78/2

PROJECT Gallipolis Lock & Dam INSTALLATION ORH-CD SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLSH/ICL., clk. gr.-r. br., s. slt 0.3. L.C. htun 19.9 & 23.4 hry cl. cld bdd. plns Trans		22.6	
	23					
473.8			ICL. s. ve bkn., r. br. slk			TI Depth 23.6 TP Depth 23.7
	24				7	Pull # 7 START 10:57 End 11:05 Time 8 Drl 8 RAN 4.6 REC 4.8 Loss .0 Unacc 0
	25					
	26				26.4	
	27					
	28				8	TI Depth 28.3 TP Depth 28.5
	29					Pull #8 START 11.12 End 11:28 Time 16 Drl 16 RAN 5.2 REC 5.0 Loss 0 Unacc 0
	30				30.0	
	31				9	
	32					
	33					
463.8			Bottom Hole		33.4	TI & TP Depth 33.5

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam HOLE NO R-78/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONO R-79 / STA 8+99 "A"
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-79/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.8
8. DEPTH DRILLED INTO ROCK: 32.8
9. TOTAL DEPTH OF HOLE: 5
10. SIZE AND TYPE OF BIT: 4½
11. DATUM FOR ELEVATION SHOWN (MSL or MLL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-20-89; COMPLETED 9-21-89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 32.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	0		Interbdd CLS/SLS, m. dk. gr., occ. shy; S. m.h.: Vel&Kn. 0.0-2.9; 4.4-5.2; hvy Cl. coz along near hor. ptgs starting @ 5.2			Pull # 1 START 12.14 End 12.27 Time 13 Drl 13 Ran 5.2 REC 5.2 Loss 0 Unacc 0
	1				1	
	2					
	3				3.2	
	4					
	5					TP & TI Depth 5.2
						Pull # 2
	6				2	START 12.54 End 1.03 Time 9 Drl 9 Ran 4.5 REC 4.4 Loss 0 Unacc 0
	7				6.9	
	8					
488.2					3	
	9		SLS. -Sz, m. dk. gr., s.-m.h.; hor. ptg @ 9.0: irr., 0.:t. 9.0-9.5 grading			
487.2						TI Depth 9.6 TP Depth 9.7
	10				(cont)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-79/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R 79/1

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		CLSH, s.-m.h., m.-dk gr. w/tr. cl. CO2 along closely spaced hor. ptgs:		10.5	Pull #3 START 1.10 End 1:17 Time 7 Drl 7 Ran 5.1 REC 5.2 Loss 0 unacc 0
484.8	12		SLS., s.-m.h., m.-dk. gr grading		4.	
483.8	13		SS. ve sly. f.g., m.h. interbdd with sly. len			
482.7	14		SLS. s. m.h., m. dk. gr. occ. cly.; close pts. shy. w/tr Cl.CO2./ fld 0.1, L.C. btum 14.8 & 19.4		14.1	TP & TI Depth 14.8
	15					Pull #4 START 1:32 End 1:41 Time 9 Drl 9 Ran 4.8 REC 4.5 Loss 0.1
	16				5	
	17				17.7	
	18					
	19				6	TI Depth 19.4 TD Depth 19.6
477.4	20		ICL., s. m.h., m. gr., slk. grading			Pull #5 START 1.49 End 2.03 TIME 14 Drl 14 Ran 8.6 REC 10.2 Loss 0 unacc 0
	21				21.3	
474.8	22		(CONT)		(CONT)	

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Locks & Dam | HOLE NO R-79/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R 79/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			lcc, r.br., S, m.hi, slK., bldr			
	23				7	
	24					
	25				25.1	
	26					
	27				8	
	28					TI DEPTH 28.2
	29				28.9	TP DEPTH 29.6
	30					Pull # 6 START 2:12 End 2:25 Time 13 Drl 13 Ran 4.3 REC 2.9 Loss ~~0~~ Unacc ~~0~~
	31				9	
	32				32.5	TIE TP DEPTH 32.5
	33					Pull # 7 START 7:30 End 7:38 Time 8 Drl 8 Ran 3.0 REC 3.0 Loss ~~0~~ Unacc ~~0~~
	34					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-79/1

DRILLING LOG (Cont. Sheet) | ELEVATION TOP OF HOLE 491.8 | Hole No. R79/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET OF SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	35'		ICL			
			Bottom Hole			TIP TP Depth 35.5

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO R-79/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 9 SHEETS
1. PROJECT GALLIPOLIS LOCKS & DAM		10. SIZE AND TYPE OF BIT 4" ISK	
2. LOCATION (Coordinates or Station) MONO E-79 1STA 9+23 "A"		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-79/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRYE		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE: STARTED 9-15-89; COMPLETED 9-19-89	
7. THICKNESS OF OVERBURDEN 0 496.5		17. ELEVATION TOP OF HOLE 496.5	
8. DEPTH DRILLED INTO ROCK 464.0		18. TOTAL CORE RECOVERY FOR BORING 32.9 %	
9. TOTAL DEPTH OF HOLE 32.9		19. SIGNATURE OF INSPECTOR ET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			Interbdd. CLS/SLS, Pts., Shy., s.m.h., m.-dk.gr.; c/ Coal/Fld close Ptg; 1.1 L.C. btwn 0.0-4.6.			Pull #1
	1					START 2.00
						End 2:07
						Time 7
						Drl 7
	2					Ran 4.9
						REC 3.5
						Loss 1.1
					1	
	3					
	4					
					4.6	TI Depth 4.9
						TP Depth 4.6
	5					Pull #2
						START 2.14
						End 2:21
						Time 7
	6					Drl 7
						Ran 4.8
					2	REC 4.9
	7					
	8					
488.			SLS., -sa., m.h., m.-dK gr.		8.4	
	9					
487.1						
			CLSH. s.m.h., m.-dk.gr. close hrr ptg. w/tr. hvy cl. Coal/Fld		3	TI. 9.5
	10					TP. 9.7

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-79/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R 79/2

PROJECT: GALLIPOLIS Locks & DAm | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11				3	Pull #3 START 2.32 End 2.40 Time 8 Drl 8 Ran 4.2 REC 5.0 Loss 0 Unacc 0
	12				12.1	
483.3	13					
	14		SS., sly., f.g., m.h., m.gr. w/sly lam. irr pfg along sly. lam. 13.8. - 14.2			TI - Depth 13.9
481.9					4	TP - Depth 14.5
	15		cLSH. occ. sly., shy., S. m.h., m. dK. gr. w/ltr. hvy. cl. coz/ fld along hor ptgs. 0.6 L.C. btwn 14.5 & 17.2. : fault gouge Zone 16.8 - 17.2			Pull #4 START 8:40 End 8,52 TIME 12 Drl 12 Ran 4.4 REC 3.0 Loss 0.6 Unacc 0
	16				15.7	
479.2	17					
	18		SLS., Sa., S. m.h. m.gr.		5	TI Depth 18.1 TP Depth 18.3
478.3						
	19		cLSH, S. m.h., m. dK.gr sli. sly. to 20.5: ve bKn w/ hvy. cl. com. 20.5 - 23.3			Pull #5 START - 9.23 End - 9.32 TIME 9 Drl 9 Ran - 5.0 REC - 5.2 Loss - 0 Unacc 0
	20				19.7	
	21				6	
	22					TI Depth 21.9

ENG FORM 1836-A JUN 67 | GPO 1969 O—329-343 | PROJECT: GALLIPOLIS Locks DAm | HOLE NO: R-79/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R 799/2

PROJECT GALLIPOLIS Locks & DAM | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23					
473.1					23.3	TP Depth 23.3
			ICL, r.br., s.m.h., SIK.ve. bKn 27.7 - 33.4			Pull #6
	24					START 9:40
						End 9:49
						TIME 9
						Drl 9
						Ran 5.2
						REC 5.2
	25				4	Loss 0
						Unacc 0
	26					
					26.7	
	27					
	28					
					8	
						TI & TP Depth 28.5
						Pull #7
	29					START - 10.00
						End 10:12
						TIME 12
						Drl 12
						Ran 4.9
						REC 4.9
	30					Loss 0
						Unacc 0
					30.4	
	31					
	32				9	
	33					
463			Bottom Hole		33.4	TI & TP Depth 33.4

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS Lock & DAM | HOLE NO. R 799/2

Hole No. R-80/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONO R-80 STA 9133 A
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): R-80/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 – 496.5
8. DEPTH DRILLED INTO ROCK: 0
9. TOTAL DEPTH OF HOLE: 33.5
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-20-89; COMPLETED
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			interbdd CLS/SLS, shy, s. m.h., m.-dk.gr. Ve .ckn w/ l.l. LC. btwn 0.0. & 4.6 close near hor ptgs w/hvy cl. coal/fld TO 8.2 w/0.1 LC. btwn 3.3. & 7.3		1	Pull #1 START – 9:00 End 9:10 TIME 10 Drl 10 Ran 3.3 REC 2.0 Loss 1.3 undcc 0
	1					
	2					
	3					TI & TP Depth 3.3
						Pull #2 START 9.25 End 9.36 Time 11 Drl 11 Ran 3.6 ? REC 4.1 Loss 0.1 Unacc 0
	4				4.7	
	5					
	6					
	7					TI Depth 7.3
488.3	8				8.1	
487.7			SLS., Sa., S.m.h., m. dK. gr.			
	9		CLSH. s.m.h., m.dK.gr., occ. sly. close ptgs w/hvy. cl coal/fld., bky to 11.2			TP Depth 8.9 Pull #3
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS & DAM HOLE NO. R-80/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R 80/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11					Pull #3 START 9.46 End 9.55 Time 9 Drl 9 Ran 3.2 Rec 4.5 Loss 0 unacc 0
					H.8	TI Depth 11.8
	12					TP Depth 12.1
484.1						Pull #4
	13		SS, slt, fg, m.h., m.gr. ha hld., irr jt. 12.5-13.0: grading slt @ 13.0			START 10.02 End 10.08 TIME 6 Drl 6 Ran 5.0 REC 4.1 LOSS 0 unacc 0
483.5			SLS, s.mh., mdK.gr., Pts. horr. grading			
	14					
481.5	15					
			CLSH, s.m.h., m.dK.gr., Close pfys w/tr. cl. coa.: 0.3 L.C. btnn 15.9 & 19.7 grading into		15.6	TI Depth 15.9
	16					
	17					TP Depth 17.1
						Pull # 5 START 10.20 End 10.30 Time 10 Drl 10 Ran 2.6 REC 3.5 LOSS 0.3 unacc 0
	18					
	19				19.1	
						TI & TP 19.7
	20					Pull #6 START 10.41 End 10.48 TIME 7 Drl 7 RAN 4.0 REC 4.0 LOSS 0 undcc 0
	21					
475.						
	22		Cont.			

ENG FORM 1836-A JUN 67 | GPO 1969 OF—328-243 | PROJECT: Gallipolis Lock & Dam | HOLE NO: R-80/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.5 Hole No. R-80/11

PROJECT GALLIPOLIS Lock & DAM INSTALLATION ORH-CD SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			ICL., gr.-r.br., s. m.h., SIK., bkn. becoming r. br. @ 23.7		22.9	
	23					TI Depth 23.6 TP Depth 23.7 Pull #7 START 10:57 End 11:05 TIME 8 Drl 8 RAN 4.6 REC 4.8 LOSS 0 UNACC 0
	24					
	25					
	26				26.4	
	27					
	28					TI Depth 28.3 TP Depth 28.5 Pull #8 START 11.12 End 11.28 Time 16 Drl 16 RAN 5.2 REC 5.0 LOSS 0. UNACC 0
	29					
	30				29.9	
	31					
	32					
	33					
463.			BOTTOM HOLE		33.5	TI & TP Depth 33.5

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS Locks & DAM HOLE NO R-80/11

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT 4" x 5ft	
2. LOCATION (Coordinates or Station) MONO R-80 / STA 9+63 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-80		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRYE		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0-496.4		16. DATE HOLE STARTED 9-19-89; COMPLETED 9-19-89	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE 496.4	
9. TOTAL DEPTH OF HOLE 333		18. TOTAL CORE RECOVERY FOR BORING 33.3 %	
		19. SIGNATURE OF INSPECTOR JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4						Pull # 1
			Interbdd CLS/SLS - s.m.h., m.-dk.gr. bkn. w/0.7 L.C. btwn. 0.0 & 4.2 ve. bkn 5'2-8.0			START 10:58
	1					End 11:06
						TIME 8
						Drl 8
	2					RAN 4.9
						REC 3.5
						LOSS 0.7
					1	unacc 4.9
	3					
	4					
					4.2	TI Depth 4.2
						TP Depth 4.9
	5					Pull # 2
						START 11:12
						End 11:25
						TIME 13
	6				2	Drl 13
						RAN 4.2
						REC 5.1
						LOSS 0
	7					
	8				8.0	
487.9						
487.6			SLS - Sly. sa., s.m.h., m.g.			
	9		CLSH. s.m.h., m.dk.gr. Close spaced cl. cos. ptgs., grading 0.7 L.C btwn 9.3 - 11.8		3	TI Depth 9.1
						TP Depth 9.3
						Pull # 3
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Lock & Dam HOLE NO. R-80/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.9 Hole No. R-80/2

PROJECT Gallipolis Lock & Dam INSTALLATION ORH-CD SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1					Pull # 3
						START 12:25
						End 12:33
					3	Time 8
	11					Drl 8
						Ran 3.7
						REC 2.7
						Loss 0.7
					11.6	unacc 0
484	12					
			SLS., sl. sd., s.m.h., ve bkn 12.7 - 13.0 grading			
						TI Depth 12.7
						TP Depth 12.8
	13					Pull # 4
482.9						START 12:44
						End 12:56
						Time 12
	14		CLSH, s.m.h., m.dk.gr., pts. hor. ve, bkn, 14.8 - 15.8 & 16.9 - 17.9 closely spaced near hor. plgs w/tr. CL. coa / fld starting @ 17.9 grading into			Drl 12
					4	Ran 5.1
						REC 5.1
						Loss 0
	15					unacc 0
					15.8	
	16					
	17					
					5	TI & TP Depth 17.9
	18					Pull # 5
						START 1:07
						End 1:16
						Time 9
	19					Drl 9
						RAN 4.3
					19.4	REC 4.2
						Loss 0
	20					unacc 0
					6	
	21					
						TI Depth 22.1
	22					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Locks & Dam HOLE NO R-80/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. R 80/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						TP. Depth 22.2
						Pull #6
						START 1:27
						End 1:34
	23				23.0	Time 7
						Drl 7
						RAN 4.5
						REC 4.6
472.4	24					Loss 0
			ICL., r.bn., s.m.h., slK bKn. becoming r.bn @ -23.7		7	
	25					
	26					
					26.7	TI & TP Depth 26.7
	27					Pull #7
						START 1:44
						End 1:58
						Time 14
	28					Drl 14
						RAN 4.9
						REC 4.9
					8	Loss 0
						unacc 0
	29					
	30					
					30.5	
	31					
						TI & TP Depth 31.6
					9	Pull #8
	32					START 2:06
						End 2:14
						Time 8
						Drl 8
						RAN 2.8
						Rec 1.7
						Loss 0
	33					unacc 0
462.8			Bottom Hole		33.3	
						TI Depth 33.3
						TP Depth 34.4

ENG FORM 1836-A JUN 67 | GPO 1960 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO R-80/2

Hole No. R-81A

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4 7/8"	
2. LOCATION (Coordinates or Station) MONO R-81 ISTA 9+73 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-81		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER Steve Frye		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0-496.7		16. DATE HOLE: STARTED 9-21-89; COMPLETED 9-21-89	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE 496.7	
9. TOTAL DEPTH OF HOLE 32.7		18. TOTAL CORE RECOVERY FOR BORING 32.7 %	
		19. SIGNATURE OF INSPECTOR JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		Interbdd CLS/SLS. s.m.h., m.gr.-dk.gr., ve,bkn. 0-0.4-0. w/ 0.3. L.C.			Pull # 1 START 8:23 End 8:35 Time 12 Drl 12 Ran 4.9 REC 4.5 Loss 0.3 unacc 0
	2				1	
	3					
	4				3.8	
492.2	5		SS - sly., f.g. m.h., m.gr., bkn 5.1 - 5.8			TI Depth 4.8 IP Depth 4.9
					2	Pull #2 START 8:53 End 9:02 TIME 9 Drl 9 Ran 4.4 REC 4.2 Loss 0 unacc 0
490.9	6		CLS - s.m.h., m.gr. ve bkn. w/huy cl.fld to 9.8			
	7				7.1	
	8					
	9				3	TI Depth 9.3 IP Depth 9.4
486.9	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK&DAM HOLE NO. R-81A

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R81/1

PROJECT: GALLIPOLIS Locks & DAm | INSTALLATION: ORHE CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH 10 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.3			SS. sly fig. mb., m.gr. grading			Pull # 3 START 9:20 End 9:30 Time 10 Drl 10 RAN 5.3 REC 3.1 LOSS 0 UNACC 0
	11		CLSH, sm.h., m. dk. gr. hvy Cl coa/fld along close, hor ptgs		10.8	
	12				4	
484.2						TI Depth 12.5
	13		SS, sly, fig., m.h. m.gr. Core spon 12.5, -13.0 grading into		1	
483.2						
	14		SLS. Cly., s. m.h., m.gr. grading		14.1	
						TP Depth 14.6
	15					Pull # 4 START - 9:41 End 9:48 Time 7 Drl 7 RAN 4.3 REC 4.3 LOSS 0 UNACC 0
481.1					5	
	16		CLSH, s.m.h, m. dk. gr. tr. -hvy. Cl. coa, close hor ptgs,			TI Depth 16.8
	17					
					17.1	
	18					
						TP Depth 18.9
	19					Pull # 5
					6	START 9.55 End 10.07 Time 12 Drl 12 RAN 3.1 REC 5.2 LOSS 0 UNACC 0
	20					
	21					
					21.4	
	22					TI & TP Depth 22.0

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCKS & DAM | HOLE NO R-81/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R811

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH 22 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Pull # 6
474.2						START 10:17
						End 10:25
						TIME 8
						Drl 8
						RAN 5.0
						REC 4.9
						Loss 0
						Unacc 0
	23		ICL, r.br., s.m.hd., bkn.) SLK			
	24					
	25				25.1	
	26					
	27					TI Depth 26.9
						TP Depth 27.0
						Pull # 7
					27.6	START 10.32
	28					End 10:45
						Time 13
						Drl 13
						RAN 5.8
						REC 5.9
	29					Loss 0
						Unacc 0
	30					
	31					
	32					
464.3			BOTTOM HOLE		32.4	
						TI & TP Depth 32.8
	33					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-811

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-81 /STA 10+03 "A"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-81/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 496.7
8. DEPTH DRILLED INTO ROCK:
9. TOTAL DEPTH OF HOLE: 32.7
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-59 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: N/A; UNDISTURBED: N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER:
16. DATE HOLE: STARTED 9-21-89; COMPLETED:
17. ELEVATION TOP OF HOLE: 484.0
18. TOTAL CORE RECOVERY FOR BORING: 32.7 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	0		Interbdd CLS/SLS., m.-dk.gy S.-m.h., shy ve. bkn. 0.0-3.6 w/0.5 b.c. 0.3. Sa. len 4.3-4.6: close hor ptgs. w/tr 1/16 gr. cl. 4.6-13.0 0.9 b.c. btwn 4.6 & 8.7 Sl.: Sa. 9.3-9.8			Pull #1
	1					START 12.31
						End 12:47
						Time 16
						Drl 16
						Ran 4.9
					1	REC 4.1
						Loss 05
	2					unacc ~~0~~
	3					
					3.6	
	4					
						TI Depth 4.6
						TP Depth 4.9
	5					Pull #2
					2	START 1.00
						End 1:09
						Time 9
						Drl 9
	6					Ran 4.9
						REC 3.2
						Loss 0.9
	7					unacc ~~0~~
					7.6	
	8					
					3	TI Depth 8.7
	9					
						TP Depth 9.8
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS & DAM | HOLE NO.: R-81/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R 81/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11				3	Pull #3 START 1:18 End 1:25 Time 7 Dri 7 Ran 3.7 Rec 2.8 Loss 0 Unacc 0
	12				11.5	
483.7	13					TI Depth 11.5
	14		SLS. Sa., Cly. s-m.h, m.-dK gr., mass. to 15.9: core spin @ 15.9: 30° SIK plg @ 16.5:		4	TP DEPTH 13.5
	15				15.1	Pull #4 START 1.35 END 1.47 TIME 12 Dri 12 Ran 4.4 Rec 5.2 Loss 0 Unacc 0
480.0	16					TI DEPTH 16.7
478.9	17		CLS.-sly, s. m.h., m-dK gr., shy: tr. gr. cl. coa, close plgs		5	TP DEPTH 17.9
478.2	18		SLS.-cly, s.-m.h., m. dK. gr.,		18.4	Pull #5 START 1.56 END 2.16 TIME 20 Dri 20 RAN 4.8 REC 5.2 LOSS 0 Unacc 0
	19		CLS./ICL. trans: Zone; shy, m. dK. gr. s.-m.h., close plgs w/ tr.-hvy. Cl. coa/fkd.			
	20				6	
	21					
474.8	22				21.9	TI & TP Depth 21.9

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCKS & DAM | HOLE NO. R-81/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.7 Hole No. R-81/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23		ICh - s. - mih, r. br., bKni, s/K.			Pull #6 START 2:15 End 2:22 Time 7 Drl 7 Ran 5.0 REC 5.2 Loss 0 Unacc 0
	24				7	
	25				25.7	
	26					TI Depth 26.1
	27				8	TP Depth 26.9 Pull #7 START 2:35 End 2:50 TIME 15 Drl 15
	28				28.4	Ran 8.0 REC 8.3 LOSS 0 Unacc 0
	29					
	30				9	
	31					
	32				32.2	
	33					TI Depth 34.4 TP Depth 34.9
	34		TD 34.4.			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-283

PROJECT Gallipolis Locks & Dam HOLE NO. R-81/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-82 ISTA 10+13 A
3. DRILLING AGENCY: W. B. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-82/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 497.0
8. DEPTH DRILLED INTO ROCK: 464
9. TOTAL DEPTH OF HOLE: 33
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B - MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-26-89; COMPLETED 9-26-89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 33. %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		CLS./SLS. interbdd., m.-dk. gr., S.-m.hd, occ. shy. w/ol occ. hor. ptgs SLS. Zo. 9.2.-11.8: Sa. len 1.1-1.2 ve bkn. w/hvy. gr. cl. coat/fkd 11.8-13.6		1	Pull #1 START 8:09 End 8:17 TIME 8 Drl 8 RAN REC 4.7 Loss 0 unacc 0
	2					
	3				3.8	
	4					
	5					TI Depth 4.7 TP Depth 4.9 Pull #2
	6				2	START 8.24 End 8.34 TIME 10 Drl 10 RAN REC 4.5 Loss 0 Unacc 0
	7				7.5	
	8				3	
	9					TI Depth 9.2 TP Depth 9.4 Pull #3
	10					cont.

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-82/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R82/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11				11.2	Pull # 3 START 8:41 End 8:47 Time 6 Drl 6 Ran REC 5.0 Loss 0 Unacc 0
	12					
					4	
	13					
483.4						
	14		SLS, - sa., s. - m. hrd., m. - dk. gr. mass. 1/4" gr cl. fld. ptg. @ 15.			TI Depth 14.2
					14.5	TP Depth 14.4
	15					Pull # 4.
						START 9:09 End 9:18 Time 9 Drl 9
481	16					Ran
			CLS. s.m. hd.; m. - dk. gr.; shy; close med. ptgs. w/lo. gr. c/ coa./fld		5	Rec 4.2 Loss 0 Unacc 0
	17					
	18					
					18.3	TI Depth 18.4
	19					
477.2						TP Depth 19.4
	20		CLS/ICL trans., s. - m. hd. m - dk. gr.; occ shy			Pull #5
					6	START 9:26 End 9:38 Time 12 Drl 12 Ran REC 4.2 Loss 0
	21					
	22				21.9	Unacc 0

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO R-82/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R 82/1

PROJECT Gallipolis Lock + DAM | INSTALLATION OPH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.4						TI Depth 28.5 TP Depth 22.6
	23		ICL - r.br.; s.-m.hd.; bkn.; SIK.			Pull #6 START 9.43 End 10.00 Time 17 Drl 17 Ran -
	24				7	REC 4.2 LOSS 0 Unacc 0
	25				25.6	
	26					
	27					TI & TP Depth 26.8 Pull #7
	28				8	START 10:05 End 10:15 Time 9 Drl 9 Ran REC 4.6 LOSS 0
	29				29.3	Unacc 0
	30					
	31				9	TI & TP Depth 31.4 Pull #8 START 10:20 End 10:28 TIME 8 Drl 8 Ran REC 2.6 LOSS 0
	32					
464.0	33		Bottom Hole		33.0	TI Depth 33.0 TP Depth 33.4

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-82/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONO R-82 STA 10+43 "A"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-82
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.1
8. DEPTH DRILLED INTO ROCK:
9. TOTAL DEPTH OF HOLE: 33.1
10. SIZE AND TYPE OF BIT: 4 1/5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-25-89; COMPLETED 9-26-89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 33.1 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1			OLS. - shy.; s.; m.-dk. gr.; bkn; grading 0.1 LC 0.0-2.0			Pull #1
	1					START 1.00
						End 1.10
						Time 10
						Drl 10
						RAN 4.9
						REC 4.9
495.1	2					LOSS .01
			S.S. - sly; fig.; m. hd.; m-dk gr.; mass		1	unacc 0
	3					
					3.8	
	4					
						TI Depth
492.1	5					FP Depth 5.0
			CLS./SLS. interbdd.; s. m. h., m.-dk. gr. CLS shy. w/cl. coa. on close ptgs 0.3 L.C. btwn 5.0 & 10.0			Pull #2
	6				2	START 1.20
						End 1:29
	7					Time 9
						Drl 9
						RAN 5.2
						REC 4.7
						LOSS 0.3
						unacc 0
					7.4	
	8					
488.1	9				3	
			SLS. Sa., s.-m. hd., m.-dk. gr.			
	10		Cont.			TI Depth 10.0

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PROJECT: GALLIPOLIS LOCKS DAM | HOLE NO. R-82/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 **Hole No.** RB2/2

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.9						TP Depth 10.1
						Poll # 3
						START 1.40
						End 1:54
	11					TIME 14
					11.2	Drl 14
						~~Ran~~ 4.8
						REC 4.5
						Loss 0.3
						unacc 0
	12					
	13				4	
482.9	14					
			SS sly, f.g., m. hd.; m.-dk.gr. cl.coa., hor. ptg @ 14.3 bkn. 15.0 - 15.7: ¼" cl.coa., CLS lam @ 15.7			TI Depth 14.8
						~~TP Depth 14.9~~
	15					Poll # 4
					14.8	START 2.10
						End 2.20
481.2						TIME 10
						Drl 10
	16		CLS/SLS interbdd.; s. m. hd.; m.-dk. gr. CLS shy w/cl. coa on close plgs			RAN 4.5
						REC 4.6
						Loss 0
						unacc 0
					5	
	17					
	18					
					18.6	
	19					TI Depth 14.8
						~~TP Depth 14.9~~
						Poll # 5
						START 2.24 Loss 0
	20					End 2.30 unacc 0
						TIME 6
					6	Drl. 6
						Ran 1.6
						REC 1.4
						TI Depth 20.9
	21					~~TP Depth~~ 21.0
						Poll # 6
	22					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243 PROJECT Gallipolis Lock & Dam HOLE NO R-B2/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 **Hole No.** R82/2

PROJECT GALLIPOLIS Lock & DAm | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23				22.3	Pull #6 START 2.32 END 2.44 Time 12 Dri 12 RAN 4.9 REC 4.5 Loss 0 7 Unacc 0
	24					
	25					
471.8						TP Depth 25.9
			ICL - r.br.;s.-m.hd.; slk.; bKn.			TP Depth 25.9
	26				26.0	Pull # 7 START 2:56 End 3:08 TIME 12 Dri 12 8 Ran 4.6 REC 5.2 Loss 0 unacc 0
	27					
	28					
	29					
					29.8	
	30					TI & TE Depth 30.5
						Pull #8
	32				9	START 7:35 End 7:42 TIME 7 Dri 7 Ran 2.9 REC 2.8 Loss 0 unacc 0
464	33		Bottom Hole		33.1	
						TI Depth 33.1 TP Depth 33.4

ENG FORM 1836-A JUN 67 GPO 1969 O—329 243

PROJECT GALLIPOLIS Lock & DAM | HOLE NO R-82/2

DRILLING LOG | ORD | ORH-CD | OF 3 SHEETS

1. PROJECT: Gallipolis Lock & DAM
2. LOCATION (Coordinates or Station): MONO R-83 Sta. 10+53 A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-83/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 492.0
8. DEPTH DRILLED INTO ROCK: 464
9. TOTAL DEPTH OF HOLE: 93.0
10. SIZE AND TYPE OF BIT: 4 1/5"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-26-89; COMPLETED 9-26-89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 33.0 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0						Pull #1
						START 10.44
						End 10.51
	1		CLS/SLS interbdd.; s., m. hd.; m.-dk. gr CLS shy. w/tr. cl. cea on plgs			Time 7
						Drl 7
					1	Ran 4.9
	2					Rec 4.6
						Loss 0
						Unacc 0
	3					
					3.8	
	4					TI Depth 4.6
						TP Depth 4.9
	5					Pull #2
					2	START 11:00
	6					End 11:09
						Time 9
						End 9
	7					Ran 4.5
						Rec 4.7
						Loss 0
					7.5	Unacc 0
	8					
					3	
	9					TI Depth 9.3
						TP Depth 9.4
	10					Coal

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PROJECT: Gallipolis Lock & DAM | HOLE NO. R-83/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R 83/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Pull # 3
					10.9	START 11:14
	11					End 11:28
						Time 14
						Drl 14
	12					Ran 4.5
						REC 4.4
						Loss 0
					4	Unacc 0
	13					
483.3						TI Depth 13.7
						TD Depth 13.9
	14		SLS. sa., m.hd.; m-dk.gr.; mass. cl.fld.ptg. @ 16.4 & 16.6 grading @ 17.6			Pull # 4
						START 11:35
					14.6	End 11:47
	15					Time 12
						Drl 12
						Ran 4.5
						REC 4.4
						Loss 0
	16					Unacc 0
					5	
	17					
497.2						
	18		CLS/SLS interbdd.; s. m.hd. m.-dk. gr. CLS shy.		18.1	TI Depth 18.1
						TD Depth 18.4
						Pull # 5
	19				6	START 12:30
						End 12:40
						Time 10
	20					Drl 10
						Ran 5.00
						REC 4.9
					21.6	Loss 0
	21					Unacc 0
					7	
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO R 83/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R83/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.2						
	23		ICL: r.br., s.-m.hd., blky., slk		7	TI Depth 23.0 TP Depth 23.4
						Pull # 6 START 12.45 End 12 52 TIME 7 Drl 7 Ran 1.6 REC 2.0 LOSS 0
	24					
	25				25.0	TI & TP Depth 25.0
						Pull # 7 START 1:00 End 1:07 Time 7 Drl 7 Ran 5.1 REC 5.0 Loss 0 unacc 0
	26				8	
	27					
	28				28.5	
	29					
	30				9	TI Depth 30.0 TP Depth 30.1
						Pull # 8 START 1:15 End 1:23 TIME 8 Drl 8 Ran 3.7 REC 3.8 LOSS 0 unacc 0
	31					
	32				32.1	
	33				10	
463.2			Ref. Hdf		33.8	TI & TP Depth 33.8

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO R-83/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-83 / STA 104+43
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-83/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 497.2
8. DEPTH DRILLED INTO ROCK: 33.2
9. TOTAL DEPTH OF HOLE: 464.
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-25-89; COMPLETED -
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 33.2 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SLS - s.m.hd.; m.-dk.gr. w/sa lens			Pull #1
						START 8:03
						End 8:14
						TIME 11
						Drl 11
	2					Ran 4.0
						REC 3.4
						Loss 0.6
497.7					1	Unacc 0
	3		SS. sly.; fxg.; m.hd., m.-dk. gr. bkn.			
	4				4.0	TI & TP Depth 4.0
493.						
	5		CLS/SLS interbdd. s.m.hd., m.-dk.gr. CLS. sly. w/coa ptgs.			Pull #2
						START 8:20
						End 8:32
						TIME 12
						Drl 12
	6				2	Ran 5.4
						REC 5.0
						Loss 0
						Unacc 0
	7					
					7.8	
	8					
					3	
	9					TI Depth 9.0
487.7						TP Depth 9.5
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM
HOLE NO.: R-83/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-83/2

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: OAH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		SLS. s.-m.hd., m.-dk.gr. occ. cly. sly. ss. len 9.5 -9.8: m. spaced 3-4 in. near hor plgs		11.4	Pull # 3 START 8:40 End 8:49 TIME 9 Drl 9 Ran 4.5 REC 4.8 LOSS 0 Unacc 0
485.2	12					
	13		CLS s.-m.hd., shy., m. dk. gr. occ. sly. bkn. 12.3-13.2; hor., ½" gr. cl. fld. plg. @ 13.2; sly. 13.2 - 14.2		4	TI Depth 13.8 TP Depth 13.9
483.0	14					
	15		SS., sly. f.g., m. hd. m.gr. bkn. (mech) 14.2 - 14.9		14.9	Pull # 4 START 9:00 End 9:17 TIME 17 Drl 17 Ran 3.0 REC 1.6 Loss 0 unacc 0
481.9						
	16		SLS Sa.; s.-m.hd., m.-dk gr. bkn., 15.3-15.4; hor., 0. plg. @ 15.6; ang. Break. w/overcore 15.8 - 16.1		5	TI Depth 15.4 TP Depth 16.9
480.6						
	17		CLS., sly; s.-m.hd., m.-dk.gr. occ. sly. closely spaced (max 3 in) plgs occ. Cl coa/fld.; bkn			Pull # 5 START 9.29 End 9:40 Time 21 Drl 21 Ran 4.0 REC 5.2 Loss 0 Unacc 0
	18				18.5	
	19					TI Depth 19.7
	20				6	
	21					TP Depth 20.9
	22		Cont		21.9	

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO: R-83/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 491.2 Hole No. R83/2

PROJECT Gallipolis Lock & DAM INSTALLATION ORH-CD SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Pull #6
474.6						START 10:20
						End 10:41
	23					TIME 21
						Drl 21
						Ran 4.0
	24					REC 5.2
						Loss 0
						Unacc 0
	25				24.9	T1&TP Depth 24.9
						Pull #7
						START 11:00
	26					End 11:14
						TIME 14
						Drl 14
470.6						Ran 5.1
	27		ICL. s.m. hd., r. br, s/k., bkm.			REC 5.1
						Loss 0
						Unacc 0
	28					
					28.7	
	29					
	30					T1&TP Depth 30.0
						Pull # 8
						START 11:30
	31					End 11:41
						TIME 11
						Drl 11
	32					Ran 5.5
						REC 5.1
					32.3	Loss 0
						Unacc 0
	33					
	34		Cont			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & DAM HOLE NO R-83/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496,7 **Hole No.** R83/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						TP 34.2
	35				35.1	TI 34.9
462.1			Bottom HOLE			

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO R-83/2

Hole No. R 84/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-84 1STA 10+93 "A"
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-84/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 497/
8. DEPTH DRILLED INTO ROCK: 33.'
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-26-87; COMPLETED 9-27-87
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 33.1 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1 2 3		CLS. shy., s., m-dk.gr., bkn		1	Pull #1 START 1.58 End 2.08 Time 10 Drl 10 Ran 4.9 REC 5.2 Loss 0 unacc 0
493.4					3.7	
	4 5 6		SS. sly.f.gr., m.hd., m.gr. 60°, o., t. w/tr. gr. Cl coa., 3.7-4.1 grading ve. sly @ 6.0		2	TI Depth 4.9 TP Depth 5.2 Pull #2 START 2 10 End 2:18 Time 8 Drl 8 Ran 4.5 Rec 4.3 Loss 0 unacc 0
490.9					7.4	
	7 8 9		CLS/SLS. interbdd, s, m.hd., m.-dk.gr. closely spaced (max 3 in) ptgs. w/tr.-hvy Cl coa. 9.3-9.8 w/0.2 L.C.		3	TI Depth 9.3 TP Depth 9.4
487.3						
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-84/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R84/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.5	10		SS. ve. sly. fig.; m.h., m.gr. w/occ SLS. lams; bkn. Sly 9.9-10.3; 45° hfa, irr., o., f. 10.8 - 10.6		10.7	Pull #3 START 2.25 End 2:32 Time 7 Drl 7 Ran 4.0 Rec 3.9 Loss 0.2 Unacc 0
	11		CLS/SLS. interbdd., s.m. hd., m.dk. gr. ptg shy.; ve. bkn. 12.1 - 12.6			
	12				4	
	13					ILETP Depth 13.4
482.7	14				14.2	Pull #4 START 2.47 End 3.00 Time 13 Drl 13 Ran 4.3 Rec 4.7 Loss 0 Unacc 0
	15		SS, sly. f.g., m. hd., m.gr. ve sly. 14.9 - 15.2 w/closely spaced ptgs; irr., near hor. ptgs @ 16.6 & 16.7 grading more sly. w/depth			
	16				5	
479.8	17					
	18		CLS. occ. sly., ptg shy., s.m. hd, m. dk. gr. w/tr. hvy cl. coa anptgs		17.8	TI Depth 17.7 TP Depth 18.1
	19					Pull #5 START 7:35 End 7:45 Time 10 Drl 10 Ran 4.0 Rec 3.5 Loss 0 Unacc 0
	20				6	
	21				21.3	TI Depth 21.6 TP Depth 21.7
475.2	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-84/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 491.1 | Hole No. R-84/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		ICC. r. br., s. m. hd., SIK.			Pull #6
						START 7:50
						End 8:00
	23					TIME 10
					7	Drl 10
						RAN 5.1
	24					REC 5.2
						Loss 0
						UNACC 0
	25				25.0	
	26					
					8	TI & TP Depth 26.8
	27					Pull #7
						START 8:07
						End 8:16
	28					Time 9
						Drl 9
						RAN 3.3
					28.7	REC 4.2
	29					Loss 0
						UNACC 0
	30				9	TI Depth 30.0
						TP Depth 30.1
						Pull #8
						START 8:20
	31					End 8:29
						Time 9
					31.4	Drl 9
						RAN 4.8
	32					REC 4.2
						Loss 0
					10	UNACC 0
	33					
						TI Depth 34.2
						TP Depth 34.9
462.9	34					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT GALLIPOLIS Lock & Dam | HOLE NO. R-84/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MENO R-84 / STA 11+23 "9"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-84/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.7
8. DEPTH DRILLED INTO ROCK: 35.7
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-59 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-2-89; COMPLETED 10-2-89
17. ELEVATION TOP OF HOLE: 497.7
18. TOTAL CORE RECOVERY FOR BORING: 33.7 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.7			CLS. shy.; s., w/hvy cl. fld. closely spaced p/qs			Pull # 1
	1					START 7.56
						End 8:04
						Time 8
	2					Drl 8
						Ran 5.0
						Rec 4.8
					1	Loss. ~~0~~
	3					
493.9					3.8	
	4		ss., sly.; f.g., m.hd., m.gr. bKn. ha.; t. w/hvy cl coa 5.2 - 7.5 w/ 0.5' L.C.; p/q. along ha, irr. C.I. stq's @ 8.1 - 8.5			
	5					TI Depth 4.8
						TP Depth 5.0
						Pull #2
						START 8:10
	6				2	End 8:17
						Time 7
						Drl 7
	7					Ran 4.3
						REC 3.9
						Loss 0.5
	8					
489.2					8.5	
	9		CLS acc. sly., s.-m. hd., m.dd. gr. bKn. 9.2 = 10.4 w/ 1.0. L.C. 0.1' - ss. len @ 10.4 - 10.5 ve. bKn.			
					3	TI Depth 9.2
						TP Depth 9.3
	10		Cont			Cont

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-84/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. R 84/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		10.5-14.0 w/o. 1. L.C. blwn 13.8 & 14.0		3	Pull #3 START 8:25 End 8:35 Time 10 Drl 10 Ran 4.4 REC 3.6 Loss 1.0
	11				11.5	
	12					
	13				4	TI Depth 13.7 TP Depth 13.8
483.7	14		SS, sly., f.g., m. hd., m. gr. sly. ang., smooth, slk ptg. @ 15.9			Pull #4 START 8:43 End 8:50 Time 7 Drl 7 Ran 4.7 REC 2.7 Loss 0.1
	15					
481.7	16		SLS./CLS interbdd., s. m. hd., m.-dk. gr., CLS. sly Ve. bkn. 16.4-16.6; bkn., slk 17.0-17.5 w/o. 1. L.C. (CLS) cl. loa. on. sly. ptgs. & CLS/SLS. contacts		15.8	
	17				5	TI Depth 16.6 TP Depth 18.4
	18					Pull #5 START 9.00 End 9.12 Time 12 Drl 12 Ran 1.9 REC 3.6 Loss 0.1
	19				19.3	
477.5	20					
	21		CLS. s., m. hd., m. gr. r. br. 0.2' L.C. blwn 22.4 & 22.9		6	TI & TP Depth 20.2
	22					cont.

ENG FORM 1836-A JUN 67 | GPO. 1969 OF—329-243

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-84/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. R-84/2

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Pull # 6
						START 9:18
					22.7	End 9.30
						TIME 12
474.7	23					Drl 12
			ICC. m.br., s.m.hd., SIK,			Ran 4.8
						Rec 4.6
						Loss 0.2
	24					
	25				7	TI & TP Depth 25.1
						Pull # 7
						START 9.35
	26					END 9:49
						TIME 9
						Drl 9
	27					Ran 4.8
						REC 5.2
						Loss 0
					27.9	
	28					
					8	
	29					
	30				30.1	TI Depth 29.9
						TP Depth 30.6
						Pull # 8
						START 9:50
	31					End 10:04
						Time 14
						Drl 14
	32				9	Ran 3.8
						REC 3.4
						Loss 0
	33					
464.0			BOTTOM HOLE		33.7	TI & TP 33.7

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-84/2

DRILLING LOG	Division: ORD	Hole No.: R-85/1
1. PROJECT: GALLIPOLIS LOCKS + DAM	INSTALLATION: ORH-CD	SHEET 1 OF 4 SHEETS
2. LOCATION (Coordinates or Station): MONO R-85 11+33 A	10. SIZE AND TYPE OF BIT: 4 7/8"	
3. DRILLING AGENCY: W. G JAQUES	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L	
4. HOLE NO. (As shown on drawing title and file number): R-85	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
5. NAME OF DRILLER: STEVE FRYE	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	14. TOTAL NUMBER CORE BOXES: 10	
7. THICKNESS OF OVERBURDEN: 0 - 497.9	15. ELEVATION GROUND WATER: N/A	
8. DEPTH DRILLED INTO ROCK: 33.9	16. DATE HOLE: STARTED 9-27-89; COMPLETED 9-27-89	
9. TOTAL DEPTH OF HOLE: 464	17. ELEVATION TOP OF HOLE: 497.9	
	18. TOTAL CORE RECOVERY FOR BORING: 33.9 %	
	19. SIGNATURE OF INSPECTOR: JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			CLS - shy, s. m.hd., m-dk. gr.,			Pull #1 START 9.19 End 9.28 Time 9 Drl 9 Ran 4.9 REC 4.5 Loss 0
	1					
	2					
	3				1	
	4				3.7	
493.7						
	5		SS.- sly f.g., m-hd., m. gr. CLS/SLS fld. ver. frac. 5.0 - 8.2. grading into			TI Depth 4.5 TP Depth 4.9
491.8	6				2	Pull #2 START : 9:37 End 9:46 Time 9 Drl 9 Ran 4.5 Rec 4.4 Loss 0
	7		SLS. sa., s. m.hd., m-dk. gr. hor. ptgs. ve bkn. 7.0 - 8.3			
	8				7.3	
489.4						
	9		CLS/SLS interbdd., s. m.hd., m-dk. gr sa lens 10.2 - 10.7 hvy. cl wa on shy ptgs 12.3 - 13.4		3	TI Depth 9.2 TP Depth 9.4
	10		Cont.			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS + DAM HOLE NO.: R-85/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497A | Hole No. R85/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3 START - 9:55 End 10.06 Time 11 Drl 11 Ran 4.1 Rec 4.4 Loss 0
	11				10.8	
	12					
	13				4	TI Depth 13.5 TP Depth 13.6
	14					Pull #4 START 10:10 End 10:18 Time 8 Drl 8 Ran 5.2 REC 4.9 LOSS 0
483.4					14.4	
	15		SS. - slt. sfg, m. hd., m. gr hor. cl. coa. ptg. @ 16.0			
480.9	16					
	17		SLS., sa., s. m. hd. m. dK. gr. hor ptg. @ 17.0 & 17.5 grading with depth		5	
478.7	18				18.2	
	19		CLS/SLS interbdd. s. m. hd, m. dK. gr occ. SIK pfg in CLS			TI Depth 18.5 TP Depth 18.7 Pull #5 START 10:21 End 10:30 Time 9 Drl 9 Ran 4.6 REC 4.6 LOSS 0
	20				6	
	21					
	22				21.9	

ENG FORM 1836-A JUN 67 | GPO 1963 OF—329-243 | PROJECT GALLIPOLIS LOCKS + DAM | HOLE NO R-85/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-85/1

PROJECT: GALLIPOLIS Lock + DAM | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.3	22					
	23		ICh - gr. - r.br., S.m. hd., SIK. Trans. 22.6 - 26.0		7	TI Depth 23.1 TP Depth 23.3 Pull # 6 START 10:35 End 10:46 Time 11 Drl 11 Ran 4.2 REC 4.9 LOSS 0
	24					
	25				25.3	
	26					
	27				8	TI&TP Depth 27.5 Pull # 7 START 10:51 End 10:59 Time 8 Drl 8 Ran 4.8 REC 4.7 LOSS 0
	28					
	29				29.0	
	30				9	
	31					
	32					TI Depth 32.2 TP Depth 32.3
	33				32.6 10	Pull # 8 START 11:04 End 11:12 Time 8 Drl 8 Ran 3.5 REC 3.5 LOSS 0
	34		cont.			

ENG FORM 1836-A JUN 67 | GPO 1969 O-328-263 | PROJECT GALLIPOLIS Lock + DAM | HOLE NO. R-85-1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 4979 | Hole No. R 85/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34					PULL #8
	35					
4962.2			Bottom HOLE		35.7	TI Depth 35.7 TP Depth 35.6

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-85-1

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO - R-85 / STA 11+63 "A"
3. DRILLING AGENCY: W. 6 JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-85/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 496.5
8. DEPTH DRILLED INTO ROCK: 31.8
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4" X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-3-89; COMPLETED 10-3-89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 31.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			CLS			Pull # 1
	1		Shy, s-m.hd, m-d/k			START 11:22
			gr..			End 11:32
						Time 10
						Dr/ 10
	2					Ran 5.0
						REC 4.5
					1	Loss 0.1
						Unacc ~~0~~
	3					
	4			3.8		
						TI Depth 4.6
	5					TP Depth 5.0
						Pull # 2
						START 11:45
	6					End 11:56
						Time 11
						Dr/ 11
	7					Ran 4.8
						REC 4.6
						Loss 0.2
				7.5		Unacc ~~0~~
	8					
	9			3		
487.1						
						TI & TP Depth 9.4
	10		SS. sly.fg., m, hd, m.gr Ptg. @ 10.0 cont'd			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-85/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R85/2

PROJECT Gallipolis Locks & Dam | INSTALLATION OEH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.2	10					Pull #3
			CLS, shy., S., vf bkn., m.-dk.gr.			START 12:01
						End 12:11
						TIME 10
	11				11.1	Drl 10
						Ran 5.0
						REC 5.0
	12					Loss 0
						Unacc 0
483.6					4	
	13		SS. sly., fig., m.hd., m.gr. near hor. plg. w/tr. cl. coa @ 13.9 grading more sly w/depth			
	14					
					14.4	TI & TP Depth 14.4
						Pull #4
	15					START 12:14
481.2						End 12:25
			CLS/SLS interbdd., S.-m.hd., m.-dk.gr. bkn. along vert frac			TIME 11
			15.9 - 16.6 over cored @			Drl 11
	16		17.5 SLS 17.5 - 19.1			Ran 5.2
					5	REC 5.0
						Loss 0
	17					Unacc 0
	18					
					18.2	
477.4	19					
						TI Depth 19.4
			CLS., shy., S.-m.hd., m.dk. gr. cl. coal/ld. hor ptgs.			TD Depth 19.6
			0.9 L.K. Ltwn 19.4 &			Pull #5
	20		22.4		6	START 12.33
						End 12.45
						TIME 12
						Drl 12
	21					Ran 4.0
						REC 3.1
						LOSS 0.9
					21.7	Unacc 0
	22					Cond

ENG FORM 1836-A JUN 67 GPO: 1969 O-F—329-243

PROJECT Gallipolis Locks & Dam | HOLE NO. R-85/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-B5/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.2	22					
	23		ICC. r.br., s.m.hd., SIK 1.8 L.C. btwn 27.5 & 31.8			TI Depth 23.4 TP Depth 23.6
	24				7	Pull #6 START 12.55 End 1:03 TIME 8 Drl 8 Ran 3.9 REC 4.1 LOSS ~~0~~ Unacc ~~0~~
	25					
	26				26.1	
	27					TI & TP Depth 27.5
	28				8	Pull #7 START 1:10 End 1:21 TIME 11 Drl 11 Ran 4.3 REC 2.5 LOSS ~~0~~ Unacc ~~0~~
	29				28.7	
	30					
	31				9	
464.7	32				31.8	TI & TP Depth 31.8
	33					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R B5/2

Hole No. R-86/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MOND R-B6 / STA 11+73 "A"
3. DRILLING AGENCY: W. G. JACUES
4. HOLE NO. (As shown on drawing title and file number): R-86/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 498.2
8. DEPTH DRILLED INTO ROCK: 34.2
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-27-89; COMPLETED 9-27-89
17. ELEVATION TOP OF HOLE: 498.2
18. TOTAL CORE RECOVERY FOR BORING: 34.2 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
498.2	0		CLS - shy., S.-m.hd., m.dk. gr. O.S. L.C. btwn 0.0 & 4.6			Pull #1
	1					START 12.22
						End 12.30
						TIME 8
						Drl 8
						Ran —
					1	REC 4.1
	2					Loss 0.5
						Unacc 0
	3				3.6	
	4					
						TI Depth 4.6
	5					TP Depth 4.9
493.8					2	Pull #2
	6		SS. - sly., fig., m.hd., m. gr. irr. 0, +.5.4 - 9.4			START 12.37
						End 12.46
						Time 9
						Drl 9
						Ran —
	7					REC 4.8
						Loss 0
					7.3	Unacc 0
	8					
					3	
	9					
488.8						TI & TP Depth 9.4
	10		cont.			

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PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-86/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.7 | Hole No. R86 | 1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS interbdd. S.-m.hd., m.-dk.gr 0.3 LC. btwn 11.0 & 11.9 SLK.@ top. of sa. len. @ 11.9 ve bkn. 13.6 - 15.2		11.0	Pull # 3 START 12:49 End 12:57 Time 8 Drl 8 Ran Rec 3.9 LOSS 0.3 Unacc 0
	11					
	12				4	
	13					TI Depth 13.6 TP Depth 13.7
	14					Pull # 4 START 1.04 End 1:15 Time 11 Drl 11 Ran — Rec 4.8 LOSS 0 unacc 0
483	15				14.8	
482	16		SS.-Sly, fig., m.hd., m.gr. Sli. wea. 80° o.j.f. 15.2.-15.8 0 frac. 15.9 - 16.2			
	17		SLS.-Sa, m.hd., m.-dk.gr grading		5	
	18				18.4	TI Depth 18.4
	19					TP Depth 18.9
	20				6	Pull # 5 START 1:24 End 1:35 Time 11 Drl 11 Ran — Rec 4.1 LOSS 0 unacc 0
477.6	21		CLS. sly., S. m.hd., m.-dk. gr. ptgs. shy			
	22					

ENG FORM 1836-A JUN 67 GPO: 1969 OP—329-243

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-86 11

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.7 | Hole No. P-86/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22				22.1	TI & TP Depth 22.5
	23		ICL, r.br., s.m. hd., slk		7	Pull # 6 START 1:42 End 1:51 Time 9 Drl 9 Ran — Rec 5.2 LOSS 0 unacc 0
	24					
	25				25.3	
	26				8	
	27					TI & TP Depth 27.7
	28					Pull # 7 START 2:00 End 2:08 Time 8 Drl 8 Ran — Rec 4.9 LOSS 0 unacc 0
	29				29.0	
	30				9	
	31					TI Depth 32.6 TP Depth 32.8
	32					Pull # 8 START 2:20 End 2:42 Time 22 Drl 22 Ran — Rec 2.8 LOSS 0 unacc 0
	33				32.6	
	34				10	

ENG FORM 1836-A JUN 67 | GPO: 1968 OF—329-243 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-56/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.7 | Hole No. R-B611

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			ICL			PULLED
					10	
	35					
463			BOTTOM HOLE		35.4	TI Depth 35.4 TP Depth 35.5

ENG FORM 1836-A JUN 67 | GPO: 1969 O-F—329-245 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-B611

Hole No. R-86/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCKS + DAM
2. LOCATION (Coordinates or Station): MONO R-86 / STA 12+03
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-86/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 495.7
8. DEPTH DRILLED INTO ROCK: 32.9
9. TOTAL DEPTH OF HOLE: 414
10. SIZE AND TYPE OF BIT: 4½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-3-89; COMPLETED 10-3-89
17. ELEVATION TOP OF HOLE: 495.7
18. TOTAL CORE RECOVERY FOR BORING: 32.4 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.7			CLS.; sly., shy., S.m.hd., m. dk. gr. ve. S., bkn. 3.7 - 4.3			Pull #1
	1					START 8:30
						End 8:40
						TIME 10
						Dri 10
						Ran 5.0
						Rec 3.7
	2					Loss 0
					1	unacc 0
	3					
					3.6	
	4					TI Depth 3.7
491.4						
			SLS., sa., S.m.hd. m dk. gr.			
490.7	5					TP Depth 5.0
			SS. - sly., f.g., m.hd., m. gr.		2	Pull #2
						START 8:46
	6					End 8:57
						Time 11
489.3						Dri 11
			CLS/SLS. interbdd., S.m.hd., m-dk.gr. CLS. vfg. shy. Sa. SLS 7.8 - 8.6; 10.7 - 11.2			Ran 39
						Rec 5.2
	7				7.0	Loss 0
						unacc 0
	8				3	
	9					TI & TP Depth 8.9
						Pull #3
	10		(CONT)		(cont)	cont

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock + Dam | HOLE NO. R-86/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 495.7 Hole No. R-86L2

PROJECT Gallipolis Lock + Dam INSTALLATION ORH-CD SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS			Pull #3
					10.5	START 9:10 End 9:21 Time 11 Drl 11 Ran 5.6? Rec 4.7 Loss 0 Unacc 0
	11					
	12				4	
483.2						
	13		SS., sly. f.q., m.h.d., m.gr ptgs. @ 13.2			
482.1						TI Depth 13.6
	14		SLS. - sa, m. hd, m. dK gr. ptgs. hor min. piece 3 in. max. illn		14.1	
						TP Depth 14.5
	15					Pull #4
						START 9:30 End 9:39 Time 9 Drl 9 Ran 3.9 Rec 4.7 Loss 0 Unacc 0
	16				5	
478.6	17					
			CLS. S.-m.-dK.gr. w/c/. Coa. along hor. ptgs occ. ve bkn.		17.8	
	18					TI Depth 18.3 TP Depth 18.4
	19					Pull #5
						START 9:45 End 9:57 Time 12 Drl 12 Ran 5.0 Rec 5.1 Loss 0 Unacc 0
	20				6	
	21					
					21.5	
473.7	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock + Dam HOLE NO R-86L2

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		Ich. - m. br., s. m. hd., bkn., slk			
	23				7	TI & TP Depth 23.4
						Pull # 6 START 10:02 End 10:12 Time 10 Drl 10 Ran 5.2 Rec 5.2 Loss 0 Unacc 0
	24					
	25				25.1	
	26				8	
	27					
	28					
					28.6	TI & TP Depth 28.6
	29					Pull #7 START 10:19 End 10:31 Time 12 Drl 12 Ran 5.8? Rec 3.8 Loss 0 Unacc 0
	30				9	
	31					
	32					
464			Bottom Hole		32.4	TI Depth 32.4
	33					
	34					TP Depth 34.3

ENG FORM 1836-A JUN 67 | GPO 1969 OF—328-243 | PROJECT: Gallipolis Lock + Dam | HOLE NO. R-86/2

Hole No. R-87/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT: GALLIPOLIS Locks + DAM		10. SIZE AND TYPE OF BIT 4 7/8 H	
2. LOCATION (Coordinates or Station): MONO R-87 / STA 15+53 "A"		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBLE	
4. HOLE NO. (As shown on drawing title and file number): R-87/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRYE		14. TOTAL NUMBER CORE BOXES: 10	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 0 - 497.4		16. DATE HOLE: STARTED 9-28-89; COMPLETED 9-28-89	
8. DEPTH DRILLED INTO ROCK: 33.5		17. ELEVATION TOP OF HOLE: 497.4	
9. TOTAL DEPTH OF HOLE: 464		18. TOTAL CORE RECOVERY FOR BORING: 33.5 '	
		19. SIGNATURE OF INSPECTOR: JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4			CLS.-sly., s. m.hd., m.-dk gr., w/occ. sa. len.: 0.4 L.C. btwn 0.0 & 4.6			Pull #1
	1					START 8:06
						End 8:14
						Time 8
						Drl 8
						Ran 4.9
						REC 4.2
	2					Loss 0.4
						unacc
					1	
	3					
					3.8	
	4					
492.6						TI Depth 4.6
						TP Depth 4.9
	5		SS.-sly., fig., m. hd., m.gr. w/occ. sls. lam.			Pull #2
						START 8:25
					2	End 8:31
						Time 6
	6					Drl 6
						Ran 4.0
490.7						REC 4.6
						Loss .0.5
	7		Interbdd. SLS./CLS. S.-m. hd., m.-dk. gr. SLS occ. sa., CLS. shy. 0.5 L.C btwn. 6.7. & 8.7 sa., m.hd. 8.7 - 11.0: CLS. 11.7 - 14.6			unacc
					7.7	
	8					
						TI Depth 8.7?
	9				3	
						TP Depth 9.7
	10		(CONT)		(CONT)	

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PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-87/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.4 Hole No. R-87/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3
					10.7	START 8:35
	11					End 8:46
						TIME 11
						Drl 11
						Ran 7.0?
	12					Rec 4.6
						Loss 0
						Unacc 0
	13				4	
	14					TI Depth 14.3
482.8						
	15		SS., sly., fig., m.hd.m.gr. w/ thin, dk. sly lam. & cl coa. pf, s. sly. ptg @ 15.8.: vert., irr.; t. 15.8 - 16.1 ; grading into		15.4	
	16					TP Depth 15.9
						Pull #4
480.6						START 8.50
						End 859
						TIME 9
	17		SLS., Sa., s.-m.hd., m. dk. gr.			Drl 9
					5	Ran 3.8
						REC 5.1
	18					Loss 0
						Unacc 0
	19					
478.2						
			CLS., m.-dk.gr, s.-m.hd occ. shy. sly. m.hd. 22.6 - 24.5		19.2	TI Depth 19.4
						TP Depth 19.7
	20					Pull #5
						START 9:15
						End 9:29
	21				6	TIME 14
						Drl 14
						Ran 4.9
						REC 5.1
	22		(CONT)		(CONT)	LOSS 0 Cont

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock + Dam | HOLE NO. R-87/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. R-87/1

PROJECT: Gallipolis Lock + DAM | INSTALLATION: OEH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					Pull #5
					22.6	
	23					
	24				7	
472.9						TI Depth 24.5
						TP Depth 24.6
						Pull # 6
	25		ICL. - r. br., s. m. hd.			START 9.33
			slk. 0.1 L.C. btwn.			End 9.45
			24.5 & 28.3			TIME 12
						Drl 12
	26					Ran 3.9
					26.3	REC 4.7
						LOSS 0.1
						Unacc 0
	27					
					8	
	28					
						TI Depth 28.3
					28.5	TP Depth 28.4
						Pull # 7
	29					START 9.55
						End 10.06
						Time 11
	30					Drl 11
						Ran 5.3
						REC 5.2
					9	Loss 0
						Unacc 0
	31					
	32					
	33					
464			Bottom Hole		33.5	TI Depth 33.5
						TP Depth
	34					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-343

PROJECT: Gallipolis Lock + DAM | HOLE NO. R-87/1

Hole No. R-87½

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-87 LSTA 12+43 "A"
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-87½
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0-496.3
8. DEPTH DRILLED INTO ROCK: 32.3
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: 0
16. DATE HOLE: STARTED 9-29-89; COMPLETED 9-29-89
17. ELEVATION TOP OF HOLE: 496.3
18. TOTAL CORE RECOVERY FOR BORING: 32.3 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.3	1		CLS.- sly. S.m.hd., m.-dk gr. w/ bcc. sa. lens			Pull #1 START 12.25 End 12.32 Time 7 Drl 7 Ran 5.0 REC 4.6 Loss 0 Unacc 0
	2				1	
	3					
492.6					3.7	
	4		SS.- sly, f.g., m.hd., m.gr. w/thin, dark. slks, & lam; occ. pty. along slk/lam			TI Depth 4.6 TP Depth 5.0
	5					Pull #2
	6				2	START 12.38 End 12.49 Time 11 Drl 11 Ran 4.7 REC 5.2 Loss 0 Unacc 0
489	7				7.3	
	8		CLS./SLS inte. bdd, s.-m. hd., m.dk.gr. ve. bkn 7.3-9.8; SLS.-9.8-11.7 sly. CLS 11.7-12.2. w/0.2 LC			
	9				3	
	10		(CONT)		Con't	TI Depth 9.8 TP Depth 9.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS + DAM | HOLE NO. R-87½

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. R-87/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS			Pull #3
						START 12:55
						End 1:06
	11				10.5	Time 11
					—	Drl 11
						Ran 4.0
						Rec 3.9
						Loss 0
	12					Unacc 0
484.1						
			SLS.- m-dk. gr., s. m. hd. pts. shy interbdd w/CLS.		4	
	13					
					13.9	TI & TP Depth 13.9
	14					Pull #4
						START 1:10
						End 1:18
	15					Time 8
						Drl 8
						Ran 4:5
						REC 4:3
					5	Loss 0
	16					Unacc 0
479.2	17					
			SLS. m-dk. gr., s. m. hd. pts. shy, interbdd w/ CLS.		17.7	
	18					TI Depth 18.2
						TP Depth 18.4
						Pull #5.
	19					START 1.25
						End 1:37
						Time 12
					6	Drl 12
	20					Ran 4.5
						REC 4.3
						Loss 0
						Unacc 0
	21					
					21.4	
					7	
	22		CON'T		CON'T	

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-843

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-87/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. R87/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		ICC. r.br., s.m. hd. ve bkn. below 25.1		7	TI & TP Depth 22.7 Pull #6 START 1:45 End 1:52 Time 7 Drl 7 Ran 4.9 REC 5.2 Loss 0 Unacc 0
	23					
	24					
	25				25.1	
	26					
	27				8	TI & TP Depth 27.6 Pull #7
	28					START 2:10 End 2:23 Time 13 Drl 13 Ran 4.8 REC 4.9 Loss 0 Unacc 0
	29				28.7	
	30				9	
	31					
	32					
464			BOTTOM HOLE		32.3	TI Depth 32.3 TP. Depth 32.4

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT: GALLIPOLIS Locks + Dam | HOLE NO. R-87/2

Hole No. R-88/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET OF SHEETS
1. PROJECT GALLIPOLIS Lock + DAm		10. SIZE AND TYPE OF BIT 4 1/5"	
2. LOCATION (Coordinates or Station) MONO R-88 1STA 12+53 M		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL	
3. DRILLING AGENCY W. 6 JACOBS		12. MANUFACTURER'S DESIGNATION OF DRILL R- MOBIL	
4. HOLE NO. (As shown on drawing title and file number) R-88/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRYE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0 + 497.5		16. DATE HOLE STARTED 9/29/87; COMPLETED 9/29/87	
8. DEPTH DRILLED INTO ROCK 33.9		17. ELEVATION TOP OF HOLE 497.5	
9. TOTAL DEPTH OF HOLE 463.6		18. TOTAL CORE RECOVERY FOR BORING 33.6 %	
		19. SIGNATURE OF INSPECTOR JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5						Pull # 1
						START 10:45
						End 10:57
	1		CLS. - s. m. hd. m.-dk. gr.			Time 12
			w/occ slt/sa lam.			Drl 12
						Ran
						REC 4.6
	2					Loss 0
					1	Unacc
	3					
					3.6	
	4					
						TI Depth 4.6
	5					
					2	TP Depth 5.4
491.5	6					Pull #2
			SS. - slt., f.g., m. hd.,			START 11.07
			m.gr. 0.3 CLS. len. @			End 11.18
			9.0 - 9.3; 0.4 CLS len			TIME 11
	7		@ 9.8 - 10.2. (0.2 L.C.)			Drl 11
						Ran
					7.3	REC 4.7
						Loss 0
	8					Unacc 0
					3	
	9					
						TI Depth 9.3
						TP Depth 9.4
	10		(CONT)		(CONT)	Pull #3
						CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS Lock + DAm | HOLE NO. R-88/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. R-88 11

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull # 3
						START 11.22
						End 11.31
					10.7	TIME 9
	11					Drl 9
					1	RAN
						Rec 3.0
						LOSS 0.2
						Unacc
485.4	12					
			SLS - cly, s.-m.hd., m.-dk.gr.			
					4	TI & TP Depth 12.5
						Pull #4
	13					START 11:37
						End 11:41
						TIME 4
						Drl 4
						RAN
	14					REC 2.9
483.2					14.3	LOSS 0
						Unacc
			SS - sly., fig., m.hd., m.gr. occ. ptg along sly. lam. grading into			
	15					TI Depth 15.4
						TP Depth 15.5
						pull #5
	16					START 12.21
					5	End 12.29
						Time 8
	17					Drl 8
						Ran
480						Rec 4.6
						Loss 0
			SLS. s.-m.hd., m.dk.gr		17.9	Unacc
	18					
478	19					
			CLS..s.m.hd., m-dk.gr. 0.6 LC. btwn 20.2 24.4		6	
	20					TI Depth 20.2
						TP Depth 20.4
						Pull #6
	21					START 12:37
						END 12:50
						TIME 13
					21.5	Drl 13
	22		(CONT)		CONT	Cont

ENG FORM 1836-A JUN 67 | GPO: 1969 O-329-243 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-88 11

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. R88/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					Ran REC 3.6 LOSS 0.6 Unacc
	23				7	
	24					
473.1						TI Depth 24.4 TP Depth 24.5
	25		Lcc. - r. br., s. m.hd. silk			Pull # 7 START 1:00 End 1:11 Time 11 Drl 11 Ran Rec 4.6 Loss 0 Unacc 0
	26				25.5	
	27				8	
	28					
	29				29.0	TI Depth 29.0 TP Depth 29.1
	30					Pull #8 START 1:15 End 1:28 Time 13 Drl 13 Ran Rec 4.6 Loss 0 Unacc 0
	31				9	
	32					
	33					
464			Bottom HOLE		33.6	TI Depth 33.6 TP depth 33.9

ENG FORM 1836-A JUN 67 | GPO 1969 OF—328-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R88/1

Note No. [illegible]

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS Locks + DAm
2. LOCATION (Coordinates or Station): MONO R-88 / STA 12+83 "A"
3. DRILLING AGENCY: W. 6. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R88/2 | R-88/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 497.8
8. DEPTH DRILLED INTO ROCK: 33.8
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4" YSK
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A | UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/29/89 | COMPLETED 9/29/89
17. ELEVATION TOP OF HOLE: 497.8
18. TOTAL CORE RECOVERY FOR BORING: 33.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		CLS/SLS interbdd.: s.-m hd., m.-dk. gr. 0.3 L.C. bfwn 0.0. & 4.5		1	Pull #1 START 9:20 End 9:28 Time 8 Drl 8 Ran 4.9 Rec 4.2 Loss 0.3 Unacc - 0
	2					
	3					
	4				3.7	TI Depth 4.5
493						TP ~~Depth~~ 4.9
	5		SS., sly., f.g., m.hd. gr.		2	Pull #2 START 9:35 End 9:46 Time 11 Drl 11 Ran 4.6 Rec 5.0 Loss 0 Unacc 0
491.8	6					
	7		CLS., sly. m. hd., m. dk gr., shy		7.4	
	8					
	9				3	TI&TP Depth 9.5
488.0						
	10					

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PROJECT: GALLIPOLIS Locks + DAm | HOLE NO. R-88/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.8 | Hole No. R88/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS - Sa. m.hd., m. dk. gr. CLS. 11.0-11-6			Pull # 3
						START 9:49
						End 9:57
	11				11.0	Time 8
						Drl 8
						Ran 4.9
						Rec 4.7
	12					Loss 0
485.5						Unacc 0
			CLS - Sly., shy., S. m. hd., m.-dk. gr.		4	
	13					
483.8	14					
			SS. - Sly. f.g., m.hd., m. gr. bkn (mech.) 14.0.-14.5 near hor. Cl. Coa. ptgs. @ 15.1, 15.8; 16.0; 16.2; grading		14.2	TI Depth
						TP Depth
						Pull #4
	15					START 10:00
						END 10:11
						TIME 11
						Drl 11
					5	Ran 5.0
	16					Rec 5.2
						Loss 0
481.0						Unacc 0
	17		SLS. - Sa., S - m.hd., m-dk. gr			
480.0						
					17.9	
	18		CLS. - S-m. hd., Shy., m. -dk. gr. Sa. Zo. 18.4 - 19.3 0.2 LC. otwn. 19.4 & 22.7			
	19					
					6	TI & TP. Depth 19.4
						Pull # 5
	20					START 10.23
						END 1032
						TIME 9
						Drl 9
	21					Ran 3.3
						Rec 3.1
						Loss 0.2
					21.5	Unacc 0
	22		cont.			

ENG FORM 1836-A JUN 67 | GPO: 1969 O-329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R-88/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.8 | Hole No. R-88-12

PROJECT: GALLIPOLIS LOCKS + DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					
	23				7	TI & TP Depth 22.7 Pull # 6 START 10:40 END 10:45 TIME 5 Drl 5 RAN 2.5 REC 2.4 LOSS 0 UNACC 0
474.0						
	24		ICL. r.br., s.m.hd., bkn., slk.			
	25				25.0	TI Depth 25.1 TP Depth 25.2
	26					Pull # 7 START 10:51 END 11:00 TIME 9 Drl 9 RAN 4.2 REC 3.5 LOSS 0 UNACC 0
	27				8	
	28				28.1	
	29					TI Depth 28.6 TP Depth 29.4
	30				9	Pull # 8 START 11:15 END 11:28 TIME 13 Drl 13 RAN 4.6 REC 3.8 LOSS 1.4 UNACC 0
	31					
	32					
	33				10	
464			Bottom Hole		33.8	TI Depth 33.8 TP Depth 34.0

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-88-12

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-89 / STA 12+93.4
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R89-1 | R 89/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.6
8. DEPTH DRILLED INTO ROCK: 33.4
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4" ATX
11. DATUM FOR ELEVATION SHOWN (MSL or USL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A | UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9-28-89 | COMPLETED 9-29-89
17. ELEVATION TOP OF HOLE: 497.6
18. TOTAL CORE RECOVERY FOR BORING: 33.4 %
19. SIGNATURE OF INSPECTOR: DAVID NUGEN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		CLS - S. m.hd., m. dk. gr 0.3 LC. btwn 0.0 & 4.6			Pull #1
						START 2:15
						End 2:24
						Time 9
						Drl 9
						Ran 4.6
	2					Rec 4.3
					1	Loss 0
						Unacc
	3					
					3.8	
	4					
493						TI & TP Depth 4.6
	5		SLS - s.m.hd.; m-dk. gr Ch. len 0.4 L.C. 5.2 - 5.5			Pull #2
492						START 2.30
						End 2.39
					2	Time 9
						Dril 9
	6		S.S. sly.; f.g.; m.hd., m.gr. 45° ptg @ 7.5. Silk Seam @ 8.7			Ran 4.8
						Rec 4.7
	7					Loss 0
						Unacc
					7.6	
	8					
488.9						
					3	
	9		CLS / SLS interbdd, S. m. hd. m. dk gr 0.4 LC btwn 9.3 & 12.5			TI Depth 9.3
						TP Depth 9.4
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Lock & Dam | HOLE NO. R-89/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.6 | Hole No. R-89/1

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS			Pull #3
						START 2:42
						End 2:49
	11					TIME 7
					11.3	Drl 7
						Ran 4.2
						REC 3.8
	12					LOSS 0.4
						UNACC 0
	13				4	
						TI depth 13.5
						TP Depth 13.6
	14					Pull #4
						START 2.52
482.9						End 3.01
	15		SS. vc. sly. fig., m. hd., m. gr.			Time 9
					15.1	Drl 9
						Ran 4.1
	16					REC 4.2
						LOSS 0
481.2						UNACC 0
	17		CLS. / SLS. interbdd; S. m. hd., m.-dk. gr. Cl. coa. / fld., ptgs.; SLS. occ. Sa		5	
						TI & TP Depth 17.7
	18					Pull #5
						START 7:27
						End 7:36
	19				18.8	Time 9
						Drl 9
						Ran 4.1
	20					REC 4.1
						LOSS 0
477.1						UNACC 0
	21		CLS - sly. S. m. hd. m. dk. gr.		6	
						TI & TP Depth 21.8
	24					

ENG FORM 1836-A JUN 67 | GPO. 1969 O-355-263 | PROJECT Gallipolis Lock & DAM | HOLE NO. R-89/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.6 | Hole No. R 89-11

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22				22.3	Pull # 6 START 7:40 End 7:48 TIME 8 Drl 8 Ran 3.9 REC 3.2 Loss 0 Unacc 0 TI Depth 23.6 TD Depth 23.9
474	23					
	24		ICL. -S. m.hd., silk, r. br. bkn		7	
	25					Pull # 7 START 7:52 End 8:02 Time 10 Drl 10 Ran 0.1 Rec 2.4 Loss 0 Unacc
	26				25.8	TI & TP Depth 26.0
	27				8	Pull # 8 START 8:12 End 8:20 Time 8 Drl 8 Ran 3.9 Rec 3.2 Loss 0
	28				28.4	
	29					TI & TP Depth 29.2
	30				9	Pull #9 START 8:25 End 8:37 Time 12 Drl 12 Ran 5.0 REC 1.5 Loss. 0
	31					TI & TP Depth 30.1 Pull #10 START 8:40 End 8:49 Time 9 Drl 9 Ran -0.5 ? Rec 1.3 Loss 1.4
	32					
	33				33.6	TI Depth 33.6 TP Depth 34.4
464	34					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. R 89-11

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Stations): MDNO - R-89 STA 13+23 "A"
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-89/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 498
8. DEPTH DRILLED INTO ROCK: 34.1
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4 7/8
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-5-89; COMPLETED 10-6-89
17. ELEVATION TOP OF HOLE: 498.1
18. TOTAL CORE RECOVERY FOR BORING: 34.1 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
498.0						Pull #1
			CLS. S. m. hd., m.-dk. gr.			
			1.4 LC 0.0 - 4.9			
	1					START 1:12
						End 1:20
						Time 8
						Drl 8
	2					Ran 5.0
						Rec 3.5
						Loss 1.4
					1	Unacc 0
	3					
	4					
					4.9	Tl Depth 4.7
492.8	5					Tp Depth 5.0
						Pull #2
			SLS - sl. sa; s. ml. hd., m. dk. gr.			
	6					START 1:28
						End 1:38
						Time 10
						Drl 10
491.	7					Ran 4.9
						Rec 4.6
					2	Loss 0.3
			CLS/SLS. interbdd., s. m. hd., m.-dk. gr 0.3 L.C. btwn 7.0 & 9.8			Unacc 0
	8					
					8.7	
	9					
					3	
	10					Tl Depth 9.5
						Tp Depth 9.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO.: R 89/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.0 | Hole No. R89/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc.; if significant)
	10					Pull #3
						START 1:48
	11					End 1:53
					3	Time 5
						Drl 5
	12					Ran 4.1
						REC 4.5
						Loss 0
					12.4	Unacc 0
	13					
					14	
	14					TI Depth 14.0
						TP Depth 14.3
483.2						Pull #4
	15		SS. - sly. f.g. m. hd, m.gr.; o., irr. jt 15.3 - 15.7 grading			START 2:01
						End 2:12
482.4					15.7	Time 11
	16		SLS. - sli. sd., S.m.hd, m.-dk. gr. 0.7. LC. btwn 12.3 & 19.5 prob. @ top of run.			Drl 11
						Ran 5.5
						REC 4.5
	17					Loss 0.7
					5	Unacc 0
	18					
	19					
478.6						TI & TP Depth 19.5
	20		CLS - s.-m hd. m.-dk.gr., w/sly. lenses, blk., SLM 0.4 L.C. btwn 19.5 & 23.8			Pull #5
					19.9	START 2:19
						End 2:30
	21					Time 11
					6	Drl 11
						Ran 4.4
						Rec 3.9
						Loss 0.4
	22					Unacc 0

ENG FORM 1836-A JUN 67 GPO: 1969 O-329-243

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-89/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 474.0 | Hole No. R89/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOR. SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					
	23				6	TI Depth 23.2
474.3					23.8	TP Depth 23.9
	24		Lcc. r. br., S. m. hd., bKn. slk			Pull # 6 START 2:40 End 2:57 Time 17 Drl 17 Ran 5.5 REC 5.2 LOSS 0 unacc 0
	25				7	
	26					
	27					
					27.6	
	28					
	29					TI Depth 29.0
					8	TP Depth 29.4 Pull #7 START 7:35 End 7:47 Time 12 Drl 12 Ran 1.5 REC 1.9 LOSS 0 unacc
	30				30.9	TI & TP Depth 30.9
	31					Pull #8 START 7:55 End 8:05 Time 10 Drl 10 Ran 3.5 REC 3.3 LOSS 0 unacc 0
	32				9	
	33					
464	34		Go To 34-3			TI & TP Depth 34.4

ENG FORM 1836-A JUN 67 | GPO 1969 O-339-243 | PROJECT Gallipolis Lock+Dam | HOLE NO. R-89/2

- DRILLING LOG

Hole No. R 741

DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): MONO R90 1STA 13+33 3/4"
3. DRILLING AGENCY: W. L. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-90/1
5. NAME OF DRILLER: STEVE FRYS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0-498.1
8. DEPTH DRILLED INTO ROCK: 34.1
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED n/a | UNDISTURBED n/a
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-4-89 | COMPLETED 10-4-89
17. ELEVATION TOP OF HOLE: 498.1
18. TOTAL CORE RECOVERY FOR BORING: 34.1 %
19. SIGNATURE OF INSPECTOR: J. E. T.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SS. f.m.gr, m.hd. Sta. br., bkn			Pull #1
	1		CLS s.-m. hd., m. dK. gr., shy			START 11.07
			1.3. L.C. btwn 0.0. & 4.9			End 11.17
						Time 10
	2					Drl 10
						Ran 5.0
						Rec 3.6
						Loss 1.3
						unacc
	3				1	
					3.4	
	4					
	5					Ti Depth 4.9
						To Depth 5.0
492.4						Pull #2
	6		SLS - sa., m. hd., m.-dK.gr.			START 11:26
						End 11:40
						Time 14
						Drl 14
491.1	7				2	Ran 4.5
						Rec 2.9
						Loss 1.6
						unacc
	8		CLS/SLS w/ter bdd., s-m. hd. m-dK.gr CLS.-shy			
			SLS-occ. sa.! Cl. coq ptqs.			
			1.6. LC. btwn 7.0 & 9.4			
			0.1 LC btwn 9.4. & 14.4			
	9		0.5 L.C. (prob) 14.4.-15.3			
					9.4	Ti Depth 9.4
	10					To Depth 9.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-90/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.1 | Hole No. R 90/1

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3
						START 12.21
						End 12.30
	11					Time 9
						Drl 9
						Ran 4.9
						Rec 4.9
	12				3	Loss 0.1
						Unacc
	13				13.2	
	14					
						T.&TP Depth 14.4
						Pull #4
	15					START 12:35
475.8						End 12:44
			SLS-sa., s. ml. hol., m.-dK. gr		4	Time 9
	16		CLS Lenses 17.5 - 19.9			Drl 9
			0.4 L.C. 18.9 - 19.3			Ran 4.5
			Lprob.			Rec 4.2
						Loss 0.5
	17					Unacc
					17.0	
	18					
	19					T.&TP Depth 18.9
					5	Pull #5
478.4						START 12.57
	20		SLS-s.m.hol, ml.dK. gr.			End 1:08
			w/ fg cs. lam. & lenses			Time 11
			& occ. CLS lens			Drl 11
					20.8	Ran 4.5
	21					Rec 3.9
						Loss 0.4
						Unacc
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329 243 | PROJECT Gallipolis Lock+Dam | HOLE NO R-90/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.1 | Hole No. R-90-11

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					
	23					TI Depth 23.2 TD Depth 23.4
474.5					6	Pull # 6
	24		ICL. s.m.hd., m.br., bKn. slk.			START - 1:15 End - 1:24 TIME 9 Drl 9 Ran 4.0 REC 1.8 LOSS 1.1
					24.5	
	25					
	26					TI Depth 26.1
	27					
	28				7	TP Depth 27.4 Pull #7 START 1:28 End 1:38 Time 10 Drl 10 Ran 3.5 Rec 4.8 Loss -0
	29				29.1	
	30					TI & TD Depth 30.9 Pull # 8 START 1:45 End 1:55 TIME 10 Drl 10 Ran 3.4 Rec 2.5 LOSS 0 Linacc
	31				8	
	32					TI Depth 33.4 TP Depth 33.9 Pull #9
					32.5	
	33				9	START 2.00 End 2:10 Time 10 Drl 10 Ran 0.4 Rec 0.9 Loss 0
464	34		Go To 34.3			TI & TP Depth 34.3

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT: Gallipolis Lock + Dam | HOLE NO. R-90-11

Hole No. R 90/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH - CD | SHEET 1 OF 4 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): MONO - R-90 STA 13+63 "A"
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-90/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 498.4
8. DEPTH DRILLED INTO ROCK: 34.4
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4" x 6 1/2"
11. DATUM FOR ELEVATION SHOWN (MSL or USC&GS): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B- MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-6-89; COMPLETED 10-6-89
17. ELEVATION TOP OF HOLE: 498.4
18. TOTAL CORE RECOVERY FOR BORING: 36.4 %
19. SIGNATURE OF INSPECTOR: G.E.T.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
499.7			SS., m.g; m.hd., blk., gr. sta. br.			Pull #1 START 8:14 End 8:21 Time 7 Drl 7 Ran 5.0 Rec 5.0 Loss 0 unacc
	1					
	2		CLS./SLS. interbedd;		1	
			CLS- s,m.hd., m. dk. gr. shy			
			SLS. s,-m. hd; m. dk. gr., occ. sa. Closely spaced cl., coa./fld. ptgs.			
	3		0.3. L.C. btm. 5.0 & 9.8.			
					3.7	
	4					
	5				2	T.C. TP Depth 5.0
						Pull #2
	6					START 8:27 End 8:37 Time 8 Drl 8 Ran 4.8 Rec 4.5 Loss 0.3 unacc
	7				7.4	
	8					
					3	
	9					
	10					T.C. TP Depth 9.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock+Dam | HOLE NO. R 90/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.4 | Hole No. R 90/2 | SHEET 2 OF 4 SHEETS

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull #3
	11					START 8:45 End 8:55 Time 10 Drl 10 Ran 3.8 Rec 7.1 Loss 0 unacc
	12				11.2	
	13				4	
	14					TI Depth 13.6 TP Depth 13.8
484						Pull #4
	15		SLS-sli.sa., s. m. hd., m. dk. gr.	14.9		START 9:02 End 9:10 Time 8. Drl 8 Ran 3.8 Rec 4.1 Loss 0 unacc
483.1						
	16		SLS.- Sa m.hd., m-dk.gr. hld., irr. vert frac. 15.4. 16.1 hor., coa ptg @ 16.5, 17.2., 17.4., 17.6.			
	17				5	
	18					
479.7				18.7		
	19		CLS.- sly., s., m. hd., m-dk·gr. w/SLS leizes grading into			TI & TP Depth 18.9 Pull #5
	20				6	START 9:22 End 9:37 Time 15 Drl 15 Ran 4.8 Rec 3.8 Loss 0.8 unacc
	21					
476.9						
	22					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO R-90/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.4 | Hole No. R90/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		ICC S. m. hd., r. br., bkn., slk gr. to. 24.5 0.8. LC. btwn. 21.6 & 23.5 (prob.)		22.3	
	23					TI Depth 23.5
						TP Depth 23.7
	24					Pull #6
						START 10:11
						End 10:20
					4	Time 9
						Drl 9
	25					Ran 4.8
						REC 4.9
						Loss 0
						Unacc
	26					
					26.6	
	27					
	28					
						TI Depth 28.4
					8	TP Depth 28.5
						Pull #7
	29					START 10:24
						End 10:35
						Time 11
						Drl 11
	30					Ran 4.7
						REC 4.7
					30.4	Loss 0
	31					
					9	
	32					
						TI Depth 33.1
	33					TP Depth 33.2
	34					

ENG FORM 1836-A JUN 67 | GPO 1969 O-F—329-243 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-90/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 498.4 Hole No. P-90-2

PROJECT GALLIPOLIS Lock+DAM INSTALLATION ORH-CD SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34				34.1	Pull #8
463.8			Bottom Hole		10	START 10:40
					34.6	End 10:51
	35					Time 11
						Drl 11
						Ran 1.4
						Rec
						Loss
						Unacc
						TI & TP Depth 34.6

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS Lock+Dam HOLE NO. P-90/2

Hole No. R-91/1

1. PROJECT: Gallipolis Lock & Dam	2. DIVISION: ORD	3. INSTALLATION: ORH-CD	SHEET 1 OF 3 SHEETS
4. LOCATION (Coordinates or Station): MONO R-91 / STA 13+73 "A"		10. SIZE AND TYPE OF BIT: 4 7/8	
5. DRILLING AGENCY: W. G. JAQUES		11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.SL	
6. HOLE NO. (As shown on drawing title and file number): R-91/1		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
7. NAME OF DRILLER: STEVE FRY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
8. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES: 10	
9. THICKNESS OF OVERBURDEN: 0		15. ELEVATION GROUND WATER: NA	
10. DEPTH DRILLED INTO ROCK: 498.4 -		16. DATE HOLE: STARTED 10-5-89; COMPLETED 10-5-89	
11. TOTAL DEPTH OF HOLE: 34.5		17. ELEVATION TOP OF HOLE: 498.4	
		18. TOTAL CORE RECOVERY FOR BORING: 34.5 %	
		19. SIGNATURE OF INSPECTOR: JFT	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SS. -mg., gr. mhd. Crushed; sta br. to. 0.1			Pull #1 START 2.40 End 2'52 Time 12 Drl 12 Ran 5.0 Rec 4.7 Loss 0 Unacc 4
	2		CLS - s. m. -dk gr. slk when bkn.		1	
	3					
493.9	4				3.8	
	5		CLS. / SLS interbdd. s. m. hd., m. -dk. gr CLS. s.m.hd., shy			TP Depth 4.7 TI Depth 5.0
	6		SLS. - occ. sa: Cl. Ca/fld. closely spaced hor. pfgs. 0.8. LC btwn 4.7 & 9.5 sa SLS 11.5 - 12.2 14.7 - 15.1		2	Pull #2 START 7.28 End 7.40 Time 12 Drl 12 Ran 4.5 Rec 4.0 Loss 0.8
	7				7.3	
	8					
	9				3	TP & TI Depth 9.5
	10		(CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO.: R-91/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.4 | Hole No. R 91/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORHLD | SHEET 2 OF - SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS			Pull #3
						START 7:46
						End 7:53
						Time 7
						Drl 7
	11				11.5	Ran 4.5
						Rec 4.6
						Loss 0
	12					undcc 0
	13				4	
	14					TP Depth 14.0
						TI Depth 14.1
						Pull #4
						START 7:59
	15				15.2	End 8.04
						TIME 10
						Drl 10
						RAN 5.1
	16					REC 5.0
						LOSS 0
					5	undcc 0
	17					
	18					
480.1						
			SS. - sly - m. hd., Sig., m. gr. w/ thin dk. sly. lam.			
	19				19.0	TP & TI Depth 19.1
						Pull #5
						START 8:19
	20					End 8:30
						Time 11
						Drl 11
					6	Ran 4.3
	21					Rec 4.1
						Loss 01
						undcc
	22		(CONT)		(CONT)	CONT)

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-242 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-90/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 498.4 Hole No. R 90/1

PROJECT Gallipolis Locks + Dam INSTALLATION ORH-CD SHEET 2 OF SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					
475.5	23				22.7	
475.1						TP 23.3 TI Depth 23.4
	24		ICC. R. br., S. m. hd, bKn. S/K. 0.5' LC, btwn. 23.3 & 27.3.		7	Pull #6 START 8.39 End 8.51 TIME 12 Dri 12 Ran 3.9 REC 3.5 LOSS 0.5 UNACC 0
	25					
	26				26.4	
	27					TP & TI Depth 27.3
	28				8	Pull #7 START 8.57 End 9.08 TIME 11 Dri 11 RAN 4.0 REC 4.0 Loss 0 UNACC 0
	29					
	30				30.5	
	31					TP & TI Depth 31.3
	32				9	Pull #8 START 9.13 End 9.22 Time 10 Dri 10 RAN 3.2 REC 3.0 Loss 0.1 UNACC 0
	33					
						TP Depth 34.4 TI Depth 34.5
464	34		34.9 Bottom Hole			

ENG FORM 1836-A JUN 67 GPO 1968 OF—329-243

PROJECT Gallipolis Lock + Dam HOLE NO. R-90/1

Hole No. R-91½

DRILLING LOG

DIVISION: ORH
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): MONO R-91 / STA 14+03 A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-91½
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 497.7
8. DEPTH DRILLED INTO ROCK: 33.8
9. TOTAL DEPTH OF HOLE: 464
10. SIZE AND TYPE OF BIT: 4½5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-6-89; COMPLETED 10-7-89
17. ELEVATION TOP OF HOLE: 497.7
18. TOTAL CORE RECOVERY FOR BORING: 33.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5			SS. mg., m.hd., sta. br., bkn.			Pull #1
	1		Cls-S. m.hd., m-dk. gr., bkn.; fr. slk			START 11:05
						End 11:13
						Tim 8
						Drl 8
						Ran 4.8
						Rec 4.8
	2					Loss 0
					1	unacc 0
	3					
					3.8	
	4					
						TI Depth 4.8
492.9	5					
			S.S. sly. fg, m.hd., m.gr mass dk. gr. sly. stgs starting @ 8.2		2	TP Depth 5.8
	6					Pull #2
						START 12.00
						END 12.10
						TIME 10
						Drl 10
	7					Ran 5.1
						Rec 4 4
					7.3	Loss .06
						Unacc 0
	8					
	9				3	
488.4						
			Cls/Ss			
			(CONT)		(cont)	TI Depth 9.8
						TP Depth 9.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & DAM | HOLE NO. R-91½

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 4927 Hole No. R91/2

PROJECT GALLIPOLIS LOCK+DAM INSTALLATION ORH-CD SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS./SLS. interbdd., s., m. hd., m.-dk. gr. SLS. - occ. sa. CLS. - shy - cl coal/sld. hor. ptgs		3	PULL # 3 START 12:44 END 12:55 TIME 11 DRI 11 RAN 4.5 REC 4.5 LOSS -0- UNACC -0-
	11				11.2	
	12					
	13				4	
	14					TP DEPTH 14.3 TP DEPTH 14.4
482.7	15				14.8	PULL # 4 START 1.05 END 1:15 TIME 10 DRI 10 RAN 4.1 REC 4.2 LOSS -0- UNACC -0-
	16		SS. - shy., m. hd., m. gr., w/dk. gr. shy. lam. s/lk. shy. cls 15.9, -16.6 grading more shy. w/depth.		5	
	17					
	18					
479.					18.5	TIE TP Depth 18.5
	19		CLS/SLS. interbdd; SLS. - occ sa CLS. - shy - clcoal/fld. ptgs grading into.		6	PULL # 5 START 1:20 END 1:29 TIME 9 DRI 9 RAN 5.0 REC 4.7 LOSS .03 UNACC -0-
	20					
477.2						
	21		CLS - S. m. hd., m.-dk gr., shy 0.3 - LC. btwn. 20.5 & 23.5			
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243 PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-91k

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. R 91/2

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET OF SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22				22.3	Cont Pull #5
	23					
474.2						TI & TP Depth 23.5
	24		ICC. r.br., s.-mh.d., bkn., s/k			Pull # 6
					7	START 7:45 END 7:58 TIME 13 Drl 13 Ran 5.1 Rec 5.0 Loss Unacc
	25					
	26				26.1	
	27					
	28				8	TI Depth 28.5 TP Depth 28.6
	29					Pull # 7
	30				29.9	START ? END ? TIME ? Drl ? Ran 5.2 Rec 5.2 Loss ~~0~~ Unacc ~~0~~
	31				9	
	32					
	33					
464			Karstic Hole		33.7	TI Depth 33.7 TP Depth 33.8
	34					

ENG FORM 1836-A JUN 67 | GPO 1969 OP—329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R-91/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Mono R-92 / STA 14+13 "A"
3. DRILLING AGENCY: W. 6. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-92/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 498.2
8. DEPTH DRILLED INTO ROCK: 464
9. TOTAL DEPTH OF HOLE: 34.2
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (GS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-4-89; COMPLETED 10-5-89
17. ELEVATION TOP OF HOLE: 498.2
18. TOTAL CORE RECOVERY FOR BORING: 34.2 %
19. SIGNATURE OF INSPECTOR: JCT

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
498.2	1		SS. - m.g., m. hd., m. gy, bkn.			Pull #1 START 2:40 END 2.52 TIME 12 Drl 12 RAN 5.0 REC 4.7 LOSS 0 UNACC 0
496.9	2		CLS. - S., - m. hd., m.-dk gr., occ. Sa. Lens 0.4 L.C. btwn. 1.3 & 5.0		1	
	3					
	4				3.6	TP: 4.7
493.5	5					TI Depth 5.0
	6		SS. - Sly., Sig., m.h., m.-dk., gr.		2	Pull # 2 START 7.28 End 7.40 Time 12 Drl 12 RAN 4.5 REC 4.0 Loss .0.8
	7					
490.7	8		CLS/SLS. interbdd., S. m. hd., m. -dk. gr. SLS - occ. Sa.		7.5	
	9		CLS. - Shy w/Cl. coal/Mod Plgs. 0.3 L.C. btwn. 7.5 & 9.8 0.5 L.C. btwn. 9.8 & 14.5 0.3 S. gr. Cl. 14.5 & 14.8		3	TP & TI Depth 9.5 Pulled
	10		(CONT)			CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM
HOLE NO.: R-92/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.7 | Hole No. R 92/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: OEH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS/SLS			Pull # 3
	11					START 7.46 End 7.53 Time 7 Drl 7
					11.3	RAN 4.5 REC 4.6 Loss 0 Unacc 0
	12					
	13				4	
	14					TP Depth 14.0 TI Depth 14.1
483.4						Pull #4
	15		SS-ve sly, fg. ni hd., ni.-dK gr. w/dK gr. sly stks.			START 7.59 END 8.09 Time 10 Drl 10 RAN 5.1 REC 5.0 Loss 0 Unacc 0
	16		CLS lens 16.0 - 16.4 grading minor sly w/depth		15.3	
	17				5	
	18					
479.5					18.7	
	19		SLS. s.m hd., m.-dK. gr. w/cly lams. Sa. 19.4 ± 1.0			TI & TP Depth 19.1
	20				6	Pull # 5
477.2	21					START - 8.19 End - 8.30 Time 11 Drl 11 RAN 4.3 REC 4.1 Loss 0.1 Unacc 0
			CLS. - s.m.hd. m.-dK.gr. wkn.			
	22		(CONT)	(cont)		(CONT)

ENG FORM 1836-A JUN 67 | GPO 1969 O-F—329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R-92/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.2 | Hole No. R-92/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22				22.5	
	23					TP Depth 23.8
474.2						TI Depth 23.4
	24		Lcl.-S. m.hd., r. br., bkn. S/K. 0.4. L.C. btum. 28.8 & 29.9 0.2 L.C. btum. 29.9 & 34.2		7	Pull #6 START 8.39 End 8.51 TIME 12 Drl 12 RAN 3.9 REC 3.5 LOSS 0.5 unacc 0
	25					
	26				26.2	
	27					TP & TI Depth 27.3
	28				8	Pull #7 START 8.57 End 9.08 TIME 11 Drl 11 RAN 4.0 REC 4.0 LOSS 0 unacc 0
	29				29.3	
	30					
	31				9	
	32					TP & TI Depth 31.3
	33					Pull #8 START 9:12 End 9.22 TIME 10 Drl 10 RAN 3.2 REC 3.0 LOSS 0.1 unacc 0
464.2	34		Bottom Hole 34.5			TP Depth 34.4 TI Depth 34.5

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R-92/1

DRILLING LOG

DIVISION: ORD

1. PROJECT: GALLIPOLIS LOCK + DAM	INSTALLATION: ORH-CD
2. LOCATION (Coordinates or Station): MENU - R-92 STA 14+42 "AV	10. SIZE AND TYPE OF BIT: 4 1/5"
3. DRILLING AGENCY: W. G. JAQUES	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
4. HOLE NO. (As shown on drawing title and file number): R-92/2	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
5. NAME OF DRILLER: STEVE FRYE	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	14. TOTAL NUMBER CORE BOXES: 9
7. THICKNESS OF OVERBURDEN: 0 - 499	15. ELEVATION GROUND WATER: N/A
8. DEPTH DRILLED INTO ROCK: 34	16. DATE HOLE: STARTED 10-9-89; COMPLETED 10-9-89
9. TOTAL DEPTH OF HOLE: 464	17. ELEVATION TOP OF HOLE: 498.0
	18. TOTAL CORE RECOVERY FOR BORING: 34 ft
	19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
498.0			SS. - m.g., m. hd., gr. bkn			Pull # 1
492.2						START 8.54
	1		CLS. s.ni. hd., m.-dk.gr hvy. gr. cl. coa., fld pfgs			End 9:03
						Time 9
	2		0.3, L.C. btwn 0.8, & 4.6			Drl 3
					1	Ran 5.0
	3					REC 4.3
						Loss 0.3
	4			3.7		unacc 0
493.1						TI Depth 4.6
	5		SS. - vc sly., s.g., m. hd., m. -dk. gr. w/closely spaced, s. cl. pfgs.			TP Depth 5.0
						Pull # 2
	6					START 9.07
491.6					2	End 9.17
			CLS/SLS interbed, s. m. hd., m -dk gr.			Time 10
	7		CLS - shy			Drl 10
			SLS - , < hvy, cod fld pfgs			Ran 4.7
						REC 5.0
	8			7.5		Loss 0
						unacc 0
	9				3	
						TI Depth 9.6
	10		(CONT)	(CONT)		TP Depth 9.7
						Pull #3

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: R-92/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.0 | Hole No. R 92/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: CRH-CD | SHEET 2 OF - SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			CLS/SLS			Pull #3
						START 9:34
						End 9:43
	11				11.1	Time 9
486.4						Drl 9
						Ran 4.4
						Rec 4.4
						Loss 0
	12		SLS-sa., s.-m. hd, mass. m. dr. gr.			Unacc 0
					4	
	13					
484.4						
						TD Depth 14.1
	14		CLS - shy., s. m. hd., m. dk. gr.			Pull #4
					14.8	START 9.50
482.8	15					End 10:10
						Time 20
						Drl 20
			SS. - s/y., fig., m. hd., m. gr. w/thin. dk. s/y. s.-ks. & lenses cly. len. 15.4 - 15.6 grading sly. w/depth. cl. coa., s/y. pts. 17.5 - 17.9 0.5, LC., CLS. to 18.9 - 19.8. - cl. pld/coa ptgs			Ran 4.8
	16					Rec 4.9
						Loss. 0
	17					Unacc 0
					5	
	18					
					18.5	
	19					TD & TP Depth 18.9
						Pull #5
						START 10:14
	20					End 10:24
					6	Time 10
						Drl 10
	21					Ran 3.9
						Rec 3.4
						Loss 0.5
						Unacc 0
476	22		(CONT)		22	

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-92-2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.0 | Hole No. R 92/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23		CLS/SLS. interbdd., s.m hd., m.-dk. gr. SLS.-sli. SA CLS -shy. cl. coal/fkd ptgs. grading		7	TI & TP Depth 22.8 Pull # 6 START 10.30 End 10.41 Time 11 Drl 11 Ran 3.2 REC 3.2 Loss 0 unacc 0
	24					
	25					
472.0	26			25.7		TI & TP Depth 26.0 Pull # 7
			JCL. r br. s-m-hd. bkn. slk		8	START 10:45 End 10:56 Time 11 Drl 11 Ran 3.9 REC 3.8 Loss 0 unacc 0
	27					
	28					
	29			29.3		TI Depth 29.8 TP Depth 29.9 Pull # 8
	30					
	31				9	START 11.00 End 11.12 Time 12 Drl 12 Ran 4.5 REC 3.2 Loss 1.0 unacc 0
	32					
	33					
464	34		Cottoni Hole 39.9	34.0		TP Depth 34.4 TI Depth 34.0

ENG FORM 1836-A JUN 67 | GPO 1969 O—329-243 | PROJECT GALLIPOLIS Lock & DAM | HOLE NO. R-92/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT GALLIPOLIS Lock + DAM		10. SIZE AND TYPE OF BIT 4 X 5 1/2"	
2. LOCATION (Coordinates or Station) MDNO R-93 STA 14+53"D'		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL R-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-93/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRYE		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER -	
		16. DATE HOLE STARTED 10-12-89; COMPLETED 10-12-89	
7. THICKNESS OF OVERBURDEN 0 - 498.9		17. ELEVATION TOP OF HOLE 498.3	
8. DEPTH DRILLED INTO ROCK 34.1		18. TOTAL CORE RECOVERY FOR BORING 34.1 %	
9. TOTAL DEPTH OF HOLE 464		19. SIGNATURE OF INSPECTOR JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
498.3			CLS/SLS. interbdd, S, m. hd., m-dk gr. CLS. - Shy w/ cl. coa /Sld. Ptgs			Pull #1
	1					START 1:13
						End 1:22
						TIME 9
						Drl 9
					1	Ran 5.0
	2		SLS. occ sa			Rec 4.9
			Sa. len 1.8 - 2.1			Loss 0
			0.5 L.C. btwn 4.9 &			Unacc 0
			7.4., 0.6 LC. 9.4 & 13.0			
	3					
					3.6	
	4					
	5					TI Depth 4.9
						TP Depth 5.0
						Pull #2
					2	
	6					START 1:28
						End 1:38
						TIME 10
						Drl 10
						Ran 4.4
	7					Rec 3.9
						Loss 0.5
						Unacc 0
					7.3	
	8					
					3	
	9					
						TI & TP Depth 9.4
	10		(CONT)		(CONT)	cont. Next sheet

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS Lock + DAM HOLE NO. R-93/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.3 | Hole No. R93/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		CLS/SLS			Pull #3
						START 1:45
						End 1:55
						TIME 10
						Drl 10
					11.3	Ran 3.7
						REC 3.0
						Loss 0.6
						unacc 0
	12					
	13					TI Depth 13.0
					4	TP Depth 13.1
						Pull #4
484.3	14					START 2:03
			SS. - vf sly, fig m.bd., m.gr. CLY SLS. len.			End 2:14
						TIME 11
						Drl 11
	15		15.4 - 15.6 & 6 in. Cly			Ran 5.0
			SLS. len 16.6 & 17.0			REC 4.9
						Loss 0
						unacc 0
					15.4	
	16					
	17				5	
480.3	18					TI Depth 17.9
						TP Depth 18.1
			SLS/CLS. interbd			Pull #5
			CLS/SLS. contact gr. Cl. Coal/Fld			START 2:19
	19		SLS - ccc. Sa.			End 2:34
			0.1 LC. btwn. 17.9 & 21.7		19.1	TIME 15
			1.7. L.C. btwn 21.7 &			Drl 15
			25.0			Ran 3.6
	20					REC 3.7
						Loss 0.1
						unacc 0
					6	
	21					
						TI & TP Depth 21.7
	22		(CONT)		(CONT)	

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO R-93/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 478.3 | Hole No. R-93/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23				22.8	Pull #6 START 2:40 End 2:48 TIME 8 Drl 8 RAN 3.4 REC 1.6 LOSS 1.7 unacc 0
	24					
473.3	25				4	TI Depth 25.0 TP Depth 25.1
	26		ICL. v.br., s.m.hd. dkn, s.k			Pull #7 START 2.55 End 3.09 TIME 14 Drl 14 RAN 4.0 REC 4.1 LOSS 0 unacc 0
	27					
	28				27.9	
	29					TI & TP Depth 29.1
	30				8	Pull #8 START 3:15 End 3:30 Time 15 Drl 15 RAN 5.0 REC 5.0 LOSS 0 unacc 0
	31					
	32				31.6	
	33					
	34		Bottom Hole 39.1		34.1	D=D 39.1

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock + DAm | HOLE NO. R-93/1

Hole No. R-93/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT: Gallipolis Locks & Dam		10. SIZE AND TYPE OF BIT: 4 1/2"	
2. LOCATION (Coordinates or Station): MONO R-93 STA 14+39 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. 6. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B- MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-93/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRYE		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 0 - 497.9		16. DATE HOLE: STARTED 10-13-89; COMPLETED 10-13-89	
8. DEPTH DRILLED INTO ROCK: 33.9		17. ELEVATION TOP OF HOLE: 497.9	
9. TOTAL DEPTH OF HOLE: 464		18. TOTAL CORE RECOVERY FOR BORING: 33.9 %	
		19. SIGNATURE OF INSPECTOR: JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			gs. - m. hd., m. gr., m. g. bkn.			Pull # 1
499.4						START 9:28
	1		CLS. / SLS. interbdd. - m. hd., m. - dk. gr. s/s - occ. sa			End 9:35
						Time 7
						Drl 7
	2		CLS. - shy - cl. coa / fld. ptgs.			Ran 5.0
						Rec 4.1
			0.4 L.C. b/wn. 4.9 & 8.7		1	Loss 0.8
	3		0.3. L.C. b/wn. 8.7 & 13.1			Unacc 0
			0.1 L.C. b/wn 13.1 & 14.0			
					3.8	
	4					
	5					TP Depth 4.9
						TI Depth 5.0
						Pull # 2
						START 9.52
						End 10.03
	6					Time 11
						Drl 11
						Ran 4.8
						Rec 3.2
						Loss .5
	7				2	
					7.5	
	8					
	9					TI Depth 8.6
					3	
	10		cont.			TI Depth 9.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock + Dam | HOLE NO. R-93/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R 93/2

PROJECT: GALLIPOLIS Lock + DAm | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			CLS/SLS			Pull #3 START 10.13 End 10.23 Time 10 Drl 10 Ran 3.6 REC 3.6 Loss 1.1 Unacc 0
	11				3	
					11.5	
	12					
	13					TP Depth 13.3 TI Depth 13.4
					4	Pull #4 START 10:31 End 10.42 Time 11 Drl 11 Ran 4.7 REC 4.7 Loss 0 Unacc 0
483.9	14					
			SS.-sly. fig., m. hd., m. gr. w/dk. gr. sly. slks ve. sly to 16.3.			
	15				15.2	
	16				5	
	17					
479.4						
	18		SLS/CLS interbd., s.m. hd. m.-dk. gr. cl. coa/fld @ closely spaced contracts. Sn. Zo. 19.3 -20.4			TP Depth 18. TI Depth 18.
						Pull # 5 START 10:56 End 11 12 Time 16 Drl 16 RAN 5.00 REC 4.00 Loss .9 Unacc 0
	19				18.9	
	20					
477.5						
	21		CLS. - sly., m. dk. gr. s. m. hd closely spaced, gr. cl. coa pfgs		6	
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO. 1969 OF—329-243 | PROJECT GALLIPOLIS Lock + Dam | HOLE NO. R 93/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.9 Hole No. R 93/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET OF SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
					6	
					22.6	
	23					TP Depth 22.9
						TI Depth 23.1
	24					Pull # 6
						START 10.23
						End 11.36
						Time 13
						Drl 13
						Ran 4.0
						Rec 4.2
						Loss 0
473.5						Unacc 0
					7	
	25		Lac.-r.br., s. m. hd., bkn., s/k.			
	26					
					26.2	
	27					TP & TI Depth 27.1
						Pull # 7
						START 11:45
						End 11:56
						Time 11
						Drl 11
	28				8	Ran 4.7
						REC 4.7
						Loss 0
	29					
	30					
					30.0	
	31					TP & TI Depth 31.8
						Pull # 8
						START 1:00
						End 1:11
						Time 11
						Drl 11
						Ran 2.6
					9	Rec 2.4
	32					Loss 0
						un.acc 0
						TP 34.2
	33					TI Depth 34.4
464			BOTTOM HOLE 34.2		33.9	

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-93/2

Hole No. R-94/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS Lock + DAM
2. LOCATION (Coordinates or Station): MONO E-94 / STA 13+73 "A"
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-94/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 498.4
8. DEPTH DRILLED INTO ROCK: 34.4
9. TOTAL DEPTH OF HOLE: 464.0
10. SIZE AND TYPE OF BIT: 4 5/5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10-4-89; COMPLETED 10-5-89
17. ELEVATION TOP OF HOLE: 498.1
18. TOTAL CORE RECOVERY FOR BORING: 34.5 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION 498.4 a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.8			SS, m.g., m.h., gr. ve. bkn			Pull # 1
	1		interbdd. CLS/SLS, s., m. dk.gn. CLS - 0.3-3.0 w/0.8 LC (mech) @ 3.9-4.7; Sa SLS, 4.7-5.6, grading into cly. SLS, : bkn. CLSH. occ. Sly 6.9-11.6, w/0.5' LC (mech) btwn 6.9 & 8.6 & 1.1. LC. btwn 8.6 & 13.3			START 2:40 End 2:52 Time 12 Drl 12 Ran 50 REC 4.7 Loss 0 unacc 0
	2				1	
	3					
	4				3.8	
	5					TP Depth 4.7 TI Depth 5.0
						Pull # 2
	6				2	START 7.28 End 7:40 Time 12 Drl 12 Ran 4.5 REC 4.0 Loss 0.8 unacc 0
	7					
	8				8.0	
	9				3	TPE - Depth 9.5
	10		cont.			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-94/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.1 | Hole No. R 94/1

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			CLS/SLS		3	Pull # 3 START 7:46 End 7:53 TIME 7 Drl 7 Ran 4.5 REC 4.6 Loss 0 Unacc 0
	11					
	12				12.0	
	13					
	14				4	TP DEPTH 14.0 TI DEPTH 14.1
483.5						
	15		SLS, sa., m.h., m.gr.			Pull # 4 START 7.59 END 8.09 TIME 10 Drl 10 RAN 5.1 REC 5.0 Loss 0 Unacc 0
482.1	16					
			CLSH., s., m.gr., sly., bkn. grading			
481.3					16.8	
	17		SLS., s. m.h., m.dk.gr. w/fiq., sa. lam. grading			
480.1	18					
			CLSH., s. m-h., m.-dk.gr., Closely Spaced hor. ptgs w/fr. Cl. Coz./fld. occ. sa.		5	
	19					TP & TI Depth 19.1
478.3						
	20		ICL. m.-dk.gr., s.-m.h., slk., bkn. Trans.			Pull # 5 START - 8.19 END 830 TIME 11 Drl 11 RAN 4.3 Rec 4.1 Loss 0.1 unacc 0
					20.3	
	21				6	
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO 1969 O—329-243 | PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-94/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498' | Hole No. R 94/1

PROJECT: GALLIPOLIS Lock + DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION (a)	DEPTH 22b	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
	23				6	TP Depth 23.9 TI Depth 23.4 Pull # 6 START 8:39 End 8:51 TIME 12 DRL 12 RAN 3.9 REC 3.5 LOSS 0.5 UNACC 0
474.1	24		ICL., r.br., S.M.h., SIK. bkn.		24.6	
	25					
	26				7	
	27					TP & TI Depth 27.3 Pull # 7 START 8.57 End 9.08 TIME 11 DRL 11 RAN 4.0 REC 4.0 LOSS 0 UNACC 0
	28				28.3	
	29				8	
	30					TP & TI Depth 31.3 Pull # 8 START 9.12 End 9.22 TIME 10 DRL 10 RAN 3.2 REC 3.0 LOSS 0.1 UNACC 0
	31					
	32				31.8	
	33				9	
						TD Depth 34.4 TI Depth 34.5
464	34		End @ 34.2			

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-242 | PROJECT: GALLIPOLIS Lock+DAM | HOLE NO. R 94/1

Hole No. R-94/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT Gallipolis Lock + DAM		10. SIZE AND TYPE OF BIT 4 15.5"	
2. LOCATION (Coordinates or Station) MONO R-94 / STA 15 +23 "A"		11. DATUM FOR ELEVATION SHOWN (USGS or USC&GS) M.S.L.	
3. DRILLING AGENCY W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-94/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRYE		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0 - 497.7		16. DATE HOLE STARTED 10-10-89; COMPLETED 10-10-89	
8. DEPTH DRILLED INTO ROCK 33.7		17. ELEVATION TOP OF HOLE 497.7	
9. TOTAL DEPTH OF HOLE 464		18. TOTAL CORE RECOVERY FOR BORING 33.7 ft	
		19. SIGNATURE OF INSPECTOR JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.7			ss.-m.g., m.h., gr. bkn			Pull #1 START - 7:40 End - 7:50 TIME - 10 Drl 10 Ran 5.0 REC 4.5 Loss 0 Unacc 0
496.6	1					
	2		CLS/SLS. interbdd; s. m. h., m.-ak gr. SLS.-occ. Sa CLS.-shy. w/gr. cl. coalfld. ptgs. C8. L.C. btwn. 1.5 & 9.7. O.S. L.C. btwn. 9.7. & 14.7.		1	
	3					
	4				3.8	
	5					IP Depth 4.5 TI DEPTH 5.0
	6				2	Pull # 2 START 7:58 End 8:07 Time .9 Drl 9 Ran 4.8 REC 4.4 Loss 0.8
	7				7.4	
	8					
	9				3	
	10		(CONT)		(CONT)	TF Depth 9.7 TI DEPTH 9.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Lock + Dam | HOLE NO. R-94/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.7 Hole No. R-94/2

PROJECT GALLIPOLIS Lock + DAM INSTALLATION ORH-CD SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11		CLS/SLS			Pull #3 START 8:12 End 8:26 TIME 14 DRL 14 RAN 4.9 REC 4.5 Loss 0.5 UNACC 0
					11.7	
	12					
	13				4	
	14					
483						TP & TI Depth 14.7
	15		SS., slt., fig., m. hd., m. gr. w/dk. gr. slt. stgs & lenses			Pull #4 START 8.35 End 8:46 Time 11 DRL 11 RAN 5.2 REC 5.0 Loss 0 UNACC 0
					15.6	
	16					
	17				5	
	18					
	19					TP. Depth 19.0
					19.3	
						TI Depth 19.7
	20					Pull #5 START 8.50 End 9.03 Time 13 DRL 13 RAN 4.6 REC 4.5 Loss .2 UNACC 0
	21				6	
476.2						
	22		CLS (CONT)		(CONT)	

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS Lock + DAM HOLE NO. R-94/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. R-94/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLS.-S.m.hd., m.dk.gr. occ. sly, 0.2 L.C. btwn. 21.5 & 24.4			
	23				23.0	
	24					
473.3						TP DEPTH 24.4
						TI DEPTH 24.5
			IOC., r,br., s.-m.hd., bkn., s/k.		7	Pull # 6
	25					START 9.08
						End 9.20
						TIME 12
						Drl 12
						RAN 3.2
	26					REC 5.2
					26.8	
	27					
						TP DEPTH 27.7
	28				8	
	29					TI DEPTH 29.6
						Pull # 7
						START 9:30
	30					End 9:41
						TIME 11
						Drl 11
					30.5	RAN 6.0?
	31					REC 4.1
						Loss ~~0~~
						Undcc ~~0~~
	32				9	
	33					
464			BOTTOM HOLE		33.7	TP & TI DEPTH 33.7

ENG FORM 1836-A JUN 67 | GPO 1969 O-339-249

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO R-94/2

Hole No. R-9511

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 6 SHEETS
1. PROJECT: Gallipolis Lock + Dam		10. SIZE AND TYPE OF BIT: 4 7/8"	
2. LOCATION (Coordinates or Station): MONO R-95 / STA 15+33 "A"		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-9511		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRYE		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 0 497.8		16. DATE HOLE: STARTED 10-11-89; COMPLETED 10-11-89	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE: 497.8	
9. TOTAL DEPTH OF HOLE: 33.8		18. TOTAL CORE RECOVERY FOR BORING: 33.8 %	
		19. SIGNATURE OF INSPECTOR: ET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.8	0		SS., m.g., sta. buff, m.hd. mic., bkn. (max 0.2)			Pull #1
	1					START 9.25
496.2						End 9.34
						TIME 9
						Drl 9
						RAN 5.0
						RAC 3.6
	2		CLS./SLS. S.m.h., m.-dk gr. PKy. sky. Ve.s. 1.6-2.8; & 5.4-7.0 w/0.4 LC.; bkn w/oversore 7.0-10.0 w/1.1LC. m.hd. SLS 10.0-12.0 w/slk. @ 10.5 shy w/s.cl.coz/fld 12.0-14.8:			LOSS 1.4
					1	unacc ~~0~~
	3					
					3.8	
	4					
	5					TF & TI Depth 5.0
						Pull #2
					2	START 9.43
	6					End 9.54
						TIME 11
						Drl 11
						RAN 4.1
						REC 2.7
	7					LOSS 1.3
						UNACC ~~0~~
					7.6	
	8					
	9				3	TF Depth 9.00
						TI Depth 9.01
						Pull #3
	10		Bott		(cont)	CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-9511

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.8 | Hole No. L-95/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10				3	Pull # 3 START 10.00 End 10.08 Time 8 Drl 8 Ran 4.3 REC 4.0 Loss 0.3 Unacc 0
	11					
	12				12.0	
	13					TP Depth 13.3 TI Depth 13.7
	14				4	Pull # 4 START - 10:15 End 10:26 Time 11 Dri 11 RAN 3.5 REC 3.6 LOSS 0 Unacc 0
483.	15		SS. sly., f.g., m.h., gr. : shy ptgs. 16.5-16.9 sls. 17.1-18.7 w/shy ptgs 17.5-18.0 & 18.5-18.7: f.g. ss w/thin . sly lam. 18.7-22.3		15.7	
	16					TP Depth 16.8 TI Depth 16.9
	17				5	Pull # 5. START 10.35 End 10.50 Time 15 Drl 15 Ran 3.5 REC 2.6 Loss 0.9 Unacc 0
	18					
	19				19.4	
	20					TP & TI Depth 20.4
	21					Pull #6 START 10.00 End 10.11 Time 11 Drl 11 Ran 2.5 Rec 2.5 Loss 0 Unacc 0
	22		Cont.			

ENG FORM 1836-A JUN 67 | GPO 1969 O—329-343 | PROJECT GALLIPOLIS Lock & Dam | HOLE NO. R 95/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.8 | Hole No. L-9511

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					Pull # 3 START 10.00 End 10.08 Time 8 Drl 8 Ran 4.3 REC 4.0 Loss 0.3 unacc 0
	11				3	
	12				12.0	
	13					TP Depth 13.3 TI Depth 13.7
	14				4	Pull # 4 START - 10:15 End 10:26 11 Time 11 Dri Ran 3.5 REC 3.6 Loss 0 unacc 0
483.	15		SS. slt., f.g., m.h., gr. : shy ptgs. 16.5-16.9 sls. 17.1-18.7 w/shy ptgs 17.5-18.0 & 18.5-18.7: f.g. ss w/thin . slt lam. 18.7-22.3		15.7	
	16					TP Depth 16.8 TI Depth 16.9
	17				5	Pull # 5. START 10.35 End 10.50 Time 15 Drl 15 Ran 3.5 REC 2.6 Loss 0.9 unacc 0
	18					
	19				19.4	
	20					TP & TI Depth 20.4
	21					Pull #6 START 10.00 End 10.11 Time 11 Drl 11 Ran 2.5 Rec 2.5 Loss 0 unacc 0
	22		Cont.			

ENG FORM 1836-A JUN 67 | GPO 1969 OP—328-243 | PROJECT Gallipolis Lock+Dam | HOLE NO. R 9511

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.8 Hole No. L-9511

PROJECT Gallipolis Lock + Dam INSTALLATION ORH-CD SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.5						
			CLS., S. m.h., gr., shy transition 23.0 - 24.0			TP. 22.9
473.8	24				27.7	TI 23.0
						Pull # 7
			Inc., S., r. br., bKn., s/k., 2,2, L.C. brum. 30.9 & 33.8			START 10.21
						End 10.34
						Time 13
						Drl 13
						Ran 4.5
						Rec 4.5
						Loss 0
						unacc 0
	25					
	26				26.4	
	27					
						TI & TP 27.5
						Pull # 8
	28					START 10.40
						End 10.51
						Time 11
	29					Drl 11
						Ran 3.4
						Rec 3.4
						Loss 0
						unacc 0
	30			30.0		
	31					TI & TP 30.9
						Pull
						START 12.01
						End 12.15
						Time 14
	32					Drl 14
						Ran 2.9
						Rec 0.7
						Loss 2.2
	33					unacc 2.2
464			Bottom Hole	33.8		TI & TP 33.8
	34					

ENG FORM 1836-A JUN 67 GPO 1969 O—329-249

PROJECT Gallipolis Lock + Dam HOLE NO L-9511

Hole No. R-95/2

DRILLING LOG

Division	ORD
Installation	ORH-CD
Sheet	1 of Sheets
1. Project	GALLIPOLIS LOCK + DAM
2. Location (Coordinates or Station)	MONO R-95 STA 15+66 "A"
3. Drilling Agency	W. G JAQUES
4. Hole No. (As shown on drawing title and file number)	R-95/2
5. Name of Driller	STEVE FRYE
6. Direction of Hole	☑ Vertical ☐ Inclined _____ Deg. From Vert.
7. Thickness of Overburden	0 498.1
8. Depth Drilled into Rock	464
9. Total Depth of Hole	34.1
10. Size and Type of Bit	4 5/8"
11. Datum for Elevation Shown (MSL or USC&GS)	M.S.L.
12. Manufacturer's Designation of Drill	B-53 MOBILE
13. Total No. of Overburden Samples Taken	Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes	10
15. Elevation Ground Water	N/A
16. Date Hole	Started 10-10-89; Completed 10-11-89
17. Elevation Top of Hole	498.1
18. Total Core Recovery for Boring	34.1 ft
19. Signature of Inspector	JET

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
498.1			SS, m.g., m.h., sta. buff. ve bkn.			Pull #1
497.6			CLS/SLS			START 10:16
	1		S. m.h, m.-dk gr. pky			END 10:25
			SKY, vc.s, cls gr w/			TIME 9
	2		Sh.			Drl 9
					1	Ran 5.0
	3					REC 4.7
						LOSS 0.1
	4					unacc
					3 B	
	5					TI Depth 4:8
						TP Depth 5.0
	6					Pull #2
						START 10:30
	7				2	END 10:41
						TIME 11
	8					Drl 11
						Ran 4.8
	9				3	REC 5.0
						unacc
	10		(CONT)			TI ETP Depth 9.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Lock + Dam | HOLE NO. R-95/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.1 | Hole No. R 95/2

PROJECT GALLIPOLIS Lock + DAM | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH 10 b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
487.5						Pull #3
	11		SS., sly., fig. m.h., m. gr. w/o.c. CLS/SLS lenses hor. ptgs (max. 0.4) 10.6-12.7 w/cly. coz.		11.0	START 11:58 End 12:08 Time 10 Drl 10 Ran 4.6 REC 4.7 LOSS 0 UNACC 0
	12					
	13				4	
	14					TI Depth 14.3
483.4					14.5	TP Depth 14.5
	15		CLS/SLS, shy., s., dk. gr. w/cl. coz. ptgs.			Pull #4 START 7:35 End 7:45 TIME 10 Drl 10 RAN 5.1 REC 4.7 LOSS 0 UNACC 0
482.4						
	16		SS., ve. sly., f.g., m.h. w/shy SLS. EOS.		5	
	17					
	18				18.1	
479.2						
	19		SLS., m.h., m.gr., sly. dng. slk. ptgs @ 20.3.; shy ptgs (max piece 0.3) grading into			TI Depth 19.3 TP Depth 19.5
	20				6	Pull #5 START 7:55 End 8:05 Time 10 Drl 10 Ram 3.9 REC 4.3 LOSS 0 UNACC 0
	21					
	22		(CONT)		21.8	(CONT)

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS Lock + DAM | HOLE NO. R-95/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.1 | Hole No. R95/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22					
475.7						
			CLS., gr, S. Ve. S.; (max piece 0.2) hyx cl. co2./fld ptgs			
	23					TI Depth 23.4
						TD Depth 23.6
					7	Pull # 6
	24					START 8:12
						End 8:23
						Time 11
						Drl 11
	25					Ran 5.2
						Rec 5.0
					25.4	Loss 0
						Unacc 0
472.3						
	26		ICL. gr. r. br, bkn, slk, S.			
	27				8	
	28					
						TI & TP Depth 28.6
	29					Pull # 7
					29.1	
						START 8.27
						End 8:38
	30					TIME 11
						Drl 11
						Ran 5.0
						Rec 5.0
						Loss 0
	31					Unacc 0
					9	
	32					
	33				32.9	
						TI & TP Depth 33.6
463.4	34		CONT			

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock + Dam | HOLE NO. R-95-2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 498.1 | Hole No. R 95/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34					Drill #8
					10	START 8:40
						End 8:50
						Time 10
						Drl 10
						Ran 1.3
						REC 1.1
						Loss 0
						Unacc 0
463.4			BOTTOM HOLE.		34.7	TI Depth 34.6
	35					TP Depth 34.9

ENG FORM 1836-A JUN 67 | GPO 1969 O-F—329-843 | PROJECT Gallipolis Lock & Dam | HOLE NO. B-95-2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | Hole No. R-28/1 | SHEET 1 OF SHEETS

1. PROJECT: Gallipolis Lock
2. LOCATION (Coordinates or Station): mono STA. 14+26 "8"
3. DRILLING AGENCY: W G Jaques
4. HOLE NO. (As shown on drawing title and file number): R-28/1
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 492.8
8. DEPTH DRILLED INTO ROCK: 43.8
9. TOTAL DEPTH OF HOLE: 448.0
10. SIZE AND TYPE OF BIT: 4X5 1/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A | UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-7-88 | COMPLETED 12/7/88
17. ELEVATION TOP OF HOLE: 492.8
18. TOTAL CORE RECOVERY FOR BORING: 43.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
491.9	1		SS. lt gr. mod hd. med f gr.			START 11:7 Pull #1 End 11:52 Time 45 Drl 15 Ran 2.0 Rec 2.0 Loss 0
	2		ICL. r. br, s to v.s., Mot. w/g + gr.g. cl -11.9 : 491.9 490.3 + fatty @ 491.9 -491.8 Mech bkn @ 490.8 -490.6 Poss. Loss		1	TI ETD 2.0
	3					START 12:25 Pull #2 End 12:39 Time 10 Drl 10 Ran 3.2 Rec 1.4 Loss 0.5 Unacc 0.8
488.6	4				3.2	TP Depth 4.2 TI Depth 4.4
	5		SLS: g. to gn gr, soft. to mod hd. grad. w/sh @ top to s @ bottom Sev mech bkn w/loss 488.6-488.0, 486.1-485.8 Slk 486.1-485.7 ni ang break @ 486.9 To 486.6 Clay seam @ 481.8, 479.9 f.g. SS intbdd w/SLS below 480.7 CL. seam 477.1-477.0 bkn w/CL coating 476.5 476.4			Pull #3 START 12:48 End 1:02 Time 14 Drl 14 Ran 4.8 3.0
	6				2	Rec 0.5 Unacc 0.5
	7					TP Depth 7.0
	8				7.6	TI Depth 7.4
	9					Pull #4 START 1:16 End. 1:36 Time 20 Drl 20 Ran 3.9
	10				3	Rec. 4.0 Loss 0 Unacc 0
	11				11	TI Depth 11.3 TP Depth 10.9
	12					Pull #5 START 1:51 End 2:07 Time 16 Drl 16 Ran 3.4 3.3
	13				4	Rec 0 Unacc 0
	14				14.4	TI Depth 14.6 TP Depth 14.7
	15					Pull #6
	16					START 2:36 End 3:12 Time 36 Drl 22 Ran 9.2 9.3
475.8	17				5	Rec 9.2 Loss
	18		SS gr. to lt gr. mod. hd. Med to f. gr. mic, gr. contact w/SLS, c w/depth occ x-bdd. bkn pl w/CL coating 474.0 - 473.7 475.4, 474.8. 462.5? 471.0? @ Small Amount		17.6	
	19				6	
	20				(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-28/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 491.8 Hole No. R-28 1/

PROJECT Gallipolis Lock & Dam INSTALLATION ORN - CD SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	
	22				22	
	23					
	24				7	TP Depth 23.6 TI Depth 29.9 Pull #7 START 7:35 End 7:55 Time 20 Drl 20 Ran *6.7 6.9 Rec 6.9 Loss 0 Unacc 0
	25				25.5	
	26					
	27					
	28				8	
	29				29.2	
	30					TP Depth 30.2
	31				9	TI Depth 30.8 Pull #8 START 8:14 End 8:30 Time 16 Drl 16 Ran 8.8 Rec 8.9 Loss 0 Unacc 0
	32					
	33				32.7	
	34					
	35				10	
	36					
	37				36.4	
	38					
	39				11	TP - 39.0
	40					TI Depth 39.6
	41				40.0	Pull #9 START 8.52 End 9:03 Time 11 Drl 11 Ran * 4.6 6.9 Rec 4.2 Loss 0 Unacc 0
	42				12.	
	43					
449.2						
449.0					43.6	TP Depth 43.6
						TI Depth 46.5

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam HOLE NO. R 28/1

Hole No. R 28/2

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 5 SHEETS
	ORD	ORH-CD	

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mono · R28 STA. 13.94. "B"
3. DRILLING AGENCY: W. G. Jaques
4. HOLE NO. (As shown on drawing title and file number): R 28/2
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 - 492.6
8. DEPTH DRILLED INTO ROCK: 43.6
9. TOTAL DEPTH OF HOLE: 43.6
10. SIZE AND TYPE OF BIT: 4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B 53 Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-6-88; COMPLETED 12/16/88
17. ELEVATION TOP OF HOLE: 492.6
18. TOTAL CORE RECOVERY FOR BORING: 43.6 %
19. SIGNATURE OF INSPECTOR: ET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
492.6	1		SS lt gr. mod hd. med. to f gn. sli mic nve sh frags. blow 491.9		1	Pull # 1 START 12:50 Loss -02 End 1:16 Unacc 0.2 Time 26 Drl 26 Ran 2.4 Rec 2.4 TI ETP Depth 2.4
490.5	2					
	3		ICL r br., s. mot. w/q & gr. CL.		3.7	Pull #2 START 1:30 Loss 0.2 End 1:43 Unacc 0.2 Time 13 Drl 13 Ran 1.3 Rec 1.6 TP Depth 3.7 TI Depth 4.2
	4					
487.3	5					
	6		S.S. interbedded M. g: 490.5 to 489.7 fatty CL 490.5 490.1		2	Pull #3 START 2:05 End 2:19 Time 14 Drl 14 Ran 2.3 Rec 1.3 Loss 0 Unacc 0 TP Depth 5.5 TI Depth 6.5
	7		SLS. g. to gn. gry S to mod hd. gradational w/ sl @ top to sandy @ bottom, Sandy below 484.3 CL.: 487.1 - 486.9		6.9	Pull #4 START 2:37 Ran 1.2 End 2:45 REC 1.3 Time 8 Drl 8 Loss 0 Unacc 0 TP Depth 6.9 TI Depth 7.3
	8		Slk 486.9			
	9		CL. seam @ 478.8. ~ 0.05 Thick		3	Pull 5 START 3:01 End 3:16 Time 15 Drl 15 Ran 3.9 Rec 4.1 Loss 0 Unacc 0
	10		SS f g inbdd. below 482.8 gradational (mich) bk @ 478.5 - 478.7		10.6	TP Depth 10.6 TI Depth 10.9
	11					
	12					Pull #6 START 3:31 End 3:46 Time 15 Drl 15 Ran 3.4 Rec 3.2 Loss 0 Unacc 0
	13				4	
	14				14.1	TP Depth 14.1 TP Depth 14.0
	15					Pull #7 START 7:15 End 7:42 Time 27 Drl 2.7 Ran 5.0 Rec 5.0 Loss 0 Unacc 0
	16				5	
475.2	17					
	18		SS.		17.7	
	19				6	TI Depth 19.1 TP Depth 19.0
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R 28/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 492.6 | Hole No. R 28/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH - CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS. g. to lt g., mod Rd. med to f. gr. mic., occ x bdd, gradational contact. With SLS, coarser w/depth. lt. f staining @ 465.7 mech bkn (rounded) 463.7 463.5		21.2	Pull # 8 START 8:12 End 8:55 Time 23 Drl 23 Ran 9.9 Rec 9.8 Loss 0 Unacc 0
	22				7	
	23					
	24				24.7	
	25					
	26				8	
	27					
	28				28.3	
	29					TI Depth 29.0 TP Depth 28.9 Pull # 9
	30				9	START 9.02 End 9.23 Time 21 Drl 21 Ran 9.5 Rec 9.5 Loss 0 Unacc 0
	31				31.5	
	32					
	33					
	34				10	
	35				35.1	
	36					
	37				11	
	38				38.4	TI Depth 38.5 TP Depth 38.5 Pull # 10
	39					START 9:49 End 9:59 Time 10 Drl 10 Ran 7.1 Rec 7.1 Loss 0 Unacc 0
	40				12	
	41					
	42				42.2	
	43				13	
	44		(CONT)			(CONT)

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-343 | PROJECT Gallipolis Lock & DAM | HOLE NO. R 28/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 492.6

Hole No. 28/2

PROJECT: Gallipolis Lock & Dam

INSTALLATION: ORH-CD

SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	45				13	
447.1			Bottom Hole		45.2	
	46					TD Depth 45.5
	47					TD Depth 45.5

ENG FORM 1836-A
JUN 67

GPO 1969 OP—329-243

PROJECT: Gallipolis Lock & Dam

HOLE NO. R28/2

DRILLING LOG

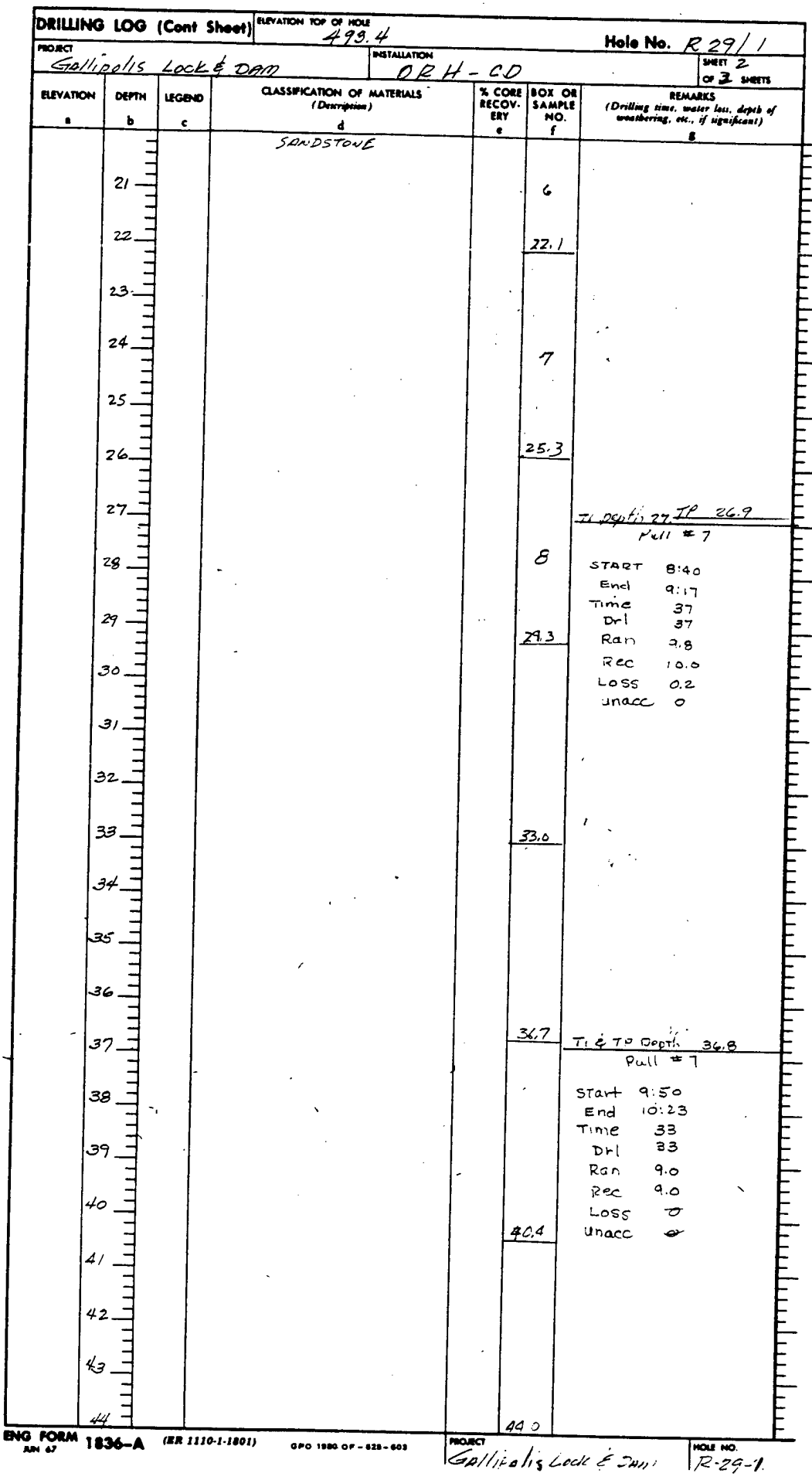
DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Mono R29/1 STA. 13+84 "B"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R29/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 493.4
8. DEPTH DRILLED INTO ROCK: 44.4
9. TOTAL DEPTH OF HOLE: 444
10. SIZE AND TYPE OF BIT: 4" X 5 1/2"
11. DATUM FOR ELEVATION SHOWN (MSL or USL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-5-88; COMPLETED 12-5-88
17. ELEVATION TOP OF HOLE: 493.4
18. TOTAL CORE RECOVERY FOR BORING: 44.4 %
19. SIGNATURE OF INSPECTOR: J.E.T.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	1		SS lt gr. mod hd med. to f. g small sh. freq. thru. out sh. len. 493.0 -492.5			Pull #1 START 1.05 End 1.28 Time 23 Drl 23 Ran 3.2 Rec 2.6 Loss 0.6 Unacc 0.6
490.7	2				1	TI & TP Depth 3.2
	3		ICL. r. bn. S. mot w/gr. & gn gr. cl lt. gr. fatty cl. 490.7 - 490.6			Pull #2
488.6	4				4.0	START 9.47 End 1.52 Time 5 Drl 5 Ran 2.2 Rec 2.2 Loss 0 Unacc 0
	5				2	TP 5.8
	6		SLS. gr to. gn. gr. & to. mod hd. grad. hd. sh. @ top to. S. @ bot. BKn 488.0 - 486.9 SLK 488.0 - 481.4 S. blow 483.7 redrl 483.7 - 482.7 Sh. & lt. bKn @ 478.2 477.3 - 477.1			TI Depth 5.4 Pull #3 Ran 1.1 Rec 1.1 START 2.09 End 2.10 Time 6 Drl 6 Loss 0 Unacc 0 TP 6.5
	7					TI Depth 9
	8				7.4	Pull #4 START 2.20 End 2.28 Time 8 Drl 8 Ran 3.2 Rec 3.2 Loss 0 Unacc 0
	9				3	
	10					TP 9.7
	11					TI Depth 10.6
	12				11.1	Pull #5 START 2.38 End 3.00 Time 22 Drl 22 Ran 7.3 Rec 7.3 Loss 0 Unacc 0
	13				4	
	14					
	15				19.8	
477.3	16					
	17		SS. gr to lt gr. mod. hd. med to f g, gn. cont. w/SLK mic occ. x-bdd jt 30° ang. @ 477.2 - 477.0 f bond. of Biotite, mica @ 451.5 449.5 - 449.8 (mic bdd. pl)		5	TI Depth 17.2 TP 17.0
	18					Pull #6 START 7.43 End 8.08 Time 25 Drl 25 Ran 10.0 Rec 10.0
	19				18.4	
	20		(CONT)		6	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R 29-1



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 499.4
Hole No. R 29/1
PROJECT Gallipolis Lock & DAM
INSTALLATION ORH-CD
SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SANDSTONE		6	
	22				22.1	
	23					
	24				7	
	25					
	26				25.3	
	27					TI Depth 27 TP 26.9 Pull # 7
	28				8	START 8:40 End 9:17 Time 37 Drl 37 Ran 9.8 Rec 10.0 Loss 0.2 Unacc 0
	29				29.3	
	30					
	31					
	32					
	33				33.0	
	34					
	35					
	36					
	37				36.7	TI & TD Depth 36.8 Pull # 7
	38					Start 9:50 End 10:23 Time 33 Drl 33 Ran 9.0 Rec 9.0 Loss 0 Unacc 0
	39					
	40				40.4	
	41					
	42					
	43					
	44				44.0	

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603
PROJECT Gallipolis Lock & Dam
HOLE NO. R-29-1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.4 | Hole No. R 29/1

PROJECT: Gallipolis Locks & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	45				13	
	46				46.0	TL Depth 45.9 TP 45.8
447.4	47		Bottom Hole			
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1990 OF-629-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. R29-1

Hole No. R 29/2

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	ORD	ORH-CO	

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Wen. 29 Sta. 13+52 B
3. DRILLING AGENCY: W G Jaques
4. HOLE NO. (As shown on drawing title and file number): R 29/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 493.7
8. DEPTH DRILLED INTO ROCK: 44.7
9. TOTAL DEPTH OF HOLE: 44.7
10. SIZE AND TYPE OF BIT: 4 x 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B 53 Moible
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 12-2-88; COMPLETED 12-5-88
17. ELEVATION TOP OF HOLE: 493.7
18. TOTAL CORE RECOVERY FOR BORING: 44.7 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
492.3	1		SS lt gr. med hd., Med to f.g., mic. bkn., @ 493.1 - 492.8.			Pull #1 START 2.00 End 2.21 Time 21 Drl 21 Ran 3.2 Rec 2.3 Loss -0.9 unacc 0.9
	2		ICL. r. br. S. mot. lt gr. a gr. cl. 11. 492.3. 491.8 mech. bkn. 490.5. 490.1		1	
	3					TI & TP Depth 3.2
	4				4.2	Pull #2 START 7.45 Loss 0.6 End 8:02 unacc 0.6 Time 17 Drl 17 Ran 2.7 Rec 2.1
488.4	5					TI & TP
	6		SLS gr. to. gn. gr. s. to med. hd. grad. w/sh. @ top to Ss. @ bottom, occ fe nod. above el. 487.5 mech. spin loss: 488.4, 488.1 487.8, 486.1, bkn. bkn. 486.5-486.3, 485.4 485.0, 479.0. 478.7 bkn. pl. ~ 0.4 "open jt. thr. out el. Seams 480.4. 480.2, 478.1-476.6 re. drill 480.4-480.1		2	Pull #3 START 8.20 End 8:31 Time 11 Drl 11 Ran 3.9 Rec 3.8 Loss 0 unacc 0
	7					
	8				8.3	TP 8.7
	9					
	10					TI Depth 9.8
	11				3	Pull #4 START 8.50 End 9.05 Time 15 Drl 15 Ran 3.6 Rec 3.6 Loss 0 unacc 0
	12				11.7	
	13					
	14					TI & TP Depth 13.3
	15				4	Pull #5 Start 9:32 End 9:43 Time 32 Drl 22 Ran 4.7 Rec 4.7 Loss 0 unacc 0
477.5	16				15.3	
	17		SS gr to lt. gr med. hd. f. to med. gn. grad. Con. w/SLS mic. mech. bkn. 466.2. 459.9. Spin loss 476.2 bkn w/ poss cl coating 457.2 bkn. pl with Spacing 0.2' 456.5 - 447.4 (2.9' Loss)		5	
	18					TI Depth 18.0 TP 18.2
	19				18.7	Pull #6
					6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO. R 29/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.7 | Hole No. R29/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SANDSTONE		6	Pull # 6
					21.0	START 10.20 End 10.34 Time 14 Drl 14 Ran 4.5 Rec. 4.8 Loss 0 Unacc 0 TP. 22.5
	23				7	TI Depth 23.2
						Pull # 7
	24				24.4	START 10.47 End 11.01 Time 14 Drl 14 Ran 5.0 Rec 5.0 Loss 0 Unacc 0
	26				8	TP. 27.5
	28				28.1	TI Depth 28.0
						Pull # 8
	29					START 12.30 End 2:18 Time 1.48 Drl 18 Ran 3.8 Rec 2.7 Loss. 0.8 Unacc 0.8
	30				9	TP 31.3
	31				31.6	TI Depth 31.9
	32					Pull # 9
	33					START 2.42 End 2.57 Time .15 Drl 15. Ran 5.9 Rec 5.0 Loss. -0.9 Unacc 0.9
	34				10	
	35				35.5	
	36					
	37					TP 37.2
	38				11	TI Depth 37.4
						Pull # 10
	39				39.2	START 8:00 End 9:00 Time 1 hr Drl 1 hr Ran 9.2 Rec 6.3 Loss - 2.9 unacc - 2.9
	40					
	42				12	
	43				42.8	
	44				13	
449.0					cont'd	

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: Gallipolis Lock & Dam | HOLE NO. R29/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 493.7 **Hole No.** R29/2

PROJECT Gallipolis Lock & Dam INSTALLATION ORH-CD SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
					45.3	PULL #10
447.4	46		BOTTOM HOLE			TP 46.8
	47					TI Depth 46.8

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-620-603

PROJECT Gallipolis Lock & DAM HOLE NO. R29/2

Hole No. R-30/1

DRILLING LOG

DIVISION: ORD

INSTALLATION: O.R.H - CO

SHEET 1 OF 2 SHEETS

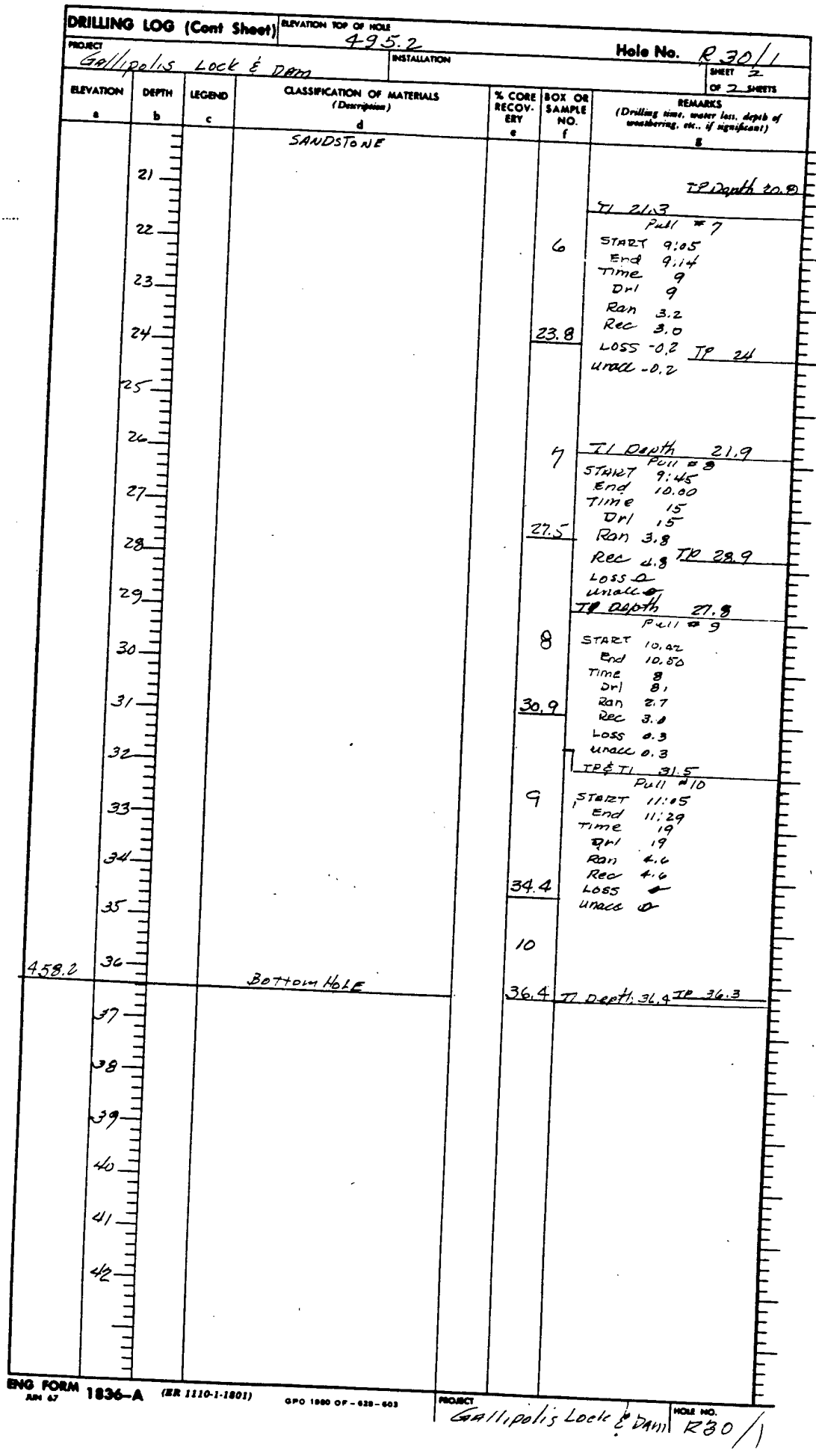
1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mon R30 Sta. 13+42 "B"
3. DRILLING AGENCY: W-G Jagues
4. HOLE NO. (As shown on drawing title and file number): R30
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 495.2
8. DEPTH DRILLED INTO ROCK: 35.2
9. TOTAL DEPTH OF HOLE: 35.2
10. SIZE AND TYPE OF BIT: 4X 5 1/2
11. DATUM FOR ELEVATION SHOWN (MSL or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 57
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 12-2-88; COMPLETED 12/2/88
17. ELEVATION TOP OF HOLE: 495.2
18. TOTAL CORE RECOVERY FOR BORING: 35.2 %
19. SIGNATURE OF INSPECTOR: mike neal ET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.2	1–4		SS lt. gr. med hd. med f gr. mic. sh seam w/c/ coating @ 494.4 - 494.3 cl. coated frac. 494.0, 492.5 lt. bkn. sh. bdd @ 491.3. 491.1		1	Pull #1 START 8:45 End 9:00 Time 21 Drl 21 Ran 3.0 Rec 3.0 Loss 0 unacc 0 T I & TP Depth 3.0
490.4	5–8		INC r. br. s. occ mot w/ g @ gn. gr. cl. occ lt gr. cls freq, gr. cls @ 489.7-489.1 sev. bkn. + Washed 490.4 - 489.7 · 489.1		2	Pull #2 3.5 START 9:45 End 10:13 Time 28 Drl 28 Loss 0 unacc 0 T I & TP 5.0 Pull #3 START 10:45 End 11:12 Time 29. Drl 17 Ran 2.2 Rec 2.2 Loss 0 unacc 0 TP & TP 7.2
489.9	8–16		SLS. gr. to gn., s to med hd. gradational w/sh @ top to s @ bottom. occ small slk above 485.3 Se below 485., sh. seam @ 479.5 & 479.1		3 4	7.4 Pull #4 START 11:35 End 11:56 Time 21 Drl 21 Ran 4.0 Rec 4.0 Loss unacc 11.1 T I & TP Depth 11.1 Pull #5 START 1.05 End 1.28 Time 23 Drl 23 Ran 4.9 Rec 4.9 Loss 0 unacc 0 14.4 TP 16.1
478.6	17–19		SS gr. to lt. gr., med hd. f to med. g gradational c. w/depth, occ x. bdd pl mic., mech. bkn @ 474.4 - 474.2 30° ang. Pl. @ 479.1 to 497.0., Bands 0.04 sh. & Bottle mica 459.8 - 459.2		5 6	T I Depth 16.3 Pull #6 START 2.00 End 2.35 Time 35 Drl 24 Ran 4.7 Rec 2.6 Loss 2.6 unacc 2.1 18.1

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam

HOLE NO. R-30/1



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 495.2
Hole No. R 30/1
PROJECT Gallipolis Lock & Dam
INSTALLATION
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SANDSTONE			
	21					TP Depth 20.9
						TI 21.3
	22					Pull # 7
					6	START 9:05
	23					End 9:14
						Time 9
						Drl 9
	24					Ran 3.2
					23.8	Rec 3.0
						Loss -0.2 TP 24
	25					Unacc -0.2
	26					
					7	TI Depth 21.9
						Pull # 8
	27					START 9:45
						End 10.00
						Time 15
	28					Drl 15
					27.5	Ran 3.8
						Rec 4.8 TD 28.9
	29					Loss 0
						Unacc 0
						TP Depth 27.8
	30					Pull # 9
					8	START 10.42
						End 10.50
	31					Time 8
						Drl 8
					30.9	Ran 2.7
	32					Rec 3.0
						Loss 0.3
						Unacc 0.3
	33					TP & TI 31.5
						Pull # 10
					9	START 11:05
	34					End 11:29
						Time 19
						Drl 19
						Ran 4.6
	35				34.4	Rec 4.6
						Loss 0
						Unacc 0
					10	
458.2	36		BOTTOM HOLE		36.4	TI Depth 34.4 TP 36.3
	37					
	38					
	39					
	40					
	41					
	42					

ENG FORM 1836-A (ER 1110-1-1801) GPO 1980 OF - 628 - 603
PROJECT Gallipolis Lock & Dam HOLE NO. R30/1

DRILLING LOG | DIVISION: ORH | INSTALLATION: ORH - CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mono R30 STA. 13+10 "B"
3. DRILLING AGENCY: W & Jaques
4. HOLE NO. (As shown on drawing title and file number): R 30/1
5. NAME OF DRILLER: A Tice
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.4
8. DEPTH DRILLED INTO ROCK: 36.4
9. TOTAL DEPTH OF HOLE: 4.60
10. SIZE AND TYPE OF BIT: 4 7/8 S
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B57 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-8-88; COMPLETED 12-9-88
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 36.4 %
19. SIGNATURE OF INSPECTOR: Mike Neal RET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4	1–6		SS lt.gr, mod hd., med to coarse gr, slightly mic, - mech. bkn. 492.7 492.5		1	Pull #1 START 1.36 End 1.55 Time 19 Drl 19 Ran 4.8 Rec 4.8 Loss 0 Unacc 0
490.9	6–9		Inc. mus. sm. sh. frag. & stringer below 492.5 ICL r. br., S. mot w/gr & gn gr. CL mech. brn @ 490.3 490.2 Ser. bKn @ 488.7 487.4 - 487.1		3.7 2 7.2 3	TI Depth 4.8 TP Depth 4.7 Pull # 2 START 2.04 Ran 1.1 End 2:10 Rec 1.3 Time 6 Loss 0 Drl 6 TI Depth 5.9 TP Depth 6.1 Pull #3 START 2.31 End 2.48 Time 17 Drl 17 Ran 3.8 Rec 3.8 Loss 0 unacc 0
486.8	9–17		SLS gr. to gn gr. S to mod. hd. grad. w/ sh. @ top to s. @ bottom bKn. 485.6 - 485.3 . sh. lense : 480.5 - 480.3		4 10.8 14.7 5	TP Depth 9.9 TI Depth 10:08 Pull #4 START 2.59 End 3.31 Time 32 Drl 32 Ran 8.2 Rec 8.6 Loss 0 Unacc 0
479.4	17–20		SS. gr. to lt. gr. mod hd. med. to f. g., mic., gradational contract w/ SLS, occ. x bdd bKn 473 - 472.9		18.4	TP Depth 18.6 TI Depth 18.6 Pull # 5 cont. next Page

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam, HOLE NO. 30/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. R-30/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		num mica bdol. p/. 468.2 468.1			Pull # 5
	22		num. sh. Stringers & Frag. 464.0 - 463.8		6	START 7:29 End 8:14 Time 45 Drl 45 Ran 7.4 Rec 7.3 Loss 0 unacc 0
	23				22	
	24				7	
	25					
	26				25.6	TP Depth 25.5 TI Depth 25.9
	27					Pull # 6
	28				8	START 8:32 End 9.04 Time 32 Drl 32 Ran 9.4 Rec 9.3 Loss 0 unacc 0
	29				28.9	
	30					
	31				9	
	32					
	33				32.9	
	34					
	35				10	TP Depth 34.9 TI Depth 35.2
459.7	36				36.5	Pull #7 START 9:32 Loss 0 End 9:40 unacc 0 Time 8 Drl 8 Ran 2.5
	37					TP Depth 37.4 TI Depth 37.7

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. 30/2

Hole No. R-31/1

DRILLING LOG

DIVISION: ORH

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): mono R31 Sta. 13+00 "B"
3. DRILLING AGENCY: W. G. Jaques
4. HOLE NO. (As shown on drawing title and file number): R-31 R31/1
5. NAME OF DRILLER: DALE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.9
8. DEPTH DRILLED INTO ROCK: 36.9
9. TOTAL DEPTH OF HOLE: 36.9
10. SIZE AND TYPE OF BIT: 4 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B 53 mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-8-88; COMPLETED 12/9/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 36.9 %
19. SIGNATURE OF INSPECTOR: Mike Neal

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1 2 3 4 5 6 7		SS. lt g. mod med. to c gr., sli mic. hi amg., cl f.l. frac. @ 496.3-495.9 sh. frag. & stringers; @ 490.4 - 490.1		1 3.4	Pull 1 START 10.21 End 10.32 Time 11 Drl 11 Ran 4.5 Rec 4.5 Loss 0 Unacc 0 TI&TP depth 4.5
489.9	8 9 10 11		ICL. r.bn, s. to v.s. mot. w/g & gr. g. CL. bk pl. 0'-8" Spacing interbd w/g SLS. below 487.7 sev. bk. @ 487.5 - 487.4.		2 6.7 3 10.2	Pull #2 START 10.52 End 10.58 Time 6 Drl 6 Ran 3.5* 2.6 Rec 2.5 Loss 0 Unacc 0 TI Depth 7.1 TP Depth 7.0 Pull #3 START 11.11 End 11.18 Unacc 0 Time 7 Drl 7 Ran 2.2 Rec 2.2 1 Loss 0 TI Depth 9.3 TP Depth 9.2 Pull #4 START 12.15 End 12.35 Time 10 Drl 10 Ran 2.5 Rec 2.4 Loss 0 unacc 0 TI Depth 11.6 TP Depth 11.8
479.4	12 13 14 15 16 17		SLS. g to gr., g. s to not hd. gradatnal w/ sh. @ top. to s @ bottom CL. starts @ 481.7 & 481.6 CL. coated pl. @ 480.8		4 13.7 5 17.3	Pull #5 START 12:40 End 12:50 Time 10 Drl 10 Ran 2.5 Rec 2.5 Loss 0 unacc 0 TP Depth 14.0 TI Depth 14.5 Pull #6 START 1.09 End 1.25 Time 14 Drl 14 Ran 6.0 Rec 5.7 Loss 0.2 Unacc 0.2
	18 19 20		SS g. to lt g., mod. med. to f grain, mic. occ x bdd, gradational contact w/SLS thin sh. frag. @ 461.3 460.0		6	TP Depth 20.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO. R-31/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.9

Hole No. R 31/1

PROJECT: Gallipolis Lock & Dam

INSTALLATION: ORD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SANDSTONE			TI Depth 20.3 Pull #7
	22				21.2	START 1:42 End 1:56 Time 14 Drl 14
	23				7	Ran 9.0 Rec 9.0 Loss 0 Unacc 0
	24				24.7	
	25					
	26				8	
	27					
	28				28.3	
	29					TP Depth 29.0
	30				9	TI Depth 29.3 Pull #8
	31					START 2:16 End 2:32 Time 16 Drl 16
	32				31.5	Ran 9.6 10.0 Rec 9.6 Loss 0 Unacc 0
	33					
	34				10	
	35				35.1	
	36					
460	37		BOTTOM HOLE			
	38					TI Depth 38.6
	39					TP Depth 39.6
	40					
	41					
	42					
	43					

ENG FORM 1836-A JUN 67

GPO 1969 OF—329-243

PROJECT: Gallipolis Lock & Dam | HOLE NO. R 31/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): MONO R-31 STA 12+54 "B"
3. DRILLING AGENCY: W. G Jaques
4. HOLE NO. (As shown on drawing title and file number): R 31-2
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.9
8. DEPTH DRILLED INTO ROCK: 36.9
9. TOTAL DEPTH OF HOLE: 36.9
10. SIZE AND TYPE OF BIT: AXS/L
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: " 57 - "B"
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: Na; UNDISTURBED: Na
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: Na
16. DATE HOLE: STARTED 12-9-88; COMPLETED 12/9/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 36.9 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1–7		SS lt gr med to c., g. slightly mic. occ. x-bdd nus. t. sh stringer & frag. 490.5 - 489.2		1	Pull #1 START 10:35 End 10:48 Time 13 Drl 13 Ran 4.7 Rec 4.7 Loss 0 Unacc 0
					3.7	TI Depth 4.9 TP 4.7
489.2	8–10		ICL r. br., s. mot, w/gr & gn gr. cl mach. bkn. 489.2 488.9		2	Pull #2 START 1100 End 1105 Time 5 Drl 5 Ran 3.1 Rec 2.9 Loss 0.2 Unacc 0.2
					7.3	TP 7.8 TI Depth 8.1
486.8	10–18		SLS. gr. to gn. gr. s. to mod. hd. grad. w/sh. @ top to s. @ bottom mach. bkn. @ 485.7 - 485.6 mach. bkn. & Spin 484.7 - 484.0 f. g. SS 482.2 - 481.8 bkn. sh. 481.0 - 480.6		3	Pull #3 START 11.17 End 11.34 Time 27 Drl 27 Ran 3.4 Rec 3.1 Loss 0.3 Unacc 0.3
					10.9	TP 11.2
					4	TI Depth 12.9 Pull #4 START 12.19 End 12.44 Time 25 Drl 2.5 Ran 7.7 REC 7.7 Loss 0 Unacc 0
					14.3	
					5	
					17.9	
478.5	18–19				6 (CONT)	TI Depth 19.0 TP 18.9 Pull #5 Cont'd

Cont next sheet

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R31-2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. R 31 / 2

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS. gr. to lt gr. med hd. med to f. gr. mic. occ x-bdd Num + bands of Biolite mic bdd pl. 459.4. 459.3. 458.6 458.2		4	Pull #5
	22				21.4	START 12.55 End 1.32 Time 37 Drl 37 Ran 9.8 Rec 9.9 Loss ~ Unacc 0
	23					
	24				7	
	25				25.3	
	26					
	27				8	
	28					
	29				28.8	TI Depth 28.5 TP 28.7
	30					Pull #6
	31					START 1.59 End 2.12 Time 21 Drl 21 Ran 10.0 Rec 9.9 Loss 0 Unacc 0
	32				9	
	33				32.6	
	34					
	35				10	
	36					
460.0	37				36.4	
	38				11	
458.2	39		Bottom Hole		38.7	TI Depth 38.9 TP 38.7
	40					
	41					
	42					
	43					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. R 31 / 2

DRILLING LOG

DIVISION: ORD
INSTALLATION: CRH
SHEET 1 OF SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Sta -12+44 B
3. DRILLING AGENCY: W.G Jagues
4. HOLE NO. (As shown on drawing title and file number): R-32/1
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: ∅ 496.9
8. DEPTH DRILLED INTO ROCK: 36.9
9. TOTAL DEPTH OF HOLE: 36.9
10. SIZE AND TYPE OF BIT: 4 x 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 53
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-9-88; COMPLETED 12/10/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 36.9 %
19. SIGNATURE OF INSPECTOR: Mike Neal / ET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SS lt. gr. med hd. f. to SS med g., slightly mic, occ. coarse gr.		1	Pull #1 START 7.25 End 7.45 Time 20 Drl 20 Ran 5.1 Rec 4.6 Loss 0 Unacc 0
	2				3.5	IP Depth 4.6
	3					TI Depth 5.1
	4				2	Pull #2 START 7.35 End 8:03 Time 7 Drl 7 Ran 2.8 Rec 2.9 Loss 0 Unacc 0
	5				6.9	
	6					TI Depth 7.7 TP 7.5
	7					Pull #3
489.4	8		CL seam @ 489.4 ICL, r. br., s mot. w/g & gr. g. cL. lt. g. fatty CL 489.4 - 489.1		3	START 8.36 End 8.47 Loss. 0.2 Time 11 Unacc 0.2 Drl 11 Ran 2.3 Rec 2.0
	9				10	TI Depth 9.8 TP 9.7
487.4	10		SLS g. to gr. g.; s to med. hd. gradational w/sh @ top to Sandy @ bottom. sev mac. bkn 487.2 - 486.9 w/ poss loss bkn pl w/spin Loss 485.9 485.5 CL seam @ 482.6			Pull #4 START 9:05 End 9:02 Time 15 Drl 15 Ran 3.3 Rec. 2.7 Loss 0.5 Unacc 0.5
	11				4	TI Depth 13.0 IP 12.9
	12					Pull #5
	13				13.8	START 9:40 End 10.01 Time 21 Drl 21 Ran 4.6 Rec 4.8 Loss 0 Unacc 0
	14					
	15				5	
	16					
	17				17.5	Tp 17.5
	18					TI Depth 17.9
480.5						Pull #6
	19		SANDSTONE		6	
	20		(cont)		(cont)	(cont)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam
HOLE NO.: R 32/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R32/1

PROJECT Gallipolis Locks & Dam | INSTALLATION ORHCD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS gr to lt gr, mod hd., f to med g, mica., occ x bedded, gradational Contact w/ SLS.		20.8	Pull # 6
	22					START 10.23
	23		CL coated angled pl, ~30° @ 476.9 to 476.8		7	End 10.46
	24		white nodual (poss Cal ?)			Time 23
	25		@ 468.5		24.5	Drl 23
	26					Ran 10.0
	27				8	Rec 9.9
	28					Loss 0
	29				28.1	Unacc 0
	30					TI Depth 27.7 TP 27.5
	31				9	Pull # 7
	32				31.7	START 11:06
	33					End 11:26
	34					Time 20
	35				35.2	Drl 20
460.0	36					Ran 10.0
459.4	37		BOTTOM HOLE		37.5	Rec 9.9
	38					Loss
	39					Unacc
	40					TP Depth 37.9
	41					TI Depth 37.7
	42					
	43					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-343

PROJECT Gallipolis Lock & Dam | HOLE NO. R32/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA 1240 "B"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R 32/2
5. NAME OF DRILLER: DAUGHADEN
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.3
8. DEPTH DRILLED INTO ROCK: 36.3
9. TOTAL DEPTH OF HOLE: 38.
10. SIZE AND TYPE OF BIT: 4 x 5 1/2"
11. DATUM FOR ELEVATION SHOWN (MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 57 Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: NA; UNDISTURBED: NA
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 12-9-88; COMPLETED 12-10-88
17. ELEVATION TOP OF HOLE: 496.3
18. TOTAL CORE RECOVERY FOR BORING: 36.3 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			SS lt. gr., mod. hd, med C.g, occ thin sh stringer			Pull #1 START 3:04 End 3:10 Time 6 Drl 6 Ran 4.1 Rec 4.1 Loss 0 unacc 0
	1				1	
	2					
	3					
	4				3.7	TI & TP Depth 4.1
	5					Pull #2 START 3.26 End 3.80 Time 4 Drl 4 Ran 2.5 Rec 2.3 Loss 0 unacc 0
489.9	6				2	TP Depth 6.4 TI Depth 6.3
	7		INC r-br, s. mod. w/gr + gn.gr. cl, lt. gr. : 489.9 - 489.3		7.0	Pull #3 START 7:31 End 7:40 Time 9 Drl 9 Ran 2.6 Rec 2.6 Loss 0 unacc 0
	8					
	9				3	TI & TP Depth 9.0
486.8						Pull #4
	10		SLS. gr to gn. gr., s to mod. hd. gradational w/sh & top to. s @ bottom Sev bkn w/angled planes (~45°) slickside 480.8 -480.3 (poss fault, poss loss) mack bkn 478.7 - 478.5		10.2	START 8:10 End 8:45 Time 35 Drl 35 Ran 9.0 Rec 8.8 Loss 0.2 unacc 0.2
	11					
	12				4	
	13					
	14				14.0	
	15					
	16				5	
	17				17.6	
	18					TP Depth 18.0
477.3	19				6	TI Depth 18.8
			SANDSTONE (cont)		(cont)	PULL #5 CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO.: R32/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. R32/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS, gr to lt gr, f to med g mic, occ, x bedded gradational contact w/ SLS		6	Pull #5
					21.1	START 9:31
	22		mech spin loss @ 473.4 470.8			End 9:48
						Time 17
	23		mech, broken: 471.2 470.8		7	Drl 17
						Ran 7.5
	24		Dia loss due to re-drilling 461.1 - 460.8			Rec 7.5
						Loss 0
	25		Redrilled 464.8 - 460.8		24.8	Unacc 0
						TP Depth 25.5
	26		11 Colored stringers (pors. Calcareous) @ 459.0			TI Depth 25.8
						Pull #6
	27				8	Start 10:00 10:15-10:56
						End 11:01
	28					Time 1hr & 1min
					28.3	Drl 20
	29					Ran 6.0
						Rec 5.6
	30					Loss 0.4
						Unacc 0.4
	31				9	
						TP Dept 31.5
	32				32.1	
	33					
	34				10	
	35					
						T. Depth 35.7
460.0	36				36.0	Pull #7
						START 11:30
	37					End 11:36
					11	Time 6
						Drl 6
458.3	38		Bottom Hole			Ran 6.0
					38.0	Rec 6.5
						Loss 0
	39					Unacc
						TP Depth 37.5
	40					TI Depth 38.2
	41					
	42					
	43					

ENG FORM 1836-A JUN 67 GPO 1969 O-328-243

PROJECT: Gallipolis Lock & Dam | HOLE NO. R32.2

DRILLING LOG | DIVISION: OAD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA 12+15 "B"
3. DRILLING AGENCY: W. G Jaques
4. HOLE NO. (As shown on drawing title and file number): R33/1
5. NAME OF DRILLER: A. Tice
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.1
8. DEPTH DRILLED INTO ROCK: 460.0
9. TOTAL DEPTH OF HOLE: 37.1
10. SIZE AND TYPE OF BIT: 4x5¼
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B "53"
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-9-88; COMPLETED 12-10-88
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 37.1 %
19. SIGNATURE OF INSPECTOR: [illegible]

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1–8		SS lt. gr. mod hd. med. to coarse g; sl/y mica. sl/ mech. bkn. @ 472.5 472.3 Num thin sh. Stringers & frage. 492.0 - 491.8, 489.7 - 489.4 f. gn. @ 491.8 - 491.3 490.7 - 490.5 Lnq. pl/ 30° @ 490.7 490.7 - 490.5		1	Pull #1 START 12:40 END 12:55 TIME 15 Drl 15 Ran 4.8 Rec 4.6 Loss 0.2 Unacc 0 3.4 TI & TP Depth 4.8
489.0	8–10		ICL. r. br. s. mot. w/gr. & gn. g. cl. lt. g. fatty Cl 489.0 - 488.7 - g SLS 487.1 487.0		2 4.0 3 10.2	Pull #2 START 1:05 END 1:13 TIME 8 Drl 8 Ran 3.3 Rec 3.6 Loss +0.2 Unacc TI Depth 8.2 TP 8.1 Pull #3 START 1:30 End 1:43 Time 13 Drl 13 Ran 2.8 Rec 2.8 Loss 0 Unacc TI Depth 10.5 TP Depth 10.2
486.9	10–19		SLS. gr to gn. gr., s. to med. ha. gradational w/ sh. @ top to sandy @ bottom Sev. Mec. bkn. 486.9-486.6 thin Cl, seams @ Cl Coated pl. w/ Sp. 0.2' apart. 486.3 - 483.7 bkn - 480.2 - 480 f. g. SS 483.7 - 480.7 t. Cl. seam 478.7		4 13.7 5 17.4 6	Pull #4 START 2.07 End 2.21 Time 14 Drl 14 Ran 4.1 Rec 4.0 Loss Unacc TP Depth 14.2 TI Depth 14.5 Pull #5 START 2.34 End 2.51 Time 17 Drl 17 Ran 4.8 Rec 4.8 TP Depth 19.0 TI Depth 19.7
478.0	19–20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R33/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R 33/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: OAR-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SS gr. to lt gr, mod hd. med to f. g, mic, gradational Cont. w/ SLS		6 20.6	Pull #6 START 3.08 End 3.24 Time 16 Drl 16 Ran 9.8 Rec 9.8 Loss ⊖ Unacc ⊖
	22		thin sh. stringers @ 472.8 – 472.6 nus. mic. bdng Pl. w/occ Fe nodules		7	
	23		466.8 - 466.4			
	24				24.4	
	25					
	26				8	
	27					
	28				29	
	29					TI Depth 28.8 TP 28.8
	30					Pull #7
	31				9	START 7:35 End 7.51 Time 16 Drl 16 Ran 9.9 Rec 9.9 Loss ⊖ Unacc ⊖
	32				31.8	
	33					
	34				10	
	35				35.3	
	36					
460.	37				11	
458.4	38		Bottom HOLE			
	39				38.7	TP Depth 38.7
	40					TI Depth 39.2
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1968 OF—329-243

PROJECT: Gallipolis Lock & Dam | HOLE NO. R 33/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH - CD
SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA 11+60 "B"
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): R 33/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.8
8. DEPTH DRILLED INTO ROCK: 36.8
9. TOTAL DEPTH OF HOLE: 36.8
10. SIZE AND TYPE OF BIT: 4 X 5 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 57
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 12-10-88; COMPLETED 12-12-88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 36.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.8	1–7		SS lt.gr. mod. hd., med. to c.g. sli mic mech. bkn. 492.2-491.7 Num thin sh. stringers & frag 490.2 -491.7		1 (3.7)	Pull #1 START 12.55 End 1:01 Time 6 Drl 6 Ran 4.6 Rec 4.6 Loss 0 Unacc 0
489.6					2 (7.2)	TP & TI Depth 4.6 Pull #2 START 1:30 Loss 0 End 1:35 unacc 0 Time 5 Drl 5 Ran 2.6 Rec 2.6 TD 7.2 TI Depth 7.5
486.4	8–10		INC. r. br., s mot. w/q & gn. cl. Hgr 489.6-489.0		3 (10.9)	Pull #3 START 1:43 End 2:00 Loss 0.3 Time 17 unacc 0.3 Drl 17 Ran 9.0 Rec 4.0 TP 11.2 TI Depth 11.5
482.4	11–14		SLS. gr. to gn. gr. s to mod. hd. gradational w/sh @ top to. 5 @ bottom bkn w/ SIK & Anq. pl. in 45° Anq. frac @ 30° 484.9 . 484.8 Cl Scam @ 483.6		4 (13.9)	Pull #4 Start 2:08 End 2:39 Time 31 Drl 31 Ran 8.2 Rec 8.3 Loss 0 Unacc 0
478.6	15–18		SS lt.g., mod.hd. f.gr		5 (17.6)	
	19		SLS. gr. s. to med. hd. s. below 476.6 sli bkn. @ 478.1 -478.0		6	TI Depth 19.7 TP. 19.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam
HOLE NO. R33/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R 33/2

PROJECT: Gallipolis Locks & Dam | INSTALLATION: ORH CO | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	Pull #5
					21.0	START 8:00
	22					End 8:48
						Time 48
	23					Drl 48
						Ran 9.4
					7	Rec 9.6
	24		SS gr to lt. gr. mod. hd. f. to med gr, mic, occ x bedded gradational contact w/ SLS mech bkn 468.4 to 467.0 w/ poss loss Num mic bd. pl. below 469.8			Loss 0.4
						unacc 0.4
	25				24.8	
	26					
	27				8	
	28				28.4	
	29					
	30					TI & TP Depth 29.8
					9	Pull #6
	31					START 9:15
						End 9:50
	32				31.8	Time .35
						Drl .35
	33					Ran 8.3
						Rec 8.2
	34				10	Loss 0
						unacc 0
	35					
					35.6	
	36					
460.0	37				11	
458.8	38		Bottom Hole		38.0	TP 38.0
						TI Depth 38.3

ENG FORM 1836-A JUN 67 | GPO 1968 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. R33/e

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH CD

SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA 11+50 B
3. DRILLING AGENCY: W. G. Zagaus
4. HOLE NO. (As shown on drawing title and file number): R34.1
5. NAME OF DRILLER: Wayne Tice
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.7
8. DEPTH DRILLED INTO ROCK: 460
9. TOTAL DEPTH OF HOLE: 36.7
10. SIZE AND TYPE OF BIT: 4x5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B. "58"
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A / UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-10-88 / COMPLETED
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 36.7 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1 2 3 4 5 6 7		SS lt.gr. mod. hd., med, to c.g., hi ang.frac. (bkn) 493.1 - 492.5 core dim. Loss 492.2. 492.0 SLS s. gr. @ 491.5 - 490.9		1	Pull #1 Start 8:40 End 8:55 Time 15 Drl 15 Ran 4.7 Rec 4.7 Loss 0 unacc 0
489.0	8 9		ICL r br., s, mot w/gr. & gn gr. cl, (almost CLS) lt. gr. 489.0 488.6 fatty @ 489.0 - 488.8		3.4 2 1	TI & TP Depth 4.7 Pull #2 Start 9.09 End 9.23 Time 14 Drl 14 Ran 3.2 Rec 3.1 Loss 0-1 unacc 0.1
487.1	10 11 12 13		SLS gr. to gn. gr., s to. mod hd. sandy, gradationally. interbdd. w/ fine gr SS throughout. mech bkn. 484.0 - 486.8 ang. pl. @ 30° 486.8 - 486.7 Fe. stained (scattered spots) 486.1 - 485.4 sh. 487.0 - 486.6		3 10.1	TP Depth 8.3 Pull #3 START 9:35 unacc 0.2 End 9:47 Time 12 Drl 12 Ran 1.8 Rec 1.6 Loss 0.2 TP 9.7
483.2	14 15 16 17		SS. gr. to lt gr. med hd f to med gn. slightly micc		14.1 4	TI Depth 10.6 Pull #4 START 10.00 End 10:15 Time 15 Drl 15 Ran 3.8 Rec 3.2 Loss 0.6 unacc 0.6 TD 13.5
479.1	18 19		SLS gr. s. to med hd. gradational w/sh @ top to sandy @ bottom bkn. pl. w/ 0.2. spacing poss. cl sams cl. seam. 48°		17.6 5	TI Depth 14.1 Pull #5 START 10.21 End 10.38 Time 17 Drl 17 Ran 4.1 Rec 4.1 Loss 0 unacc 0 TP 17.6
					6	TI Depth 18.1 Pull #6 START 10:58 End 11:06 Time 8 Drl 8 Ran 0.9 Rec 0.9 TP Depth 18.5 Loss 0.1 unacc 0.1 TI Depth 19.2

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam

HOLE NO. R34/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R 34/1

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	Pull # 7
					21.0	
474.6	22					START 12.06
						End 12:33
						Time 17
						Drl 17
	23		SS lt gr. mod. hd med. to fine g. mic. occ. x-bdded. mech. chipped 469.8 - 469.1		7	Ran 8.2
						Rec 8.4
	24					Loss 0
						Unacc 0
	25				24.9	
	26					
					8	
	27					TP Depth 26.7
	28				28.2	
						TI Depth 28.6
	29					Pull # 8
						START 12:50
	30				9	End 1:10
						Time 20
	31					Drl 20
						Ran 10.0
	32				32.1	Rec 10.0
						Loss 0
	33					Unacc 0
	34				10	
	35					
					35.7	
	36				11	
459.8	37		Bottom Hole		36.9	TI Depth 36.9 TP 36.7
	38					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. R 34/1

Hole No.

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): 11+08 B
3. DRILLING AGENCY: W. G. Jaques
4. HOLE NO. (As shown on drawing title and file number): R-34/2
5. NAME OF DRILLER: Steve Fry
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.8
8. DEPTH DRILLED INTO ROCK: 460.0
9. TOTAL DEPTH OF HOLE: 36.8
10. SIZE AND TYPE OF BIT: 4" 5½"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M. S. L.
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" 57
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/a; UNDISTURBED N/a
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/a
16. DATE HOLE: STARTED 12-12-88; COMPLETED —
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 36.8 %
19. SIGNATURE OF INSPECTOR: JET

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.8	1		SS lt gr., mod. hd, med to coarse grained, sli, mic. occ x-bdd - surface trakage: 496.8 - 496.6 redrilled 491.9 - 491.6		1	Pull #1 START 11.17 End 11.27 Time 10 Dri 10 Ran 4.9 Rec 4.9 Loss 0 Unacc 0
	2					
	3					
	4				3.8	
	5				2	TI Depth 5.1 TP 4.9
	6					Pull #2 START 12.12 End 12.20 Time 8 Dri 8 Ran 2.6 Rec 2.5 Loss 0.1 Unacc 0.1
	7				6.9	
489.3	8		inc. r. br. s. nlott. w/ gr & gn Cl bKn 488.9 - 488.6			TI & TP Depth 7.5
487.9	9				3	Pull #3 START 12:34 End 12:56 Time 21 Dri 21 Ran 3.2 Rec 2.9 Loss 0.3 Unacc 0.3
	10		SLS gr. to. gn. gr., s to med hd. Cl bKn 487.9 - 487.7 487.2 486.9 Sandy blow 486.1		9.9	
485.1	11					TP 10.7
	12		SS gr. med. hd. f. to med. g. c w/ depth gradational contact. w/ upper SLS			TI Depth 11.3
	13				4	Pull #4 START 1.17 End 1.41 Time 24 Dri 24 Ran 9.9 Rec 10.0 Loss 0 Unacc 0
	14				13.7	
	15					
	16				5	
	17					
479.2					17.3	
478.3	18		SLS gr to gn. gr. s. to med hd. bKn 477.5 - 477.8 Sh. scum 478.7 - 478.3			
	19		SS. gr. to lt. gr. med. hd., f. to med g. mic. occ. x bedd (calcite filled		6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam I | HOLE NO. R 34/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.8

Hole No. R-34/2

PROJECT: Gallipolis Lock & Dam

INSTALLATION: ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		Voids)?. Small it color frag. 474.8, 473.8		20.7	TI & TP 20.6 Pull #5
	22					START 2.00
	23				7	End 2.25
	24					Time 25
						Drl 25.
	25					Ran 10.0
	26				8	Rec 10.0
	27					Loss 0
	28				28.0	Unacc 0
	29				9	
	30				31.4	TI Depth 34.6 TP 34.5
	31					Pull # 6
	32					START 2:48
	33				10	End 3:08
	34					Time 2.5
	35					Drl 2.5
	36				35.	Ran 7.5
460.0	37				11	Rec 7.6
458.7	38				38.1	Loss 0
						Unacc 0
						TI Depth 38.2 TP 38.0

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-628-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. R34/2

Hole No. R 35/1

DRILLING LOG

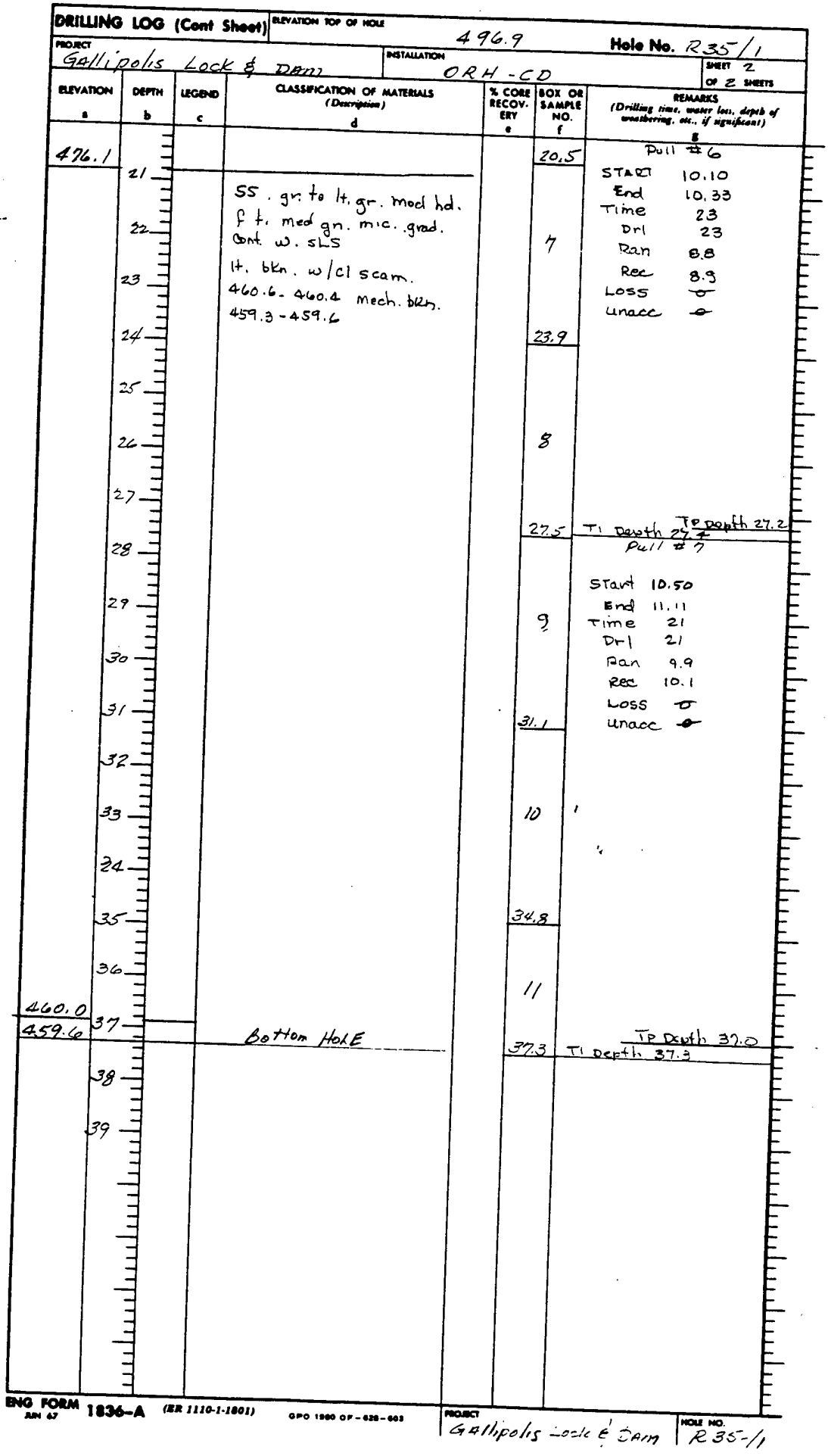
DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): STA 10+98 "B"
3. DRILLING AGENCY: W. G. Jagues
4. HOLE NO. (As shown on drawing title and file number): R 35
5. NAME OF DRILLER: Dave Harper
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.9
8. DEPTH DRILLED INTO ROCK: 460.
9. TOTAL DEPTH OF HOLE: 36.9
10. SIZE AND TYPE OF BIT: "B" SB
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: "B" SB
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12-10-88; COMPLETED 12-12-88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 36.9 %
19. SIGNATURE OF INSPECTOR: JT

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0					Pull # 1
	1		SS lt. gr., mod. hd., med. to c gr. sli. mic. sli Fe. sta. 496.9. -496.5			START 2:10
	2					End 2:26
					1	Time 16
	3					Drl 16
	4					Ran 4.9
						Rec 4.9
	5					Loss 0
					3.3	unacc 0
	6					
					2	TI & TP 4.9
						Pull # 2
						START 2:41
						End 2:50
						Time 9
						Drl 9
					6.2	Ran 2.8
						Rec 2.8
489.9	7					Loss ~
						unacc ~
489.2			INC. lt gr. S. Cl.			TI Depth 7.8 TP 7.7
	8		SLS gr. to gr. gr. S., to. med. hd. gradational w/sh @ Top to Sa. @ bot. mech. bkn. 489.2 - 488.9 w/ poss loss. sandy blow 487.2			Pull #3
					3	START 7:45
	9					End 7.59 Loss 0.3
						Time 14 unacc 0.3
	10					Drl 14
						Ran 2.4
						Rec 2.1
					10.1	TI & TP Depth 10.1
	11					Pull # 4
						START 8.20
						End 8.42
	12					Time 22
484.4						Drl 2.2
					4	Ran 3.0
	13		SS gr. med. hd. f. to med. gi gradational Contact w/upper SLS			Rec 3.2
						Loss ~
						unacc ~
					13.3	TP 13.1
	14					TI Depth 13.8
						Pull #5
	15					START 9.03
						END 9.24
						Time 21
	16					Drl 21
480.5					5	Ran 5.0
						Rec 5.0
	17		SLS gr., soft. to med hd. S. below 478.6 bkn (sev.) 480.5 480.2 bkn dl. ~02' spacing w/ CL. seams 479.9 int. bdd. claystone, lt. gr. S-RS Cl. 479.-479.8, 479.3.-478.8 interbdd w/SS. gr. med hd. f.g. 478.6-476.1			Loss 0
						unacc ~
					17.	
	18					TP. 18.1
					6	TI Depth 18.6
	19					Pull #6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO. R 35/1



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 496.9 Hole No. R35/1

PROJECT Gallipolis Lock & Dam

INSTALLATION ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.1	21		SS. gr to lt. gr. mod hd. f t. med gn. mic. grad. Cont w. sLS		20.5	Pull #6 START 10.10 End 10.33 Time 23 Drl 23 Ran 8.8 Rec 8.9 Loss 0 Unacc 0
	22		lt. bkn. w/cl seam.		7	
	23		460.6 - 460.4 mech. bkn.			
	24		459.3 - 459.6		23.9	
	25				8	
	26					
	27				27.5	TI Depth 27.4 TP Depth 27.2
	28					Pull #7
	29				9	Start 10.50 End 11.11 Time 21 Drl 21 Ran 9.9 Rec 10.1 Loss 0 Unacc 0
	30					
	31				31.1	
	32					
	33				10	
	34					
	35				34.8	
	36				11	
460.0	37					
459.6			BOTTOM HOLE		37.3	TP Depth 37.0 TI Depth 37.3
	38					
	39					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-628-663

PROJECT Gallipolis Lock & Dam HOLE NO. R35-1

DRILLING LOG — DIVISION: ORD

1. PROJECT: GALLIPOLIS LOCK+DAM	INSTALLATION: ORH-CD
2. LOCATION (Coordinates or Station): MONO R-35 STA 10+58B	10. SIZE AND TYPE OF BIT: 4 5/4
3. DRILLING AGENCY: W. 6. JAQUES	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
4. HOLE NO. (As shown on drawing title and file number): R-35/2	12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
5. NAME OF DRILLER: DAVE HARPER	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	14. TOTAL NUMBER CORE BOXES: 11
7. THICKNESS OF OVERBURDEN: 0 497.0	15. ELEVATION GROUND WATER: N/A
8. DEPTH DRILLED INTO ROCK: 90.3	16. DATE HOLE: STARTED 12/28/88; COMPLETED 12/28/88
9. TOTAL DEPTH OF HOLE: 446.7	17. ELEVATION TOP OF HOLE: 497.0
	18. TOTAL CORE RECOVERY FOR BORING: 38.9 %
	19. SIGNATURE OF INSPECTOR: F.M.D.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SANDSTONE			PULL #1
	1		LT. GR, M-H-H, M-CG.			START 18.13
	2		FE SURFACE STAINED			END 1826
	3		497.0 -496.8, SH			TIME 13min
	4		STRINGERS 491.9 490.5			DRL 13min
	5		480.8		1	PAN 9.7
490.7	6					REC 4.5
						LOSS 0
						UNACC 0
					3.7	
						DEP 9.7 T/DEP 9.5
						PULL #2
						START 18.45
						END 1855 REC 1.9
					2	TIME 10min LOSS 0
						DRL 10min UNACC 0
						PAN 1.7
						T/DEP 6.3
						PULL #3 DEP 6.4
					7.0	START 19.10
						END 19.25
						TIME 15min T/DEP 7.7
						DRL 15min DEP 7.8
					3	PAN 1.4
						REC 1.7
						LOSS 0.3
						UNACC 0.3
						PULL #4 T/DEP 9.6
					10.2	START 19.35
						END 19.37
						TIME 2min
						DRL 2min
						PAN 5.0
					4	REC 1.5
						LOSS 0
						UNACC 0
						DEP 12.8
						PULL #5
						START 20.40
					13.8	END 20.50 T/DEP 13.8
						TIME 10min DEP 14.1
						DRL 10min
						PAN 1.3
						REC 3.9 T/DEP 14.9
					5	LOSS 0.5
						UNACC 0.5
						PULL #6
						START 21.02
						END 21.22
						TIME 20min
					17.9	DRL 20min
						PAN 9.6
					6	REC 111 UNACC 0
					(CONT)	LOSS 0
						DEP 18.7
						PULL #7
477.2	20					(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO. R-35/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-35/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CP | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #7
	21		GR-LT GR., M.H, Fg.		21.0	START 21.45
	22		GRADATIONAL CONTACT W/			END 22:10
	23		UPPER SLS - SLT 477.8-474.0		7	TIME 35min
	24		F-M.g. below 472.3, small			DRL 35min
	25		sid calcite NOD 470.9			PMW 6.8
	26					REC 9.6
470.5						LOSS 0
			SLS		24.5	UNACC 0
	27		GR, M-H, Sa Few occ Dyk			DEP 29.7 DEP 29.5
469.0	28		NOD, FeSTAINED 469.9-469.8			PULL #8
			SANDSTONE			START 22:35
	29		GR-LT GR., M.H-H		8	END 23:15
	30		F-M.g. Mic, Few occ			TIME 40min
	31		SM Dyk NOD 468.5-468.0			DRL 40min
	32		NUM SLS FRAG 468.0-			PMW 9.5
	33		467.7, CALCCM 469.6 462.4		32.8	REC 10.5
	34		SH SEAM BTW 466-465			LOSS 0
	35				9	UNACC 0
	36					
459.9	37				32.0	
			SLS			
458.6	38		GR. M-H-S INTERBDD CLS			
			459.7-459.A, 459.9-459.3			
	39		INTERBDD S.S. GR, M. H.			
			F.g 458.9-458.7		10	DEP 39.2 T/DEP 39.0
	40					PULL #5
	41					START 23:29
	42				35.6	END 23:30
	43					TIME 6min
	44				11	DRL 6min
						PMW 6.1
						REC 4.9
					38.4	LOSS 0 T/DEP 38.9
						UNACC 0
						DEP 40.3

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-620-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-35/2

Hole No. R-36/1

DRILLING LOG	DIVISION: ORD	INSTALLATION: ORH-CD	SHEET 1 OF 4 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4" X 5 1/2	
2. LOCATION (Coordinates or Station): MONOLITH R-36/1 STA 10+48 "B"		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: 6-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-36/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: POWELL NORRIS		14. TOTAL NUMBER CORE BOXES: 11	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: ± 497.0		16. DATE HOLE: STARTED 11/3/89; COMPLETED 11/3/89	
8. DEPTH DRILLED INTO ROCK: 40		17. ELEVATION TOP OF HOLE: 497.0	
9. TOTAL DEPTH OF HOLE: 457.0		18. TOTAL CORE RECOVERY FOR BORING: 40' %	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SAND STONE, SLY., M-CG.; M.H.; MGR. M.C; 0.1 LC 6TWN 0.0 & 5.0 (Mech) V.S. CONTACT		1	PULL #1 START 3:37 END 3:50 TIME 13 DRL 13 RAN 6.7 REC 4.9 LOSS 0.1 UNACC 0.1
	1					
	2					
	3				3.7	
	4					
	5				2	T DEP 5.0
	6					
490.3						DEP 6.7
	7		ICL R. BR/GREENISH, GR.S. SLK, V BKN, GRADING		7.2	PULL #2
	8					START 4:00 END 4:25 TIME 25 DRL 25 RAN 6.3 REC 6.4 LOSS 0.6 UNACC 0.6
488.4					3.	
	9		INTER BDD CLS/SS			
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R36/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R36/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS/SS, GR. occ shy SMOOTH hor pTg @ 8.7, 9.3, 12.4, 13.7 0.6 LC btwn 5.0 & 12.0 C prob in 6.7-8.0 ARGN. grading ss/cls Throughout CLS SEAM @ 16.5-16.7 w/SLI WEA C. LAMM @ 6.6-16.7 grading into Sly, fig., m.h. w/ thin, dk gr. Sly. stgs.		3	
	11				11.4	
	12					T-DEP 12.0
	13					DEP 13.0
					4.	PULL #3
	14					START 4:45 END 5:15 TIME 30 DRL 30 RHN 6.4 REC 7.4 LOSS 0 UNUSED 0
	15				14.7	
	16					
					5.	
	17					
	18				18.2	
	19					
478.6						DEP 19.4 T DEP 19.5
	20		SANDSTONE Sly, fig. mh. w/ thin dk. gr. sly., stgs. SA. CONTENT INCREASING W/depth		6.	PULL #4
	21					
	22				21.8	

ENG FORM 1836-A JUN 67 | GPO: 1969 O-F—329-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R36/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 479.0 | Hole No. R36/1

PROJECT: GALLIPOLIS LOCK & DAM 1 | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE sly. fig. m.h., w/ THRU dk. gr. sly, STgs. SAND CONTENT INCREASING w/depth.			PULL #4 START 5:40 END 6:05 TIME 25 DRL 25 RAN 9.7 REC 10.3 LOSS 0 UNACC 0
	23				7	
	24					
	25				25.4	
	26					
	27				8	
	28					
	29				29.0	
						DEPTH DEP 29.6
	30					PULL #5.
	31				9	START 6:25 END 6:55 TIME 30 DRL 30 RAN 10.5 REC 10.3 LOSS 0 UNACC 0
	32				32.6	
	33				10	
	34		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO 1968 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM 1 | HOLE NO. R36/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 479.0 | Hole No. R36/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		SAND STONE			PULL #5
			SLY FIG M.H. W/			
			THRU dk GRSY,		10	
	35		STGS SHALE			
461.5			CONTENT INCREASING			
			INTER BEDED. SLS/SS			
	36					
					36.3	
	37					
459.5						
			ICL			
	38		RIBS.			
458.1					11.	
	39		SAND STONE			
			GR-SNGR M.G, MTH.			
						T DEP 39.7
457.0	40		BOTTOM HOLE		40.0	DEP 40.0
	+1					
	+2					
	+3					
	44					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-843 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R36/1

Hole No. R-36/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-36 STA 10+10 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-36/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 37.5
9. TOTAL DEPTH OF HOLE: 459.7
10. SIZE AND TYPE OF BIT: 4 7/8
11. DATUM FOR ELEVATION SHOWN (GS or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53-MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/29/88; COMPLETED 12/29/88
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 37.5
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE			PULL #1
	1		LT.GR., M.N.-HH. M-CGR.			START 7:55
	2		BKN @ SURFACE + MECH			END 8:20
	3		FOUNDED 497.2-497.1		1	TIME 25 MIN
	4		FE SURFACE STAINED			DRL 25 MIN
	5		497.2-496.9			RAN 5.0
491.4					3.9	REC 4.8
	6		I.CL			LOSS 0
	7		R-BR, S, MOTTLED W/GR-GN			UNREC 0
489.5			GR LTGR CLS 491.4-490.8			T/DCP 8.8
			SEVERELY BKN 491.1-490.8			DCP 9.0
	8		SLS		2	PULL #2
	9		GR-GN GR, S-MH, OCC			START 8:30
	10		THIN CALCITE FILLED FRAC			END 8:55
	11		489.5-484.9, MOD BKN			TIME 25 MIN
	12		488.3-488.1, SG SLS W/OCC		7.7	DRL 25 MIN
	13		TRADITIONAL INTERBDS			RAN 4.3 UNREC 0
	14		OF VF.S. GR, SS. BELOW			REC 4.3
	15		484.9 BKN 483.5-483.1			LOSS 0
	16		480.8-480.7, SEVERELY		3	T/DCP 9.9
	17		BKN 482.9-482.7			PULL #3
	18		CL. COATING ON 482.0-			START 9:15
478.9			481.8			END 9:28
	19		SANDSTONE		11.0	TIME 13 MIN.
	20		(CONT)			DRL 13 MIN
					4	RAN 9.9
						REC 9.8
					13.3	LOSS 0
						UNREC 0
						DCP 14.0
						PULL #4 DCP 19.9
					5	START 9:35
						END 9:50
						TIME 15 MIN
						DRL 15 MIN
					17.0	RAN 0.3
					6	REC 4.4
						LOSS 0
						UNREC 0
						T/DCP 18.2
						PULL #5
					(CONT)	CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-36/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-36/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		LTgR-GR, MH-H, F-M.gR			START 10:15
					21.2	END 10:30 LOSS Ø
	22		mic. gRAD, CONTACT w/ upper			TIME 15min UNACC Ø
					7	DRL 15min
	23		SLS, w/ pyr nod.			RAN 10.0
						REC 4.2
	24		SLT - 479.2 - 479.0			PULL #6
						START 11:00
	25		SLT - F.GR ABOVE 476.0		24.5	END 11:20 DCP 29.3
						TIME 20min
	26		CAL - CEM - 473.3 - 471.8,			DRL 20min
					8	RAN 9.2
	27		469.5, - 468.0			REC 10.0
						LOSS Ø
						UNACC Ø T/DCP 27.5
	28		S. SLT FRAG 470.8		28.1	DCP 27.9
						PULL #7
	29		BKN 469.2 - 469.0, 461.8			START 11:40
					9	END 12:00
	30		461.7			TIME 20min
						DRL 20min
	31		ANG FRAC 45° 468.6 -			RAN 9.5
					31.6	REC 9.3
	32		468.3			LOSS Ø
						UNACC Ø
	33				10	
	34					
	35				35.2	
	36					
					11	
459.7	37		BOTTOM HOLE		37.5	DCP 37.9 T/DCP 37.5
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-36/2

HOLE NO. R-37/1

DRILLING LOG	DIVISION OCD	INSTALLATION ORH-CD	SHEET 1 OF 1 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8
2. LOCATION (Coordinates or Station) MSND R-37 STA 10+00B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE
4. HOLE NO. (As shown on drawing title and file number) R-37/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 11
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A
7. THICKNESS OF OVERBURDEN Ø 497.2		16. DATE HOLE: STARTED 12/29/88; COMPLETED 12/29/88
8. DEPTH DRILLED INTO ROCK 37.9		17. ELEVATION TOP OF HOLE 497.2
9. TOTAL DEPTH OF HOLE 459.3		18. TOTAL CORE RECOVERY FOR BORING 37.9 %
		19. SIGNATURE OF INSPECTOR TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1–5		SANDSTONE LT. GR, M-H-H. M.-CGR. FC SURFACE STAIN 497.2-496.6, FEW OCC. CL. STRINGERS 493.2-493.0, MOD CLIP. 493.5-493.2 BKN PW W/SPACING 0.2 497.2-496.7, 493.2-492.0		1	PULL #1 START 8:45 END 8:56 TIME 11 MIN DRL 11 MIN LOSS Ø RAN 9.0 UNACC Ø REC 9.0
492.0					3.5	DEPTIDED 4.0
	6–7		CLS LT GR S. SA., R-BR MOTTLED W/GR. ICL 490.8-490.3 BKN 490.3-490.2		2	PULL #2 START 9:00 END 9:19 TIME 19 MIN DRL 19 MIN RAN 9.1 REC 9.2 UNACC Ø LOSS Ø
489.4					6.9	DEPTH 8.2
	8–18		SLS GN. GR, S-MN, GRADATIONAL W/SA @ TOP TO SA BOTTOM NUM SMALL, THIN DISCONTINUOUS CALCITE FILLED VEINS 489.4-489.0, COL SLS 489.4-486.8 SA GRADATIONAL INTERBDD SS BELOW 483.8 FGRSS GR. M.H 481.8-480.4, ANG FRAC ~30° @ 481.8-481.6-481.4-480.8		3	PULL #3 START 9:28 END 9:45 TIME 17 MIN DRL 17 MIN RAN 6.6 REC 6.5 LOSS 0.0 UNACC 0.0
478.6					10.9	
					4	
					13.9	
						DEP 19.7 T/DEP 19.2
	19–20		SANDSTONE GR-LTGR MH-HH. F-MGR. (CONT)		5	PULL #4 START 10:00 END 10:25 TIME 25 MIN DRL 25 MIN RAN 8.0 REC 8.3 LOSS ø UNACC Ø
					17.9	
					6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-37/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-37/1

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION BRH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21		mic., occ pyr nod - 475.9 -		21.1	
	22		479.8, NOM, SMALL SLS			
			FRAC 470.1 - 469.5			DCP 22.9 T/DCP 22.8
	23				7	PULL #5
	24					START 10:40
					24.6	END 11:08
	25					TIME 28 min
	26				8	DRL 28 min
						RAN 7.2
	27					REC 7.2
469.5						LOSS 0
						UNACC 0
	28		SLS		28.3	
468.9			GR, M.H, SS occ PYR nod SIDERITE nod. SHOCKS 469.5-469.1			
	29		SANDSTONE			
	30		SMALL occ pyrite		9	DCP 30.1 T/DCP 30.0
			nod, YCLs FRAC + STRINGER			PULL #6
	31					
	32		468.0 - 467.5, cal-cem		31.9	START 11:20
			466.7 - 465.5 SH SEAM			END 11:41
	33					TIME 21 min
			459.6 - 459.5, SLS FRAG		10	DRL 21 min
	34					RAN 7.9,
			459.4 - 459.3			REC 7.8
	35					LOSS 0
						UNACC 0
	36				35.6	
					11	
	37					
459.3			BOTTOM HOLE		37.9	DCP + T/DCP 37.9
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP - 620-603

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-37/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-37 STA 9+64.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-37/2
5. NAME OF DRILLER: STEVE FRY / DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.0
8. DEPTH DRILLED INTO ROCK: 39.1
9. TOTAL DEPTH OF HOLE: 957.9
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/29/88; COMPLETED 12/29/88
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 37.7 %
19. SIGNATURE OF INSPECTOR: ZMD

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
497.0			SANDSTONE			PULL #1
	1		LT.gR. MH-HH, M-CGR.			START 12:45
			BKN 497.0-496.5, Ft			END 1:00
	2		STAIN 496.1-495.5 SH		1	TIME 15 min
			SEAM 493.5-493.3			DRL 15 min
	3					RAN 4.0
					3.5	REC 4.0 UNACC Ø
493.0	4					LOSS Ø DEP 4.0
			I CL			PULL #2
	5		R-BR, S-VF.S., MOTTLED			START 1:10
					2	END 1:25
	6		W/GR + GN.GR., LT GRACL, 493.0			TIME 15 min
						DRL 15 min
	7		492.7 + BKN, SELDOM BKN		7.0	RAN 5.0
						REC 4.5
	8		491.7-491.0, 490.3-490.0,			LOSS Ø
					3	UNACC Ø
487.9	9		489.9-489.2 BKN 492.3-492.1			DEP-9.0 TOTAL 8.9
			SLS			PULL #3
	10		GR-GNGR, S,-MH, SA			START 1:50
					10.6	END 2:15
	11		SH ABOVE 486.8 + SS BELOW			TIME 25 min
						DRL 25 min
	12		BKN 487.9-486.7, 485.3-485.3		4	RAN 9.8
						REC 9.8
	13		GRADATIONALLY INTERBEDDED			LOSS Ø
						UNACC Ø
482.9	14		W/F.GR SS BELOW 485.2		14.0	
			SANDSTONE			
	15		GR-LTGR. M.H-H/ M-F.GR.			
					5	
	16		MIC, CAL, CRM. 482.9-482.5			
	17		467.6-461.8, FGR. 478.9			
					17.8	
	18		NUM SH STRINGERS + FRAGS		6	
	19		W/CAL FILL VUGS 466.1-465.3		(CONT)	DEP + TOTAL 18.8
	20		(CONT)			PULL #4
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: R-37/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 497.0

PROJECT: GALLIPOLIS LOCK+DAM

INSTALLATION: ORH-CD

Hole No. R-37/2

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21		SH, SEAMS 465.2 - 465.0		21.5	START 2:30
	22		464.5 - 464.2.			END 3:15
	23				7	TIME 45 min
	24					DRL 45 min
	25					RAN 10.0
	26					REC 10.0
	27					LOSS 0
	28					UNREC 0
	29				26.2	
	30				8	
	31					
	32				28.8	T/DCP + DCP 28.8
463.8	33					PULL #5
	34		ICL		9	START 15:35
462.2			R. BR. S. MOTTLED w/GRAY SLT LT GR. U.S. CLS 463.8-463.4			END 16:10
	35		SLS			TIME 35 min
	36		GR. S. - M H. SH.			DRL 35 min
	37					RAN 5.8
459.3			BOTTOM HOLE			REC 5.8
	38				32.5	LOSS 0
	39					UNREC 0
	40				10	
	41					DCP 39.6 T/DCP 39.6
	42					PULL #6
	43					START 16:35
	44				36.0	END 17:15
	45					TIME 40 min
	46					DRL 40 min
	47				11	RAN 6.1
	48					REC 3.9
	49				37.7	LOSS 0 T/DCP 39.7
						UNREC 0
						DCP 39.1

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO. R-37/2

Hole No. L-3811

DRILLING LOG	DIVISION ORD	INSTALLATION ORHED	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8 V2	
2. LOCATION (Coordinates or Station) MONO R-3B STA 9754 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-3811		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 497.3		16. DATE HOLE STARTED 12/29/88; COMPLETED 12/29/88	
8. DEPTH DRILLED INTO ROCK 39.1		17. ELEVATION TOP OF HOLE 497.3	
9. TOTAL DEPTH OF HOLE 468.2		18. TOTAL CORE RECOVERY FOR BORING 37.3 %	
		19. SIGNATURE OF INSPECTOR TMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	1		SANDSTONE			PULL #1
	2		GR-LTGR, HARD M-CGR.		1	START 12:55
	3		FE SURFACE STAIN, 497.3			END 13:00
	4		496.7, NEW OCC SH STRINGER			TIME 5 min
	5		+ FRAC THROUGHOUT			DRL 5 min
491.1	6				3.7	RAN 4.9
						REC 5.0
						LOSS Ø
						UNACC Ø
						DCP 5.0 T/DRL 4.9
	7		SLS		2	PULL #2
489.2			GR; S.-M H, SA BEN 490.1			START 13:10
			489.5			END 13:40
	8		ICL		7.2	TIME 30 min
			R. BR - S. MOTTLED W/GR, -			DRL 30 min
488.2	9		GN. GR. SL		3	RAN 9.8
						REC 9.7
			SLS			LOSS Ø
	10		GN. GR. - GR S - M.H. SA			UNACC Ø
	11		SH. 488.2 - 986. 980.2 - 978.5		11.0	
	12		SA MH. 486.1 / 980.2, INTRBH			
	13		W F. GR. SS 486.1 - 980.2		4	
	14					
	15					
481.9					19.7	DCP 19.7
	16		SANDSTONE			PULL #3
480.5			GR. M. N. F. GR			START 13:55
	17		SLS		5	END 14.12
			GN, GR. - GR. S - MH. SA			TIME 17 min
	18					DRL 17 min
478.5						RAN 10.0
					18.6	REC 10.0
	19		SANDSTONE		6	LOSS Ø
			GR - LTGR, MH. F - MGR - MIC		(CONT)	UNACC Ø
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-3811

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. R-38/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					PULL #3
	21		SANDSTONE		6	(CONT)
	22		Few occ SM,SH. STRINGER		22.2	
	23		+FRAG 473.9-472.5, occ			
	24		PYR. NOD 472.0 -470.6		7	
	25		SLS SEAM - 469.9-469.3			DEP 24.7 TIDE 25.0
	26		469.3-469.2 MECH CHIP		25.7	PULL #4
	27		466.2 -465.9, CALC m.			START 14:28
	28		464.7 -463.5		8	END 14:51 TIME 23 min DRL 23 min RAN 10.0
	29				27.5	REC 9.2 LOSS 0 UNACC 0
	30					
	31				9	
	32					
	33				33.0	1
463.5						DEP 33.7 TIDE 33.8
	34		ICL R.BR, MOTTLED w/GR, SLT LTR FATTY CL BRN SC 463.5-463.4 SLK 463.4 -463.2			PULL #5
462.3	35		SLT GR, M-H, occ MOTTLED w/R.BR 30° F,US PN W SLK 460.2		10	START 15:00
	36					END 15:26 TIME 26 min DRL 26 min RAN 5.4
			460.0			
460.0	37		BOTTOM HOLE		37.3	REC 2.5 LOSS 0.9 UNACC 0.9 TIDE 37.3
	38					
	39					DEP 39.1
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OP - 628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-38/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHrCD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-39 STA 9+10.8
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-38/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.1
8. DEPTH DRILLED INTO ROCK: 37.4
9. TOTAL DEPTH OF HOLE: 459.7
10. SIZE AND TYPE OF BIT: 4 7/8 Y2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/29/88; COMPLETED 12/30/88
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 37.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE LTGR., F., M-CGR, BRN DK. .3 SPACING THROUGHOUT			PULL #1 START 17.55 END 18.10 TIME 15 MIN DRL 15 MIN RAN 3.8 REC 3.5 UNACC Ø LOSS Ø TIDE Ø 3.5 DCP 3.8
499.7	2				1	
	3		ICL R-BR, S-VFS MOTTLED W/ GN GR-GR, SG BRN 499.7-[illegible] LTGR S. CL. 499.7-499.5 SLT below 499.6		3.5	PULL #2 START 18.95 END 1900 TIME 15 MIN DRL 15 MIN RAN 2.0 REC 4.6 UNACC 0.9 LOSS 0.9 TIDE Ø 5.5 DCP 6.8
492.9	4				2	
	5					
	6		SLS GR. S-MH, SA, CLS GR. S. 491.9-491.7, ICL R-BR VFS. 491.7-491.6 ANG FRAC 45° 488.6-488.2, 55 SCAM 486.6-486.4 GR MTH F. MGR. INTERBED W/ F.GR. SS BELOW 485.5, COL. BELOW 482.9		PULL #3 START 19.20 END 19.30 TIME 10 MIN DRL 10 MIN RAN 2.5 REC 3.0 LOSS 0.6 UNACC 0.6 TIDE Ø 5.1 DCP 4.2
	7				7.5	
	8				3	
	9					
	10					PULL #4 START 20.15 END 20.30 TIME 25 MIN DRL 25 MIN RAN 4.4 REC 5.6 TIDE 10.7 LOSS Ø UNACC Ø DCP 13.7
	11				11.6	
	12				4	
	13					
	14					
	15					PULL #5 START 20'50 END 21'20 TIME 30 MIN DRL 30 MIN RAN 6.7 REC 7.5 LOSS Ø UNACC Ø
	16				15.0	
481.1			CLS GR. S-VFS. SLT SAM 485.5-480.7 FAIR. 480.7-479.5 W/ CONGL SG @ 480.7-480.5		5	
479.5	17					
	18		SANDSTONE GR, M. H, M-FGR, MIC NUM SMALL SLS FRAG. 479.6-477.1 (CONT)		18.5	TIDE Ø 1.2
	19				6 (CONT)	
	20					(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO.: R-38/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-38/2

PROJECT: GALLIPOLIS Lock+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			DCP 20.9
	21				6	PULL #6
	22					START 21.35
	23				22.0	END 22'00
473.7						TIME 25min
	24		SLS			DRL 25min
	25		9R. M.H. SH, BKN 473.5-		7	RAN 5.5
	26		473.3 SCURACLY BKN ⓓ			REC 5.2
	27		ICL SEAM 471.7, 471.6			LOSS 0
469.5						UNREC 0
	28		ICL		25.7	T/DCP 25.4
	29		R.BL · S, CL, GR (CLS)			DCP 25.9
	30		ABOVE 469.5 - 463.7, SCURACLY			PULL #7
	31		BKN 469.3 - 469.0 SLTB-10ⓓ		8	START 22.25
	32		469.7			END 23.10
	33					TIME 45min
463.7						DRL 45min
	34		SLS		29.1	RAN 6.5
	35		463.7 - 459.7, GR M.H.,			REC 7.0
	36		SH, BKN PN. W/O.C SPACING			LOSS 0
	37		463.7 - 463.0		9	UNREC 0
459.7			BOTTOM HOLE			
	38				32.9	T/DCP+DCP 32.9
	39					PULL #8
	40					START 7.45
	41				10	END 8.50
	42					TIME 55min
	43					DRL 55min
	44					RAN 5.0
					36.2	REC 4.5
						LOSS 0.5
					11	UNREC 0.5
					37.9	DCP+T/DCP 37.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS Lock+DAM | HOLE NO. R-38/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4 V5 V2	
2. LOCATION (Coordinates or Station): MOND P-39 STA 9+00B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B. 57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): P-39/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DOWELL NORRIS		14. TOTAL NUMBER CORE BOXES: 10	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.8		16. DATE HOLE: STARTED 1/3/89; COMPLETED 1/9/89	
8. DEPTH DRILLED INTO ROCK: 38.5		17. ELEVATION TOP OF HOLE: 496.8	
9. TOTAL DEPTH OF HOLE: 458.3		18. TOTAL CORE RECOVERY FOR BORING: 37.9 %	
		19. SIGNATURE OF INSPECTOR: LMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE LT GR, H, M-C GR. FC			PULL #1 START 8:30 END 8:45 TIME 15 MIN DRL 15 MIN RAN 5.0
	2		SURFACE STAINED 496.8		1	
	3		496.4			
	4				3.6	REC 4.8 LOSS 0.3 UNACC 0.3
491.7	5					DEP 5.0
	6		SLS GR, M-H, SA INTERBD W/F.GR. SS MOCK BKN 491.7 - 491.6		2	TIDEP 5.1 PULL #2 START 8:55 END 9:20 TIME 25 MIN
	7				7.5	DRL 25 MIN RAN 9.9
488.9	8					REC 9.9
	9		SANDSTONE F.GR. GR. M.H. THIN BD		3	LOSS 0 UNACC 0
	10					
	11				11.0	
485.2	12		SLS GR, M.H, SA INTERBD W/F.GR. SS.		4	
	13					
	14					
	15				15.7	TIDEP 19.9 DEP 15.0
481.1	16					PULL #3
	17		CLS S. GR. SH,		5	START 10:05 END 10:40 TIME 35 MIN
479.8	18		SANDSTONE GR, H-M H, M-FGR. SHALE SEAM (BRN) 476.0		17.7	DRL 35 MIN
	19				6	RAN 10.8
	20		477.8 (CONT)		(CONT)	REC 10.2 LOSS 0 UNACC 0 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. P-39/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.8

Hole No. R-39/1

PROJECT: GALLIPOLIS LOCK + DAM

INSTALLATION: ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		OCC SH, STRINGERS 479.5-		21.3	
	22		473.6			
473.6	23				7	
	24		CLS			
471.8	25		GR, S, SH, OCC SLT, SCOURSBY BTN 472.6-471.6			DCP+TIDCP 25.2
	26		ICL		25.6	PULL #4
	27		R. BR, S, OCC MOTTLED			START 11:10
	28		W/GR-GNGR, NUM. SLT			END 11:25
	29		MECH BRN 469.7-467.5		8	TIME 15min TIDCP 27.1
	30		467.9-467.6 SLT BELOW			DRL 15min
	31		469.6 W/MOTTLGR			RAN 3.1
	32				28.9	REC 1.7 DCP 28.3
	33					LOSS 0.2 PULL #5
	34					UNACC 0.2 START 8:31
	35					END 9:13
	36					TIME 92min
	37				9	DRL 92min
459.9			FINISH HOLE			RAN 8.3
	38					REC 6.6
	39					LOSS 1.3
	40				32.8	1 UNACC 1.3
	41					PULL #6
	42					START 9:40
	43					END 9:56
	44					TIME 16min TIDCP 35.4
					10	DRL 16min DCP 35.9
						RAN 3.5
						REC 3.5
					37.9	LOSS 0
						UNACC 0
						DCP+TIDCP 38.5

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-39/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-39 STA 8+60.8
3. DRILLING AGENCY: W. G JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-39/2
5. NAME OF DRILLER: DOWELL NORIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.9
8. DEPTH DRILLED INTO ROCK: 90.5
9. TOTAL DEPTH OF HOLE: 456.9
10. SIZE AND TYPE OF BIT: 4 7/8 H
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/29/88; COMPLETED 12/30/88
17. ELEVATION TOP OF HOLE: 497.9
18. TOTAL CORE RECOVERY FOR BORING: 40.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SANDSTONE			PULL #1
	1		LTGR, H.; M-CGR., FC			START 16.35
						END 16.55
	2		SURFACE STAIN 499.9-493			TIME 20 min
					1	DRL 20 min
	3		CCC SH+CL STRINGERS			RAN 5.0
						REC 4.8
						LOSS Ø
493.9	4		+ FRAG		3.7	UNACC Ø
			SLS			
492.9	5		GN-GR S, SH CLS FAM 493.9			
			SLIGHT BRN 492.6-492.9			DEP 5.0
						TIDE 5.1
			SANDSTONE			PULL #2
	6		GR-LTGR, M.H, V-F-		2	
						START 17.10
	7		M.GR. CCC MIC, VCF. GR			END 17.35
					7.3	TIME 25 min
	8		TO SLT ABOVE 490.1, OCC			DRL 25 min
						RAN 11.2
	9		IRON STAIN 488.1-487.2			REC 9.4
					3	LOSS Ø
	10		CAL-CEM. 485.8-484.9			UNACC Ø
					10.9	
	11		SMALL SLS, FRAG. 482.6-			
	12		482.0, SCATTERED BRN		4	
	13		SH SEAM 482.6-481.7			
	14		SH STRINGERS 478.8			
					14.5	
	15		- 479.3			
	16				5	
						TIDE + DEP 16.2
	17					PULL #3
						START 18.20
479.3	18					END 18.55
					18.1	TIME 35 min
			SLS		6	DRL 35 min
	19		GR, S. SH, CLS ABOVE 478.9			RAN 8.8
			BRN 478.9-478.8, 477.8-477.3		(CONT)	REC 10.1
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM
HOLE NO.: R-39/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-39/2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #3
477.2	21		SANDSTONE GR, M.H, F-MGR,, FRAC 477.0-476.5		21.5	LOSS 0.9 UNACC 0A
	22					
	23				7	
473.1	24					
472.3	25		SLS GR. S. Shaley			TIDEP 29.4 DEP 25.0
	26		CLS GR, S, CLAYey, BRN 471.3-471.1, 469.6-469.4		25.5	PULL #4
	27				8	START 18.55 END 21.50 TIME 2HR55min DRL 2HR55min RAN 8.2 REC 6.4 LOSS 0 UNACC 0
469.4	28				29.0	
	29		ICL R.BR, S, occ MOTTLED W/ GR-GNGR. SCUEPLY BRN 468.7-468.7, 468.4-467.8 467.1-466.3, FESTAIN, FGR 3S 466.3-466.2 SLT BRLOW 466.2		9	TIDEP 33.1
	30					
	31					
465.1	32				32.3	
	33		CLS GR.S, Sh, occ MOTTLED W/ R.BR-GN-GR		1	DEP 33.2
	34					PULL #5
462.7					10	START 10:45 END 11:45 TIME 1HR DRL 1HR RAN 4.7 REC 4.2 LOSS 0 UNACC 0
	35		ICL R.-BR, S, SA, MOTTLED		35.3	
	36					PULL #6 START 8:00 END 8:21 TIME 21min DRL 21min RAN 5.2 REC 2.6 LOSS 2.6 UNACC 2.6 DEP 38.1
	37		W/occ GR.-GNGR., M-			
	38		SCU-PLY BRN THROUGHOUT		11	
	39					
	40					
456.9			Bottom Hole		40.5	DEP + TIDEP 40.5
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock+Dam | HOLE NO. R-39/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-90 STA 8+90B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-90/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.4
8. DEPTH DRILLED INTO ROCK: ≈38.5
9. TOTAL DEPTH OF HOLE: 458.9
10. SIZE AND TYPE OF BIT: 4X5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B.53-MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/3/69; COMPLETED 1/4/69
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 37.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE			PULL #1
			LT GR. H. M-C GR, CCC			START 6.50
	2					END 7.09
			MIC, FC SURFACE			TIME 19 MIN
	3				1	DRL 19 MIN
			STAIN 497.9 - 497.1			RAN 4.6
	4				3.6	REC 4.6
						LOSS 0
	5					UNACC 0 T/DCP 4.6
491.9						D CP 4.9
	6		CLS		2	PULL #2
490.7			GR. S. SA			START 7.16
	7		SLS			END 7.33
489.6			GR. M.H. SA.		7.2	TIME 17 MIN
	8		SANDSTONE			DRL 17 MIN
						RAN 4.6
	9		GR-LT GR, M.H.-HH,			REC 4.1
					3	LOSS 0.1 T/DCP 8.7
	10		F-M GR, VEF-FGR.			UNACC 0 DCP 9.5
						PULL #3
	11		SLT ABOVE 491.9, F-MGR.		10.7	START 8.30
						END 9.07
	12		BELOW, CALCEM 491.4-			TIME 37 MIN
						DRL 37 MIN
	13		497.3, ANG. FRAC.		4	RAN 8.9
						REC 10.0
	14		480.8 - 480.6			LOSS 0
						UNACC 0
					14.9	
	15					
	16				5	
	17					
	18				18.0	
					6	
	19					T/DCP 18.7
						PULL #9
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-90/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-40/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
476.6	21				21.9	START 9:25
	22		SLS			END 10:05
	23		GR. S-M.H, SH, BKMPN.			TIME 40min
			3SPACING .3 SEAMS			DRL 40min
	24		GR. H, F-MGR, OCC SLS		7	RAN 10.2
			FRAG. 475.9-475.8, 475.5-			REC 11.1
	25		474.8, 474.6-474.4, CLS, GR, S			LOSS 0
			SH. 474.0 - 472.9, SLIGHTLY			UNACC 0
470.8	26		BLK 471.9 - 471.2		25.2	
	27		CLS		8	
	28		GR - BR, S. SEVERELY BKN			
			470.3 - 476.0, 468.7-467.5			
	29		SLS GR, M-H, SH 470.0		28.9	DrP+T/DrP 28.6
			469.5 ANG 45° PRN. W/			PULL #5
466.9	30		SLK 469.8-467.5		9	START 10:55
	31		ICL			END 11:15
	32		GR-SNGR, BKN 465.8-		31.5	TIME 20min
			464.8, 462.9-462.5,			DRL 20min
	33		460.0-459.8, SLT W/			RAN 4.8
	34		MORE GR below 461.5		10	REC 4.5
						LOSS 0
	35					UNACC 0 T/DrP 39.1
	36					DrP 39.9
					11	PULL #6
	37					START 8:15
459.6			ROTTEN HOLE		34.9	END 8:50
	38					TIME 35min
	39					DRL 35min
						RAN 4.7
	40					REC 4.5
	41					LOSS 0.2
	42				37.8	UNACC 0.2 T/DrP 37.8
	43					DrP 38.5
	44					

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PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-40/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-40 STA 8+10B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-40/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 39.5
9. TOTAL DEPTH OF HOLE: 457.4
10. SIZE AND TYPE OF BIT: 4 1/2 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.SL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/30/89; COMPLETED 12/30/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 39.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE			PULL #1
	1		LT.GR., HARD, m-c.GR.			START 9:30
	2		FC, SURFACE STAINED		1	END 9:45
	3		496.9 - 496.7			TIME 15 MIN
	4					DRL 15 MIN
	5					RAN 4.1 LOSS 0
490.8	6				3.8	REC 4.1 UNACC 0
						DEP+T/DEP 4.1
						PULL #2
						START 9:52
						END 10:06
					2	TIME 14 MIN
						DRL 14 MIN
	7		SLS			RAN 5.0
	8		gr., m-H, sg, SH w/		7.5	REC 5.0
	9		BKN PN. 0.2 SPACING			LOSS 0
	10		490.8 - 488.6, SEVERELY			UNACC 0
	11		BKN 489.1 - 488.8, MECH			DEP 9.3 T/DEP 9.1
	12		BKN 487.8; 487.6, 489.8 -		3	PULL #3
	13		489.7, THIN BD SS F.GR			START 10:23
482.8	14		BELOW 486.2			END 10:00
					11.3	TIME 17 MIN
						DRL 17 MIN
						RAN 3.9
						REC 3.9 T/DEP 13.6
					4	LOSS 0
						UNACC 0 DEP 13.7
						PULL #4
			SANDSTONE		14.6	START 10:55
	15		LTGR-GR, MI. H., F.GR.			END 11 06
	16		MI.GR 480.1 - 477.5			TIME 11 MIN
	17		MECH CHIPPED 477.2 -		5	DRL 11 MIN
	18		478.9, SLS, GR M.H. SG.			RAN 4.5
	19		477.9 - 476.4, SLT below			REC 4.5 UNACC 0
	20		476.9 (CONT)		18.0	LOSS 0
						DEP 18.2 T/DEP 18.0
					6 (CONT)	PULL #5
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS + DAM | HOLE NO.: R-40/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-40/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORHCD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #5
	21				6	START 11.21
475.1						END 1:90
					21.8	TIME 19 min
			SLS			DRL 19 min
	23		GR. M-H. SA., MOD TO			PAN 9.7
					7	REC 9.7
	24		SEVERELY BKN, 479.2-			LOSS ∅
						UNACC 6
	25		472.9			
					25.3	
470.7	26					
	27		CLS		8	
			GR-GN/GR, S-VES, CL			T/DEP 27.6
	28		470.7-469.2, SLTY BELOW 468.5			DEP 27.9
			SEVERELY BKN 469.5-469.2,			PULL #6
	29		468.5-467.9, ICL, R-BR		29.0	START 1:35
			S, CL 469.2-468.5			END 2:35
466.7	30					TIME 1 HR
			ICL			DRL. 1 HR
	31		R.-BR, S-VES, MOTTLED		9	PAN 10.0
						REC 6.8
	32		W/PURPLISH-R, BKN 466.0-			LOSS ∅
						UNACC ∅
	33		465.0, SEVERELY BKN 469.9-		32.9	
462.8	34		463.8			
			SLS		10	PULL #7
	35		GR. S-M.H SA., CCC			START 15:50 T/DEP 35.4
			X-STY, MOTTLED WK-BR			END 16:15
	36		467.8-459.9, BKN PN, 14		36.4	TIME 25 min
			SPACING SEVERELY BKN			DRL 25 min
	37		460.5-460.9			PAN 5.0
459.9					11	REC 4.8 DEP 37.9
	38		ICL			LOSS ∅
			R-BR, S-VES. CLAYEY			UNACC ∅
457.6	39		BOTTOM HOLE		39.3	T/DEP 39.3
						DEP 39.5
	40					
	41					
	42					
	43					
	44					

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PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-40/2

Hole No. R-411

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-91 STA 8+00B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-411
5. NAME OF DRILLER: WAYNE TILE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.1
8. DEPTH DRILLED INTO ROCK: 39.2
9. TOTAL DEPTH OF HOLE: 457.9
10. SIZE AND TYPE OF BIT: 4 VS 1½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/30/89; COMPLETED 12/30/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 39.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1–6		SANDSTONE LT.GR., M, M-CGR. FE SURFACE STAIN 497.1-496.9, THIN SH STRINGERS 490.7-490.6		1 (3.8)	PULL #1 START 9:20 END 9:31 TIME 11 MIN DRL 11 MIN RAN 5.0 REC 5.0 LOSS 0 UNACC 0 DEPTH/DEP 5.0
490.6					2 (7.5)	PULL #2 START 9:40 END 10:04 TIME 24 MIN DRL 24 MIN RAN 10.0 REC 10.0 LOSS 0 UNACC 0
486.1	7–11		SLS GR., M-H., SA. SCOURED BKN 490.3-489.6 GRADATION THIN BDS F.GR SS BELOW 489.6 SLT SS. M.H GR. 489.3-488.3		3 (16.0)	
489.1	12–13		SANDSTONE GR. M.H. F-VF.F.GR. SLT.		4 (14.8)	T/DEP 14.8 DEP 15.0
482.3	14–15		SLS GR S-M.H, SA, BKN DN.1 SPARING		5 (18.2)	PULL #3 START 10.21 END 10.42 TIME 21 MIN DRL 21 MIN RAN 9.8 REC 10.0
477.8	16–19		SANDSTONE GR. M.H. M-FS R., SMALL SLS FRAG 479.4 W/ STRINGERS 478.5		6 (CONT)	(CONT)
	20		SLS GR, M.H SA,			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS + DAM | HOLE NO. R-911

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-4111

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.6	20		SLS gr m.H-sa			PULL #3
	21		SANDSTONE gr, m-H., F-VF.		6	LOSS Ø UNACC Ø
479.8	22				21.9	
	23		CLS gr., s. sh. scvrly BKN 472.1 - 471.9, SLT Below 471.9		7	
	24					
	25					DEP 25.0 T/DCP 29.8
470.9	26				25.7	PULL #9
	27		ICL R.-BR, S - VF.S. mottled w/gr-gn.gr., BKN 469.9 - 469.8, 469.7 - 469.6 scvrly BKN 468.6 - 466.8, 464.0 - 463.3 SLT Below 462.1 ANG.PN. 30° w/SLK 459.9 - 459.7		8	START 11:09 END 11:30 TIME 21min DRL 21min RAN 10.0 REC 9.9 LOSS 0.6 UNACC 0.6
	28					
	29				29.9	
	30				9	
	31					
	32					
	33				33.1	
	34					
	35				10	DCP 35.0 T/DCP 34.9
	36					PULL #5
	37					START 13.45 END 13:57 TIME 12min
	38				37.2	DRL 12min RAN 4.2 REC 4.2 LOSS Ø UNACC Ø T/DCP 38.5
457.9	39		LIG + DK. GLE		11	
	40				39.2	DCP 39.2
	41					
	42					
	43					
	44					

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PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-4111

Hole No. R-41/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-41 STA 7+68 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-41/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 38.4
9. TOTAL DEPTH OF HOLE: 458.8
10. SIZE AND TYPE OF BIT: 4 1/2 X 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/30/88; COMPLETED 12/30/88
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 32.7 %
19. SIGNATURE OF INSPECTOR: JMW

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE			PULL #1
	1		LT. GR, H, M-CGR,			START 16.50
						END 17.02
	2		BKN PN W/0.1 SPACING		1	TIME 12 MIN
						DRL 12 MIN
	3		497.2 - 496.2, NUM SH			RAN 5.0
					3.7	REC 5.0
	4		STRINGERS 492.8 - 492.9			LOSS 0
						UNACC 0
	5					DEP + T/DEP 5.0
						PULL #2
490.4	6				2	START 17.20
						END 17.37
	7		SLS		7.2	TIME 17 MIN
			GR-GN GR. M.H, SA,			DRL 17 MIN
	8					RAN 4.8
			LT GR. CL SEAM 490.8 -			REC 4.9
	9				3	LOSS 0
			490.7 SH, BKN 490.2 -			UNACC 0 T/DEP 9.6
	10					DEP 9.9
			488.4, 488.8 - 488.1			PULL #3
486.0	11				10.7	START 17.52
			SANDSTONE			END 18.08
	12		GR, M.H F. VF. GR.			TIME 16 MIN
					4	DRL 16 MIN
484.3	13					RAN 9.2 UNACC 0
						REC 3.7 T/DEP 13.6
	14		SLS		14.1	LOSS 0 DEP 14.0
			GR. M.H, SA			PULL #4
482.3	15					START 18.20
			SANDSTONE			END 19.40
	16		GR. M.H F. GR., SH		5	TIME 20 MIN
						DRL 20 MIN
	17		STRINGERS 479.9 - 477.7			RAN 9.0 UNACC 0
479.5					17.7	REC 9.0 T/DEP 17.7
	18		SLS		6	LOSS 0 DEP 18.0
			GR, M.H, SA BKN PN		(CONT)	PULL #5
	19		W. 1/SPACE 0.1 478.2 - 477.7			START 18.55
477.7						END 19.15
	20		SANDSTONE (CONT)			TIME 20 MIN
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS + DAM HOLE NO. R-41/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-91/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL#5
	21		GR-LT.GR., M.H, F.GR.			DRL 20min
					21.1	RAN 9.9
			GRADATIONALLY THIN			REC 9.9
475.1	22		INTERBDD W/SANDY SLS			LOSS 0
						UNACC'D
			CLS			T/DCP 22.3
	23					DCP 22.9
			GR, S. SH, BKN PN		7	PULL#6
	24					START 19:35
			@.2 SPACING, MICCH			END 20:18
	25					TIME 43 min
			BKN 475.1-479.5, THIN		24.9	DRL 43 min
	26					RAN 7.6
			CL STRM 0.2 SPACING			REC 8.2
						LOSS 0
	27		474.5-472.3, MCR ECL		8	UNACC'D 0
469.0	28		Below 470.4			
			ICL		28.7	
	29					
			R. BR, S.-VES., MOTTLED			
	30					DCP 30.5 T/DCP 30.3
			W/GR + GN GR, V.S. +CL		9	
	31					PULL#7
			ABOVE 463.3 /SLT BELOW			START 21:10
	32					END 22:12
			463.3 BKN 467.9-467.6		32.4	TIME 1HR 2min
	33					DRL 1HR 2min
			466.8-466.6			RAN 7.4
	34					REC'D 7.0
			SEVERELY BKN 465.3-463.3		10	LOSS .4
	35					UNACC'D .4
	36				36.1	
					11	
	37					
457.9			BOTTOM HOLE		37.7	T/DCP 37.1
	38					DCP 38.4
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. L-91/2

DRILLING LOG | DIVISION ORD | Hole No. R-42/1

1. PROJECT: GALLIPOLIS LOCK+DAM	INSTALLATION: ORH-20
2. LOCATION (Coordinates or Station): MONO R-42 STA 7158 B	10. SIZE AND TYPE OF BIT: 4 7/8
3. DRILLING AGENCY: W. G. JAQUES	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
4. HOLE NO. (As shown on drawing title and file number): R-42/1	12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
5. NAME OF DRILLER: WAYNE TICE	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	14. TOTAL NUMBER CORE BOXES: 11
7. THICKNESS OF OVERBURDEN: Ø 497.2	15. ELEVATION GROUND WATER: N/A
8. DEPTH DRILLED INTO ROCK: 42.7	16. DATE HOLE: STARTED 12/30/88; COMPLETED 12/30/88
9. TOTAL DEPTH OF HOLE: 45.5	17. ELEVATION TOP OF HOLE: 497.2
	18. TOTAL CORE RECOVERY FOR BORING: 42.7 %
	19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE			PULL #1
	1		LT.GR.-GR, M, M-C.GR.			START 15:00
						END 15:06
	2		OCC MIC. GRADATIONAL		1	TIME 6 min
						DRL 6 min
	3		W/CONOSE GR. @ Bottom to			RAN 5.0
						REC 5.1
	4		M.GR AT TOP CL'SEAM 496.3		3.6	LOSS Ø
						UNACC Ø
492.2	5		496.0, SH STRINGERS 492.3-492.2			
			SLS			DEP 5.0
	6		GN.GR-GR, S-M.H, SA		2	TIP 5.1
						PULL #2
	7		CL W/SH 492.2-489.9,			START 15:14
					7.1	END 15:25
	8		487.0-486.9, F.GR. SS.			TIME 3 min
						DRL 3 min
	9		488.4-488.0, HIGH ANG		3	RAN 10.1
						REC 10.0
	10		FRAC 488.5-487.7, I			LOSS Ø
					10.8	UNACC Ø
	11		INTERBED VF.GR. SS 1.5'			
	12		BELOW 486.5			
					4	
	13					
	14					
					14.3	
482.1	15					
			SANDSTONE			DEP+T/DEP 15.1
	16		GR-LT.GR., MH, VF-M.GR.		5	PULL #3
						START 16:25
	17		OCC MIC, MI GR 482.1-479.1			END 16:40
						TIME 15 min
	18		475.3-473.7 F-VF. 480.7-		17.9	DRL 15 min
					6	RAN 9.9
	19		475.3, SMALL SLS FRAG 479.6		(CONT)	REC 10.1
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO. R-42/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-42/1

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		SLS SCAM GR, M-H, SA.			LOSS Ø
	22		978.7-978.8, 977.7-977.9		21.6	UNACC Ø
473.9	23		975.5-975.6		7	
	24		SLS			
	25		SR, m H, Sh, ANG, DN.		25.2	DrP 25.0
	26		20° W/SLK 972.6-972.5, 971.3			T/DrP 25.2
470.5			972.2			PULL #4
	27		CLS		8	START 17.10
	28		GR, S, Sh. ANG DN 20° W/SLK			END 18.15
468.7			469.5, 469.2, 469.3, 468.7			TIME 1HR 5MIN
	29		ICL		29.0	DRL 1HR 5MIN
	30		R. BR, S, MOTTLED,			RAN 10.1
	31		W/GR. GN, SR, SLT, NUM		9	REC 6.2
	32		ANG, DN, W/SLK 0°-45°			LOSS 0.2
	33		THROUGHOUT ~0.3 SPACING		32.7	UNACC 0.2
	34		BKN 965.1-969.0, 959.7-			T/DrP 31.6
	35		959.4, MOD SPIN 962.8		10	DrP 35.1
	36					PULL #5
	37				36.9	START 18.55
	38					END 19.45
	39				11	TIME 50MIN
	40					DRL 50MIN
	41					RAN 7.6
	42					REC 7.7
459.5			BOTTOM HOLE			LOSS 3.9
	43				42.7	UNACC 3.4
	44					DrP+T/DrP 42.7

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK+DAM | HOLE NO R-42/1

Hole No. R-42-2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONOLITH R-42
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-42/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0 497.3
8. DEPTH DRILLED INTO ROCK: 37.3
9. TOTAL DEPTH OF HOLE: 460.0
10. SIZE AND TYPE OF BIT: 4" X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: CS-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER:
16. DATE HOLE: STARTED 11/2/89; COMPLETED 11/3/89
17. ELEVATION TOP OF HOLE: 497.3
18. TOTAL CORE RECOVERY FOR BORING: 38'
19. SIGNATURE OF INSPECTOR: DMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	0					
	1		SANDSTONE, SLY, M.S., M-SR, M.H.			PULL #1
			M.S. [illegible] S.S			START 7:40
			LAM & CC. M.S.,			END 7:50
	2		PT 1.0-1.5, S/S			TIME 10
			LAM 1.6-2.0, IM. CG			DRL 10
			2.2-2.4 [illegible]			RAN 4.6
	3		4.1-4.4 SMOOTH, OCR			REC 5.0
			PTS. 2.45. WCH CONT			LOSS 0
			2.5-3.5			UNREC 0
	4					DEP 4.8
					1.	TDEP 4.8
					3.8	
	5					DEP & TDEP 4.8
492.1						
			CLS S., M-GR. ACC.			PULL #2
	6		SH/		2.	START 7:58
						END 8:13
						TIME 15
490.4						DRL 15
	7		SLS-S-M, h, m.gr		7.1	RAN 4.4
			SH. PT., SL/ M.			REC 4.2
	8		SPACED for PTS			LOSS 0
			[illegible] & hout grading			UNREC 0
			MORE SH & / depth 0		3.	
	9		Contact			TDEP 9.0
						DEP 4.2
	10					PULL #3

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-42/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. R-42-2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS.		3.	PULL #3
					10.7	START 8:30
486.1	11					END 9:05
			SANDSTONE, sly,			TIME 35
	12		fig., m.h., m. gr.			DRL 35
			w/ sly LAM. 0 ptg.			RAN 10.1
			w/ TR. gr. cl. coa.		4.	REC 10.1
	13		@ 11.5 ptg. @ sly			LOSS 0
			LAM. @ 12.7; less			UNHCC 0
			sly. with depth grading			
	14		v. sly @ 13.8; 0.1 s.		14.2	
			gr cl. @ 19.1-19.2;			
	15		Picking up thin			
			dk. gr. sly lam			
			@ 19.2			
	16		11.2 - 22.6 TOTAL		5.	
			Lithology			
	17					
					17.9	
	19					T/DSE 19.3
						DSE 19.3
					6.	PULL #4
	20					START 7:16
						END 9:55
						TIME 35
	21					DRL 35
					21.3	RAN 7.5
					7	REC 7.0
	22		(CONT)		(CONT)	

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. R-42-2

DRILLING LOG (Cont Sheet) 497.3 Hole No. R-42/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE			PULL #4
	23		CLS, SLY., SHY., S DK. GR., V. BKN. THROUGHOUT GRADING INTO SLS.		7.	LOSS 0 UNACC 0
	24					
	25				25.1	
471.0	26					T DEP 26.3
	27		SLS. R. LR., S., SLY V. BKN. THROUGHOUT W/OCC. CORE LOSS (MECH)		8	DEP 26.8
	28					PULL #5 START 10:10 END 10:30 TIME 20 DRL 20 PEN 2.8 REC 3.6 LOSS 0 UNACC 0
	29				28.5	DEP 29.6
	30					T DEP 29.9
	31				9	PULL #6 START 10.50 END 11.07 TIME 17 DRL 17 PEN 5.2 REC 5.6 LOSS 2.3 UNACC 3.3
	32					
	33					
	34		(CONT)		(CONT)	T DEP 33.8

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: Gallipolis Lock & Dam HOLE NO. R-42/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. R42/2

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		SLS, R. BR, S, SLK V bKN. throughout W/occ, CORE LOSS. (MECH)	—	9.	DEP 34.8
	35				35.3	PULL #7 START 11:20 END 12:10
	36				10.	TIME 5 DRL 5 RAN 3.6 REC 4.2 LOSS 0 UNHCC 0
460.0	37					
	38					TDEP 38.0 DEP 38.4
	39					

ENG FORM 1836-A JUN 67 | GPO: 1969 OP—329-243 | PROJECT GALLIPOLIS LOCKS DAM | HOLE NO. R-42/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONOLITH R-43 STA 7+16 "B"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R44/1
5. NAME OF DRILLER: POWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.0
8. DEPTH DRILLED INTO ROCK: 38.9
9. TOTAL DEPTH OF HOLE: 458.1
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 12/30/68; COMPLETED 1/3/69
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	0–3		SANDSAND sly. M-C.g., m.h., gR.		1	PULL #1 START 21:00 END 21:20 TIME 20 DRL 20 RAN 5.2 REC 5.0 LOSS 0 UNACC 0
493.1					3.8	
	4–6		ICL - S, R.bR, gREENISH gR, SLK VE S. ANGLE CONTACT			DEP 5.2 TIME 5.1
490.6					2.	PULL #2 START 21:35 END 22:10 TIME 35 DRL 25 RAN 10.3 REC 9.6 LOSS .3 UNACC .3
	7–10		SANDSTONE sly. f'ig m. l'ig gR HA., hld iRR, +. 85-91 becoming Ltgr. in COLOR AT gR. in COLOR @ 19.9		7.3	
			(CONT)		3	(CONT) (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & Dam
HOLE NO.: R-43/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-43/1

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE		3	PULL #2
			SLY FIG, M, H.G.12.			
	11		HH, HLd IRR, it 8.5-9.1		11.0	
			becoming LT. GR.			
			IN COLOR @ 9.9.			
	12					
					4.	
	13					
	14					
	15			14.9		T/DCP 14.9
						DEP 15.5
	16					PULL #3
						START 22.15
				5.		END 22.45
	17					TIME 30.
						DRL 30.
						RHN 9.6
	18					REC 7.9
						LOSS 0
						UNACC. 0
				18.5		
	19					
	20					
				6		
	21					
	22		(Cont)	21.9		(Cont)

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCKS & DAM | HOLE NO. R-43-1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.0 — Hole No. R-43/1

PROJECT Gallipolis Locks & Dam — INSTALLATION ORH-CD — SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE			PULL #3
474.5						T/DEP 22.9
	23		CLS; S; d K. gr.			
473.1					7.	
	24		SLS; SA, M.g., ccc Shy, S - m.h. grading into			
472.0	25					DEP 25.1
			Icl R. BR. /gREENISH GR., S; SLK, V. DKN THROUGH OUT		25.4	PULL #4
	26					START 23:00
						END 23:30
						TIME 30
						DRL 30
						RMN 3.9
	27					REC 6.9
					8.	LOSS 0
						UNREC 0
	28					
	29				29.1	T/DEP 29'6
						DEP 29.7
						PULL #5
	30				9	
						START 7:45
						END 8.15
						TIME 30
						DRL 30
						RMN 4.3
	31					REC 4.2
						LOSS 0
						UNREC 0
	32					
					32.7	
	33				10	
	34		(CONT)		(CONT)	DEP 34.0 T/DEP 33.9

ENG FORM 1836-A JUN 67 — GPO: 1969 OF—329-243

PROJECT Gallipolis Locks & Dam — HOLE NO. R-43/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-43/1

PROJECT: Gallipolis Locks & Dam | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL R.-BR./GREENISH GR, S, SLK, V. BKN THROUGH OUT			PULL #6
	35				10	START 8:40 END 9:03 TIME 23 MIN DRL 23 MIN RAN 5.0 REC 5.0
	36				36.9	LOSS 0
						UNHCC 0
	37				11	
	38					
458.1			BOTTOM HOLE		38.9	DEP 39.0 +1 DRP 38.9
	39					
	40					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT Gallipolis Locks & Dam | HOLE NO. R-43/1

Hole No. 1 (R-43/2)

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS	
1. PROJECT: GALLIPOLIS LOCK & DAM	10. SIZE AND TYPE OF BIT: 4" X 5½"
2. LOCATION (Coordinates or Station): MONOLITH R-43 / STA 10+48 "3"	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
3. DRILLING AGENCY: W.G. JAQUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
4. HOLE NO. (As shown on drawing title and file number): R43/2	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: D. HARPER / STEVE FRYE	14. TOTAL NUMBER CORE BOXES: 11
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: 0	16. DATE HOLE: STARTED 1/3/89; COMPLETED 1/3/89
8. DEPTH DRILLED INTO ROCK: 37.8	17. ELEVATION TOP OF HOLE: 497.4
9. TOTAL DEPTH OF HOLE: 459.6	18. TOTAL CORE RECOVERY FOR BORING: 37.8 %
	19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	0					PULL #1
	1		SHNDSTONE, sly. M-C. g. M. h. M. GR., MIC S. GR. CL. tnd contact			START 1:15 END 1:25 TIME 10 DRL 10 RUN 5.1 REC 5.1 LOSS 0 UNUSU 0
	2				1	
	3					
	4				3.7	
	5					DEP/T-DEP 5.1
491.3	6					PULL #2
	7		SLS, sly dk gr. S. grading		2	START 1:35 END 1:50 TIME 15 DRL 15 RUN 4.7 REC 4.7 LOSS 0 UNUSU 0
481.7					7.3	
	8		SLS / SS.			
	9		ENTSILC, SS. - fig M. h. GR SLS - MIC GR. SH, S, MI, h OCC. NOR, PTS @ SLS. SS CONT. GRS RUN 11.5-11.5 & 11.7-11.9 (CONT)		(CONT)	DEP/T-DEP 9.8
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-43/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. R #3/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS / SS		3.	PULL #3
					10.6	
	11		Interbdd, ss-dig			
			M. h. GR., SLS - m.gr.			START 2:00
	12		SH., S-m-h occ.			END 2:33
			hor. PTG @ SLS/SS		4.	TIME 33
	13		CONT CLS LAM			DRL 33
			11.0 - 11.5 & 11.7 - 11.9			RAN 9.7
	14		good CONTACT			REC 9.5
					14.3	LOSS 0
	15					UNACC 0
	16				5.	
	17					
	18				18.0	
	19					
						T DEP 19.3
						DEP 19.5
	20				6.	PULL #4
	21					
					21.2	
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO 1969 O-F—329-249

PROJECT: GALLIPOLIS LOCKS & DAM R #3/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 4974 — Hole No. R-43/2

PROJECT: Gallipolis Locks & Dam — INSTALLATION: ORH-CD — SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant:) g
	22		SLS / SS			
474.7					7.	PULL #4
	23		CLS			START 3:20
			dk. gr, s., occ slk			END 3:40
	24		M spaced pTgs			TIME 20
			w/ltr. gr. cl. coa			DRL 20
					24.7	RAN 7.1
	25		s. dk. gr cl. ccr @ 23.1			REC 7.1
			v. bkn. 25.3-26.1 WI			LOSS 0.2
	26		0.2' cc (mech)		8.	UNACC 0.2
470.8						DEP/T-DEP 26.6
	27		ICL			PULL #5
			R. br. / gr. gr, s			START 3:45
	28		VE. bkn. Throughout			END 4:03
			0.5 LC between		28.1	TIME 18
	29		26.6 & 30.6 a.s. LC			DRL 18
			btwn 32.6 & 37.8			RAN 3.5
	30					REC 3.5
					9.	LOSS .5
	31					UNACC .5
						T/DEP 30.6
						DEP 31.1
	32				31.7	PULL #6
					10.	START 4:56
	33					END 5:08
						TIME 12 T/DEP 32.8
						DRL 12
						RAN 3.1
	34		(CONT)		(CONT)	REC 1.7
						LOSS .5
						UNACC .5 (CONT)

ENG FORM 1836-A JUN 67 — GPO 1969 OF—329-249

PROJECT: Gallipolis Locks & Dam — HOLE NO. R-43/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 497.4

Hole No. R-43/2

PROJECT Gallipolis Locks & DAM

INSTALLATION ORH-CD

SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL			PULL #6
	35		R. BR. /gr. gr., S		10.	PULL #7
			VE. BKN.			START 5:33
			THROUGHOUT O.S.		35.4	END 6.00
	36		LC BTWN 32.8			TIME 27
			& 37.8.			DRL 27
						RAN 3.4
	37					REC 5.0
					11	LOSS 0
459.6						UNACC 0
	38					T-DEP 37.8
						DEP/ 38.1
	39					

ENG FORM 1836-A JUN 67

GPO 1968 O-329-243

PROJECT Gallipolis Locks & Dam | HOLE NO. R-43/2

Hole No. R-44/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: CPH-CO
SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONOLITH R-44 / STA 6+74 "B"
3. DRILLING AGENCY: W.G JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-44/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.6
8. DEPTH DRILLED INTO ROCK: 39.0
9. TOTAL DEPTH OF HOLE: 457.6
10. SIZE AND TYPE OF BIT: 4" & 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11-3-89; COMPLETED 11-3-89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 39.0 %
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6			SANDSTONE - SLY, M, C.G., M.H. MW. GR.			PULL #1
	1					START 7:30
						END 7:47
						TIME :17
						DEP 17
					1.	RAN 4.1
	2					REC 4.1
						LOSS 0
						UNACC 0
	3					
					3.7	
492.5	4					DEP / T DEP 4.1
			CLS., S., dk gr EEN Problem: HREN 0.7 LC. V.S 4.1 - 4.4			PULL #2
	5					START 10:03
491.2						END 10:25
						TIME 22
					2.	DEP 22
	6					RAN 10.4
						REC 9.3
	7					LOSS 0.7
					7.0	UNACC 0.7
458.7			SLS - SA, GR, M.H.			
	8					
					3	
457.7			CLS - dk. gr, S.			
	9					
			SLS - SA, M.H., MGR CLS. LENS 9.1-9.2 GRADING			
	10					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & Dam HOLE NO. R44/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.6 Hole No. R-44/1

PROJECT GALLIPOLIS LOCKS + DAM INSTALLATION ORH-CD SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS - S.A. m.h., m.g.r. CLS. LENS 9.1 - 9.2 GRADING SS/SLS Interbdd - S.S. f.g. m.h., g.r. ; SLS - m.g.r. S - m.h.		3	
					10.5	PULL #2
	11					
	12				4	
	13					
	14					T/DEP 14.1
						DEP 14.1
					14.7	
	15					PULL #3
	16					START 10:56 END 11:13 TIME 17 DRL 17 MAIN 9.8 REC 10 LOSS 0 UNACC 0
	17				5	
	18					
					18.6	
	19					
	20				6	
	21					
474.6	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-249

PROJECT Gallipolis Locks & Dam HOLE NO. R-44/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-44/1

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.6	22		CLS-dkgr, s grading into		22.2	PULL #3
	23				7.	
472.5	24					T/DEP 24.1
			lcl-r. br./greenish gr, s. slk, bkn. grading into			DEP 24.3
	25					PULL #4
						START 1301
						END 13:15
					25.7	TIME 16
	26					DRL 16
						RAN 5.3
						REC 4.8
	27					LOSS 0
					8.	UNACC 0
	28					T/DEP 28.4
	29					DEP 29.6
						PULL #5
						START 1330
						END 13:48
						TIME 18
					9.	DRL 16
						RAN 5.0
						REC 5.3
						LOSS 0
						UNACC 0
463.5	33					
			CLS dkrg r. br/gr, s (cont)		10 (cont)	
	34					

ENG FORM 1836-A JUN 67 GPO. 1969 OF—328-243

PROJECT Gallipolis Locks & Dam | HOLE NO. R-44/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-44/1

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		CLS VCRG R.br./gr.S.			T/DEP 34.2 PULL #5 DEP 34.6
	35					PULL #6
					10.	START 14:03 END 14:19 TIME 16 DRL 16 RAN 5.0 REC 4.8 LOSS 0 UNACC 0
	36				36.5	
	37					
					11.	
	38					
457.5	39					T/DEP 39.0
						DEP 39.6
	40					
	41.					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT: Gallipolis Locks & Dam | HOLE NO. R-44/1

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	ORD	ORH-CD	

1. PROJECT	GALLIPOLIS LOCK + D
2. LOCATION (Coordinates or Station)	MONO R-99 STA 6+92 B
3. DRILLING AGENCY	W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number)	R-99/2
5. NAME OF DRILLER	DAVID HARPER
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	497.3
8. DEPTH DRILLED INTO ROCK	38.5
9. TOTAL DEPTH OF HOLE	458.8
10. SIZE AND TYPE OF BIT	4 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	10
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 1/9/89; COMPLETED 1/9/89
17. ELEVATION TOP OF HOLE	497.3
18. TOTAL CORE RECOVERY FOR BORING	38.5 %
19. SIGNATURE OF INSPECTOR	IMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	1		SAND STONE Shy m-cg, mh, gr			PULL #1 START 9:36 END 9:50 TIME 14min DRL 14min RAN 9.9 REC 9.8 LOSS 0 UNACC 0
492.3	5		CLS		1	
491.9	6		gr. s.		3.7	
			SLS		2	PULL #2 START 10:00 END 10:16 TIME 16min DRL 16min RAN 9.9 REC 9.9 LOSS 0 UNACC 0
490.1	7		f, sg s-m.H. F.gr		7.4	
	8		SS		3	DEP 9.8
	9		F.S shy, m.h, m.gr			
	10					PULL #3
	11				11.0	START 10:30 END 10:55 TIME 15min DRL 15min RAN 7.7 REC 7.7 LOSS 0 UNACC 0
	12				4	
	13					
	14					
	15				19.8	
	16				5	
	17					DEP 17.5
	18				18.0	PULL #4
	19				6	START 11:17 END 12:20 TIME 57min
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Lock + Dam | HOLE NO. R-99/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. R-99/2

PROJECT: Gallipolis Lock + Dam | INSTALLATION: OPH-CP | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					PULL #9
	21				6	DRL 57min
	22					RAN 9.0
	23				21.7	REC 9.0
	24					LOSS 0
	25				7	UNREC 0
471.8					25.9	
	26		CLS S-m.h. m.gR, Shy w/occ			DEP 26.5
470.8			SLS LAM. hOR. CL			PULL #8
	27		ICL			START 12:40
	28		R. BR, S, SLK. V BHN		8	END 12:55
						TIME 15MIN
	29					DRL 15MIN
					29.1	RAN 3.4
	30					REC 3.5
						LOSS 1.2
	31					UNREC 1.2
						DEP 30.2
	32					PULL #10
					9	START 1:39
	33					END 1:53
						TIME 14MIN
	34					DRL 19MIN
					32.6	RAN 3.8
	35					REC 3.5
						LOSS .3
	36					UNREC .3
						DEP 33.9
	37				10	PULL #7
						START 2:07
	38					END 2:25
458.8			BOTTOM HOLE			TIME 18MIN
	39				36.3	DRL 18MIN
						RAN 3.4
	40				11	REC 3.4
	41					LOSS 0
	42					UNREC 0
	43				38.5	
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1988 OP-528-603

PROJECT: Gallipolis Lock + Dam | HOLE NO. R-99/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-45 STA 6+32 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-95/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.6
8. DEPTH DRILLED INTO ROCK: 37.4
9. TOTAL DEPTH OF HOLE: 459.2
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/9/89; COMPLETED 1/9/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 37.9 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	0		SANDSTONE Sly, m-c.g., m.H, m.gR			PULL #1 START 11:16 END 11:40 TIME 24min DRI 24min RAN 4.7 REC 4.4 LOSS 0.3 UNACC 0.3
493.1	3				1	
			CLS/ICL m.dk.gR; R.BR S		3.7	DEPTH TIDED 4.7
488.5	8				2	PULL #2 START 11:43 END 12.00 TIME 17min DRL 17min RAN 10.0 REC 10.0 LOSS @ 1 UNACC @
			SANDSTONE F.g, m.h, Sly m.g.s, SLS LAM Becoming mass below 10.1		7.4	
					3	
					11.0	
					4	
					14.8	DEPTH TIDED 14.7
					5	PULL #3 START 12:55 END 13:02 TIME 7min DRL 7min RAN 9.3 REC 9.1 LOSS .2 UNACC .2
					18.0	
					6 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM
HOLE NO.: R-95/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. R-45/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #3
	21				6	
	22				21.7	
	23					
	24				7	DEPTH/DEP 24.0
471.9	25					PULL #9
			ICL			START 13:31
	26		R-BR, S, SLK, SKN		25.5	END 19.18
			grading into CLS			TIME 97 min
	27					DRL 97 min
						RAN 7.5
	28				8	REC 7.5
						LOSS Ø
	29					UNACC Ø
					29.1	
	30					
					9	
	31					
						DEPTH/DEP 31.5
	32					PULL #5
					32.6	START 19:37
	33					END 15:18
						TIME 91.0 min
	34					DRL 91.0 min
					10	RAN 5.9
461.7	35					REC 5.9
			CLS			LOSS Ø
	36				36.2	UNACC Ø
			VERY, R. BR/GR. S			
	37				11	
459.2			Bottom Hole		37.4	DEPTH/DEP 37.4
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-45/1

HOLE NO. R-95/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-95 STA 6+00 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-95/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 459.0
10. SIZE AND TYPE OF BIT: 9 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/9/85; COMPLETED 1/9/85
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 38.0 ft
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE			PULL #1
	2		Sly, M.-C9., M.h, GR		1	START 2:50
	3					END 3:00
	4					TIME 10 min
						DRL 10 min
						RAN 4.8
					3.8	REC 4.8
						LOSS 0
492.9						UNREC 0
						DEP + T/DEP 4.8
	5		SLS			PULL #2
	6		SA, S-M.H, M1.9R		2	START 3:10
	7		0.3 S.9R CL. 4.8-5.1		7.1	END 3:22
	8		V. BKN W/Sm. SS Lens			TIME 12 min
	9		59-73 W/10 YL. C (PB ABED)		3	DRL 12 min
487.7						RAN 4.6
						REC 4.0
						LOSS 0.9
						UNREC 0.9
						DEP 9.9 T/DEP 9.2
	10		SANDSTONE			PULL #3
	11		Fig, Sly, M.h., M1.9R		10.7	START 3:43
	12		CLS LEN 10.7-11.9			END 4:15
	13		Becoming MASS, brew			TIME 32 min
	14		11.9		4	DRL 32 min
	15					RAN 9.8
	16					REC 9.7
	17					LOSS 0.3
	18				14.1	UNREC 0.3
	19					
	20		(CONT)		5	
					17.0	
					6 (CONT)	
						DEP + T/DEP 19.2
						PULL #4
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-95/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-95/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			
475.7	21				6	PULL #9
						START 9:35
					21.5	END 5:30
	22		CLS			TIME 55 min
			S.-M.h, M.GR, SHY W/			DRL 35 min
	23					FAN 8.9
			OCC SLS LAM, HOR, CL		7	REC 9.5
	24					LOSS 0
			COAL PTGS THROUGHOUT			UNACC 0
	25				25.1	
471.2	26					
			ICL			
	27				8	
			R. DK, S, SLK V. DTN.			
	28				28.7	T/DEP 28.7
	29					PULL #5
						START 6:50
	30					END 7:15
					9	TIME 25 min
	31					DRL 25 min
						FAN 5.5
	32					REC 4.0
					33.5	LOSS 0.4
	33					UNACC 0.4 T/DEP 33.1
						DEP 33.6
	34					PULL #6
					10	START 7:35
	35					END 7:56
						TIME 21 min
	36				36.2	DRL 21 min
						FAN 4.6
	37				11	REC 4.8
						LOSS 0.1
459.2	38		BOTTOM HOLE		38.0	UNACC 0.1 T/DEP 38.0
						DRILL
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OP-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-95/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONOLITH R-46 STA
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-46/1
5. NAME OF DRILLER: POWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.5
8. DEPTH DRILLED INTO ROCK: 40.1
9. TOTAL DEPTH OF HOLE: 457.4
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/4/89; COMPLETED 11/4/89
17. ELEVATION TOP OF HOLE: 497.5
18. TOTAL CORE RECOVERY FOR BORING: 40.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5	0		SANDSTONE Sly., m-c.g., m.h. m. gr			PULL #1
	1					START 4:05
						END 4.25
					1	TIME 20
	2					DRL 4.7
						RAN 4.7
						REC 3.7
						LOSS 1.0
494.5	3					UNACC 0
			CLS/ICL		3.6	
	4		m. dk. gr., f. br, s.			
						T/DEP 1'
	5		04 btwn 4.7 & 8.6			
			1.0 LC btwn 3.0 & 4.7, w/ KN AREAS			
	6					DEP 6.0
					2.	PULL #2
	7					START 4:35
						END 5:20
						TIME 45
	8				7.9	DRL 45
						RAN 9.0
488.9						REC 5.5
					3	LOSS 3.4
						UNACC 0
			SANDSTONE			T/DEP 15.1
	11		(CONT)		(CONT)	T/DEP 10

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-46/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.5 Hole No. R-461

PROJECT GALLIPOLIS LOCK & DAM INSTALLATION ORH-CD SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE		3	TDep 10.0
			Alg; m. h, sly			PULL #2
	11		m.g.s sls, lam			START 4:35
			9.5 To 10.4 S.S.			END 5:20
			becoming MASS below		11.6	TIME 45
	12		10.4			DRL 45
						RAN 9.0
						REC 10.0
	13					LOSS 0.4
						UNACC 0
					4	
	14					
	15					DEP 15.1
					15.4	
						PULL #3
	16					
						START 5:40
						END 6:10
	17					TIME 30
					5	DRL 30
						RAN 10.0
						REC 8.1
	18					LOSS 1.1
						UNACC 0
	19				19.1	
	20				6	
	21					
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO 1968 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-461

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 497.5

Hole No. P-46/1

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SLS/CLS		6	PULL #3
	23		Interbed., m-dk gr., s-m.h. acc shy		22.9	
	24					T/DEP 24.3
	25				7	DEP 25.0
471.5	26					PULL #4
			TCL		26.4	START 6:35
	27		S., r. bk, slk			END 8:00
			v. bkn + brought			TIME 85
						DRL 45
	28					RAIN 8.6
						REC 10.5
						LOSS 0
						UNACC 0
					8	
	29					
	30				303	
	31					
					9	
	32					
						T/DEP 32.7
	33					
					337	DEP 33.6
	34		(CONT)		10 (CONT)	PULL #5 (CONT)

ENG FORM 1836-A JUN 67

GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM

HOLE NO. P-46/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. R-46/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CP | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL			PULL #5
			S, R. BR, SLK			START 9:10
	35		V. BRN THROUGHT			END 9:50
						TIME 40
					10	DRL 40
	36					RAN 6.5
						REC 3.1
						LOSS 0.2
						UNACC 0
	37					TDEP 37L
					37.3	
	38					
					11	
	39					
457.9	40		Bottom Hole		40.1	DCP 40.1 / TDEP 40.1
						PULL # 6
						START 10:45
						END 11.00
	41					DCP 41.1 TIME 25
						DRL 25
						RAN 1.0
	42					REC 4.6
						LOSS 0
						UNACC 0

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-249 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-46/1

Hole No. R-46/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MSND R-46 STA 5+58 B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-46/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 39.2
9. TOTAL DEPTH OF HOLE: 458.0
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES:
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/20/69; COMPLETED 1/20/69
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 39.2 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	0		SANDSTONE		Box 1	PULL #1
	1		M.H.GR M.G FLAGGY			START 14.26
	2		TO MASS 1.3 STA 20G			END 14.30
	3		0.8			TIME 4min
						DRL 4min
	4					RAN —
					3.5	REC 4.9
492.3	5				Box 2	LOSS 0
						UNACC 0
						DEP + TIDE P 4.9
			CLS			PULL #2
	6		S. - M.H. GR VCRYS 4.9-37			START 14.36
	7		UCRT FRAC W/SLK 6.6 to			END 14.37
						TIME 11 min
					6.9	DRL 11 min
	8		5.5			RAN — UNACC 0
488.5					Box 3	REC 5.0
						LOSS 0 1
						DEP + TIDE P 9.9
	9		CL/SLS			PULL #3
			GRADING TO SL W/DEPTH			START 14.54
	10				10.4	END 15.02
			M.H. SM, MASSIVE			TIME 8min
	11				Box 4	DRL 8min
			W/INTERBDD FG SS. UP TO			RAN —
	12					REC 4.7
			0.6 GRADATIONAL CONTACT			LOSS 0
	13					UNACC 0
						TIDE P 19.7
	14				14.1	DEP 4.5
481.6	15				Box 5	PULL #4
						START 15.09
	16		SANDSTONE			END 15.19
			M.H. GR MS MASSIVE			TIME 5min
	17					DRL 5min
			SH PARTINGS 16.6 + 17.0		17.6	RAN —
	18				Box 6	REC 5.0
			0.1 BKN ZO W/SLI CL			LOSS 0
	19					UNACC 0
			F.L AT END OF RUN			TIDE P 19.6
	20		(CONT)		(CONT)	DEP 15.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-46/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-46/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2-SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.7	20		SANDSTONE		6	PULL #5
	21		CLS		21.0	START 3:40
	22		M.H.GR, SOL'D W/			END 4:00
						TIME 20min
	23		0.1, SOFTER CL. ZONE @ 23.0			DRL 20min
					7	RAN 5.2
	24		BECONIE SH			REC 5.2
						LOSS 0
	25					UNACL 0
471.5					29.7	DEP 29.8 T/DEP 29.6
	26					PULL #6
						START 4:05
	27		FCL			END 4:35
			M.H, R-OL, SLK MOPE		8	TIME 30min
	28					DRL 30min
			MASS W/d-pth			RAN —
					28.2	REC 5.2
	29					LOSS 0
						UNACL 0
	30					DEP 29.8
					9	T/DEP 29.9
						PULL #7
	31					START 9:55
						END 5:15
	32				31.7	TIME 20min
						DRL 20min
	33					RAN 5.1
					10	REC 4.1
	34					LOSS —
						UNACL — T/DEP 34.1
	35				34.8	DEP 34.8
						PULL #8
	36					START 5:35
					11	END 5:55
	37					TIME 20min
					37.2	DRL 20min
	38					RAN —
					12	REC 5.1
						LOSS —
458.0	39		BOTTOM HOLE			UNACL — T/DEP 39.2
					39.2	DEP 39.7
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-46/2

Hole No. R-47/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONU R-47/1 STA 5+48.0 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-47/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 37.2
9. TOTAL DEPTH OF HOLE: 460.0
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/20/89; COMPLETED 1/20/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 37.2
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE		Boy 1	PULL #1
496.5			M.h. gr, m.g. FLAGGY			START 8:00
	1		ICL			END 8:20
			S, R-gR MOTTLED SOLID			TIME 20 min
	2					DRL 20 min
			TO 4.9 W/0.6 ACC LOSS			RAN —
	3					REC 4.3
			0-4.9, bKN & CRUMBLY		3.7	LOSS 0.6
	4					UNACC 0.6
			FROM 4.9 - 8.0, W/0.5		Boy 2	T/DEP 4.4
	5					DEP 5.0
			L.C. 4.7 TO 9.8, 1.0 LC			PULL #2
	6					START 8:30
			9.8 - 10.8 TOPRUN bec			END 8:42
	7					TIME 12 min
			m.h, MOSTLY SOLID & SLT			DRL 12 min
	8				7.8	RAN —
			BELOW 10.8		Boy 3	REC 4.4
	9					LOSS 0.5
			GRADING TO CLS			UNACC 0.5
	10		HT 12.8			DEP/T/DEP 7.8
						PULL #3
	11					START 8:53
						END 9:10
	12				11.5	TIME 17 min
484.4						DRL 17 min
	13		CLS		Boy 4	RAN —
						REC 3.5
	14		SH, m.h gr.			LOSS 1.0
						UNACC 1.0
	15					DEP 14.4 T/DEP 14.3
						PULL #4
	16					START 9:25
480.9					16.0	END 10:06
	17		SANDSTONE			TIME 41 min
			m.h., gr, ff, MASS		Boy 5	DRL 41 min
	18					RAN —
			FOUND IN SS 18.0			REC 9.3
	19					LOSS 0
						UNACC 3'
	20		(CONT)		19.8	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-47/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. L-47/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #4
	21					
475.2	22					
			CLS			
	23		SH, M.H, GR, SOLID		23.3	
			0.4 CLEAR UCRT FRAC			DEP/T/DEP 23.6
	24				Box 7	PULL #5
			473.6			START 10:18
	25					END 10:40
471.5						TIME 22 min
	26		FCL			DRL 22 min
						RAN —
	27		S-MH, R.3R OCC.SLKS		27.0	REC 6.0
						LOSS 0.2
	28		0.2 LC 23.6-29.8,		Box 8	UNREC 0.2
	29		0.6 LC 29.8-37.2			
						TIDE P 29.8
	30		0.2 VERY SOFT 29.6-29.8			DEP 30.4
					30.7	
	31					PULL #6
						START 10:55
	32				Box 9	END 11:30
						TIME 35 min
	33					DRL 35 min
						RAN —
	34					REC 6.8
					34.5	LOSS 0.6
	35					UNREC 0.6
					Box 10	
	36					
460.0	37		CONTACT HOLE		37.2	TIDE P 37.2
						DEP 37.9
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-47/1

DRILLING LOG | Division: ORH-CD | Installation: ORH-CD | Hole No. R-471/2 | Sheet 1 of 2 Sheets

1. Project: GALLIPOLIS LOCK + DAM
2. Location (Coordinates or Station): MONO R-47 STA 5+16 B
3. Drilling Agency: W.G. JAGUES
4. Hole No. (As shown on drawing title and file number): R-471/2
5. Name of Driller: DOWELL NORRIS
6. Direction of Hole: ☒ Vertical ☐ Inclined _____ Deg. From Vert.
7. Thickness of Overburden: 0 497.2
8. Depth Drilled into Rock: 38.4
9. Total Depth of Hole: 458.8
10. Size and Type of Bit: 4 5/8
11. Datum for Elevation Shown (USGS or MSL): M.S.L.
12. Manufacturer's Designation of Drill: B. 57 MOBILE
13. Total No. of Overburden Samples Taken: Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes: 11
15. Elevation Ground Water: N/A
16. Date Hole: Started 1/20/89; Completed 1/23/89
17. Elevation Top of Hole: 497.2
18. Total Core Recovery for Boring: 38.4 %
19. Signature of Inspector: JMD

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE M.H. GR, M.G. BKN IN SCAT		Box 1	PULL #1 START 6:50 END 7:15 TIME 25 min DRL 25 min RAN 4.9 REC 4.2
	2		0.1 - 0.5		3.7	LOSS 0 UNACC 0 TIDEP 3.5
494.5	3		ICL VS - S - V.S. / SLK BKN		Box 2	DEP 4.9 PULL #2
	4					START 7:25
	5		CRUMBLY 2.7-4.2 0.4 SEV			END 7:40 TIME 15 min
	6					DRL 15 min TIDEP 6.9
	7		BKN @ 5.5 GRADUAL CONT.		7.5	RAN 4.0
	8					REC 5.0 LOSS 0 1
488.3	9				Box 3	UNACC 0 DEP 8.9
	10		CLS			PULL #3 START 8:40
	11		SL, M. H, GR, GRAD TO			END 8:20 TIME 20 min
	12		CL, SLS BELOW 11.0		11.0	DRL 20 min TIDEP 10.9 RAN 6.0
	13		VERT CLEAV FRAC 10.1 -		Box 4	REC 0.9 LOSS 0.6
	14		11.0			UNACC 0.6
	15					PULL #4
	16				14.8	START 9:45 END 9:50 TIME 5 min DEP 14.9
	17					DRL 5 min
479.6	18		SANDSTONE M.H. GR. MASS		Box 5	RAN 2.9 TIDEP 15.9 REC 5.2 LOSS 0.6
	19					UNACC 0.6
	20		(CONT)		18.8	DEP 19.8
					Box 6	PULL #5 START 10:30
					CONT	(CONT) TIDEP 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-471/2

DRILLING LOG (Cont Sheet) — ELEVATION TOP OF HOLE 497.2 — Hole No. P-47/2

PROJECT: GALLIPOLIS LOCK & DAM — INSTALLATION: ORH-CD — SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #5
476.3	21					END 10:45
			CLS		21.4	TIME 15 min
	22					DRL 15 min
			Sh, M.H, gR. MAS		Box 7	RAN —
	23					REC 4.0
						LOSS 0
	24					UNACC 0
					29.9	DEP 29.9
	25					PULL #6
					Box 8	START 7:15
	26					END 7:30
						TIME 15 min
	27					DRL 15 min
						RAN 5.0
	28					REC 5.0
					28.3	LOSS 0
468.2	29					UNACC 0
			ICL		Box 9	T/DEP + DEP 29.8
	30					PULL #7
			Mottled, R. Br, S. - M.A			START 8:20
	31					END 8:45
			0.8 LC @ 29.0 - 29.08			TIME 25 min LOSS 0
	32					DRL 25 min UNACC 0
					32.7	RAN —
	33					REC 4.0
						T/DEP + DEP 33.8
	34				Box 10	PULL #8
						START 8:59
	35					END 9:15
						TIME 16 min
	36				36.1	DRL 16 min
					Box	RAN — UNACC 0
	37				11	REC 4.6
						LOSS 0
458.8	38		BOTTOM HOLE		38.4	DEP + T/DEP 38.4
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 O-F-625-603

PROJECT: GALLIPOLIS LOCK & DAM — HOLE NO. P-47/2

Hole No. R-98/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-48 STA 5+06.3 B
3. DRILLING AGENCY: W. C. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-98/1
5. NAME OF DRILLER: DAVE HARPER / STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.3
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 459.4
10. SIZE AND TYPE OF BIT: 4 7/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/20/89; COMPLETED 11/20/89
17. ELEVATION TOP OF HOLE: 497.3
18. TOTAL CORE RECOVERY FOR BORING: 37.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	0–2		SANDSTONE. M.H., GR, M.G, BKN IN SECTION 0.1-0.6		1	PULL #1 START 12:25 END 12:43 TIME 18 MIN DRL 18 MIN RAN — REC 4.3 LOSS 0 UNACC 0 T/DEP 4.3 DEP 5.0
494.5	3–13		ICL S, M.H., R.-GR, OCC SLR SOLID TO 9.0 W/0.2 LC. 4.3-9.0, SEV BKN 9.0-11.6 +U.S TO 13.1		2 3 4	PULL #2 START 12:50 END 1:03 TIME 13 MIN DRL 13 MIN RAN — REC 4.5 LOSS 0.2 UNACC 0.2 T/DEP 9.0 DEP 9.3
489.2	13–17		CL/SLS M.H. GR / SOLID GRADING SA 0.9 LOSS IN ICL 9.0 - 17.5		4 5	PULL #3 START 1:15 END 1:45 TIME 30 MIN DRL 30 MIN RAN — REC 7.4 LOSS 0.5 UNACC 0.9 T/DEP 17.5 DEP 18.9
480.3	17–20		SANDSTONE M.H, GR, MASS, M.G. (CONT)		6 (CONT)	PULL #4 START 2:25 END 3:03 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-98/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. L-48/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE.			TIME 38 min
476.1	21				6	DRL 38 min
	22		CLS			RAN —
			SH, M.H. GL, SLK @			REC 5.8
	23		23.6 AND 26.0, 0.2		22.7	LOSS 0.2
						UNACC 0.2
	24		LOSS 17.5 - 23.5			DEP 23.6 T/DEP 23.5
	25				7	PULL #5 T/DEP 24.2
						START 3:43
	26					END 4:00
470.8					24.3	TIME 17 min
	27		ICL			DRL 17 min
						RAN —
	28		M.H, R. SLK W/SCU		8	REC 5.4
	29		BKN ZOS W/1.8 S. ZO			LOSS 0.6
						UNACC 0.6
	30		W/1.8 S.ZO @ 27.7; 0.6		29.9	
	31		LC 970.2 - 964.2, PROB			DEP 33.1
	32		IN SEV BKN ZO @ END		9	PULL #6
						START 4:37
	33		OF RUN 0.2 LOSS 964.2			END 4:55
	34		- 959.4		33.9	TIME 18 min
						DRL 18 min
	35					RAN 4.7
						REC 0.8
	36					LOSS 0.2
					10	UNACC 0.2
	37					
459.4						
	38		BOTTOM HOLE.		37.9	T/DEP 37.9
	39					DEP 38.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-48/1

DRILLING LOG	DIVISION: ORD	INSTALLATION: ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-48 STA 4+74.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-48/2
5. NAME OF DRILLER: A. TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.1
8. DEPTH DRILLED INTO ROCK: 37.8
9. TOTAL DEPTH OF HOLE: 459.3
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/23/89; COMPLETED 1/23/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 37.9
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.7	1		SANDSTONE m-cg, m.h., m.gr, bkn s. pieces			PULL #1
	2		ICL		Box 1	START 9:42
	3		R.br., s.-m.h., slk, vf.s			END 9.57
	4		gr. cl. @ 1.4 bkn. 1.4-3.3 w/o.5 l.c. bkn			TIME 15 min
	5					DRL 15 min
	6		5.7-8.2 w/o.8 l.c.			RAN —
	7		bkn. 8.2-9.2 w/o.8 l.c.			REC 2.8 T/DEP 3.3
	8				4.1	LOSS 0.5
	9					UNACC 0.5 DEP 9.7
	10					PULL #2
	11				Box 2	START 10:00
	12					END 10:24
483.7	13					TIME 24 min
						DRL 24 min UNACC 0.8
						RAN —
						REC 4.1
						LOSS 0.8
					8.2	DEP & T/DEP 8.2
						PULL #3
						START 10:55
					Box 3	END 11:11
						TIME 16 min
						DRL 16 min
						RAN —
					11.9	REC 4.4
						LOSS 0.8
						UNACC 0.8
					Box 4	DEP & T/DEP 13.4
	14		CLS			PULL #4
	15		slty., s.-m.h., m.-dk.gr 0.1 s.gr.cl 15.1-15.2 ! 15.4-15.5			START 11:20
481.6						END 11:32
						TIME 12 min
						DRL 12 min
					16.2	RAN —
	16		SANDSTONE			REC 5.1
	17		slty., f.g., m.h., m.gr bkn. 16.0-16.2 s.gr.cl. 16.3-16.4 ; CLS 16.6 -16.7 bkn ss w/frag 17.8-17.9 ; s. CLS 17.9-18.1			LOSS 0
	18					UNACC 0
478.4					Box 6	DEP & T/DEP 18.5
	19		SLS			PULL #5
	20		Clyy., s.-m.h., m.gr (CONT)		19.8	START 12:25 (CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: R-48/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-48/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.4	20		SLS (CONT) CLS. 18.7-19.2 GRADING INTO			PULL #5
	21		CLS			END 12:35
	22		S.-M.H. - M.-DK. GR., SLY		7	TIME 10 MIN LOSS 0
	23		OKN. 22.1-22.4			DRL 10 MIN UNACL 0
	24		GRADING			RAN —
472.1	25					REC 5.0
					23.5	DEPTH/DEP 23.5
						PULL #6
			ICL			START 12:42
	26		MOTTED R. BR.,		8	END 12:55
	27		S.-M.H., SLKS			TIME 13 MIN
	28					DRL 13 MIN
	29					RAN —
					27.3	REC 5.0
						LOSS 0
						UNACL 0
						DEPTH/DEP 28.5
					9	PULL #7
	30					START 13:10
	31					END 13:13
					30.7	TIME 13 MIN
	32					DRL 13 MIN
						RAN —
	33					REC 5.0
					10	LOSS 0
	34					UNACL 0
						DEPTH/DEP 33.5
						PULL #8
	35				34.2	START 13:49
	36					END 14:04 LOSS 0
						TIME 20 MIN UNACL 0
	37				11	DRL 20 MIN
459.3			BOTTOM HOLE			RAN —
	38					REC 4.3
					37.8	DEPTH/DEP 37.8
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO 1969 OP—325-243 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-48/2

Hole No. R-99/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4 5/8"	
2. LOCATION (Coordinates or Station) MONO R-49 STA 4+64.8		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W.G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-99/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0 497.3		16. DATE HOLE: STARTED 11/20/89; COMPLETED	
8. DEPTH DRILLED INTO ROCK 39.3		17. ELEVATION TOP OF HOLE 497.3	
9. TOTAL DEPTH OF HOLE 458.0		18. TOTAL CORE RECOVERY FOR BORING 39.3 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3			SANDSTONE		Box 1	PULL #1
	1		m.h. gR, m.g BRN in sect			START 5:30
						END 5:34
	2		0.1 - 0.9			TIME 4min
494.6						DRL 4min
	3		ICL			RAN 4.9
			s, -m.h BRN w/0.4 LOSS			REC 4.5
	4				3.9	LOSS .4
			2.7 - 4.9 occ, m.h. + SOLID			UNACC .4
	5				Box 2	DEP/TIDEP 4.9
			4.9 - 6.2			PULL #2
491.1	6					START 5.50
	7		CLS			END 6.03
			m.h, gR, SLT 1.0 LC 9.0			TIME 13 min
	8				7.8	DRL 13 min
			-11.7 pb LC. 4 AT 4.9 -			RAN 5.3
	9				Box 3	REC 4.1
			9.0, 1.0 LC 9.0 - 11.7			LOSS .4
	10					UNACC .4
						TIDEP 9.8
	11					DEP 10.2
						PULL #3
	12					START 6.16
						END 6.25 TIDEP 11.7
	13				12.5	TIME 9min
						DRL 9min
484.6	14				Box 4	RAN 4.4
						REC 1.7
						LOSS 1.0
						UNACC 1.0 DEP 14.6
	15		CL/CLS			PULL #4
			m.h. gR, MINSS w/ sa			START 6.40 REC 4.9
	16		20, BRN 15.4 - 17.3 w/0.9			END 6.51 LOSS 0.9
			LOSS, POSS, CL 20, VERT		16.3	TIME 11min UNACC 0.9
479.7	17		FRAC .4 mech LC.		Box 5	DRL 11min
						RAN 2.9
	18		SANDSTONE			TIDEP 17.3
			m-h.gR. m.g. w/0.6			DEP 17.5
	19		SL/CLS 18.2			PULL #5
477.7						START 7:07
	20		CLS (CONT)		CONT	END 7:30
						TIME 23 min
						DRL 23 min
						RAN 9.1

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PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-99/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 497.3

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

Hole No. R-49/1

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 3 20.5	PULL #5
	21					REC 5.3
			Sh, m.h - sev bkn - 19.6			LOSS 0.0
	22				Box 4	UNACC 0.0
			20.5, w/0.7 ICL 23.1			
	23					T/DEP+DEP 22.6
			0.7 LOSS 22.6 - 26.2			PULL #6
	24					START 7.45
						END 8.10 LOSS 0.7
	25				29.3	TIME 25min UNACC 0.7
						DRL 25min
	26				Box 7	RAN 3.5
						REC 2.9
	27					DEP 26.1 T/DEP 26.2
						PULL #7
	28					START 9.00
468.3					28.5	END 9.10
	29		ICL			TIME 10.min
						DRL 10min
	30		m.H, R-3R SOLid		Box 8	RAN 3.9 UNACC Ø
						REC 3.1
	31		0.2 ICL TWN 29.3 & 34.6			LOSS Ø
						T/DEP 29.3 DEP 29.5
	32					PULL #8
					32.0	START 9.24
	33					END 9.35
						TIME 19min
	34				Box 9	DRL 14min
						RAN 5.1
	35					REC 5.0
						LOSS 0.3
	36					UNACC 0.3
						DEP & T/DEP 34.6
	37					PULL #9
						START 9.55
	38				35.9	END 10.05
						TIME 10min
	39					DRL 10min T/DEP 36.7
458.0			Bottom Hole		Box 10	RAN 4.2
	40					REC 5.0
						LOSS 0.3
	41					UNACC 0.3 DEP 38.8
						PULL #10
	42				39.3	START 9.35
						END 10.05
	43					TIME 10min
						DRL 10min
	44					RAN 4.7
						REC 4.7
						LOSS Ø UNACC Ø
						T/DEP+DEP 39.3

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OP-626-603

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-49/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-49 STA 4+32 R
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-49/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.7
8. DEPTH DRILLED INTO ROCK: 36.7
9. TOTAL DEPTH OF HOLE: 460.0
10. SIZE AND TYPE OF BIT: 4X5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/23/89; COMPLETED 1/23/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 36.7 %
19. SIGNATURE OF INSPECTOR: ZMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE m-c.g, m.h, m.g, m.gr brn into sm. Pieces (MAV 0.1)		Box 1	PULL #1 START 4:05 END 4:20 TIME 15min LOSS 0 DRL 15min UNACC 0 RAN — REC 4.9
495.1	2		ICL			DEP + T/DEP 2.8
	3		R. br, s, slk ve. s. gu.		3.5	PULL #2
	4		CL. 1.3-1.6 gr, sly			START 9:25
	5		4.8-7.3 : 1"s, gr, cl @ 7.3		Box 2	END 9:40 TIME 15min DRL 15min RAN — REC 1.9 LOSS 0 UNACC 0
489.4	7					T/DEP 6.8
	8		SANDSTONE		7.8	DEP 8.2
	9		sly, f.g., m.h., m.gr.			PULL #3
	10		mass, gr. cl. coa		Box 3	START 4:35 END 4:50 TIME 5min DRL 5min RAN 4.9
	11		CONTACT		11.5	REC 5.1 LOSS 0 UNACC 0
	12					T/DEP 11.9
	13				Box 4	DEP 13.1
	14					PULL #4
	15				15.1	START 5:10 END 5:20 TIME 10min DRL 10min RAN 5.6 REC 5.1 LOSS 0 UNACC 0
	16				Box 5	T/DEP 15.4
479.4	17					
	18		SLS		18.9	DEP 18.7
	19		s. - m. h.; m. - dk. gr. GRADING		Box 6	PULL #5 START 5:30 END 6:05
	20		(CONT)		(CONT)	(CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-49/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. R-49/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					
475.7	21		SLS (CONT)		Box 6	PULL #5 TIME 35 min DRL 35 min RAN 4.8 REC 6.2 LOSS 0 UNACC. 0
	22		CLS S.-m.h, m.-dk.gr., shy			T/DEP 23.2
	23		slk. ang. pbg @ 22.0		22.8	DEP 23.5
	24		ha, slk, jt @ 23.7-24.2			PULL #6
	25		shy 23.3 - 29.5		Box 7	START 6:35 END 7:00 TIME 25 min DRL 25 min
	26		Grading		26.5	RAN 5.2 REC 5.4 LOSS 0 UNACC 0
469.7	27				Box 8	DEP 28.7 T/DEP 28.6
	28		ICL			PULL #7
	29		R. br, S.-m.h. slk			START 7:29
	30		0.5 CORE LEFT IN		30.2	END 8:00 TIME 31 min DRL 31 min
	31		HOLE 36.7-39.7			
	32				Box 9	RAN 5.2 RUN 5.2 LOSS 0 UNACC 0
	33					
	34				33.8	DEP 33.9 T/DEP 33.8
	35					PULL #8
	36				Box 10	START 8:20 END 8:40 TIME 20 min
460.0	37		Bottom HOLE		36.7	DRL 20 min T/DEP 36.9 RAN 5.8 REC 2.6 LOSS 0.5 UNACC 0.5
	38					DEP 39.7
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-49/2

Hole No. R-50/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-50 STA
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-50/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.3
8. DEPTH DRILLED INTO ROCK: 37.6
9. TOTAL DEPTH OF HOLE: 459.7
10. SIZE AND TYPE OF BIT: 4 V 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/20/89; COMPLETED 1/23/89
17. ELEVATION TOP OF HOLE: 497.3
18. TOTAL CORE RECOVERY FOR BORING: 37.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	1		SANDSTONE			PULL #1
	2		M-CG, M.H, M.GR BRN INTO SMALL PIECES W/OCC. GR CL FLD.		1	START 22:55 END 23:10 TIME 15 MIN DRL 15 MIN RAN 4.7 REC 3.3 LOSS 1.4
494.2	3				4.7	UNACC 1.4 DEP 4.7
	4		CLS			PULL #2
	5		SLTY, S.-M.H, M.-DK.GR			START 8:00 END 8:15
491.6	6				2	TIME 15 MIN LOSS @ DRL 15 MIN UNACC @ RAN 2.8 REC 2.8
	7		SLS			DEP 7.5
	8		S.-M.H, M.-DK GR. PT SLY M. SPACED HOR PTGS S. 20 W/0.1 L.C @ 10.0 - 10.1		8.0	PULL #3
	9					START 8:27 END 8:38
487.2	10				3	TIME 11 MIN DRL 11 MIN RAN 5.0 REC 4.9
	11		SANDSTONE			LOSS 0.1
	12		SLY. FIG, M.H., M.GR M-SPACED PTGS TO 15.0 (MECH) BKN (MECH) 15.0 - 19.0		11.6	UNACC 0.1
	13					DEP 12.5
	14					PULL #4
	15				4	START 8:48 END 9:10
	16				15.0	TIME 22 MIN DRL 22 MIN RAN 8.0 REC 8.0
	17					LOSS @
	18				5	UNACC @
478.3	19				18.7	
	20		CLS (CONT)		6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-50/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. R-50/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #4 DEP 20.5
	21		S: m.h, m.dk.gr.shy		6	PULL #5
	22		½ S.sc. @ 17.6: closely		22.3	START 9:20
	23		spaced shy pTys w/			END 9:57
	24		occ fr.gr.cl. coa & SE		7	TIME 37 min
	25		17.6 - 25.0 shy 25.0 - 26.0			DRL 37 min
	26		grading		26.0	RAN 9.8
470.3	27					REC 9.8
			ICL			LOSS 0
	28				8	UNACC 0
	29		motted - v.br. & KN			PULL #6
	30		slk s.m.h		29.8	START 10:15
	31					END 10:30
	32				9	TIME 15 min
	33					DRL 15 min
	34				33.2	RAN 1.7
	35					REC 1.7
	36				10	LOSS 0
	37					UNACC 0
459.7			BOTTOM HOLE		37.6	DCD 30.3 DRL 32.0 PULL #7 START 10:43 END 11:11 TIME 28 min DRL 28 min RAN 28 min REC 50 LOSS .6 UNACC .6 DEP 37.6
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-50/1

Hole No. R-50/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-50 STA 3190B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-50/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 38.4
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4 X 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 11/23/89; COMPLETED 11/29/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 38.4 %
19. SIGNATURE OF INSPECTOR: JMP

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE M.-CG., M.H., M.GR		Box 1	PULL #1 START 9:45 END 10:00 TIME 15MIN DRL 15MIN RAN 4.7 REC 4.7 LOSS 0 UNACC 0 T/DEP 4.4 DEP 4.7
493.7	3				3.8	
491.8	5		ICL MOTTED R.BR, S-M.H 0.2 GRCL. 3.2-3.4 BKN (MECH) 4.7-5.1		Box 2	PULL #2 START 10:20 END 10:35 TIME 15MIN DRL 15MIN RAN 4.9 REC 4.6 LOSS 0 UNACC 0 T/DEP 9.0 DEP 9.6
487.6	9		CLS S-M.H, M-DK.GR GRADING SLY @ 6.0		7.3	
481.8	15		SANDSTONE SLY F.G., M.H., M GR		Box 3	PULL #3 START 10:45 END 11:00 TIME 15MIN DRL 15MIN UNACC 0 RAN 5.1 REC 4.9 LOSS 0 DEP 14.0
479.8	16		CLS S:M-DK.GR		10.8	
478.7	18		SLS SA, S.-M.H., M-DK.GR ANG. CL COA RLG 17.1-17.3		Box 4	PULL #4 T/DEP 18.7 START 23:10 END 23:30 TIME 20MIN DRL 20MIN RAN 5.4 REC 5.4 LOSS 0 UNACC 0
477.0	20		CLS S-M.H., M. DK.GR BKN SLS LEN 18.6-19.2 W/0.3 LC MECH GRADING		14.2 Box 5 19.2 Box 6 (CONT)	DED/T/DEP 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-50/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-50/2

PROJECT: Gallipolis Lock+Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		Box 6	PULL #5
476.1			S: m.h, m.-dk.gr gracling			START 7:26
	21		CLS			END 7:52
			S. m.h, m. dk gr.		21.7	TIME 26 min
	22		occ sly, sly bkn 21.3-21.1			DRL 26 min
			w/TR cl. coa @ 21.3 : 53			RAN —
	23		LEN 23.3-23.8 w/gr		Box 7	REC 5.0
			cl. coa contact @			LOSS 0 T/DEP 24.1
	24		24.3			UNACC 0
472.0						DED 24.9
	25		ICL		25.4	PULL #6
	26		MOTTED - r.br. s.-m.h			START 8:00
					Box 8	END 8:40
	27		UE. 6kn. 29.9 - 26.2			TIME 40 min
	28		1" ue. s. cl. se. @ 27.5			DRL 40 min
						RAN —
	29		Becoming r.br @ 29.4			REC 5.0
						LOSS 0
	30				29.3	UNACC 0 T/DEP 29.1
						DED 29.9
	31				Box 9	PULL #7
						START 8.49
	32					END 9:30
						TIME 41 min
	33				32.3	DRL 41 min
						RAN —
	34					REC 5.0
					Box 10	LOSS 0
	35					UNACC 0
						DEP+T/DEP 34.9
	36					PULL #8
						START 9.40
	37				35.8	END 10:00
						TIME 20 min
	38				Box 11	DRL 20 min
458.5			Bottom HOLE			RAN —
	39					REC 3.5
						LOSS 0
	40					UNACC 0
					38.4	DED+T/DEP 38.4
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-620-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-50/2

Hole No. R-S1/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-81 STA
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-S1/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.4
8. DEPTH DRILLED INTO ROCK: 38.8
9. TOTAL DEPTH OF HOLE: 458.6
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/23/89; COMPLETED 1/25/89
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 38.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE M:C.G, M.H, M.GR VE. BKN 0.0-4.4 (MECH) GR CL COA. PTGS @ 2.4,			PULL#1 START 12:00 REC 4.9 END 12:20 LOSS 0
	2		2.7, 3.1 & 3.4		Box 1	DEP 4.4 TIME 20 UNACC 0 DEL 20 RAN 4.4
493.9	3				3.5	PULL#2
	4		CLS S. M. DK. GR 0.7 L.C.			START 12:25 REC 4.5 END 12:33 LOSS 0.7
	5		3.5-7.2 CS.-MECH)		Box 2	TIME 8 min UNACC 0.7 DEL 8 min RAN 5.2
490.8	6					DEP 6.6
	7		SLS INTERBDD W/M-DK.GR.			PULL #3
	8		SHY CLS. W/OCC GR. CL		7.6	START 12:45 UNACC 0
	9		COA SHY PTGS CLS 9.3- 10.3		Box 3	END 12:57 TIME 12 min DEL 12 min
487.1	10					RAN 5.0 REC 5.0 LOSS 0
	11		SANDSTONE		11.2	DEP 11.6
	12		F.G., M.H, M.GR, CLY		Box 4	PULL #4
	13		SHY BKN 11.2-12.0 C			START 1:05
	14		LOSS MECH)			END 1:34 TIME 29 min
	15				14.7	DEL 29 min RAN 8.9
481.2	16				Box 5	REC 8.9 LOSS 0
	17		CLS S.-M.H, M.-DK.GR, SLY			UNACC 0
	18		0.2 S. BKN BD W/GR.CL 16.2 - THIN FIG. SSLAM			
	19		& BD STARTING AT 17.0 S. DK GR CRUSHED BD W/C-		18.4	
	20		(CONT)		Box 6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM
HOLE NO.: R-S1/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. P-511

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #7
476.3	21		Sl. Frag & gr Cl. 19.9-20.5		Box 6	DEP 20.6
	22		CLS Sly-dk. gr. S-m.h. w/ 10 closely spaced, 1 or Cl. coa. Pebs. (mostly 0.1 pieces ue bkn 24.3-25.1 (mech.)		21.5	PULL #5 START 1:45 END 2:09 TIME 24 min
	23				Box 7	DRL 24 min
	24					RAN 4.9
	25					REC 4.9
472.0						LOSS 0 UNACC 0
					25.4	DEP 25.9
	26		ICL			PULL #6
	27		Mottled-R.Br. S-m.h		Box 8	START 2:20 END 2:38
	28		SLK S. 25.4-28.0			TIME 18 min DRL 18 min
	29		0.3 LC. btwn 30.1 & 34.5			RAN 4.7 REC 4.7
	30		1.5 LC. btwn 34.5 & 38.8			LOSS 0 UNACC 0
					30.1	DEP 30.1
	31					PULL #7
	32				Box 9	START 2:50 END 3:10
	33					TIME 20 min DRL 20 min UNACC 0.9
	34					RAN 4.4 REC 4
	35				34.0	LOSS 0.9 DEP 34.5
	36					PULL #8
	37				Box 10	START 15:45 END 16:02
	38					TIME 17 min LOSS 0 DRL 17 min UNACC 0
458.6			Bottom Hole			RAN 4.3 REC 4.3
	39				38.8	DEP 38.8
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OP—329-243

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. P-511

Hole No. R-51/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-31 STA 3+80 B
3. DRILLING AGENCY: W. G JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-51/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 459.5
10. SIZE AND TYPE OF BIT: 4 7/8" 5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/24/89; COMPLETED 1/24/89
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 37.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	0		SANDSTONE			PULL #1
	1		m.-c.g., m.h., m.gr.		Box 1	START 10:50
	2		Thin bdd to 1.5			END 10:58
	3					Time 8 min
	4					DRL 8 min
492.7						RAN —
	5		CLS/ICL		3.5	REC 4.7
	6		m.-dk.gr.-r.br., s-			LOSS 0
	7		m.h., slk 0.1 s.gr.cl.			UNACC 0
	8		4.7-4.8 m. spaced slk		Box 2	DEP 4.9. T/DEP 4.7
	9		PTgs. occ sly grading			PULL #2
	10		more sly w/depth			START 11:00
	11		bkn 15.0-15.6 w/s.gr			END 11:10
	12		cl. coa. @ 15.6		7.1	Time 10 min
	13					DRL 10 min
	14					RAN —
	15					REC 5.2
481.8					Box 3	Loss 0
	16		SANDSTONE			UNACC 0
	17		sly., f.g., m.h, m.gr.			DEP 9.9
	18		UE. SLY 15.6-16.0			PULL #3
478.6					10.7	START 11:14
	19		CLS - SLY			END 11:25
	20		sli. shy., s-m.h., m-dk gr. (cont)		Box 4	Time 11 min
						DRL 11 min
						RAN —
						REC 3.5
						LOSS 0
						UNACC 0
					13.4	DEP 13.9
						PULL #4
						START 11:30
					Box 5	END 11:40
						Time 10 min
						DRL 10 min
						RAN —
					17.1	REC 5.0
					Box 6	LOSS 0
						UNACC 0
						DEP 18.5 T/DEP 18.4
						PULL #5
						START 12:15
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-51/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. R-511-2

PROJECT Gallipolis Lock & Dam. | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS-SLY		Box 6	Pull #5
	21		ANG., SLK. pTs 20.1-20.3		21.0	END 12:22
			LESS SLY w/depth			TIME 8min UNACC 0
	22		MOTTED ICL @ 22.0-			DRL 7min
			22.8 SLY @ 23.5-24.3			RAN — T/DEP 22.2
	23		TRANS 24.3-25.5		Box 7	REC 3.8
						LOSS 0
	24					DEP 23.5
						Pull #6 START 12:30
	25				24.3	END 12:45
471.9						T/DEP 24.3 TIME 15min
						DRL 15min
						DEP 29.9 RAN —
	26		ICL		Box 8	REC 2.1
						LOSS 0
	27		MOTTED R.BR, S-M.H,			UNACC 0
						Pull # 7
	28		SLK S.-25.8-27.0		28.1	START 1:00
						END 120 REC 5.2
	29		VE. bKN 27.0-29.5			LOSS 0
						TIME 20min UNACC 0
	30		R.BR STARTING @ 29.5		Box 9	DRL 20min
						RAN —
	31					DEP 29.6 T/DEP 29.5
						Pull #8
	32				31.5	START 1:27
						END 1:50
	33					TIME 23min
						DRL 28min
	34					RAN —
						REC 3.1 T/DEP 32.6
	35				10	LOSS 0
						UNACC 0
	36					DEP 34.9
					35.1	Pull #9
	37					START 2:05
						END 2:30
459.5			BOTTOM HOLE			TIME 25min
	38					DRL 25min
					11	RAN —
	39					REC 5.3
						LOSS 0
	40					UNACC 0
					37.9	DEP 38.0 T/DEP 37.9
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock+Dam | HOLE NO. R-511-2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-52 STA 3+38B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-52/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.0
8. DEPTH DRILLED INTO ROCK: 38.3
9. TOTAL DEPTH OF HOLE: 458.7
10. SIZE AND TYPE OF BIT: 4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/23/89; COMPLETED 1/23/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE m:C.g., m.h., m.gr.			PULL #1 START 4:27 END 4:45 TIME 18 min LOSS 1.1 UNACC 1.1 DRL 18 min RAN 3.7 REC 2.9 DEP 5.7 T/DEP 9.0
494.2	2				1	
	3		CLS m dk.gr. s-m-h 11 LC 2.8-3.9 (Mech. S MAT) S. 6.0-7.3; BKN 7.3-7.6			
	4					
	5					
	6					
	7					
488.9	8				4.7	PULL #2 START 5:03 END 5:15 TIME 12 min DRL 12 min RAN 5.0 REC 4.7 LOSS 0 UNACC 0 DEPT/DEP 8.7
	9		SLS SA, m.-dk.gr. s-m-h		2	
487.6					8.4	
	10		CLS m.-dk.gr.; s-mh. bkn. r.br. slt. Icl Zo 10.9-12.1 BKN w/slt 13.2-13.7; 0.1 s.gr cl 13.7-13.8: Becoming shy below EL 483.4			PULL #3 START 5:29 END 5:34 TIME 5 min DRL 5 min RAN 7.0 REC 4.9 LOSS 0 UNACC 0 T/DEP 13.6 DEP 15.7
	11					
	12				3	
	13					
	14				12.1	
	15					
481.0	16				4	
	17		SANDSTONE shy.; flg., m.h., m.gr. Qz CLS LCN 17.0-17.2		15.5	
479.1	18					PULL #4 START 5:33 END 6:34 TIME 61 min DRL 61 min RAN 7.4 (CONT)
	19		CLS shy.; s-m.h., m.dk.gr		5	
	20		(CONT)		18.1	
					6 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-52/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. P-52/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS.			PULL #4
	21		CLOSELY SPACED (MAX 0.6) HOR PTGS W/OCC TR. GR. CL. COA 0.2 VE		6	REC 8.9 LOSS 0.1 UNACC 0.1
	22		S. GR. CL @ 20.5-20.7	22.6		T/DCP 22.6
	23		BKN 20.7-21.5 W/0.1 L.C. BKN MECH 22.3-22.6			DCP 23.1
472.2	24		GRADING			PULL #5
	25		ICL		7	START 6:55 END 7:15 TIME 24min DRL 24min RAN 7.6 REC 8.2 LOSS 0.1 UNACC 0.1
	26		MOTTLED R. BR, S. M.	26.3		
	27		SLK S. 25.3-30.9 W/0.1			
	28		LC BTWN 30.0 & 30.9		8	
	29		0.3 LC BTWN 30.9 &			
	30		38.3	30.0		
	31					DCP 30.7
	32					T/DCP 30.9
	33				9	PULL #6
	34			33.7		START 7:42 END 8:20 TIME 28min DRL 28min RAN 7.8 RUN 7.1 LOSS 0.3 UNACC 0.3
	35					
	36				10	
	37					
458.7	38		BOTTOM HOLE	38.3		DCP 38.5 T/DCP 38.3
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1968 OF—329-263

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. P-52/1

Hole No. R-52/2

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK & DAM	10. SIZE AND TYPE OF BIT: 4 x 5½"
2. LOCATION (Coordinates or Station): MONO R-52 STA 3+06 B	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
3. DRILLING AGENCY: W. B. JAGUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
4. HOLE NO. (As shown on drawing title and file number): R-52/2	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: STEVE FRY	14. TOTAL NUMBER CORE BOXES: 10
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: ∅ 497.1	16. DATE HOLE: STARTED 11/29/89; COMPLETED 11/24/89
8. DEPTH DRILLED INTO ROCK: 38.1	17. ELEVATION TOP OF HOLE: 497.1
9. TOTAL DEPTH OF HOLE: 459.0	18. TOTAL CORE RECOVERY FOR BORING: 38.1 ft
	19. SIGNATURE OF INSPECTOR: EMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE m.-cg, m.h., m.gr bKN. w/0.7 L.C 0.0-2.7		Box 1	PULL #1 START 5:20 END 6:50 TIME 90MIN LOSS 0.7 DRL 20MIN UNACL 0.7 RAN 3.4' REC 2.7 DEPTH/DEP 2.7
	2					
	3					
	4				4.3	PULL #2 START 7:00 END 7:10 TIME 10 MIN DRL 10 MIN RAN 4.8 REC 4.8 LOSS ∅ UNACL ∅ T/DEP 7.2
492.1	5					
	6		CLS S.-m.h., m-dk.gr VE.S. SE. 6.4-6.5		Box 2	
490.6	7		SLS S-m.h, m.-dk.gr GRADING		7.8	DEP 7.7
	8					PULL #3 START 7:13 END 7:26 TIME 11MIN DRL 11MIN UNACL 0.7 RAN 4.5 REC 3.8 LOSS 0.7 DEP 12.1 T/DEP 12.0
	9				Box 3	
487.5	10		CLS S.-M.H., m-dk.gr, Sly w/gr.cl. cgo 1/Fld.p Tgs VE BKN. 10.0-12.0 w/0.7 L.C. VE bKN w/gr fld. & SE 16.2-16.8		12.0	
	11					
	12					
	13				Box 4	PULL #4 START 7:42 END 8:02 TIME 20 MIN DRL 20 MIN RAN 7.0 REC 7.0 LOSS ∅ UNACL ∅
	14					
	15				15.6	
	16				Box 5	
480.3	17		SLS SLi, Sa, S-m.h., m-dk. gr. grading			
	18					
478.1	19				19.0	T/DEP 19.0
	20		SLS cly, S.-m.h, m-dk.gr (cont)		Box 6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-52/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. R-52/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS (CONT) GRADING		Box 6	DEP 29.4
476.3	21		CLS			PULL #5
	22		Shy, S-m.h., m.dk.gr.			START 8:45
	23		Closly spaced PTS		22.7	END 9:15
	24		w/gr CL cos & SE.			TIME 30 min
	25		2.5 L.C btwn 21.8 & 28.2		Box 7	DRL 30 min
	26					RAN 9.2
	27					REC 8.7
468.9	28					LOSS 0.5
	29		ICL		29.0	UNACC 0.5
	30		R. br, S-m.h, bkn. w/slk		Box 8	T/DEP 28.2
	31		0.5 LC btwn 28.2 & 35.3			DEP 30.1
	32		0.1 LC btwn 35.3 & 38.1			PULL #6
	33					START 9:36
	34				32.8	END 10:05
	35				Box 9	TIME 29 min
	36					DRL 29 min
	37					RAN 7.1
459.0	38		BOTTOM HOLE		38.1	REC 6.6
	39				Box 10	LOSS 0.5
	40					UNACC 0.5
	41					T/DEP 35.3
	42					DEP 35.6
	43					PULL #7
	44					START 22:55
						END 23:12
						TIME 17 min
						DRL 17 min
						RAN 3.0
						REC 2.9
						LOSS 0.1
						UNACC 0.1
						DEP 38.1

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-52/2

Hole No. R-53/1

DRILLING LOG | Division: ORD | Installation: ORN-CD | Sheet 1 of 2 sheets

1. Project: GALLIPOLIS LOCK + DAM
2. Location (Coordinates or Station): MONO R-53 STA 2+96B
3. Drilling Agency: W. G. JAQUES
4. Hole No. (As shown on drawing title and file number): R-53/1
5. Name of Driller: STEVE FRY
6. Direction of Hole: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. Thickness of Overburden: 0
8. Depth Drilled into Rock: 37.8
9. Total Depth of Hole: 459.6
10. Size and Type of Bit: 4 7/8"
11. Datum for Elevation Shown (MSL or USC&GS): MSL
12. Manufacturer's Designation of Drill: B-53 MOBILE
13. Total No. of Overburden Samples Taken: Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes: 11
15. Elevation Ground Water: N/A
16. Date Hole: Started 1/23/89; Completed 1/24/89
17. Elevation Top of Hole: 497.4
18. Total Core Recovery for Boring: 37.8 %
19. Signature of Inspector: JMD

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE m.-c.g., m.h., m.gr bKN. into sm. pieces (MAX 0.4) 0.0-3.6		Box 1	PULL #1 START 9:05 END 9:13 TIME 8 min DRL 8 min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	2					
	3				3.6	
492.8	4					DEP+T/DEP 3.0
	5		CLS m.-dk.gr, s.-m.h., occ. SLK VE. S. 4.6-5.5; BKN. W/S zon 5.3-9.8 w/o. + L.C. grading		Box 2	PULL #2 START 9:24 END 9:36 TIME 12 min DRL 12 min RAN 4.8 REC 4.4 LOSS 0.4 UNACC 0.4
	6					
	7				7.3	
	8					
	9				Box 3	
	10					DEP+T/DEP 9.8
486.4	11					PULL #3 START 9:50 END 10:20 TIME 30 min DRL 30 min RAN 8.4 REC 7.4 LOSS — UNACC —
	12		ICL P.BR, S.-m.h., SLK VC. bKN 11.6-12.6		11.3	
484.8	13				Box 4	
	14		CLS/SLS Interbdd, S.-m.h., m.-dk.gr. occ. sly.; occ. gr. Cl. coa & FLd pTg; BTWN. differ MATERIALS: BKN (MECH) 16.9-17.2			
	15				14.9	
	16				Box 5	
480.2	17					T/DEP
	18		SANDSTONE sly-f.g., m.h., m.gr grading			DEP 18.2
478.4	19				18.5	
	20		CLS (CONT)		Box 6 (CONT)	PULL #4 START 10:43 END 11:03 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT GALLIPOLIS LOCK&DAM | HOLE NO. R-53/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. R-53/1 | SHEET 2 OF 2 SHEETS

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #4
	21		occ. sly.; m. dk. gr., s.-m.h., pTS sly gr. cl coa, hor. ptg. @ 19.4, 20.9: Becoming sly @ 20.3, 0.1 s.gr.cl SE @ 24.0 s.c (overdrilled) 24.7-25.3			TIME 20 min DRL 20 min RAN 7.2 REC 8.1 LOSS 0 UNACC 0
	22				22.2	
	23				Box 7	
	24					
	25		grading			
471.5					25.6	DEP 25.3 T/DEP 35.1
	26		ICL		Box 8	PULL #5
	27		motted - r.br, s.-m.h			START 23.15 END 23.33 TIME 18 min DRL 18 min RAN 5.9 REC 3.9 LOSS 0 UNACC 0
	28		SLK			
	29				29.2	
	30				Box 9	
	31					DEP + T/DEP 31.2
	32					PULL #6
	33				32.8	START 7:30 END 8:00 TIME 30 min DRL 30 min RAN 6.6 REC 6.6 LOSS 0 UNACC 0
	34				Box 10	
	35					
	36				36.3	
	37				Box 11	
459.6			BOTTOM HOLE		37.8	T/DEP 37.6 DEP 37.9
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-53/1

Hole No. R-53/2

DRILLING LOG | Division: ORD | Installation: ORH-CD | Sheet 1 of 2 sheets

1. Project: GALLIPOLIS LOCK + DAM
2. Location (Coordinates or Station): MONO R-53 STA 2768 B
3. Drilling Agency: W.G. JAGUES
4. Hole No. (As shown on drawing title and file number): R-53/2
5. Name of Driller: DAVE HARPER
6. Direction of Hole: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. Thickness of Overburden: 497.0
8. Depth Drilled into Rock: 37.4
9. Total Depth of Hole: 459.6
10. Size and Type of Bit: 4 7/8"
11. Datum for Elevation Shown (USGS or USC&GS): M.S.L.
12. Manufacturer's Designation of Drill: B-53 MOBILE
13. Total No. of Overburden Samples Taken: Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes: 10
15. Elevation Ground Water: N/A
16. Date Hole: Started 1/25/89; Completed 1/25/89
17. Elevation Top of Hole: 497.0
18. Total Core Recovery for Boring: 37.4 %
19. Signature of Inspector: JMD

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1–7		SANDSTONE m-c.g., m.h., m.gr. Thin bdd. To 1.2 Ang (70°) S.gr.cl. fld Contact		Box 1 3.7	PULL #1 START 7:20 END 7:32 TIME 12 min DRL 12 min RAN — REC 4.3 LOSS 0 UNACC 0 T/DEP 4.3 DEP 5.0
489.6	8–10		SLS Cly, s.-m.h., m.-dk.gr Ma.-ucrt, hld, IRR frac 8.5-24:55 Lens. 9.5-10.0 grading		Box 2 7.3	PULL #2 START 7:40 END 7:51 TIME 11 min DRL 11 min RAN — REC 3.8 LOSS 0 UNACC 0 T/DEP 8.1 DEP 9.4
486.6	11–16		CLS m-dk.gr., s.-m.h., sly w/ tr.-lens of s.gr.cl Uebkw 11.1-14.9 w/ hvy. gr cl. coa & 0.9 LC: SLS Lens 13.2-13.9; hvy. gr.cl. coa ptgs @ 16.1, 16.3 + 16.8		Box 3 11.1 Box 4 14.9	PULL #3 START 8:00 END 8:31 TIME 31 min DRL 31 min RAN — REC 7.9 LOSS 6.9 UNACC 6.9 DEP+T/DEP 16.9
480.1	17–19		SLS sa, m.h, m-dk.gr 45° SLK ptg @ 18.1-18.5 grading into		Box 5 19.0	PULL #4 START 9:00 END 9:35 TIME 35 min
477.5	20		CLS (CONT)		Box 6 CONT	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-53/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-53/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL # 4
	21		S.-M.h., m.-dk.gR., shy			DRL 35 min
	22		w/occ. TR. of gR. cl. coal			RAN —
	23		Hor pTg. 1 sly 23.5-26.1			REC 9.2
	24		TRAN. 26.1-28.3 w/occ.		22.7	LOSS Ø
	25		SLK, IRR pTg.		Box 7	UNACC Ø
	26				26.1	
	27					T/DEP 26.7 DEP 26.9
468.7	28					PULL #5
	29		ICL		Box 8	START 9:53
	30		R. bR. s-m.h, bKN,			END 10:18
	31		SLK 3.1 L.C bTwn			TIME 25 min
	32		30.3 & 37.4		29.8	DRL 25 min
	33				Box 9	RAN — T/DEP 30.3
	34					REC 9.2
	35					LOSS Ø
	36					UNACC Ø
	37					DEP 32.9
459.6			BOTTOM HOLE		33.5	PULL #6
	38					START 10:27
	39					END 11:18
	40				Box 10	TIME 51 min
	41					DRL 51 min UNACC 3.1
	42					RAN —
	43					REC 4.0
	44					LOSS 3.1
					37.4	DEP & T/DEP 37.4

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-53/2

Hole No. R-54/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-34 STA 2158 B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-54/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.0
8. DEPTH DRILLED INTO ROCK: 37.1
9. TOTAL DEPTH OF HOLE: 459.9
10. SIZE AND TYPE OF BIT: 4 Y 5½"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/24/89; COMPLETED 12/24/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 37.1 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	0–4		SANDSTONE m-c.g., m.h., m.g bkn, into sm. pieces 0.0-2.0		1 (3.7)	PULL #1 START 8:21 END 8:31 TIME 10 min DRL 10 min RAN — REC 4.9 LOSS 0 UNACC 0 DEP 5.0 T/DEP 4.9
492.1	5–11		ICL R.br, s.-m.br, slk s. to w/gr.cl @ 4.9-0.8 L.C. btwn 49.1' 8.9		2 (7.1)	PULL #2 START 9:01 END 9:20 TIME 19 min DRL 19 min RAN — REC 4.1 LOSS 0 UNACC 0, DEP + T/DEP 8.8
486.0	12–15		CLS/SLS Intrabdd, m-dk.gr., s-m.h. CLS to vc.s.		3 (11.5)	PULL #3 START 9:01 END 9:20 TIME 19 min DRL 19 min RAN — REC 4.1 LOSS 0 UNACC 0 DEP + T/DEP 13.0
481.4	16–18		SANDSTONE SLY., F.g., m.h., m.gr grading		4 (15.1)	PULL #4 START 9:34 END 9:56 TIME 32 min DRL 32 min RAN — REC 3.8 LOSS 0 UNACC 0 DEP + T/DEP 16.8
478.9	19–20		CLS s.-m.h., m.-dk.gr., SLY SLY 18.7-19.4 (CONT)		5 (18.7) 6 (CONT)	PULL #5 START 10:08 END 10:30 TIME 22 min DRL 22 min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-54/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-54/1

PROJECT: Gallipolis Lock & DAM. | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #5
	21		Closely spaced (max .0.4) shy ptgs. w/occ. gr. cl. cda. starting @ 20.1 : 0.3 L.C btwn 20.1 & 29.6		6	RAN —
	22					REC 7.5
	23				22.3	LOSS 0.3
	24					UNACC 0.3
472.4						
	25		ICL		7	DEP + TIDE 24.6
	26		Motted-R.br. s-m.h.			PULL #6
	27		slk. bkn 25.0 - 25.9		25.9	START 10:49
	28		s. 25.9 - 27.6 w/bkn			END 11:15
	29		20. 21.8 - 22.6			TIME 26 min
	30					DRL 26 min
	31				8	RAN —
	32					REC 8.3
	33					LOSS 0
	34				29.7	UNACC 0
	35				9	
	36					DEP + TIDE 32.9
459.9	37		Bottom Hole		33.2	PULL #7
	38					START 12:20
	39					END 12:40
	40					TIME 20 min
	41					DRL 20 min
	42				10	RAN —
	43					REC 4.4
	44					LOSS 0
					37.1	UNACC 0
						DEP + TIDE 37.3

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF - 628 - 503

PROJECT: Gallipolis Lock & DAM | HOLE NO. R-54/1

Hole No. R-54/2

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK & DAM	10. SIZE AND TYPE OF BIT: 4 7/8"
2. LOCATION (Coordinates or Station): MONO R-54 STA 2130B	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
3. DRILLING AGENCY: W. 6. JAGUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B.-57 MOBILE
4. HOLE NO. (As shown on drawing title and file number): R-54/2	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: STEVE FRY	14. TOTAL NUMBER CORE BOXES: 11
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: @ 497.0	16. DATE HOLE: STARTED 1/24/89; COMPLETED 1/24/89
8. DEPTH DRILLED INTO ROCK: 39.6	17. ELEVATION TOP OF HOLE: 497.0
9. TOTAL DEPTH OF HOLE: 457.4	18. TOTAL CORE RECOVERY FOR BORING: 39.6 ft
	19. SIGNATURE OF INSPECTOR: IMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE M.-C.g. M.h, m.g R, Thin bdd 0.0-1.2		Box 1	PULL #1 START 8:05 END 8:15 TIME 10 min DRL 10 min RAN 4.9 REC 4.9 LOSS 0 UNACC 0 T/DEP 4.0 DEP 4.9
492.5	5		CLS M.-dK.gR, S-M.h, occ SLK, occ SLy VE.S. 5.1-6.1 ; 95° SLK PTg @ 9.7-10.0 ; grading SLy with depth ; cl Fld PTgs @ 12.6 & 12.8		Box 2 8.4 Box 3	PULL #2 START 8:25 END 8:40 TIME 15 min DRL 15 min RAN — REC 5.0 LOSS 0 UNACC 0 DEP+T/DEP 10.0
484.2	13		SLS/CLS M.-dK.gR, S.-Mh, PT. Shy ; gR, cl, coa, PTgs @ 17.4 & 17.5 ; grading SA.		11.7 Box 4 15.3 Box 5	PULL #3 START 8:45 END 9:05 TIME 20 min DRL 20 min RAN — REC 4.2 LOSS 0 UNACC 0 T/DEP 13.7 DEP 15.0
479.1	18		SANDSTONE SLy, Mg., M.h, m.g R SLi. ANG. ; SLy PTg @ 18.7 grading		19.1 Box 6	PULL #4 START 9:15 END 9:25 TIME 10 min LOSS 0 DRL 10 min UNACC 0 RAN — REC 5.2 DEP+T/DEP 18.6
477.1	20		SLS/CLS		CONT	PULL #5 START 9:35 END 9:55 TIME 20 min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-54/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. P-54/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS		Box 6	DRL 20 min LOSS 0 RAN — REC 1.3 UNACC 0
			Interbdd, m-clk.gr. S.-m.h.			DEP+T/DEP 21.3
	21		Sly Closely SPACED Sly			PULL #6
			PTgs 22.1-23.2 w/tr.gr.			START 10:15
	22		CL. Pkd/coa bdd PLNS			END 10:25
474.4			SLK, SLS LAM @ 22.5-22.6		22.5	TIME 10 min
	23		CLS		Box 7	DRL 10 min RAN —
			Sly. m-dk.gr, S.-m.h.			REC 4.4 LOSS 0
	24					UNACC 0 T/DEP 4.4
			TRANS 25.4-30.0			DEP 25.0
	25					PULL #7
						START 10:27
	26				26.0	END 10:35
						TIME 10 min
	27					DRL 10 min
					Box 8	RAN —
	28					REC 5.1
						LOSS 0
	29					UNACC 0 DEP 29.0
					29.5	T/DEP 29.7
467.0	30					PULL #8
			ICL			START 22:50
	31					END 23:00
			R. br, S-m.h, bkw, SLK		Box 9	TIME 10 min
	32					DRL 10 min
						RAN 4.9
	33					REC 4.9
					33.2	LOSS 0
	34					UNACC 0
					Box 10	
	35					
						DEP+T/DEP 35.7
	36					PULL #9
						START 23:15
	37				36.7	END 23:25
						TIME 10 min
	38				Box 11	DRL 10 min
						RAN 3.9
	39					REC 3.9
						LOSS 0
457.4			Bottom Hole			UNACC 0
	40				39.6	T/DEP + DEP 39.6
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. P-54/2

Hole No. R-55/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS Lock & DAM
2. LOCATION (Coordinates or Station): MONO R-55 STA 2+70 B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-55/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.0
8. DEPTH DRILLED INTO ROCK: 38.5
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4 7/8 "
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/24/89; COMPLETED 11/24/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SAND STONE m-c.g., m.h., m.gr., vc			PULL #1 START 7:30
495.6			CLS		Box 1	END 7:45
	2		shy., m-dk.gr, s-m.h w/occ.gr.cl coa. ONPTS			TIME 15min
	3					DRL 15min
493.5						RAN —
	4		SANDSTONE m.g., m.h.-h., m.gr			REC 4.6
	5		shy. 3.5-4.0		3.6	LOSS 0
	6		TRANS 6.1-6.6			UNACC 0 T/DEP 4.6
490.9						DEP 5.1
	7		CLS shy., m.-dk.gr., s-m.h w/occ.gr.cl.coa.on PTS: VE 6kn 7.0-8.0 (prob AREA OF 0.7 LC.; 6kn. 8.3-14.6 w/ 0.8 LC.		Box 2	PULL #2 START 7:50
	8					END 8:00
	9					TIME 10min
	10				7.3	DRL 10min
	11					RAN —
	12					REC 5.7
	13					LOSS 0
	14				Box 3	UNACC 0 T/DEP 9.6
482.4						DEP 10.1
	15		SAND STONE shy, f.g., m.h., m.gr o/l sdk gr flat clays 15.8-15.9			PULL #3 START 8:05
480.5	16				11.5	END 8:14
479.8	17		SLS shi, SA v.s. m.h., m.dk gr. g-cl. coa contact @ 16.3 GRADING into			TIME 9min
	18					DRL 9min
	19		CLS s.-m.h., m-dk.gr shy CLOSELY SPACED (cont)		Box 4	RAN —
	20					REC 5.0
						LOSS 0
						UNACC 0
					15.3	DEP 15.1
						DEP 15.6
						PULL #4 START 8:18
						END 8:25
					Box 5	TIME 7min
						DRL 7min
						RAN —
						REC 5.1
						LOSS 0
					18.5	UNACC 0 T/DEP 18.7
					Box 6 CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. R-55/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-55/1

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Boy A	DRILL 20.1
	21		PTGS W/TR. GR CL. COA			PULL #5
	22		20.5 S. - 22.3 & 23.6 29#			START 8:30
	23					END 8:45
	24				23.2	TIME 15 min
472.6						DRL 15 min
	25		ICL		Box 7	RAN —
	26		MOTTED - R. BR, S. - M. A.			REC 4.7
	27		SLK, VE S. W/GR. CL. 29.4		26.8	LOSS 0
	28		- 25.8 TURNING R. BR @			UNACC 0 T/DEP 29.3 DEP 29.6
	29		25.8		Box 8	PULL #6
	30		0.8 LC BTWN 25.8 & 30.0			START 8:55
	31		0.7 LC BTWN 30.0 & 38.5			END 9:20
	32				31.2	TIME 25 min
	33					DRL 25 min
	34				Box 9	RAN —
	35					REC 4.1
	36					LOSS 0.5
	37					UNACC 0.5 DEP 29.1 T/DEP 29.4
	38					PULL #7
458.5			BOTTOM HOLE			START 9:28
	39					END 10:14
	40				35.0	TIME 46 min
	41					DRL 23 min
	42				Box 10	RAN —
	43					REC 4.5
	44					LOSS 0.4
					38.5	UNACC 0.4 DEP & T/DEP 29.1
						PULL #8
						START 10:23
						END 10:53
						TIME 30 min
						DRL 30 min
						RAN —
						REC 3.6
						LOSS 0
						UNACC 0 DEP 39.1 DEP 39.6

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-663

PROJECT: GALLIPOLIS Lock/DAM | HOLE NO. R-55/1

DRILLING LOG

Hole No. R-55/2

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK & DAM	10. SIZE AND TYPE OF BIT: 4x5.5"
2. LOCATION (Coordinates or Station): MONO R-55 & STA 1+85	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
3. DRILLING AGENCY: W. B. JAGUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
4. HOLE NO. (As shown on drawing title and file number): R-55/2	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: WAYNE TICE	14. TOTAL NUMBER CORE BOXES: 11
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: 0	16. DATE HOLE: STARTED 1/25/89; COMPLETED 1/25/89
8. DEPTH DRILLED INTO ROCK: 39.1	17. ELEVATION TOP OF HOLE: 497.0
9. TOTAL DEPTH OF HOLE: 457.9	18. TOTAL CORE RECOVERY FOR BORING: 39.1 %
	19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SANDSTONE			PULL #1
	1		m.-c.g., m.h., m.gr			START 7:30
	2		Thin bdd to 1.4		1	END 7:45
	3					TIME 15min
493.1						DRL 15min
	4		CLS			RAN —
	5		s:m.h., m.-dk.gr shy			REC 4.6
491.5					3.7	LOSS 0
	6		SLS			UNACC 0
	7		sa., s:m.h. m.dk.gr		2	T/DEP 4.6
489.5						DEP 5.1
	8		CLS			PULL #2
	9		Shy. s:m.h., m.-dk.gr			START 7:50
	10		Closely SPACED IRR SLK			END 8:00
	11		PTgs to 11.0 : SLK PTgs		7.0	TIME 10min
	12		@ 12.8 ! 12.5 : s 14.8-15.1			DRL 10min
	13					RAN —
	14				3	REC 5.2'
	15					LOSS 0
481.9						UNACC 0
	15		SANDSTONE			T/DEP 9.8
480.9	16		shy fig., m.h., m.gr			DEP 10.1
			Grading into		10.2	PULL #3
	17		SLS			START 8:05
	18		SA, s-m.h., m-dk.gr			END 8:14
			PTS. Shy IRR, SLK. PTg		4	TIME 9min
			@ 19.3 grading			DRL 9min
477.9	19					RAN —
					13.8	REC 5.0
	20		CLS			LOSS 0
			(Cont)			UNACC 0
						T/DEP 14.8
						DEP 15.1
					5	PULL #4
						START 8:18
						END 8:25
						TIME 7min
					17.3	DRL 7min
					6	RAN —
						REC 5.1
						LOSS 0
					(cont)	UNACC 0
						T/DEP 19.7
						DEP 20

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-55/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. R-55/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		6	PULL #5
	21		S-M.H, M-DK.GR, OCC		20.9	START 8:30
	22		SH, W/CLOSELY SPACED			END 8:45
	23		IRR SLK. PTGS TO 22.6		7	TIME 15 MIN
	24		TRANS 24.6 - 25.8			DRL 15 MIN
	25					RAN —
471.2						REC 4.7
	26		ICL		8	LOSS Ø
	27		R.BR, S-M.H, BKN		29.9	UNACC Ø
	28		W/SLK			T/DEP 29.6
	29		0.5 L.C. BTWN 25.8 & 27.2			DEP 25.1
	30		0.4 L.C. BTWN 27.2 & 34.1			PULL #6
	31					START 8:55
	32					END 9:20
	33					TIME 25 MIN UNACC 0.5
	34					DRL 25 MIN
	35					RAN —
	36					REC 4.1
	37					LOSS 0.5
	38					DEP 29.1
457.9	39		BOTTOM HOLE			T/DEP 29.9
	40					PULL #7
	41				9	START 9:28
	42					END 10:14
	43					TIME 46 MIN
	44					DRL 28 MIN
					32.1	RAN —
						REC 4.5
						LOSS 0.4
						UNACC 0.4
					10	T/DEP + DEP 34.1
						PULL #8
						START 10:23
						END 10:53
					35.9	TIME 30 MIN
						DRL 30 MIN
						RAN —
					11	REC 5.6
						LOSS Ø
						UNACC Ø
					39.1	T/DEP 39.1
						DEP 39.6

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-55/2

Hole No. R-56/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-56 STA 1+75B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-56/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.1
8. DEPTH DRILLED INTO ROCK: 37.1
9. TOTAL DEPTH OF HOLE: 459.0
10. SIZE AND TYPE OF BIT: 4 15/16"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/2/89; COMPLETED 2/2/89
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 36.5 ft
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		SAND STONE m.-cg, m.gR, m.h, thin bdd recemented, sh bdd. pts LS-2.0		Box 1	PULL #1 START 5:33 END 5:48 TIME 15 min DRL 15 min RAN — REC 3.9 LOSS 1.3 UNACC 1.3
499.1	2					
	3		CLS S. m.h, m.gR-mottled, DKN SLK, S. shy CONTACT @ 2.0: sa 2.0-2.9: 1.3LC btwn 3.9 & 5.0 V.E.S.			
492.8					3.5	
	4		ICL L. bR, S.-m.h, 1.3 LC. btwn 3.4' & 5.0: 0.8 LC. btwn 5.0 & 10.0		Box 2	DEP 9.5 T/DEP 5.0 PULL #2 START 6:15 END 6:28 TIME 13 min DRL 13 min RAN — REC 4.7 LOSS 0.8 UNACC 0.8
	5					
	6					
	7					
487.9	8				7.9	
	9		CLS. S. m.h, m.-dk.gR, occ. shy Closely spaced shy pts occ gR. cl coa / fld btwn 11.0 & 15.0 w/ 0.2 LC.		Box 3	DEP+T/DEP 10.0 PULL #3 START 6:40 END 7:14 TIME 34 min DRL 34 min RAN — REC 7.1 LOSS 0.2 UNACC 0.2
	10					
	11					
	12					
	13					
	14					
491.1	15				12.1	
	16		SLS sa, m.h, m.gR. GRADING INTO		Box 4	
478.8	17				16.0	
	18		SLS CLy, s.-m.h, m-dkgR. pts shy hor., cl, coa pts @ 17.9, 18.5, 18.9 GRADING into		Box 5	T/DEP 17.3
476.4	19					
	20		SLS (CONT)		18.5 Box 6	(CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-56/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496' | Hole No. R-561'

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Boy 6	DEP 20.2
	21		S.-M.h, m-dk.gr, SAY occ			PULL #4
	22		shy w/closely spaced hor			START 7.26
	23		pts w/tr.g.r. coal/wd. brn			END 7.49
			@ 19.7+20.5-20.7			TIME 23min
			R. br. ICL Lens @ 21.5-22.3			DRL 23min
472.1	24				23.3	RAN —
						REC 8.3
	25		ICL			Loss 0.8
					Boy 17	UNACC 0.8
	26		S-M.h, MOTTED-R.BR,			
			SLK VS. 24.0-26.4 W/			
	27		0.8 LC BRN. 26.4-31.6			TIDEP 26.4
	28		W/4.0 LC, 1.0 LC BRN 31.6			DEP 26.8
	29		& 36.5		27.9	PULL #5
	30					START 8:37
	31				8	END 9:00
						TIME 23min
	32					DRL 23min
						RAN —
	33					REC 1.2
	34					Loss 4.0
						UNACC 4.0
	35					TIDEP 31.6
						DEP 32.2
	36					1 PULL #6
459.6			BOTTOM HOLE			START 9:21
	37					END 9:40
						TIME 19min
	38				34.9	DRL 19min
						RAN —
	39				9	REC 3.9
	40					Loss 1.0
					34.5	UNACC 1.0
	41					TIDEP 34.5
						DEP 37.1
	42					
	43					
	49					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-561'

Hole No. R-56/2

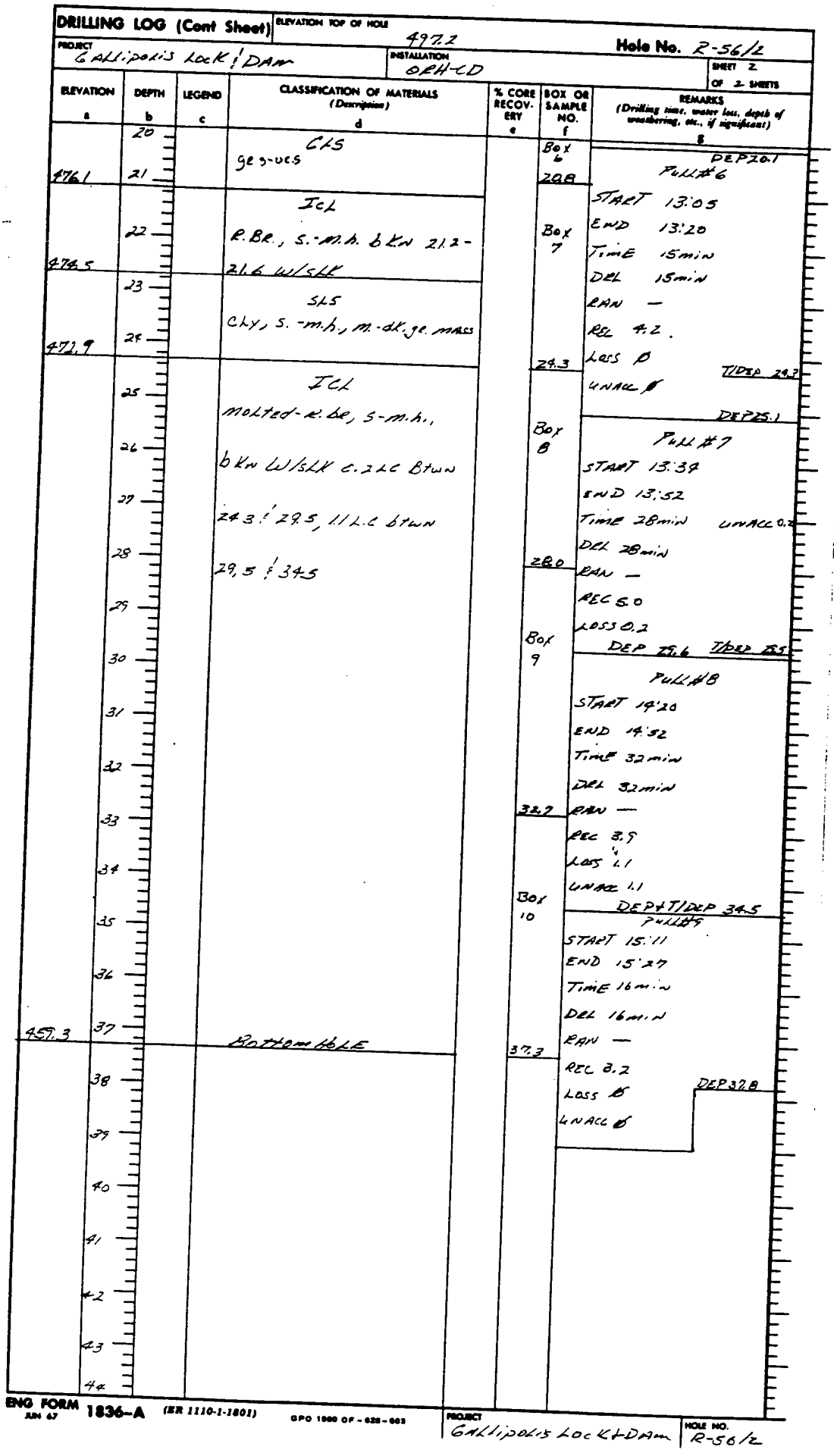
DRILLING LOG — Division: ORD — Sheet 1 of 2 Sheets

1. Project	GALLIPOLIS LOCK & DAM
2. Location (Coordinates or Station)	MONO R-56 STA 1490B
3. Drilling Agency	W. G. JAGUES
4. Hole No. (As shown on drawing title and file number)	R-56/2
5. Name of Driller	WAYNE TICE
6. Direction of Hole	☒ Vertical ☐ Inclined ____ Deg. from vert.
7. Thickness of Overburden	Ø 497.2
8. Depth Drilled into Rock	37.8
9. Total Depth of Hole	459.4
Installation	ORH-CD
10. Size and Type of Bit	4 7/8"
11. Datum for Elevation Shown (USGS or USC&GS)	M.S.L.
12. Manufacturer's Designation of Drill	B-57 MOBILE
13. Total No. of Overburden Samples Taken	Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes	10
15. Elevation Ground Water	N/A
16. Date Hole	Started 2/4/89; Completed 2/4/89
17. Elevation Top of Hole	497.2
18. Total Core Recovery for Boring	37.3 %
19. Signature of Inspector	JMD

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE m.c.g, m.h, m.gr. blk			PULL #1
496.1	1		0.0 - 1.1		Box 1	START 10:20
			CLS			END 10:30
	2		m.-dk.gr., s.-m.h.; occsly			Time 10 min
						Drl 10 min
	3		0.4 s.gr. cl. 1.1-1.5; 45°			Ran —
					3.6	Rec 5.1
	4		slk pfg @ 4.0-4.2; 4.0			Loss Ø
						Unacc Ø
	5		pfg in R.bd Ick 30. 6.5-		Box 2	DEP 5.0 T/DEP 5.1
						PULL #2
	6		6.9; grading into			START 10:56
489.9	7					END 11:05
			- SANDSTONE		6.9	Time 9 min
	8		sl. a.g., m.h. m.gr.			Drl 9 min
					Box 3	Ran —
488.7	9					Rec 5.11
						Loss Ø
	10		CLS			Unacc Ø
			s.-m.h, m.-dk.gr, sly		10.7	DEP 10.2 T/DEP 10.1
	11					PULL #3
			w/slks LENS, VE. 5-9.7-9.8		Box 4	START 11:19
	12					END 11:31
			sly 11.1-11.5; 12.2			Time 12 min
	13					Drl 12 min T/DEP 12.9
					13.5	Ran —
482.6	14					Rec 2.7
						Loss Ø
	15		SLS		Box 5	Unacc Ø
			sa, s.-m.h, m.gr.; pfg			DEP 8.2
	16		hor grading into			PULL #4
480.3						START 12:20
	17					END 12:27
			CLS			Time 7 min Loss Ø
	18		sly, s.-m.h., m.-dk gr			Drl 7 min Unacc Ø
			w/occ slk pfgs; blk			Ran —
	19		19.2-19.7 w/tr gr. cl.		17.3	Rec 4.8
			coq			T/DEP + DEP 17.9
	20		(CONT)			PULL #5
					Box 6	START 12:40
						END 12:47 Loss Ø
						Time 7 min Unacc Ø
						Drl 7 min
						Ran —
					(CONT)	Rec 2.4 T/DEP 20.0

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PROJECT GALLIPOLIS LOCK & DAM — HOLE NO. R-56/2


DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 497.2
Hole No. R-56/2
PROJECT Gallipolis Lock & Dam
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS
ELEVATION a
DEPTH b
LEGEND c
CLASSIFICATION OF MATERIALS (Descriptions) d
% CORE RECOVERY e
BOX OR SAMPLE NO. f
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
CLS
gel-ucs
476.1
ICL
R.Br., S.-m.h. bKN 21.2-
21.6 W/SLK
478.5
SLS
Cly, S.-m.h., m.-dk.gr. mass
472.9
ICL
mottled-R.br, S-m.h.,
bKN W/SLK 0.2 LC BTWN
24.3 & 29.5, 1 LC BTWN
29.5 & 34.5
457.3
BOTTOM HOLE
Box 6
20.8
Box 7
24.3
Box 8
28.0
Box 9
32.7
Box 10
37.3
DEP 20.1
PULL #6
START 13:05
END 13:20
TIME 15min
DEL 15min
RAN —
REC 4.2
LOSS 0
UNACC 0
T/DEP 24.3
DEP 25.1
PULL #7
START 13:39
END 13:52
TIME 28min
UNACC 0.2
DEL 28min
RAN —
REC 5.0
LOSS 0.2
DEP 29.6 T/DEP 29.5
PULL #8
START 14:20
END 14:52
TIME 32min
DEL 32min
RAN —
REC 3.9
LOSS 1.1
UNACC 1.1
DEP & T/DEP 34.5
PULL #9
START 15:11
END 15:27
TIME 16min
DEL 16min
RAN —
REC 3.2
LOSS 0
UNACC 0
DEP 37.8
ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-663
PROJECT Gallipolis Lock & Dam
HOLE NO. R-56/2

Hole No. R-57/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK+DAM		10. SIZE AND TYPE OF BIT 4 5/8"	
2. LOCATION (Coordinates or Station) MGAD R-57 STA. 1+30 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. 6. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B.-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-57/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN @ 497.0		16. DATE HOLE STARTED 2/2/89 COMPLETED 2/4/89	
8. DEPTH DRILLED INTO ROCK 37.9		17. ELEVATION TOP OF HOLE 497.0	
9. TOTAL DEPTH OF HOLE 459.1		18. TOTAL CORE RECOVERY FOR BORING 37.0	
		19. SIGNATURE OF INSPECTOR JMN	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE m-c.g., m.h., m.gr Thin Bdd		Box 1	PULL #1 START 22:15 END 22:30 TIME 15min DRL 15min RAN — REC 4.9 LOSS 0 UNACC 0
495.4	2		CLS/SLS Interbdd, s-m.h. m-dk.gr.s. 1.6-2.1; bkn 2.9-3.2			
492.8	3				3.8	DEPT/DEP 4.9
	4		SANDSTONE slty, f.g., m.h., m.gr. 45° pTgs @ 3.8 & 4.3, SLS. LEN 5.0-5.4; bkn 5.4-5.9 ang (45°) CONTACT		Box 2	PULL #2 START 22:38 END 22:48 TIME 10min DRL 10min RAN — REC 5.1 LOSS 0 UNACC 0
	5				7.4	
490.6	6					DEPT/DEP 10.0
	7		CLS s-m.h., m-dk.gr, pTs, slty w/TR a.r. cl coa & LENS on hor pTgs bkn (mech.) 6.4-8.4 s/s LEN 10.1-10.7 BKN 11.7-12.0; hvy gr. cl. LENES 12.0-14.7 O.& L.C. 11.0-14.7		Box 3	PULL #3 START 23:00 END 23:25 TIME 25 min DRL 25 min RAN — REC 9.8 LOSS 0.4 UNACC 0.4
	8					
	9					
	10					
	11				11.1	
	12					
	13					
	14					
481.9	15				14.7	
	16		SLS Sa, m.h., m.gr hor pTgs w/TR gr. cl, coa, @ 16.3 SEAM GOING INTO		Box 5	
480.0	17					
	18		SLS Cly, s.-m.h., m-dk.gr, pTs slty w/occ gr cl coa on Hor pTgs GRADING INTO			
477.9	19				18.3	
	20		CLS (CONT)		Box 6 CONT	DEPT/DEP 19.2 PULL #4

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PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-57/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.0 Hole No. R-57/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL#4
	21		S.-M.h., M.-dk.gr. r.bk			START 9:00
	22		21.2-21.5; M SPACED			END 9:55
			HORPTGS TO 24.0		22.1	TIME 55 min
	23					DRL 55 min
						RAN —
473.0	24					REC 7.4
					Box 7	LOSS 0.5
	25		ICL			UNACC 0.5
			dk.gr-r.bk, slk s.-dk.bk			
	26		24.0-26.0, 0.5 L.C.Lt+wn		26.0	
	27		26.0 ! 27.1 becoming			T/DEP 27.1
	28		r.bk @ 26.0 bkn w/slk		Box 8	DEP 27.5
						PULL#5
	29		27.1-31.4 0.9 L.C. Lt+wn			START 10:12
	30		31.4 ! 37.0			END 10:40
					30.1	TIME 28 min
	31					DRL 28 min
						RAN —
	32					REC 4.3 T/DEP 31.3
					Box 9	LOSS 0
	33					UNACC 0
						DEP 32.9
	34					PULL#6
					33.8	START 10:55
	35					END 11:21
						TIME 26 min
	36				Box 10	DRL 26 min
						RAN —
460.0	37		Bottom Hole			REC 4.7
						LOSS 0.9
	38				37.0	UNACC 0.9 T/DEP 37.1
						DEP 37.0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-629-603 PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-57/1

DRILLING LOG

DIVISION	ORD
INSTALLATION	ORH-CD
SHEET	1 OF 2 SHEETS
1. PROJECT	GALLIPOLIS Lock + D Am
2. LOCATION (Coordinates or Station)	MONO R-57 STA 0+90A
3. DRILLING AGENCY	W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number)	R-57/2
5. NAME OF DRILLER	WAYNE TICE
6. DIRECTION OF HOLE	☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	496.8
8. DEPTH DRILLED INTO ROCK	39.6
9. TOTAL DEPTH OF HOLE	457.2
10. SIZE AND TYPE OF BIT	4 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	11
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 2/6/89; COMPLETED 2/6/89
17. ELEVATION TOP OF HOLE	496.8
18. TOTAL CORE RECOVERY FOR BORING	39.0 %
19. SIGNATURE OF INSPECTOR	JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE LT.GR., M.H. M-C GR, FLAKY, BKN PN ~ 0.1 SPACE			PULL #1 START 7:15 END 8:04 TIME 49 MIN DRL 5 MIN RAN — REC 9.7 LOSS 0 UNACC 0 DEP 9.7 T/DCP 9.5
495.9	2		FC SURFACE STAIN 0.1-1.1 CLAY SEAM 1.1		1	
	3		SLS/CLS SLS. GR. S, SH. 1.9-1.7 3.7-5.3-7.8-8.9, 9.4-9.8 BKN PN . 3 SPACING		3.7	
	4					
	5		CLS GR. S. SH 1.7-3.7 5.3-7.8, 8.4-9.9, 9.8-10.1 BKN 2.9-3.7, MECH. 4.7-4.8, 5.3-5.6, 9.1-9.4 9.7-9.8, CL-R.BR 5.3-7.8 W/OCC SLK		PULL #2 START 8:26 END 8:34 TIME 8 MIN DRL 8 MIN RAN — REC 5.0 LOSS 0 UNACC 0 T/DCP 9.9 DCP 9.7
	6				2	
	7				7.2	
	8					
	9				3	
486.7	10					
	11		SLS GR, S - M.H. SH. BKN PN, CL 11.2-11.8 S.S. GR, M.H., F-VF GR. M.6-15.2; 15.6-15.9 BKN 15.3-15.6-20.8-21.1 (CONT)		10.9	PULL #3 START 8:41 END 8:56 TIME 15 MIN DRL 15 MIN RAN — REC 4.9 LOSS 0 UNACC 0 T/DCP 19.4 DCP 19.6
	12				4	
	13					
	14				14.1	
	15					PULL #4 START 9:10 END 9:19 TIME 9 MIN DRL 9 MIN RAN — REC 4.3 LOSS 0 UNACC 0 T/DCP 18.9 DCP 19.4
	16				5	
	17					
	18				17.6	
	19				6 (CONT)	
	20					PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS Lock+Dam | HOLE NO. R-57/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R-57/2

PROJECT: 6 Allipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET ___ OF ___ SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #5
	21				21.1	START 9:30
	22					END 9:45
	23					TIME 15 min
					7	DRL 15 min
						PAN — Loss 0
						REC 5.0 UNACC 0
472.9	24					T/DCP & DCP 23.9
			ICL		29.3	PULL #6
	25					START 9:56
			DK. GR. - R. BR, S - M.H.			END 10:35
	26				8	TIME 39 min
			OCC SLK, dk GR. ABOVE			DRL 39 min
	27					PAN —
			26.5, R-BR Below, occ			REC 3.8
	28					Loss 1.2
			MOTTLED, CL ABOVE 35.2			UNACC 1.2
	29				28.5	T/DCP 28.9
			SLT below 35.2, BRN			DCP 29.4
	30					PULL #7
			29.3 - 29.8, 33.0 - 34.1		9	START 10:43
	31					END 11:17
						TIME 34 min
	32					DRL 34 min
					32.7	PAN —
	33					REC 5.2
						Loss 0
	34					UNACC 0 T/DCP 34.0
					10	DCP 34.4
	35					PULL #8
						START 12:20
	36					END 12:57
					36.4	TIME 37 min
	37					DRL 37 min
					11	PAN —
	38					REC 5.0
						Loss 0
457.8	39		BOTTOM HOLE		39.0	UNACC 0 T/DCP 39.0
						DCP 39.4
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: 6 Allipolis Lock + Dam | HOLE NO. R-57/2

Hole No. R-58/1

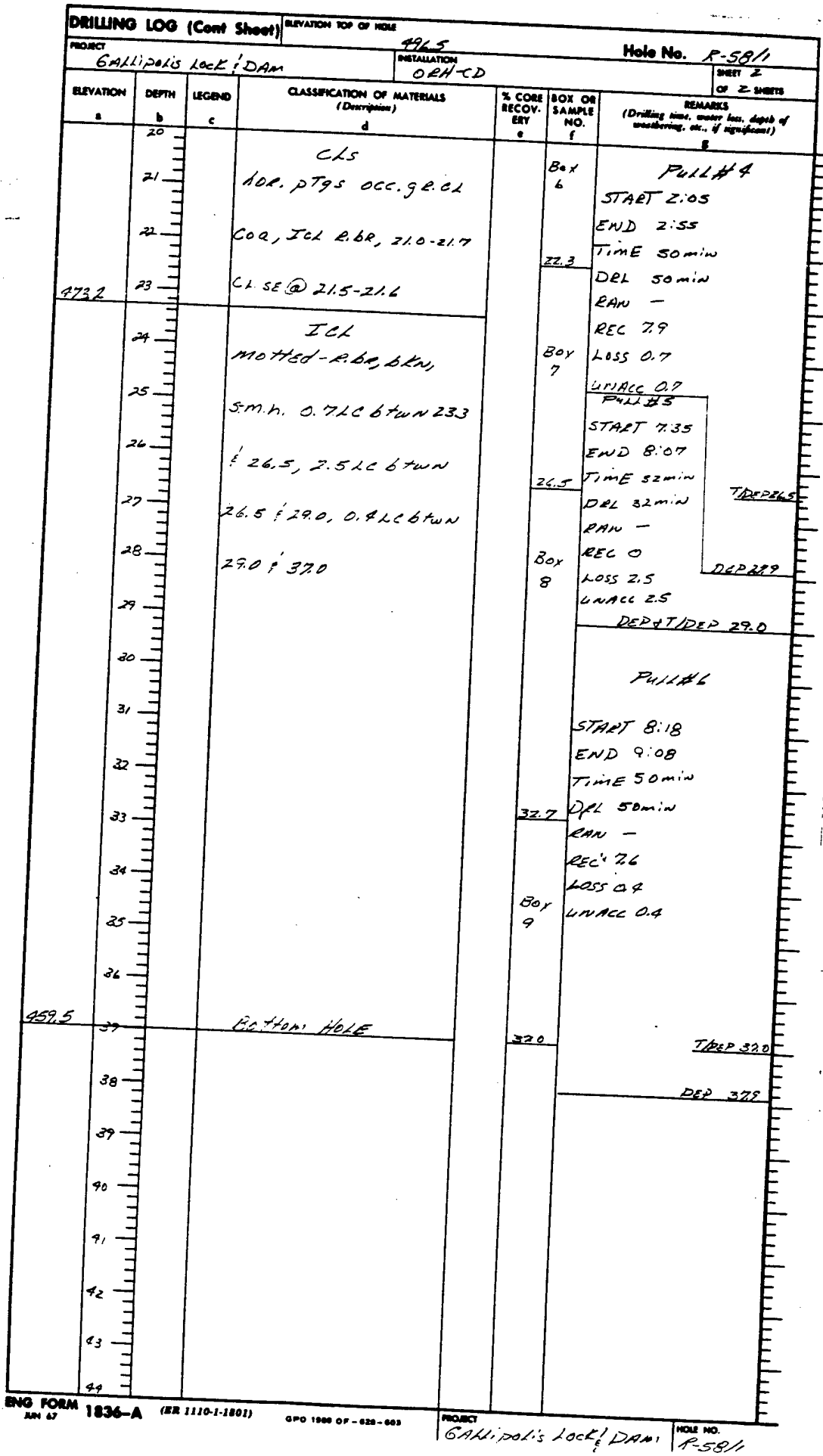
DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-58 STA 0+80 B
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): R-58/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.5
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 458.6
10. SIZE AND TYPE OF BIT: 4-15½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53-MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/4/89; COMPLETED 2/6/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 37.0 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		SANDSTONE m.-c.g., m.h. STA BR		Box 1	PULL #1 START 12:25 END 12:45 TIME 20 min DRL 20 min RAN — REC 4.9 LOSS 0.3 UNACC 0.3 T/DEP 4.7 DEP 5.0
494.5	2					
	3		CLS s.-m.h., m.-dk.gr VE S, bkn 0.2-1.6 w/0.3 LC		3.7	
491.8	4					
	5		SLS sa, s.-m.h., m.-dk.gr.		Box 2	PULL #2 START 12:51 END 1:06 TIME 15 min DRL 15 min RAN — REC 4.0 LOSS 0.2 UNACC 0.2 T/DEP 8.9 DEP 9.5
490.0	6					
	7		CLS/SLS Interbdd, s.-m.h, m.-dk gr, w/closely spaced slk ptgs & s.gr.cl. coarse ve bkn 8.4-8.5 w/0.9 LC 0.6 LC btwn 8.9 & 12.8		7.4	
	8					
	9				Box 3	
	10					
	11				10.9	
	12					
483.7	13				Box 4	PULL #3 START 1:17 END 1:57 TIME 40 min DRL 40 min RAN REC 8.4 LOSS 0.6 UNACC 0.6
	14		SLS sa, s.-m.h, m.gr GRADING			
	15				18.5	
480.6	16				Box 5	
	17		SLS Cly, s.-m.h., m.-dk.gr gr.cl coa ptg @ 16.3 GRADING into			T/DEP 18.9
478.6	18				18.9	
	19		CLS s.-m.h., m.-dk.gr, pts sh, w/closely spaced		Box 6	DEP 18.9
	20		(CONT)		(CONT)	PULL #4 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-58/1


DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 496.5
PROJECT Gallipolis Lock & Dam
INSTALLATION ORH-CD
Hole No. R-58/1
SHEET 2 OF 2 SHEETS
ELEVATION a
DEPTH b
LEGEND c
CLASSIFICATION OF MATERIALS (Description) d
% CORE RECOV. ERY e
BOX OR SAMPLE NO. f
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
CLS
lor. pTgs occ. gr. cl
Coq, ICL & br, 21.0-21.7
Cl. SE @ 21.5-21.6
473.2
ICL
Mottled - R.br, brn,
S.m.h. 0.7 LC btwn 23.3
& 26.5, 2.5 LC btwn
26.5 & 29.0, 0.4 LC btwn
29.0 & 37.0
459.5
Bottom Hole
Box 6
22.3
Box 7
26.5
Box 8
32.7
Box 9
37.0
Pull #4
START 2:05
END 2:55
TIME 50 min
DRL 50 min
RAN —
REC 7.9
LOSS 0.7
UNACC 0.7
Pull #5
START 7:35
END 8:07
TIME 32 min
DRL 32 min
RAN —
REC 0
LOSS 2.5
UNACC 2.5
T/DEP 26.5
DEP 29.0
DEP & T/DEP 29.0
Pull #6
START 8:18
END 9:08
TIME 50 min
DRL 50 min
RAN —
REC 7.6
LOSS 0.4
UNACC 0.4
T/DEP 37.0
DEP 37.5
ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 O-F-628-663
PROJECT Gallipolis Lock & Dam
HOLE NO. R-58/1

DRILLING LOG

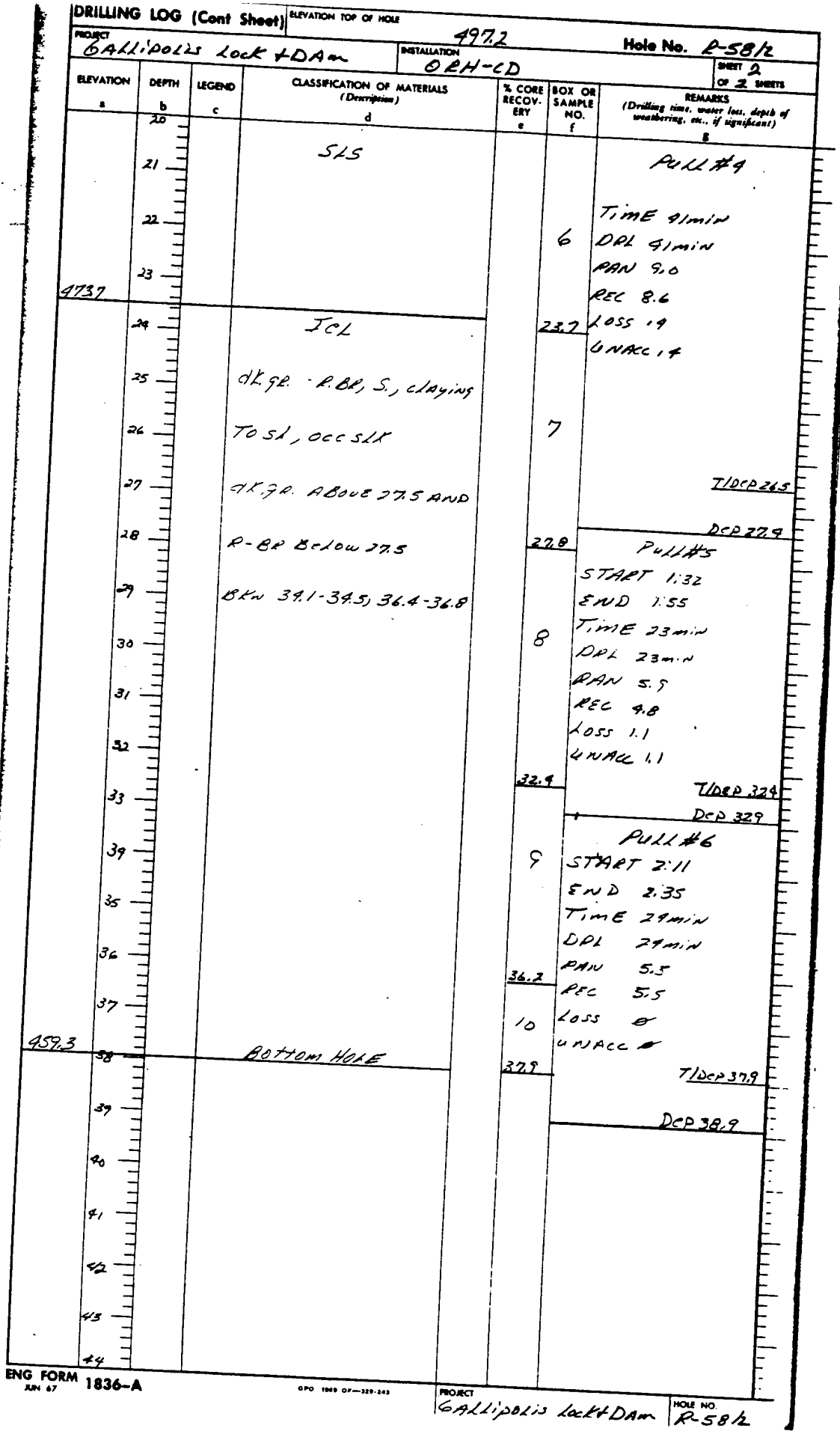
DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-58 STA 0+90B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-58/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 38.9
9. TOTAL DEPTH OF HOLE: 458.9
10. SIZE AND TYPE OF BIT: 4 15/16
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/6/89; COMPLETED 2/6/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 37.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE GR-LT.GR MH-H COUEFG. M-CG. 0.0-1.7 F.G. 1.0-1.8 CL s			PULL #1 START 10:16
494.9	2		SEAM. 9, 1.1, CALCRM 0.0-1.5 BKN 0.0-0.7 1.6-2.3			END 10:35 TIME 19 min DRL 19 min
	3		SLS/CLS		1	RAN 4.0 LOSS 1.1 REC 2.9 UNACC 1.1
	4		SLS. GR., S, SH. 4.0-7.9			DEPTH/DEP 4.0
	5		8.2, -8.8, 12.3-13.0, 13.3-		4.4	PULL #2
	6		13.8, CLS, GR S, SH, 2.3			START 10:50
	7		-4.0, 7.4-8.2, 8.8. -12.3		2	END 11:05 TIME 15 min DRL 15 min
	8		13.0-13.3, BKN 2.6-4.0, 5.2-			RAN 4.0 REC 4.0
	9		6.0, 9.2-9.9, SA 4.0-5.2		8.0	LOSS 0 T/DEP 8.0
	10		6.0-7.2 BKN PN 10.1			UNACC 0 DEP 8.9
	11		SPACING & CL COATING		3	PULL #3 START 11:20
	12		9.2-10.5, 11.6-13.8			END 11:55 TIME 35 min DRL 35 min
483.9	13				14.7	RAN 9.5 REC 8.4
	14		SLS			LOSS 1.1
	15		GR. S-M.H, SA		4	UNACC 1.1
	16		SS. SEAM, GR, M.H, VEF-F.G		15.4	
	17		19.7-15.7 SH W/BKN PN		5	T/DEP 17.5
	18		0.1 SPACE BLOW 19.1, CLS,			DEP 17.5
	19		GR. S. SH. 20.7-30.1			PULL #4 START 12.35
	20		BKN 21.9-22.2		19.8	END 1:16 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-58/2



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 497.2

PROJECT GALLIPOLIS Lock + DAm

INSTALLATION ORH-CD

Hole No. R-58/2

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #4
	21					TIME 41min
	22				6	DRL 41min
	23					PAN 9.0
473.7						REC 8.6
	24		JCL		23.7	LOSS 1.9
	25		dk. gr. - R. BR, S., clayey			UNACC 1.4
	26		TO SI, occ SLT		7	
	27		dk. gr. ABOVE 27.5 AND			T/DCP 26.5
	28		R-BR Below 27.5			DCP 27.9
	29		BKN 29.1-34.5, 36.4-36.8		27.8	PULL #5
	30					START 1:32
	31				8	END 1:55
	32					TIME 23min
	33					DRL 23min
	34					PAN 5.5
	35					REC 4.8
	36					LOSS 1.1
	37					UNACC 1.1
459.3	38		BOTTOM HOLE		32.9	T/DCP 32.9
	39					DCP 32.9
	40					PULL #6
	41				9	START 2:11
	42					END 2.35
	43					TIME 24min
	44					DRL 24min
						PAN 5.5
					36.2	REC 5.5
						LOSS 0
					10	UNACC 0
					37.9	T/DCP 37.9
						DCP 38.9

ENG FORM 1836-A JUN 67

GPO 1969 O-329-243

PROJECT GALLIPOLIS Lock + DAm

HOLE NO. R-58/2

Hole No. R-5911

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT: 4 7/8 R	
2. LOCATION (Coordinates or Station): MONO R-59 STA 0+30B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L	
3. DRILLING AGENCY: W. & J. AGUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-5911		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DENNIS THOMPSON		14. TOTAL NUMBER CORE BOXES: 10	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 496.1		16. DATE HOLE: STARTED 2/10/89; COMPLETED 2/10/89	
8. DEPTH DRILLED INTO ROCK: 34.7		17. ELEVATION TOP OF HOLE: 496.1	
9. TOTAL DEPTH OF HOLE: 461.5		18. TOTAL CORE RECOVERY FOR BORING: 36.8 %	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1			SLS/CLS			PULL #1
	1		SLS, GR, S-MH, SH 0.0-0.9 2.4-2.8, CLS, GR. S. SH 0.9-2.4, 2.8-3.1 BKN 0.0-0.6 BKN PN. 2 SPACING 0.6-3.1			START 6:00
	2				1	END 6:10
						TIME 10 MIN
493.0	3					DRL 10 MIN
						RAN 4.6
			SANDSTONE		3.7	REC 4.6
	4		GR, M.H., F-U.F.G. SLT BKN 4.3-4.4			LOSS 0
491.3						UNACC 0 T/DCP 4.3 DCP 4.9
	5		SLS			PULL #2
	6		GR. S, OCC CLAYEY / SLATEY, CL 5.9-6.8		2	START 6:25
	7					END 6:35
						TIME 10 MIN
	8		7.7-8.1, 9.0-10.6, 11.3-11.4		2.9	DRL 10 MIN
						RAN 5.4
	9		12.6-12.9, BKN 5.0-5.5			REC 5.2
					3	LOSS 0.2
	10		CLS 8.6-8.6, GN.GR., S. SH. BKN 11.8-12.1			UNACC 0.2 T/DCP 9.8
						DCP 10.0
	11					PULL #3
					10.9	START 6.45
	12					END 7:00
					4	TIME 15 MIN
	13					DRL 15 MIN
						RAN 4.7
	14					REC 4.7
						LOSS 0
481.2					19.5	UNACC 0 T/DCP + DCP 19.7
480.5	15		SANDSTONE GR, M.H, F-U.F.G. SLT SCAM 14.9-15.1			PULL #4
	16					START 7:15
					5	END 7.30
	17		SLS GR. S-M.H., SA BKN PN .5 ABOVE 19.0 +.3 BELOW CL K-LOW 19.3			TIME 15 MIN
						DRL 15 MIN
	18					RAN 4.1
					18.1	REC 4.1
	19				6 (CONT)	LOSS 0
						UNACC 0 T/DCP 19.0
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-5911

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 996.1 | Hole No. R-591

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: OEH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			
	21				6	DCP 20.8
979.1	22				21.8	PULL #5 START 8:45 END 9:00 TIME 15 MIN DRL 15 MIN RAN 5.5 REC 5.3 LOSS .2 UNACC .2
	23		CLS GR. S. SH, BKN 22.0 22.3, 23.1-23.7		7	
971.5	24					DCP+T/DCP 24.5
	25		ICL			PULL #6
	26		R. BR, S-M.H. OCCANG PN. W/SLK, OCC MOTTLED		25.5	START 9:15 END 9:40 TIME 25 MIN
	27		W/GR-GNGR, SH		8	DRL 25 MIN RAN 4.9 REC 4.5 LOSS .4 UNACC .4
	28		R-GR ABOVE 26.5			
	29		BKN 32.6-33.2; 33.9-		29.4	T/DCP 29.9
	30		34.4			DCP 29.9
	31				9	PULL #7 START 9:55 END 10:10 TIME 15 MIN
	32					PULL #8 START 10:30 END 10:38 TIME 8 MIN DRL 8 MIN RAN 2.3 REC 2.3 LOSS 0 UNACC 0 DRL 15 MIN RAN 5.1 REC 5.1 LOSS 0 UNACC 0
	33				33.1	
	34					
	35				10	T/DCP 34.5 DCP 34.7
	36					
959.3	37		BOTTOM HOLE		36.8	T/DCP+DCP 36.8
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-343

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-591

DRILLING LOG — DIVISION: OCD — INSTALLATION: ORH-CD — SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO R-59 STA 0+16A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-59/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 495.6
8. DEPTH DRILLED INTO ROCK: 37.1
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4 7/8 H
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/28/89; COMPLETED 2/28/89
17. ELEVATION TOP OF HOLE: 495.6
18. TOTAL CORE RECOVERY FOR BORING: 35.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.6	0		SLS/CLS			PULL #1
	1		SLS, GR, S-M.H. SH			START 7:10
	2		CLAYEY, CLS GR, S		1	END 7:25
	3		SH, SLT			TIME 15 MIN
	4		SANDSTONE, GR,			DRL 15 MIN
	5		M.H. F-VERF., SLT			RAN 4.7
	6		2.1-2.3, 2.6-3.9		3.8	REC 4.7
	7		SLS 0.0-1.7, 3.9-7.9			LOSS Ø
	8		9.8-12.5, 12.9-18.8, 19.9			UNACC Ø T/DEP 9.7
	9		20.9, CLS 1.7-2.1			DEP 9.0
	10		7.9-9.8, 12.5-12.9		2	PULL #2
	11		18.8-19.9, 20.9,			START 7:35
	12		BRN 0.0-0.8, 7.9-8.3			END 7:45
	13		9.2-9.6, SG SLS 10.7-			TIME 10 MIN
	14		10.9, 13.3-13.7, 14.7-14.8		7.9	DRL 10 MIN
	15		HIGH ANG FRAC 11.9-			RAN 5.1
	16		11.7, 19.9-19.7, SLS			REC 5.1
	17		LESS CLAYEY BELOW		3	LOSS Ø
	18		12.9			UNACC Ø T/DEP 9.8
	19					DEP 10.0
	20		(CONT)		10.6	PULL #3
						START 7:50
						END 8:05
						TIME 15 MIN
					4	DRL 15 MIN
						RAN 4.8
						REC 4.8
						LOSS Ø
					14.4	UNACC Ø
						DEP 19.8 T/DEP 19.6
						PULL #4
					5	START 8:12
						END 8:20
						TIME 8 MIN
						DRL 8 MIN
					18.0	RAN 4.8
					6	REC 4.8
					(CONT)	LOSS Ø UNACC Ø
						T/DEP + DEP 19.9
						PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM; HOLE NO. R-59/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.6 | Hole No. R-59/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					
	21		SLS/CLS		6	PULL #5 START 8:28 END 8:40 TIME 12 min DRL 12 min RAN 5.6 REC 5.1 UNACC 0
473.9					21.7	LOSS 0 DCP 29.9
	22					T/DCP 29.5
	23		ICL		7	PULL #6 START 8:50 END 9:05 TIME 15min DRL 15min RAN 5.2 REC 5.2 LOSS 0 UNACC 0
	24		R. BR, S.-M.H. SH,			
	25		NUM SLK., OCC		25.0	
	26		MOTTLED W/GR.-GY.GR.			
	27		BKN, HKGR. ABOVE 29.0		8	
	28		BKN 23.4-26.2, 27.6-			
	29		29.9		29.9	T/DCP+DCP 29.7
	30				9	PULL #7 START 9:15 END 9:35 TIME 20 min DRL 20 min RAN 4.7 REC 4.9 LOSS 0.3 UNACC 0.3 DCP 39.6
	31				31.0	
	32					
	33				10	
	34					
	35					T/DCP 39.9
460.0			BOTTOM HOLE		35.6	PULL #8 START 9:45 END 10:00 TIME 15min DRL 15min RAN 1.2 REC 1.2 LOSS 0 UNACC 0
	36					T/DCP 33.6
	37					DCP 37.1
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-59/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-60 STA 0+26A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-60/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.5
8. DEPTH DRILLED INTO ROCK: 39.9
9. TOTAL DEPTH OF HOLE: 456.6
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/20/89; COMPLETED 2/20/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 36.7 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			SLS/CLS/SS			PULL #1
	1		SLS.: GR, S.-M.H., BRN			START 8:14
						END 8:40
	2		PN -.5 SPACING, OCC		1	TIME 31 min
						DRL 31 min
	3		INTERBDD W/CLS + SS			RAN 4.4
					3.8	REC 4.0
	4		SS 0.5-0.7, 3.3-3.9, 13.1-			LOSS 0
						UNACC 0
	5		13.4, 15.7-16.1, CLS: 6.0-			DCP + T/DCP 4.9
					2	PULL #2
	6		11.1, 17.9-19.8, XCG-			START 8:51
						END 8:59
	7		BRN 0-0.7, 8.4-9.6,		7.1	TIME 8 min
						DRL 8 min
	8		12.3-12.6, 19.5-19.6,			RAN 5.0
					3	REC 5.0
	9		19.8-20.3, 23.6-29.3			LOSS 0 UNACC 0
						DCP + T/DCP 9.9
	10		CLS, SH., GR, S. 2.5-2.9			PULL #3
						START 9:08
	11		12.0-12.6, 19.8-20.9		10.8	END 9:20
						TIME 12 min
	12		27.1-29.3, HIGH ANG			DRL 12 min
					4	RAN 5.1
	13		FRAC 3.5-3.8, 5.6.			REC 5.1
						LOSS 0
	14		GR, M-H. F-VC F.G.			UNACC 0
					14.5	DCP 19.9
	15		3.9-4.8, 13.4-15.1, BRN			T/DCP 19.5
						PULL #4
	16		PN -.2 SPACING 16.8-19.8			START 9:33
					5	END 9:45
	17					TIME 12 min
						DRL 12 min
	18					RAN 9.7
						REC 9.6
					18.3	LOSS 0.1
	19				6	UNACC 0.1
					(CONT)	T/DCP 19.2
						DCP 19.0
	20		(CONT)			PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-60/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. R-60/1

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION OEH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/LS			PULL#5
	21				6	START 10:00
	22				21.8	END 10:16
	23					TIME 16 min
	24				7	DRL 16 min
472.2						RAN 5.1
						REC 5.1 UNACC 0
						LOSS 0 DCP 29.2
						T/DCP 29.5
	25		ICL		25.2	PULL#6
	26		R. BR, S.-M.H., NUM			START 10:29
	27		SLK, CL 24.3-30.9		8	END 11:08
	28		SA + SLT Below 30.9			TIME 39 min
	29		dKgR. ABOVE 26.3, OCC		28.7	DRL 39 min
	30		MOTTLED w/gR THROUGHOUT			RAN 5.0
	31		SCURNELY BKN 25.0-25.2		9	REC 9.9
	32		26.1-26.3, 26.7-27.0			LOSS 0.1
	33		27.8-28.1, 28.7-29.3,		32.1	UNACC 0.1 DCP 29.3
	34		30.7-30.9			T/DCP 29.5
	35					PULL#7
	36					START 12:10
459.8			BOTTOM OF HOLE			END 1248
	37					TIME 38 min
	38				36.7	DRL 38 min
	39					RAN 5.0
	40					REC 3.7
	41				10	LOSS 1.3
	42					UNACC 1.3
	43					T/DCP 39.3
	44					DCP 39.9
						PULL#8
						START 13:14
						END 13:44
						TIME 30 min
						DRL 30 min
						RAN 5.0
						REC 5.0
						LOSS 0
						UNACC 0 T/DCP 39.3
						DCP 39.9

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-60/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHCD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-60 STA 0+60A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-60/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.4
8. DEPTH DRILLED INTO ROCK: 36.4
9. TOTAL DEPTH OF HOLE: 460.0
10. SIZE AND TYPE OF BIT: 4X5K
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/20/89; COMPLETED 2/22/89
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 36.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4			SLS/CLS/SS			PULL #1
	1		SLS, GR. S-M.H, SA, occ			START 2:00
	2		INTERBDD W/CLS/SS		1	END 2:19 TIME 19 min DRL 19 min
	3		BKN PN - .2 SPACING 0.0			RAN 3.4
	4		1.9, 6.8 - 12.6, 16.3, CLS		3.5	REC 3.4 LOSS Ø UNREC Ø T/DCP 3.5
	5		GR. S, SA. F. - 3.5, 6.8 -			DCP 5.0
	6		7.0, 7.5 - 7.7, 8.3 - 8.4,		2	PULL #2 START 2:25 END 2:40 TIME 15 min DRL 15 min RAN 4.9
	7		9.0 - 10.0, 11.2 - 11.8, 12.8 -		7.3	REC 4.8 LOSS Ø UNREC Ø
	8		12.2, 12.9 - 13.6, 14.0 - 15.8			DCP + T/DCP 8.3
	9		BKN 2.4 - 2.6, 2.9 - 3.5, 3.5 -			PULL #3
	10		3.6, 8.2 - 8.3 SQ. 4.2 - 4.4		3	START 2:51 END 3:08 TIME 17 min
	11		12.6 - 13.0, 14.2 - 14.6, CL,			DRL 17 min
	12		5.9 - 5.9 Below 20.4		11.0	RAN 4.9 REC 4.4 LOSS Ø
	13		BKN - .4 SPACING 3.5 - 6.8		4	UNREC Ø DCP 13.3 T/DCP 13.6
	14		12.6 - 16.3, CL COATED			PULL #4
	15		PN 7.7, 8.1, SS. GR. M. -			START 7:22
	16		H. F - VERY. 13.0 - 14.2		14.7	END 7:40 TIME 18 min
	17				5	DRL 18 min RAN 4.3 REC 4.3 LOSS Ø UNREC Ø T/DCP 17.5
	18				18.3	DCP 18.3
	19				6 (CONT)	PULL #5 START 7:48 END 8:09 TIME 21 min
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-60/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-60 L

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLICL/SS			PULL #5
	21				6	DRL 21 min
						RAN 5.8
						REC 5.8
						LOSS 0 T/DCP 21.6
479.2	22				22.0	UNACC 0
						DCP 22.3
			ICL			PULL #6
	23					START 8:19
			R.-BR, S.-M.H WUM. ANG.			END 8:29
	24					TIME 30 min
					7	DRL 30 min
						RAN 4.0
			SLK, OCC MOTTLED W/			REC 3.9
	25					LOSS 0.1
						UNACC 0.1
			GR.-GN.-GR, CL/SH		25.5	T/DCP 25.5
	26					DCP 25.8
						PULL #7
	27		ORGR. ABOVE 27.3			START 8:39
					8	END 8:50
	28		SLT 29.5-32.3, SOUDERLY			TIME 11 min
						DRL 11 min
	29		BKN 32.3-32.6, 34.2-34.6			RAN 4.8
					29.2	REC 4.8
	30		MECH.			LOSS 0
						UNACC 0 T/DCP 30.3
						DCP 30.5
	31					PULL #8
					9	START 8:58
	32					END 9:29
					32.6	TIME 26 min
	33					DRL 26 min
						RAN 4.8
	34					REC 4.8
						LOSS 0
					10	UNACC 0 T/DCP 34.8
	35					DCP 35.0
						PULL #9
	36					START 9:36 DCP +
460.0			BOTTOM HOLE		36.9	END 9:47 T/DCP 36.9
						TIME 11 min
	37					DRL 11 min
						RAN 1.6
	38					REC 1.6
						LOSS 0
	39					UNACC 0
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 O-329-243 PROJECT GALLIPOLIS Lock+Dam HOLE NO. R-60L

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-61 STA 0+70A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-61/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.2
8. DEPTH DRILLED INTO ROCK: 38.5
9. TOTAL DEPTH OF HOLE: 457.7
10. SIZE AND TYPE OF BIT: 4 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/10/87; COMPLETED 2/12/87
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 38.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	1		SLS GR, S-M.H, SA, W loss CLS BKN PW ~0.4 spacing, BKN a0-0.3, CLS GR, S, SA, 2.1-2.8, 3.3-3.5, SQ 2.8-3.3			PULL #1 START 19.14 END 19.22 TIME 8 min DRL 8 min RAN 4.7
492.7	4		SANDSTONE GR. M.H. F.g. ANG, PW, 45° 4.1-4.4		1 3.6	REC 4.7 LOSS 0 UNACC 0 DEP+TIDEP 4.7
491.5	5		SLS GR, S-M.H, SA, SQ 4.7-5.1 CL 5.1-7.0			PULL #2
489.2	7		CLS GR. S, SA, SLK 8.2-8.4 SCURRILY BKN 9.0-9.5, 9.7-9.8, 10.0-10.2, 10.4-10.6		2 7.3	START 19.28 END 19.37 TIME 9 min DRL 9 min RAN 5.0
485.2	11		SLS GR, S-M.H, SA, CL, 11.0-12.9, 16.6-17.3, 18.4-18.8 ANG, PW. 45° W/SLK 12.2-12.9 SQ 12.9-14.1, 16.0-16.2 SS, GR M.H. F.g. 14.9-15.3 CLS GR. S. SA 14.3-14.6		3 10.9	REC 5.0 LOSS 0 UNACC 0 DEP+TIDEP 9.7
	20		(CONT)		4 14.6	PULL #3 START 7.40 END 7.54 TIME 14 min DRL 14 min RAN 9.5 REC 9.5 LOSS 0 UNACC 0 DEP+TIDEP 19.7
					5 18.2	PULL #4 START 8.10 END 8.20 TIME 10 min DRL 10 min RAN 5.0 REC 5.0
					6 (CONT)	LOSS 0 UNACC 0 DEP 19.7 T/DEP 19.6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: R-61/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.2 — Hole No. R-61/1

PROJECT GALLIPOLIS LOCK+DAM — INSTALLATION ORH-CD — SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #5
	21					START 8:39
479.3	22					END 8:50
			ICL		21.9	TIME 16min
	23					DRL 16min
			R-BR, S-M.H., SLS,			RAN 3.2 T/DEP 22.8
	24				7	REC 2.7
			OCC MOTTLED W/GR, CL			LOSS .5
	25					UNACC 1.5
			DK GR. ABOVE 25.5,			DCP 24.7
	26					PULL #6
			SEVERELY BRN 25.8-28.6		25.9	START 9:10
	27					END 9:42
			SLT 31.6-32.9			TIME 32min
	28					DRL 32min LOSS 1.0
						RAN 5.6 UNACC 1.0
	29				8	REC 4.6
						DCP 28.6 T/DEP 28.9
	30					PULL #7
						START 10:00
	31				30.4	END 10:19
						TIME 19min
	32					DRL 19min
						RAN 5.0
	33				9	REC 4.7
						LOSS 0.3
	34					UNACC 0.3
						DCP 33.5 T/DEP 33.4
	35					PULL #8
					34.2	START 10:35
	36					END 10:52
						TIME 17min
	37				10	DRL 17min
						RAN 4.9
457.9	38		BOTTOM HOLE			REC 3.5
						LOSS 1.0
	39					UNACC 1.0
					38.3	DCP 38.5 T/DCP 38.3
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OP—329-243

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-61/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHED | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-61 STA 14+54
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-61/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.3
8. DEPTH DRILLED INTO ROCK: 36.7
9. TOTAL DEPTH OF HOLE: 459.6
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (USM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/22/89; COMPLETED 2/22/89
17. ELEVATION TOP OF HOLE: 496.3
18. TOTAL CORE RECOVERY FOR BORING: 36.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.3			SLT/CLS/SS			PULL #1
	1		SLS, 9R S-M.H., SH,			START 10:04
						END 10:17
	2		occ interbdd w/CLS/SS		1	TIME 13min
						DRL 13min
	3		SA. SLS 0.2-0.6, 1.9-3.0, 5.3			RAN 9.7
					3.7	REC 9.7
	4		-6.3, 13.0-13.3, 13.9-14.8			LOST Ø
						UNACC Ø
	5		BKN 0.0-0.2, 10.0-10.5,			DCP 5.0 T/DCP 9.8
					2	PULL #2
	6		21.3-21.5, CLS 9R S., SH,			START 10:25
						END 10.93
	7		1.6-1.9, 6.3-6.5, 8.5-10.1		7.2	TIME 30min
						DRL 20min
	8		SANDSTONE, 9R M.N, F-			RAN 9.9
						REC 9.9
	9		UEF 9., SLT: 3.0-5.3, 13.3		3	LOSS Ø
						UNACC Ø T/DCP 9.7
	10		13.9 Clayey SLS below			DCP 10.0
						PULL #3
	11		20.2		10.9	START 10:57
						END 11.22
	12					TIME 25min
					4	DRL 25min
	13					RAN 9.1
						REC 9.0 T/DCP 13.8
	14					LOSS .1
					19.3	UNACC .1 DCP 19.8
	15					PULL #9
						START 12:10
	16				5	END 12:25
						TIME 15min
	17					DRL 15min
					17.8	RAN 3.8 T/DCP 17.6
	18				6	REC 3.8 UNACC Ø
					(CONT)	LOSS Ø DCP 18.8
	19					PULL #5
						START 12:34
	20		(CONT)			END 12:49
						TIME 15min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-61/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. R-61/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/SS		6	PULL#5 DRL 15 min RAN 3.7 REC 3.7
474.9	21				21.5	LOSS 0 T/DCP 21.5 UNACC 0
	22		ICL			DCP 22.6
	23		R-BR, S-M.H., SA, NUM			PULL#6
	24		SLKS, OCC MOTHED W/		7	START 1:00 END 1:14 LOSS 1.3 TIME 19 min UNACC 1.3
	25		GR-GN.GR., BRN			DRL 19 min RAN 9.2 REC 3.9
	26		DK GR, ABOVE 27.5		25.3	T/DCP 25.9 DCP 25.9
	27		SEVERELY BRN 25.0-25.7			PULL#7
	28					START 1:23 END 1:43
	29				8	TIME 20 min DRL 20 min RAN 9.1
	30					REC 9.1
	31				29.8	LOSS 0 T/DCP 29.8 UNACC 0
	32					DCP 30.8
	33					PULL#8
	34				9	START 1:56 END 2:17 TIME 21 min
	35					DRL 21 min
	36				33.8	RAN 3.7 T/DCP 33.5
459.6			BOTTOM HOLE			REC 2.5 UNACC 1.2 LOSS 1.2 DCP 34.8
	37					PULL#9
	38					START 2:29 END 2:40 DCP+
	39				36.7	TIME 11 min T/DCP 36.7 DRL 11 min
	40					RAN 3.2 REC 3.2
	41					LOSS 0 UNACC 0
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 O-339-343 PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-61/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-6D | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-62 STA 1+25A
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-62/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.2
8. DEPTH DRILLED INTO ROCK: 33.8
9. TOTAL DEPTH OF HOLE: 46.4
10. SIZE AND TYPE OF BIT: 4 15/16"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/28/89; COMPLETED 2/28/89
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 33.2 %
19. SIGNATURE OF INSPECTOR: YMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	0		SLS/CLS/SS			PULL #1
	1					START 10:20
			GR. S. - M. H SH., occ			END 10:28
	2				1	TIME 8 min
			INTERBDD W/CLS/SS			DRL 8 min
	3					RAN 5.0
			BKN 0.0-0.8, 2.3-8.1		3.7	REC 5.0
	4					LOSS 0
			9.9-10.0, SQ/SLS 2.1-			UNACC 0
	5					DCP 5.2 T/DCP 5.0
			3.9, 13.2-13.5; 16.2-16.3			
	6				2	PULL #2
			CLS. GR, S, SH, 19.-21, 61-			START 10:35
	7					END 10:45
			10.0, 15.1-15.6, 18.9-18.8		7.3	TIME 10 min
	8					DRL 10 min
			20.0-20.6, SS. GR, M.H.			RAN 9.9
	9					REC 9.9
			F-UEFG., 9 PART CONTACT		3	LOSS 0 T/DCP 9.9
	10					UNACC 0
			W/UPPER SLS 3.9-8.2			DCP 10.2
	11					
			ANG DN ~45° 4.1-4.9			PULL #3
	12					START 10:52
			HIGH NAT FRAC 11.7-13.2		11.9	END 11:08
	13					TIME 16 min
			SS. GR., M.H. F-UEFG.			DRL 16 min
	14				4	RAN 3.8 T/DCP 13.2
			19.5-15.1 BLAYEY SLS			REC 3.3 UNACC .5
	15					LOSS .5 DCP 19.9
			20.6-22.0			
	16					PULL #4
					15.9	START 12:00
	17					END 12:15
						TIME 15 min
	18					DRL 15 min T/DCP 16.9
					5	RAN 3.7
	19					REC 3.5 UNACC 0.2
						LOSS 0.2 DCP 18.2
	20		(CONT)			PULL #5
						START 12:20
						END 12:35
					19.9	TIME 15 min
					6 CONT	DRL 15 min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-62/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. R-6211

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET ← OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLSH LS/SS			PULL #5
	21				6	RAN 9.7 REC 9.7 LOSS 0 UNACC 0 DcP 21.8 T/DcP 21.6
	22					PULL #6
473.3	23				23.1	START 12:49 END 12:56 TIME 12 min DRL 12 min
	24		ICL			
	25		dkgr - F. BR, S-M.H.		7	RAN 9.9 LOSS 0.1 REC 9.3 UNACC 0.1
	26		Sh, vum, slk, dkgr			DcP + T/DcP 26.0
	27		ABOVE 28.0, SCURRY, BRN		26.6	PULL #7
	28		27.7-28.2, 29.4-30.6			START 1:04 END 1:18 TIME 19 min
	29				8	DRL 19 min RAN 9.8 REC 9.8 LOSS 0
	30				30.9	UNACC 0 DcP 31.0 T/DcP 30.8
	31					PULL #8
	32				9	START 1:33 END 1:43 TIME 10 min
463.0	33		BOTTOM HOLE		33.2	DRL 10 min T/DcP 33.2 DcP 33.8 RAN 2.3 REC 2.3 LOSS 0 UNACC 0
	39					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OP—329-343 PROJECT Gallipolis Lock+Dam HOLE NO. R-6211

DRILLING LOG

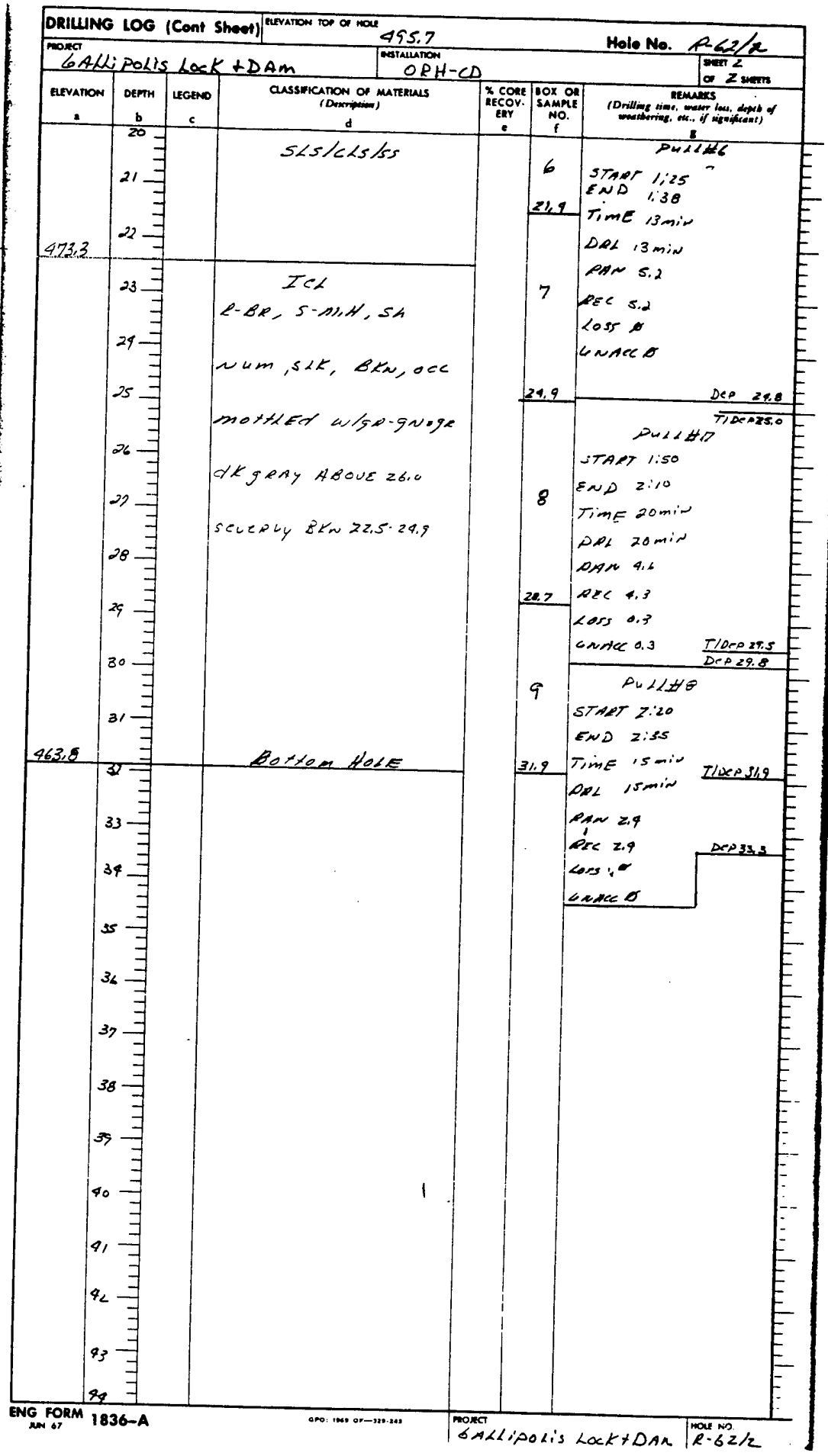
DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-62 STA 1+63 A
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): R-62 1/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 495.7
8. DEPTH DRILLED INTO ROCK: 33.3
9. TOTAL DEPTH OF HOLE: 461.4
10. SIZE AND TYPE OF BIT: 4 YSV 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/28/89; COMPLETED 2/28/89
17. ELEVATION TOP OF HOLE: 495.7
18. TOTAL CORE RECOVERY FOR BORING: 31.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.7			SLS/CLS/SS			PULL #1
	1		SLS, GR, S.-M.H., SL, OCC		1	START 10:95
	2		Inter bdd w/CLS / SS			END 10:58
	3		Clayey /SLS 0.6-1.7, 2.5-2.7		3.5	TIME 13 min
	4		5.8-8.1, 12.2-12.9, 20.9			DRL 13 min
	5		22.9, SA /SLS 5.3-5.8		2	RAN 4.6
	6		12.9-14.7, BLK 9.6-9.8			REC 4.6
	7		10.9-10.7, 19.7-20.1		7.1	LOSS 0
	8		CLS, GR S, SA/SLT, 4.6-4.9			UNACC 0
	9		8.1-9.3 B.T. 20.9, SANDSTONE		3	T/DEP 9.0
	10		GR, M.H. F-VF.G., SA		10.4	D/DEP 9.6
	11		w/um SLT, BLK, OCC			PULL #3
	12		MOTTLED w/GR-GN.GR.			START 12:00
	13		DK GR. ABOVE 26.0			END 12:20
	14		SCURFY BLK 22.5-24.9		4	TIME 20 min
	15					DRL 20 min
	16					RAN 5.0
	17					REC 5.0
	18					LOSS 0
	19				19.0	UNACC 0
	20		(CONT)			D/DEP 19.9
						T/DEP 19.0
						PULL #4
					5	START 12:30
						END 12:50
						TIME 20 min
						DRL 20 min
						RAN 4.7
					19.7	REC 4.5
					6	T/DEP 19.7
					(CONT)	LOSS 0.2
						UNACC 0.2
						D/DEP 18.7
						PULL #5
						START 1:40 RAN 2.6
						END 1:15 REC 2.6
						TIME 15 min LOSS 0
						DRL 15 min UNACC 0
						D/DEP 18.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-62 1/2



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 495.7
Hole No. R-62/2
PROJECT GALLIPOLIS LOCK + DAM
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/SS		6	PULL #6
	21					START 1:25
	22				21.9	END 1:38
473.3						TIME 13 min
	23		ICL			DRL 13 min
			R-BR, S-M,H, SA			PAN 5.2
	24				7	REC 5.2
			NUM, SLK, BKN, OCC			LOSS 0
	25					UNACC 0
			MOTTLED W/GR-GN & GR		24.9	DCP 24.8
	26					T/DCP 25.0
			DK GRAY ABOVE 26.0			PULL #7
	27					START 1:50
			SEVERLY BKN 22.5-24.9		8	END 2:10
	28					TIME 20 min
						DRL 20 min
	29					PAN 4.6
					28.7	REC 4.3
	30					LOSS 0.3
						UNACC 0.3 T/DCP 29.5
	31					DCP 29.8
463.8			BOTTOM HOLE		9	PULL #8
	32					START 2:20
						END 2:35
	33				31.9	TIME 15 min T/DCP 31.9
						DRL 15 min
	34					PAN 2.9
						REC 2.9 DCP 33.3
	35					LOSS 0
						UNACC 0
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67
GPO: 1969 OF—329-243
PROJECT GALLIPOLIS LOCK + DAM
HOLE NO. R-62/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO R-63 STA 1+73A
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-63/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.2
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 462.8
10. SIZE AND TYPE OF BIT: 4 ESN
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/28/89; COMPLETED
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 32.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2			SLS / CLS / SS.			PULL #1
	1		SLS, S-M.H., SA, occ			START 2:00
	2		INTERBDD w/CLS/SS		1	END 2:15
	3		BKN PN - aq spacing			TIME 15 min
	4		BKN 0.0-0.5, CLS		3.7	DRL 15 min
	5		JR., S., SH, 0.7-1.9, 8.9			RAN 5.0
	6		-9.3, 9.5, 11.2, 21.3-21.7		2	REC 4.5
	7		22.3-22.5, SA/SLS 2.6-			LOSS 0.5
	8		4.0, M.8-15.7, SS, QR		7.3	UNACC 0.5
	9		M.H, A-UEFG., SLT 9.0			DCPT/DCPS 0
	10		-6.1 BKN PNS-a23/PACE		3	PULL #2
	11		w/occ CL coating PNS			START 2:20
	12		11.2-13.9, CINYey SLS			END 2:33
	13		below 20.5			TIME 13 min
	14				10.9	DRL 13 min
	15					RAN 3.5
	16				4	REC 3.5 T/DCP 8.5
	17					LOSS 0
	18					UNACC 0 DCP 10.0
	19					PULL #3
	20		(CONT)			START 2:40
						END 2:50
						TIME 10 min
						DRL 10 min
						RAN 4.6
						REC 4.5
						LOSS 0.1 T/DCP 13.1
						UNACC 0.1 DCP 13.5
						PULL #4
					19.3	START 2:55
					5	END 3:05
						TIME 10 min
					15.7	DRL 10 min T/DCP 15.7
						RAN 2.6 DCP 16.0
						REC 2.6
						LOSS 0
						UNACC 0
					6	PULL #5
						START 7:25
						END 7:43 UNACC 0
						TIME 18 min
						DRL 18 min
					19.3	RAN 4.8
					7 (CONT)	REC 4.8
						LOSS 0 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO.: R-63/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. R-631

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CP | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/SS			T/DCP 20.5 DCP 20.7
	21				7	PULL #6
	22					START 7:50
473.2	23				22.8	END 8:05
						TIME 15 min
			ICL			DRL 15 min
	24					RAN 3.8
			R-BR, S-M.H., SA,			REC 3.9 T/DCP 29.3
	25				8	LOSS 0.4
			NUM SLK BKN, OCC			UNACC 0.4
	26					DCP 25.5
			MOTTLED W/GR-GN.GR.			PULL #7
	27				26.8	START 8:12
			CLAYEY, DK GR ABOVE 26.5			END 8:25
	28					TIME 13 min
			SCOPELY BKN 25.9-26.3			DRL 13 min
	29					RAN 9.2
						REC 4.2
			32.0-32.2			LOSS 0 T/DCP 28.5
	30				9	UNACC 0
						DCP 29.3
	31					PULL #8
					30.5	START 8:35
464.0	32		BOTTOM HOLE			END 8:50
					10	TIME 15 min
						DRL 15 min
	33				32.2	RAN 9.7
						REC 3.8
	34					LOSS 1.0 T/DCP 33.2
						UNACC 1.0
	35					DCP 33.4
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-249

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-631

Hole No. R-63/2

DRILLING LOG | DIVISION: OPD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-63 STA 2+03A
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-63/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.2
8. DEPTH DRILLED INTO ROCK: 32.8
9. TOTAL DEPTH OF HOLE: 463.4
10. SIZE AND TYPE OF BIT: 4"X5½"
11. DATUM FOR ELEVATION SHOWN (TBM = BM.): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 - MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 3/1/89; COMPLETED 3/1/89
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 32.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2			SLS/CLS/SS			PULL #1
	1		SLS, gr, S-MH, SH			START 9:05
	2		Occ interbdd w/CLS/SS		1	END 9:18
	3		BKN PNS ~.4 SPACING			TIME 13 min
	4		SQ/S LS 0.3-1.3, 4.3-9.5		3.7	DRL 13 min
	5		13.4-15.8 w/SS interbdd			RAN 4.7
	6		bKN 0.0-0.3; 3.1-3.9			REC 4.7
	7		bKN PN-01SPACE w/occ		7.2	LOSS 0
	8		CL coating PNS 1.3-3.1			UNREC 0
	9		CLS gr, S. SH, 3.1-4.3, 8.7		3	T/DCP 9.7
	10		-9.3, 11.2-11.9, 19.2-20.5			DCP 5.0
	11		SS. gr-Ltgr. m.H.		10.8	PULL #2
	12		F-VEF.gr. SLT 9.5-7.2			START 9:50
	13		PN w/CL coating 19.7, 45°			END 10:00
	14		ANG PN 15.7-16.3, ~.02 Tact		4	TIME 10 min
	15		7.2. CL/SLS 9.3-11.2, 12.3			DRL 10 min
	16		13.9 high ANG FRAC 13.6-			RAN 9.2
	17		14.8			REC 9.2
	18				19.6	LOSS 0
	19					UNREC 0
	20		CONT			T/DCP 8.9
						DCP 9.5
						PULL #3
						START 10:09
						END 10:18
						TIME 19 min
						T/DCP 11.0
						DRL 19 min
						RAN 2.1
						REC 2.1
						LOSS 0
						UNREC 0
						DCP 13.8
						PULL #4
						START 10:25
						END 10:30
						TIME 5 min
						DRL 5 min
						T/DCP 15.7
						DCP 15.8
						RAN 9.7
						REC 9.7
						LOSS 0
						UNREC 0
						PULL #5
						START 10:39
						END 10:53
						TIME 15 min
						DRL 15 min
					18.3	RAN 9.5
					6 (CONT)	REC 9.1
						LOSS .4 UNREC .4

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-63/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 496.2

Hole No. P-63/2

PROJECT Gallipolis Lock + Dam

INSTALLATION ORH-CD

SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/SS			TOP 20.2
	21				6	PULL #6
479.2	22					START 11:02
						END 11:16
				22.2		TIME 14min
	23		ICL			DRL 14min
			R. BR, S-M.H., SH, BRN			RAN 5.0
	24				7	REC 5.0
			NUM SLK, OCC MOTTLED			LOSS 0
	25					UNACC 0
			W/GR-GN & R, CL, HEGR			DCP + T/DCP 25.2
	26			25.5		
			ABOVE 27.9, SCURVILY			PULL #7
	27					START 11:55
			BRN 29.3-25.2, 30.0-		8	END 12:12
	28					TIME 17min
			30.1			DRL 17min
	29					RAN 4.9
						REC 4.9
	30			29.3		LOSS 0
						UNACC 0 T/DCP 29.7
	31					DCP 30.1
					9	PULL #8
	32					START 12:20
463.9			BOTTOM HOLE			END 12:40
	33					TIME 20min
				32.9		DRL 20min T/DCP + DCP 32.9
	34					RAN 2.7
						REC 2.7
	35					LOSS 0
						UNACC 0
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67

GPO. 1968 OF—329-243

PROJECT Gallipolis Lock + Dam HOLE NO. P-63/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock + Dam
2. LOCATION (Coordinates or Station): MONO R64 STA 2+13A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-6411
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 8 496.9
8. DEPTH DRILLED INTO ROCK: 34.7
9. TOTAL DEPTH OF HOLE: 462.2
10. SIZE AND TYPE OF BIT: 4 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/22/89; COMPLETED 2/22/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 34.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SLS/CLS/LS			PULL #1
	1		SLS, GR, S-M.H., OCC		1	START 11:25
	2		INTERBDD W/CLS/SS			END 11:40
	3		BKN PN ~0.1 SPACING			TIME 15 min
	4		(SH.) 0.0-3.0, CLS, GR,		3.7	DRL 15 min
	5		S, SH 0.9-1.1, 2.6-3.0,			RAN 4.8
	6		R-BR, CL, 4.8-5.6 SO		2	REC 3.9
	7		7.9-9.9, 15.9-16.4 BKN			LOSS .9
	8		7.9-9.9, 20.3-20.5		8.0	UNACC .9
	9		BKN PN ~0.7-0.3 SPACING			DEP 4.9 T/DEP 4.8
	10		BELOW 5.6, HIGH ANG			PULL #2
	11		FRAC TERMINATING @ BDDING.			START 12:30
	12		19.1-19.5, 19.7-15.0, CL			END 12:50
	13		BELOW 18.5, 13.9-13.5,			TIME 20 min
	14		9.9-11.9, 6.8-7.9			DRL 20 min
	15				3	RAN 5.1
	16					REC 3.6
	17					LOSS 1.5
	18					UNACC 1.5
	19					DEP 9.9 T/DEP 9.7
	20		(CONT)		13.0	PULL #3
						START 13:23
						END 13:39
						TIME 16 min
						DRL 16 min
					4	RAN 4.8
						REC 4.8
						LOSS 0
						UNACC 0
						DEP + T/DEP 19.7
					16.9	PULL #4
						START 13:12
						END 19:01
						TIME 9 min
						DRL 9 min
					5	RAN 5.0
						REC 5.0
						LOSS 0
						UNACC 0
						DEP + T/DEP 19.7
					20.0	PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock + Dam | HOLE NO.: R-6411

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.9 — Hole No. R-641

PROJECT Gallipolis Lock & Dam — INSTALLATION ORH-CD — SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS kLS kS		20.0	PULL #5
	21					START 9:20
475.2						END 9:39
	22		ICL		6	TIME 19min
	23					DRL 19min
			R-BR, S-M.H, NUM 9.8			RAN 5.0
	24					REC 5.0
			OCC ANG.PN, , GR. ABOVE		23.8	LOSS 0 UNACC 0
	25					DEP 24.7 T/DEP 24.7
			29.7, LT.R-BR 29.7-28.5			PULL #6
	26				7	START 14:46
			R-BR BELOW 28.5			END 15:04
	27					TIME 18min
			SCURRELY BTW 28.5-		27.2	DRL 18MIN
	28					RAN. 3.8 LOSS .3
			28.8, 29.3-29.5, 30.9-30.7			REC 3.5 UNACC .3
	29					DEP 28.7 T/DEP 28.5
			32.9-33.1, 33.9-39.9		8	PULL #7 T/DEP 29.3
	30					START 7:45 DEP 29.7
						END 7:55
	31				30.7	TIME 10min
						DRL 10min
	32					RAN 0.8
					9	REC 0.7
	33					LOSS 0.1
						UNACC 0.1
	34					PULL #8
462.5			BOTTOM HOLE			START 8:10
	35					END 8:39 T/DEP 39.9
						TIME 29min DEP 39.7
	36					DRL 29min
						RAN 5.1
	37					REC 5.1
						LOSS 0
	38					UNACC 0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT Gallipolis Lock Dam — HOLE NO. R-641

Hole No. R-64/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS Lock & DAM
2. LOCATION (Coordinates or Station): MONO R-64 STA 2+45A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-64/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.9
8. DEPTH DRILLED INTO ROCK: 33.5
9. TOTAL DEPTH OF HOLE: 463.4
10. SIZE AND TYPE OF BIT: 4" NS
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/23/89; COMPLETED 2/23/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 33.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		CLS Sly, s.-m.h, m, -DK.GR			PULL #1 START 12:10 END 12:23 TIME 13min DRL 13min RAN — REC 4.6 LOSS 0 UNACC 0 T/DEP 4.6
494.7	2				Box 1	
	3		SANDSTONE Sly. F.g., m.h, M.-gr			
	4				3.9	
491.8	5					DEP 5.6
	6		CLS Sly, s.-m.h, m.gr w/ sin nod		Box 2	PULL #2 START 12:36 END 12:48 TIME 12min LOSS 0 DRL 12min UNACC 0 RAN — 1 REC 9.9 DEP 9.6 T/DEP 9.5
489.7	7				7.5	
488.8	8		SLS Sly, sLi, sa, s.-m.h, m.dk.gr.			
	9		CLS VE bkn (Mech) w/Hvy gr.		Box 3	
	10		CL. con, crushed 8.1-9.5, Sly s-m.h core spin @ 10.0 - SLi IRR, hor pTgs			PULL #3 START 12:55 END 1:12
	11				11.0	TIME 17min UNACC 0
	12		w/occ sm. sLK surface 10.4-10.8 med spaced hor pTgs 11.0-11.0, 0.3 sa Lens @ 13.4-13.7 ! grading into SLS			DRL 17min RAN — REC 4.5 LOSS 0 DEP 19.0 T/DEP 13.9
	13				Box 4	
482.9	14		SLS S.-m.h, m.-dk gr, grading sa @ 14.6 ! Sly ss 15.0-15.4 LARGE SS Incls 15.5-16.0 grading Cly w/depth		14.5	PULL #4 START 1:20 END 1:35 TIME 15min DRL 15min RAN — REC 5.0 LOSS 0 UNACC 0
	15					
	16				Box 5	
480.3	17					
	18		CLS Sly, S.-m.h, m.-dk.gr occ Sly ! SM SLK on NCAR HOR pTgs 17.6-19.0 ! SLi indurated cls (CONT)		18.2	
	19				Box 6	T/DEP+DE 19.0
	20				CONT	PULL #5 START 1:43 END 1:57 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. R-64/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-64/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #5
	21		R. BR, W/FEW SLT 19.8 -20.8			TIME 14min
						DRL 14min
	22					RAN —
474.1					21.7	REC 4.0
					Box 7	LOSS 0
	23		ICL			UNACC 0
						T/DEP 23.0
						DEP 23.5
	24		GRENISH GR - R. BR, S-M.N			PULL #6
						START 2:09 RAN —
	25		SLT, S. BRN 22.8 -23.8			END 2:17 REC 2.5
						TIME 12min LOSS 0
	26		becoming R. BR @ 25.0		25.3	DRL 12min UNACC 0
						DEP/T/DEP 25.5
						PULL #7
	27					START 2:25
					Box 8	END 2:40
	28					TIME 15min
						DRL 15min
	29					RAN —
					28.5	REC 5.0
	30					LOSS 0
						UNACC 0
					Box 9	DEP/T/DEP 30.5
	31					PULL #8
						START 2:50
	32					END 3:11 REC 3.0
						TIME 21min LOSS 0
					32.5	DRL 21min UNACC 0
463.9	33		BOTTOM HOLE		Box 10	RAN —
					33.5	T/DEP 33.5
	34					DEP 33.8
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-626-603 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-64/2

Hole No. R-65/1

DRILLING LOG | Division: ORD | Installation: ORN-CD | Sheet 1 of 2 sheets

1. Project: GALLIPOLIS LOCK & DAM
2. Location (Coordinates or Station): MONO R-65 STA 2+55A
3. Drilling Agency: W. 6. JAGUES
4. Hole No. (As shown on drawing title and file number): R-65/1
5. Name of Driller: DAVE HARPER
6. Direction of Hole: ☐ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. Thickness of Overburden: @ 497.2
8. Depth Drilled into Rock: 39.0
9. Total Depth of Hole: 463.2
10. Size and Type of Bit: 4 5/8"
11. Datum for Elevation Shown (MSL or MLW): M.S.L
12. Manufacturer's Designation of Drill: B-53 MOBILE
13. Total No. of Overburden Samples Taken: Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes: 10
15. Elevation Ground Water: N/A
16. Date Hole: Started 2/23/89; Completed 2/23/89
17. Elevation Top of Hole: 497.2
18. Total Core Recovery for Boring: 33.5 %
19. Signature of Inspector: JMO

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		CLS			PULL #1
			S.-M.h, shy, m.gr, 0.1 L.C		Box 1	START 7:50
495.7			0.0 - 0.1			END 8:13
495.1	2		SS - sly, f.g, m.h., m.gr			TIME 23 min
	3		CLS/SLS			DRL 23 min
			Interbdd, s.-m.h, shy, m.gr			RAN —
	4		Occ ss : sa 3.7-4.3		3.8	REC 4.8
492.3						LOSS 0.1
	5					UNACC 0.1
						DEP 5.0 T/DEP 4.9
			SS - sly, f.g, m.h, m.gr.			PULL #2
491.2	6		Mn FRAC 5.1-5.7 ; GRADING		Box 2	START 8:18
	7		SLS/CLS			END 8:32
						TIME 14 min
	8		Interbdd, shy, s.-m.h,		7.3	DRL 14 min
						RAN —
	9		m.-dk.gr. 0.3 L.C. 6 twn			REC 3.9
					Box 3	LOSS 0.3
	10		7.0 - 9.1 (mech) closely			UNACC 0.3 T/DEP 9.1
						DEP 10.0
	11		spaced (0.2) hor pfgs			PULL #3
					10.9	START 8:43
	12		9.1 - 13.5 w/0.2 L.C. 0.3			END 8:57 UNACC 0.2
						TIME 14 min
	13		L.C 6 twn 13.9 & 14.6			DRL 14 min
					Box 4	RAN —
	14					REC 4.2
482.6						LOSS 0.2 T/DEP 13.5
	15		SLS			DEP 14.0
						PULL #4
	16		SS, S.-m.h. m.gr		18.2	START 9:10
480.8			GRADING			END 9:30
	17		SLS			TIME 20 min
						DRL 20 min T/DEP 16.9
	18		Cly, s. - mh., m.gr, pfs		Box 5	RAN —
			shy 0.2 L.C. 6 twn 16.4 &			REC 2.6
			20.0			LOSS 6.3
478.2					18.2	UNACC 0.3
	19		CLS (cont)		Box 6	DEP 18.6
						PULL #5
	20		shy, s-m.h, m-dk gr			START 9:39 (CONT)
						END 9:50
						TIME 11 min DEP 20.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

Project: GALLIPOLIS LOCK & DAM | Hole No. R-65/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. R-65/1

PROJECT Gallipolis Lock & Dam | INSTALLATION OEH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	DRL 11min PULL#5
			occ. sdy, Indurated cl, R.be			RAN —
	21		WLSLK 20.5-21.3			REC 3.6 UNACC 0.2
475.9						LOSS 0.2
						DEP 21.4
	22		SLS		21.8	PULL#6
			occ cly, s-m.h, sdy		Box 7	START 10:29
	23		0.3 L.E. btwn 20.0 & 24.2			END 10:45
473.7						TIME 16min
						DRL 16min
	24		ICL			RAN —
						REC 4.8 T/DEP 24.2
	25		R.br, s-m.h, SLK			LOSS 0
						UNACC 0 DEP 25.0
	26				25.5	PULL#7
						START 10:29
	27				Box 8	END 10:45 UNACC 0
						TIME 16min
	28					DRL 16min
						RAN —
	29					REC 4.8
					29.0	LOSS 0 T/DEP 29.0 DEP 29.2
	30					PULL#8
						START 11:05
	31				Box 9	END 11:23
						TIME 18min
	32					DRL 18min
						RAN —
	33				32.8	REC 4.5
463.7			BOTTOM HOLE		Box 9	LOSS 0
					33.5	UNACC 0 T/DEP 33.5
						DEP 34.0
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

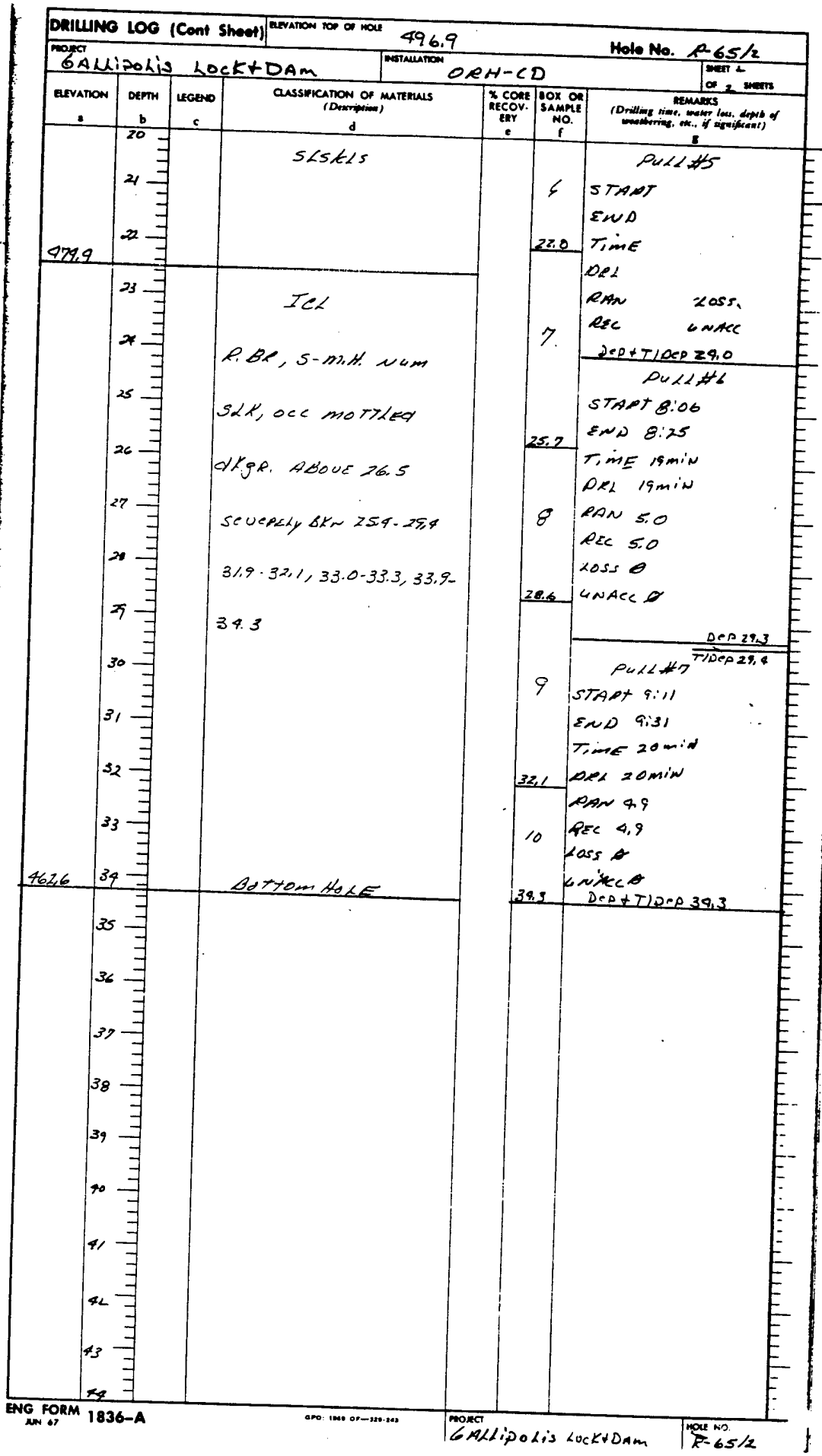
PROJECT Gallipolis Lock & Dam | HOLE NO. R-65/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT 4 7/8	
2. LOCATION (Coordinates or Station) MONO R-65 STA 2+82A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-65/2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE STARTED 2/23/89; COMPLETED 2/24/89	
7. THICKNESS OF OVERBURDEN 0 496.9		17. ELEVATION TOP OF HOLE 496.9	
8. DEPTH DRILLED INTO ROCK 34.3		18. TOTAL CORE RECOVERY FOR BORING 34.3 %	
9. TOTAL DEPTH OF HOLE 462.6		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SLS/CLS			PULL #1
	1		SLS, GR, S-M.H, SH, 0.0-2.0			START 13:20
			2.6-3.0, 4.9-7.9, 9.8-12.8			END 13:30
	2		13.6-16.1, 17.0-20.3, 20.9		1	TIME 10 min
			22.5, CLS GR, S, SH 20.-			DRL 10 min
493.9	3		2.6, 7.9-9.8, 12.8-13.6 —			RAN 4.8
			SANDSTONE		3.6	REC 4.8
	4		GR, M.H VE.F.G.			LOSS 0
						UNACC 0
492.0						DEP+TIDEP 4.8
	5		SLS/CLS			PULL #2
	6		20.3-20.9 BKN DN 0.1 SPAC		2	START 13:43
						END 13:57
	7		SH 0.0-2.0, SOLS 2.6-			TIME 14 min
					7.2	DRL 14 min
	8		3.0, 13.6-16.1, 17.0-17.2			RAN 5.0
						REC 4.7
	9		19.1-19.2, BKN 3.2-3.9			LOSS 0.3
					3	UNACC 0.3
	10		7.9-8.3, 9.8-10.0, 12.9-13.2			DEP+TIDEP 9.8
						PULL #3
	11		19.4-19.6, CL IS LS 9.9-7.9		11.0	START 19:08
						END 19:19
	12		10.7-12.8, 17.2-19.1, 21.2			TIME 11 min
						DRL 11 min
	13		BKN DN ~0.5 SPACING		4	RAN 9.9
						REC 9.9
	14		UNDER 2.0' HIGH ANGLE			LOSS 0
						UNACC 0
	15		FRAC 14.1-15.7		14.7	DEP 14.8 TIDEP 14.7
						PULL #4
	16		(CONT)			START 19:28
480.9						END 19:38
			SANDSTONE		5	TIME 10 min
480.0	17		GR. M.H. VE.F.G.			DRL 10 min
						RAN 4.7
			SLS/CLS		18.3	REC 4.7 UNACC 0
	18					LOSS 0 TIDEP 18.9
					6	DEP 19.4
	19				CONT	PULL #5
						(CONT)
	20		CONT			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-65/2



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 496.9

Hole No. R-65/2

PROJECT Gallipolis Lock+Dam

INSTALLATION ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLSTLS			PULL #5
	21				6	START
	22					END
474.9					22.0	TIME
						DRL
						RAN LOSS
	23		ICL			REC 6 UNACC
	24				7	DEP+T/DEP 29.0
			R. BR, S-M.H. NUM			PULL #6
	25					START 8:06
			SLY, OCC MOTTLED			END 8:25
	26				25.7	TIME 19 MIN
			dk gr. ABOVE 26.5			DRL 19 MIN
	27				8	RAN 5.0
			SCUEPELLY BKN 27.4-27.9			REC 5.0
	28					LOSS 0
			31.9-32.1, 33.0-33.3, 33.9-		28.6	UNACC 0
	29					DEP 29.3
			34.3			T/DEP 29.4
	30					PULL #7
					9	START 9:11
	31					END 9:31
						TIME 20 MIN
	32					DRL 20 MIN
					32.1	RAN 4.9
	33					REC 4.9
					10	LOSS 0
462.6	34		BOTTOM HOLE			UNACC 0
					39.9	DEP+T/DEP 39.3
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67

GPO: 1969 OF—329-243

PROJECT Gallipolis Lock+Dam

HOLE NO. R-65/2

Hole No. R-66/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-66 STA 2+92A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-66/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.9
8. DEPTH DRILLED INTO ROCK: 34.3
9. TOTAL DEPTH OF HOLE: 462.6
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/23/89; COMPLETED 2/23/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 34.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SLS/CLS/SS			PULL #1
	1		SLT. GR, S-M.H, SH			START 9:17
						END 9:25
	2		OCC INTRBDD W/CLS/SS		1	TIME 8 min
						DRL 8 min
	3		CLS. GR, S, SH 0.0-0.5			RAN 9.1
					3.7	REC 4.1
	4		2.6-3.1, 9.3-9.6 10.3-10.7			LOSS 0 DEP 9.1
						UNREC 0 DCP 9.7
	5		12.5-13.7 SLT., BRN 2.6-2.7			PULL #2
					2	START 9:33
	6		8.8-9.3, SS. GR, M.H,			END 9:44
						TIME 11 min
	7		F-VEF.G., SLT, 3.3-3.3		7.2	DRL 11 min
						RAN 5.1
	8		4.8-5.1 SO/SLS 4.3-4.8			REC 5.1
						LOSS 0 1
	9		CLAYEY SLS ABOVE 13.2		3	UNREC 0 DCP 9.2
						T/DCP 9.3
	10		SS. GR M.H. VEF.GR			PULL #3
						START 9:56
	11		13.7-15.2 CLS-R-GR		10.7	END 10:11
						TIME 15 min
	12		S. SH 19.8-20.7			DRL 15 min
						RAN 5.1
	13		OCC CLAYEY, SLS BELOW		4	REC 5.1
						LOSS 0
	14		18.5			UNREC 0
					14.3	T/DCP DCP 14.3
	15					PULL #4
						START 10:29
	16					END 10:37
					5	TIME 13 min
	17					DRL 13 min
						RAN 9.9
	18					REC 9.9
					18.1	LOSS 0
	19				6	UNREC 0
					(CONT)	DCP 19.3 T/DCP 19.9
	20		(CONT)			PULL #5 CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-66/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-66/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORHCP | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/SS		6	PULL #5
	21					START 10:49
	22					END 11:06
474.1					20.6	TIME 17min
	23		ICL			DRL 17min
	24		R-BR, S-M.H., Sd. NUM			PAN 5.1
	25		SLK CLAYEY OCC MOTTLED		7	REC 5.1
	26		W/GR-GN.GR. DKGR			LOSS 0
	27		MOTTLED W/R-BR ABOVE			4 NACL 0
	28		27.5, SCURRELY BRN			DcP 29.3
	29		23.9-24.3, 29.0-29.7, 31.5			PULL #6 T/DcP 29.9
	30		31.8, 33.3-33.9		25.3	START 11:15
	31					END 11:40
	32					TIME 25min
	33				8	DRL 25min
462.8	34		BOTTOM HOLE			PAN 4.7
	35					REC 4.7
	36					LOSS 0
	37				28.6	4 NACL 0
	38					T/DcP 29.0
	39					DcP 30.3
	40					PULL #7
	41					START 12:17
	42				9	END 12:46
	43					TIME 29min
	44					DRL 29min
					32.1	PAN 5.1
						REC 5.1
					10	LOSS 0
						4 NACL 0
					39.1	DcP 39.3 T/DcP 39.1

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-245

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-66/1

DRILLING LOG	DIVISION ORD	INSTALLATION OPH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4 5/8	
2. LOCATION (Coordinates or Station) MONO R-66 STA 3+30A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B. 57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-66/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A. UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☐ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE STARTED 3/1/89 COMPLETED 3/1/89	
7. THICKNESS OF OVERBURDEN 6 496.4		17. ELEVATION TOP OF HOLE 496.4	
8. DEPTH DRILLED INTO ROCK 34.9		18. TOTAL CORE RECOVERY FOR BORING 34.6 %	
9. TOTAL DEPTH OF HOLE 461.5		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
4964			SLS/SS/CLS			PULL #1
	1					START 10:00
			SLS, GR. S, M.H, SA			END 10:15
	2				1	TIME 15 MIN
			BKN DN ~0.4 SPACE			DRL 15 MIN
	3					RAN 5.1
			INTERBDD W/CLS			REC 5.1
	4				3.8	LOSS 0
			+ SS., BKN 0.0-0.6,			UNACC 0
	5					DEP 4.9
			3.6-3.8, 8.0-8.4, 10.4-10.7		2	PULL #2 T/DEP 5.1
	6					START 10:25
			CL GLS 1.3-3.0, 5.1-10.7,			END 10:35
	7				7.0	TIME 10 MIN
			12.7-13.9, SS. GR. M. H,			DRL 10 MIN
	8					RAN 4.3
			F.-VE.F. SLT, 3.0-5.1			REC 4.3
	9				3	LOSS 0
			High ANG FRAC 3.0-4.4			UNACC 0 T/DEP 9.9
	10					DEP 9.9
			CLS GR. S, SH 2.0-2.2			PULL #3
	11				10.7	START 10:95
			7.8-9.6-11.3-11.6, 12.1			END 11:00
	12					TIME 15 MIN
			12.7 DK.GR. 13.5-13.7		4	DRL 15 MIN
	13					RAN 5.0
			SOLS 16.1-16.7			REC 5.0
	14				13.7	LOSS 0 UNACC 0
						DEP 14.5 T/DEP 14.9
	15					PULL #4
					5	START 11:10
	16					END 11:20
						TIME 10 MIN
	17				17.0	DRL 10 MIN
						RAN 4.9
	18				6	REC 4.7
					CONT	LOSS 0.2
	19					UNACC 0.2
						DEP 19.5 T/DEP 19.3
	20					PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-66/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. R-66/2

PROJECT GALLIPOLIS Lock+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					
479.9	21		CLS GR W/ occlt R-BR, S, SL SLT W/SLK @ 22.0		6 20.7	PULL #5 START 11:30 END 11:40 TIME 10 min DRL 10 min RAN 9.3 REC 9.0 UNACC 0.3 LOSS 0.3
	22				7	
473.9	23					
	24		ICL R-BR, S-M, H, SH, Num SLK, OCC MOTTLED W/ GR-GN GR. SCUCRELY BKN 29.9-29.5 DK GY, ABOV 29.6.		29.1	DEPTH 29.3 TIDCP 29.6
	25					PULL #6 START 12:10
	26				8	END 12:20 TIME 10 min DRL 10 min
	27					RAN 5.1
	28				27.8	REC 5.1 LOSS 0
	29				9	UNACC 0
	30					DEPTH TIDCP 29.7
	31				30.8	PULL #7 START 12:50
	32					END 1:10 TIME 20 min DRL 20 min
	33				10	RAN 9.9
	34					REC 9.5 LOSS 0
461.8			BOTTOM HOLE		34.6	UNACC 0 TIDCP 34.6 DCP 34.9
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 O-F—328-243

PROJECT GALLIPOLIS Lock+DAM | HOLE NO. R-66/2

Hole No. R-67/1

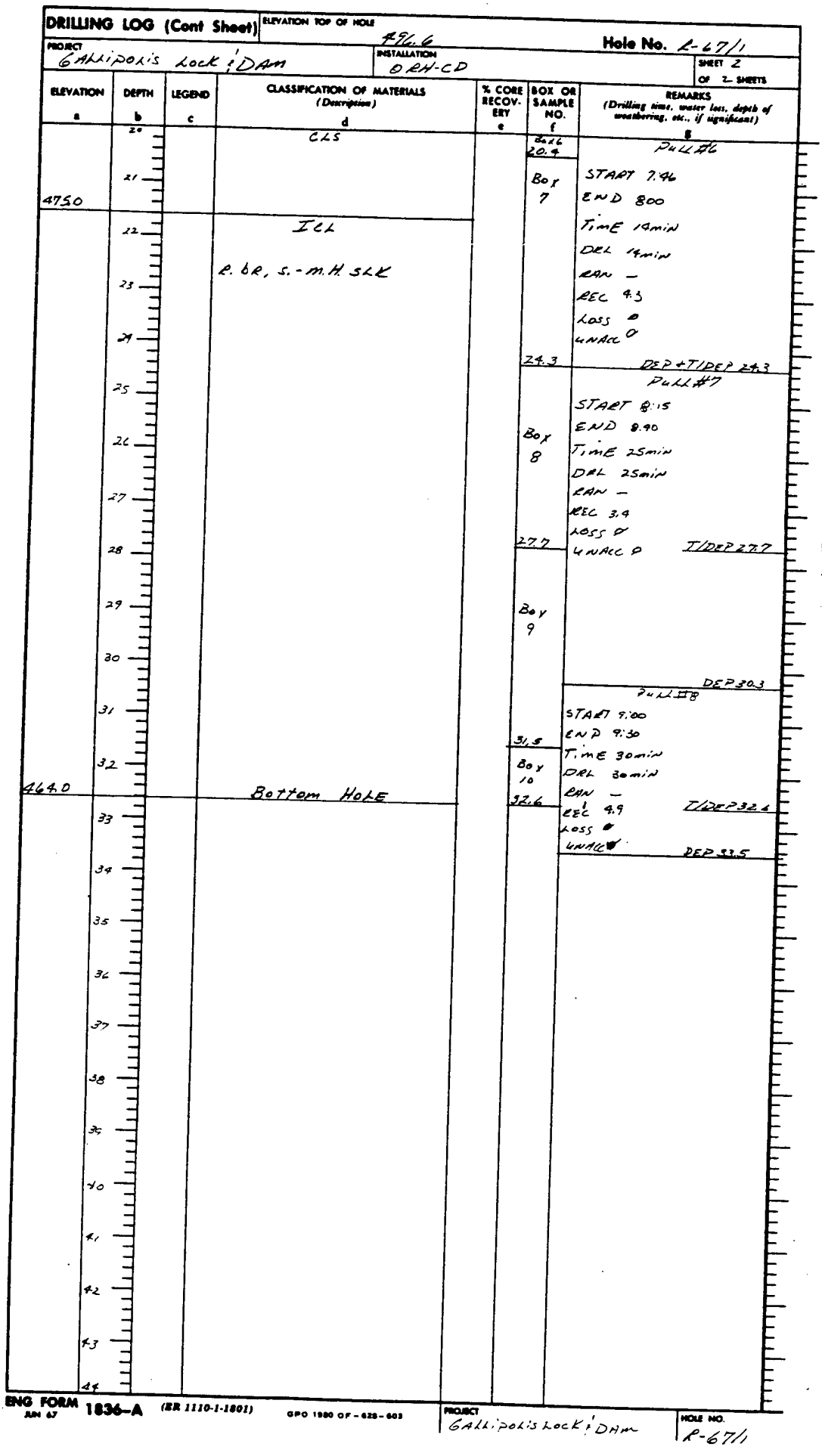
DRILLING LOG | DIVISION ORH | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Mond R-67 STA 3+40 A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-67/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 6 496.6
8. DEPTH DRILLED INTO ROCK: 32.6
9. TOTAL DEPTH OF HOLE: 464.0
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (USGS or USC): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/28/89; COMPLETED 2/28/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 32.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	0–1		CLS/SLS			PULL #1
	1–2		Inter bdd, S.-M, h., shy		Box 1	START 3:00
	2–3					END 3:07
	3–4		M-dk. gr SLS -0.0-0.3;			TIME 7min
	4–5		3.3-4.2 SM. h wod, START		3.6	DRL 7min
	5–6		@ 4.4, bKN w/SLK PLNS			RAN –
	6–7		8.2-9.0 w/0.2 LC & 10.5			REC 4.7
	7–8		-10.8; R.br 12.5-12.7			LOSS 0
	8–9					UNACC 0
	9–10				Box 2	T/DEP 4.7
	10–11					DEP 5.3
	11–12					PULL #2
	12–13					START 3:12
482.8						END 3:20
	13–14		SLS		22	TIME 8min
	14–15		SQ, S.-m.h., m.gr.; sa			DRL 8min
	15–16		ve. f. dcc SM. wod			RAN –
	16–17		CLS -15.3-15.7		Box 3	REC 4.1
	17–18					LOSS 0.2
478.0						UNACC 0.2
	18–19		CLS		10.5	DEP 10.3
	19–20		S-M.H, m-DK.gR ICL			T/DEP 9.0
			19.0-19.4 (CONT)			PULL #3
						START 7:00
						END 7:10
						TIME 10min
					Box 4	DRL 10min
						RAN –
					14.2	REC 4.8
						LOSS 0
						UNACC 0
						DEPT T/DEP 13.8
						PULL #4
						START 7:30
						END 7:42
						TIME 12min
						DEP 18.3
					Box 5	DRL 12min
						RAN –
						REC 3.8
						LOSS 0
						UNACC 0
						PULL #5
						START 7:46
						END 8:00
						TIME 14min
					17.9	DRL 14min
					Box 6	RAN –
						REC 4.3
						LOSS 0
						UNACC 0
						DEP 18.9
						T/DEP 14.0
						PULL #6
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: Gallipolis Lock & Dam | HOLE NO. R-67/1



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 491.6

Hole No. R-67/1

PROJECT GALLIPOLIS LOCK & DAM

INSTALLATION ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Bag 20.4	PULL #6
	21				Box 7	START 7.46 END 800 TIME 14min DRL 14min RAN — REC 4.3 LOSS 0 UNACC 0
470.0					24.3	DEP + TIDEP 24.3
	22		ICL			PULL #7
	23		R. BR, S.-M.H. SLK			START 8:15 END 8.40 TIME 25min DRL 25min RAN —
	24				Box 8	REC 3.4 LOSS 0
	25				27.7	UNACC 0 TIDEP 27.7
	26					
	27					
	28				Box 9	
	29					DEP 30.3
	30					PULL #8
	31					START 9.00 END 9:30
	32				31.5	TIME 30min DRL 30min RAN —
464.0			BOTTOM HOLE		Box 10 32.6	REC 4.9 TIDEP 32.6 LOSS 0 UNACC 0 DEP 33.5
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-67/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8 ½	
2. LOCATION (Coordinates or Station) MONO P-67 STA 3+75A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. 6. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-67½		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TILE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 497.1		16. DATE HOLE STARTED 2/24/89; COMPLETED 2/24/89	
8. DEPTH DRILLED INTO ROCK 34.8		17. ELEVATION TOP OF HOLE 497.1	
9. TOTAL DEPTH OF HOLE 462.3		18. TOTAL CORE RECOVERY FOR BORING 34.8 %	
		19. SIGNATURE OF INSPECTOR J MW	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1			SLS/CLS LSS			PULL #1
	1		SLT. gR. S-M. H, SH, OS-CO			START 10:15
			2.6-2.9, CLS gR. S, SH			END 10:27
	2		0.0-0.5, 2.0-2.6, 3.6-4.6		1	TIME 12 MIN
			SS. gR. M-H. UF, g, 2.9			DRL 12 MIN
	3		-3.6 BKN 0.0-1.1, CA 1.0.2			RAN 4.9
			FOSS FOSSIL @ 3.8 HIGHLY			REC 4.9
	4		FRAC 0.2-4.5		3.8	LOSS Ø
492.5						UNACC Ø
	5		SANDSTONE			DEP / T/DEP 4.9
			gR, M. H. F-UF, g, HARD,		2	PULL #2
490.8	6		PN W/CL COAT, NS ~30° ≤ 15.3			START 10:38
			SLS			END 10:50
	7		gR. S-M.H. SH, OCC			TIME 12 MIN
					7.9	DRL 12 MIN
	8		INTERBDD CLS, BKN PN.			RAN 5.0
						REC 4.9
	9		~0.3 SPACING, CL 6.3-9.1		3	LOSS 0.1
						UNACC 0.1
	10		12.1-12.5 BELOW 21.8			DEP + T/DEP 9.9
						PULL #3
	11		CLS gR. S, SH 9.1-10.1		10.8	START 11:00
						END 11:11
	12		10.8-11.2, 12.5-13.5, 20.7			TIME 11 MIN
					4	DRL 11 MIN
	13		21.8, 22.8-23.9, ANS FRAC			RAN 4.8
						REC 4.6
	14		-30° 10.6-10.8, SOME PN.			LOSS 0.2
					14.3	UNACC 0.2
	15		FOSSIL 12.7 BKN 9.5-10.1			DEP 14.9 T/DEP 14.7
						PULL #4
	16		15.9-16.1; 17.7-17.8 SA		5	START 12:05
						END 12:14
	17		15.1-15.9			TIME 9 MIN
						DRL 9 MIN
	18				17.8	RAN 5.0
					6 (CONT)	REC 5.0
	19					LOSS Ø
						UNACC Ø
	20		(CONT)			DEP 19.7 T/DEP 19.6
						PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. R-67½

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 Hole No. R-67/2

PROJECT GALLIPOLIS LOCK & DAM INSTALLATION ORH-ED SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS.		6	PULL #5
	21					START 12:29
	22				21.9	END 12:35
	23					TIME 11min
	24				7	DRL 11min
472.8						RAN 5.0
	25		ICL			REC 5.0
	26		R.-BR, S-M.H, VUM,			LOSS 0
	27		SLK, CLAYEY, OCC MOTTLED		29.7	UNACC 0 DEP 29.7
	28		W/GR-GN.GR., DK GR			PULL #6 T/DCP 29.8
	29		ABOVE 26.0, SCURRELY			START 12:47
	30		BKN 29.3-29.5; 29.7-29.8		8	END 13:11
	31		31.6-31.8; 33.1-33.7			TIME 24min
	32					DRL 24min
	33					RAN 5.1
	34				28.2	REC 5.1
462.3			BOTTOM HOLE			LOSS 0
	35					UNACC 0
	36				9	DEP & T/DCP 29.8
	37					PULL #7
	38					START 13:20
	39					END 13:41
	40				31.8	TIME 21min
	41					DRL 21min
	42				10	RAN 5.0
	43					REC 4.7
	44					LOSS 0.3
						UNACC 0.3
					34.8	DEP + T/DCP 34.8

ENG FORM 1836-A JUN 67 GPO 1968 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. R-67/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-68 STA 3+85A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-68/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.4
8. DEPTH DRILLED INTO ROCK: 34.4
9. TOTAL DEPTH OF HOLE: 463.0
10. SIZE AND TYPE OF BIT: 4 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/25/89; COMPLETED 2/27/89
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 33.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4			SLS / CLS			PULL #1
	1		GR, S-M, H, SA, occ			START 12:52
			interbdd w/ CLS fss, BKN			END 1:07
	2		, 9 SPACing, BKN 0.0-0.8		1	TIME 15 MIN
			1.3-1.9, 2.7-2.9, 8.5-9.2			DRL 15 MIN
	3		10.3-11.2, 11.7-12.0 12.5-			RAN 9.8
			12.9 13.3-14.0 20.0 20.3			REC 9.8
493.3	4		SABLS 0.0-1.2, 3.6-4.1, 19.3-19.6		38	LOSS 0
			SANDSTONE			UNACC 0 T/DEP 4.8
	5		GR., M, H, F, 9			DEP 5.0
					2	PULL #2
	6					START 1:13
						END 1:23
	7					TIME 10 MIN
489.5					7.3	DRL 10 MIN
	8		SLS / CLS			RAN 4.6
						REC 4.6
	9		CLAYSTONE, GR, S, SH,		3	LOSS 0
						UNACC 0 T/DEP 9.5
	10		2.9-2.9, 8.1-8.9, 13.0-14.1,			DEP 9.8
						PULL #3
	11		CL COATING ON 7.6-20.0		10.8	START 1:33
						END 1:46
	12		CL SLS 7.6-8.1, 8.9-9.8			TIME 13 MIN
					4	DRL 13 MIN
	13		10.3-13.0, 16.3-18.7			RAN 4.8
						REC 4.8
	14		BKN ON ~ 0.2 SPACING			LOSS 0
					19.3	UNACC 0 T/DEP 14.3
	15		8.2-14.3, high ANG FRAC			DEP 19.5
						PULL #4
	16		14.3-15.1, ANG FRAC 45°			START 1:55
					5	END 2:11
	17		17.5-17.8			TIME 16 MIN
						DRL 16 MIN
	18					RAN 3.4
					17.7	T/DEP 17.7
	19					REC 3.4
						LOSS 0
	20		(CONT)		6 (CONT)	UNACC 0 DEP 19.1
						PULL #5
						START 7:22
						END 7:42 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-68/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-68/1

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS			PULL #5
	21				6	TIME 70min
						DRL 20min
	22					RAN 9.5
					21.5	REC 9.2
	23					LOSS 0.3
479.0						UNACC 0.3 T/DEP 22.2
						DEP 22.7
	24		ICL			PULL #6
					7	START 7:50
	25		R. BR S-M.H, SA			END 8:06
						TIME 16min
	26		NUM SLR, BRN, OCC		25.3	DRL 16min
						RAN 9.7
	27		MOTTLED W/GR, -GN, GR			REC 4.6 T/DEP 26.3
					8	LOSS 0.1
	28		CLAYEY DEGR ABOVE			UNACC DEP 27.2
						PULL #7
	29		26.8, SCUPPERY BRN			START 8:19
					28.8	END 8:31
	30		25.3-25.8, 28.8-29.1, 31.5			TIME 17min
						DRL 17min
					9	RAN 3.9 T/DEP 30.2
	31		32.1			REC 3.7 UNACC 0.2
						LOSS 0.2 DEP 31.3
	32					PULL #8
					32.3	START 8:40
	33				10	END 8:57
463.8			BOTTOM HOLE			TIME 17min T/DEP 33.6
					33.6	DRL 17min
	34					RAN 3.6 DEP 34.9
						REC 2.8
	35					LOSS .8
						UNACC .8
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO 1969 O-339-243 | PROJECT Gallipolis Lock+Dam | HOLE NO. R-68/1

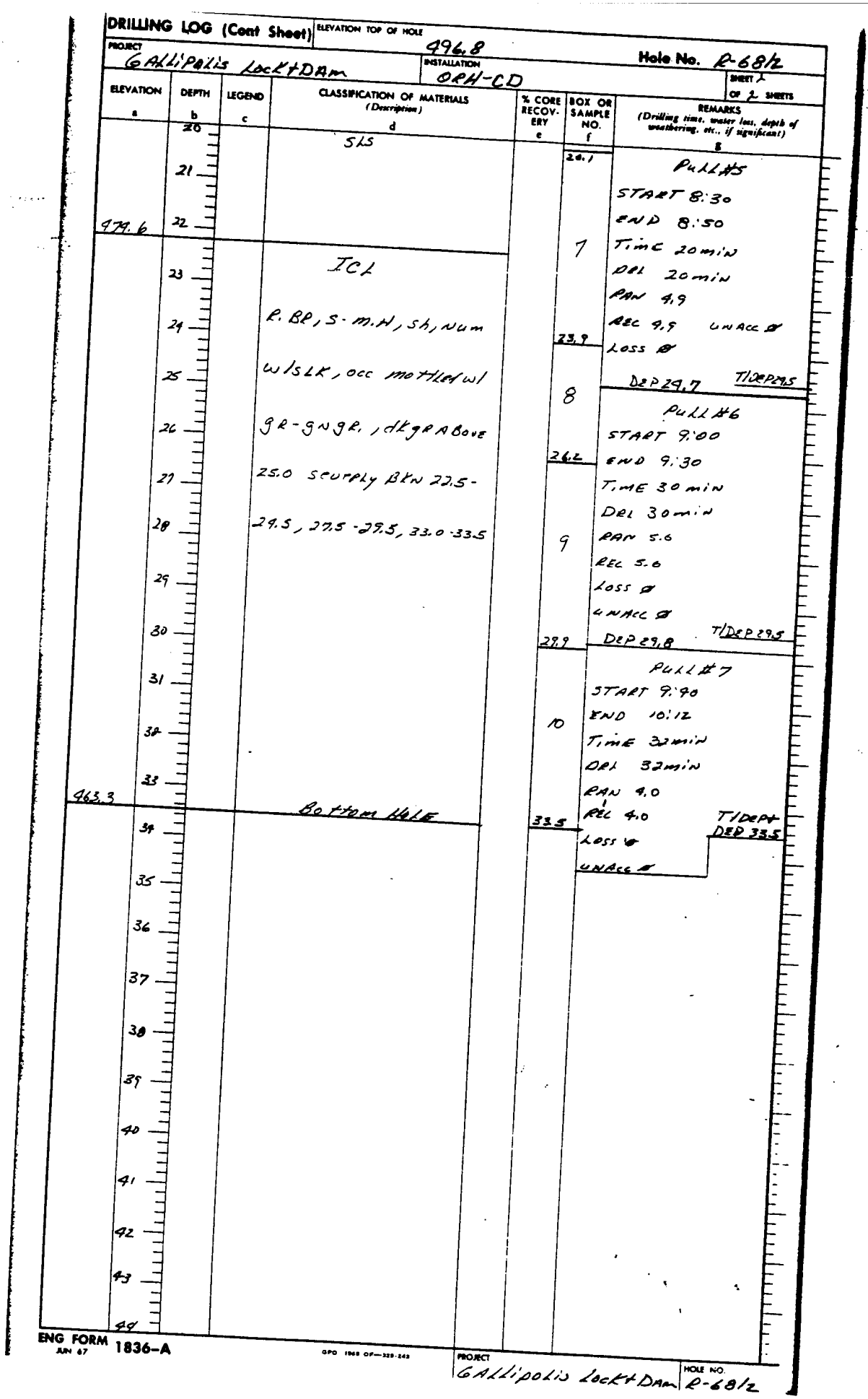
DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-68 STA 4+20A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-68/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.8
8. DEPTH DRILLED INTO ROCK: 33.5
9. TOTAL DEPTH OF HOLE: 463.3
10. SIZE AND TYPE OF BIT: 4 VS 1/2"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/24/89; COMPLETED 2/25/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 33.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SLS / CLS			PULL #1
	1		GR. S-M.H. SH, BKN			START 19:20
	2		PNS. 0.4 SPACING,			END 19:30
	3		BKN PNS 0.2 SPACING 0.4		1	TIME 10 MIN
	4		-2.3, BKN 0.0-0.4, 8.3-			DRL 10 MIN
	5		8.6, SO/SLS 0.8-1.2			RAN 9.7
	6		CLS GR. S, SA 2.5-3.2			REC 9.7
	7		8.3-8.8, 9.7-10.0, 13.7-13.9		39	LOSS Ø
	8		SS GR, M, H F-UEF,			UNACC Ø
	9		SLT 3.6-5.6, CLAYEY SLS			DEP 9.8 T/DEP 9.7
	10		6.6-7.9, 8.8-9.3, 10.5-11.1			PULL #2
	11				2	START 19:41
	12					END 19:50
	13					TIME 9 MIN
482.9	14				7.5	DRL 9 MIN
			SLS			RAN 5.0
	15		GR, S-M.H, SLIGHTLY SA			REC 5.0
	16		BKN PNS ~0.5 SPACING		3	LOSS Ø 1
	17		SOMEY SLS: 15.2-15.9			UNACC Ø
	18		CLAYEY SLS 16.3-17.3, 18.6-19.8		9.7	DEP 9.8 T/DEP 9.7
	19		CLS GR, S, SA 21.6-22.2			PULL #3
	20		(CONT)			START 7:30
					4	END 8:00
						TIME 30 MIN
						DRL 30 MIN
						RAN 4.8
						REC 4.8
					13.5	LOSS Ø
						UNACC Ø
						DEP 19.7 T/DEP 19.3
					5	PULL #4
						START 8:10
						END 8:25
					16.6	TIME 15 MIN
						DRL 15 MIN
					6	RAN 9.8
						REC 9.7
						LOSS 0.1
						UNACC 0.1
					(CONT)	DEP 19.6 T/DEP 19.3
						PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-68/2



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 496.8

PROJECT GALLIPOLIS LOCK+DAM

INSTALLATION ORH-CD

Hole No. R-68/2

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		20.1	PULL #5
	21					START 8:30
479.6	22					END 8:50
					7	TIME 20 min
	23		ICL			DRL 20 min
	24		R. BR, S-M.H, SH, NUM			RAN 4.9
						REC 4.9 UNACC Ø
	25		W/SLK, OCC MOTTLED W/		23.9	LOSS Ø
						DEP 24.7 T/DEP 24.5
	26		GR-GN GR, DK GR ABOVE		8	PULL #6
	27		25.0 SCURPLY BKN 22.5-			START 9:00
					26.2	END 9:30
	28		29.5, 27.5-27.5, 33.0-33.5			TIME 30 min
	29					DRL 30 min
					9	RAN 5.6
	30					REC 5.6
						LOSS Ø
	31					UNACC Ø
					28.9	DEP 29.8 T/DEP 29.5
	32					PULL #7
						START 9:90
	33				10	END 10:12
463.3			BOTTOM HOLE			TIME 32 min
	34					DRL 32 min
						RAN 4.0
	35					REC 4.0 T/DEPT
					33.5	LOSS Ø DEP 33.5
	36					UNACC Ø
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67

GPO 1968 OF—329-243

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-68/2

Hole No. R-69/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT: 4" V5.5"	
2. LOCATION (Coordinates or Station): MONO R-69 STA 4+30N		11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L	
3. DRILLING AGENCY: W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): R-69/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DAVE HARPER		14. TOTAL NUMBER CORE BOXES: 16	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.8		16. DATE HOLE: STARTED 2/25/89; COMPLETED 2/25/89	
8. DEPTH DRILLED INTO ROCK: 33.1		17. ELEVATION TOP OF HOLE: 496.8	
9. TOTAL DEPTH OF HOLE: 463.7		18. TOTAL CORE RECOVERY FOR BORING: 33.1 ft	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SLS			PULL #1
	1		S.-M.H, m.-dk.gr., sly bkn		Box 1	START 9:36
	2		w/ANG SLK. PLNS 2.2-2.6			END 9.55
494.8						TIME 19min
	3		CLS			DRL 19min UNACC 0
493.3			S.-m.h, m-dkgR, sly		3.5	RAN —
	4		SANDSTONE			REC 4.8
			sly, F.G., m.h, m.gr. IRR, O.			LOSS 0
491.8	5		VERT JT. 3.5-4.2 SLSLENS 4.2-4.3		Box 2	DEP 5.0 T/DEP 4.8
			SLS			PULL #2
490.7	6		m.-gR, S.-m.h, occ sly sli sa 5.0-5.4			START 10:04
						END 10:18
	7		CLS		6.9	TIME 14min
			S.-m.h, m.-dkgR, sly			DRL 19min UNACC 0.3
	8				Box 3	RAN —
			w/ closely-m. SPACED			REC 4.2 1
	9					LOSS 0.3 T/DEP 9.7
			hor. PTgs. bkn 8.7-9.0			DEP 9.8
	10					PULL #3
					10.3	START 10.28
	11					END 10.39
					Box 4	TIME 11min
	12					DRL 11min
484.3						RAN —
	13		SLS			REC 4.8
			sa, m.dkgR, s:m.h.		13.5	T/DEP 13.5
	14		GRADING			LOSS 0
482.4						UNACC 0 DEP 14.3
	15		SLS/CLS		Box 5	PULL #4
			Interbdd, S.-m.h, m.-dk.gR			START 10.49
	16		occ sa, pTs bon, occ cl.			END 11.00
			0.2 LC btwn 13.5'-17.2			TIME 11min Loss 0.8
479.9	17				17.2	DRL 11min UNACC 0.2
			SLS			RAN —
	18		sa, S-m.h., m.gR		Box 6	REC 4.8
477.6	19					DEP + T/DEP 18.5
			SLS/CLS			PULL #5
	20		Interbdd, S-m.h, m-dk.gR (CONT)		(CONT)	START 11.12
						END 11.28 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. R-69/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R-69/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS		Box 6	PULL #5
			TAin ICL LENS, btwn 20.2', 20.6 w/ 0.2 L.C. (mech.)		20.8	TIME 1Cmin
	21		GRADING			DRL 16min
479.8					Box 7	RAN —
	22					REC 4.1
			ICL			LOSS 0.2
	23					UNACC 0.2 T/DEP 22.8
			GREENISH GR. - R. BR., S.M.H.			DEP 23.5
	24					PULL #6
			SLF. GREENISH TO 24.5			START 11:36
					24.5	END 11:47
	25					TIME 11min
			UE. bKW 24.5 - 26.3 w/a1		Box 8	DRL 11min
	26					RAN — T/DEP 26.3
			L.C. 1.2LC. BTWN 26.3'			REC 3.9
	27					LOSS 0'
			30.0		27.8	UNACC 0' DEP 27.8
	28					PULL #7
						START 12.00
						END 12:12
	29					TIME 12min
					Box 9	DRL 12min
	30					RAN — T/DEP 30.0
						REC 2.5
	31					LOSS 1.2
						UNACC 1.2 DEP 31.3
	32					PULL #8
						START 12:24
					32.4	END 12:35
					Box 10	TIME 11min
463.7	33		BOTTOM HOLE		33.1	T/DEP 33.1 DRL 11min
						RAN —
						DEP 33.8 REC 3.1
	34					LOSS 0
						UNACC 0
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-69/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	Hole No. R-69/2 SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4" X 5 1/2"	
2. LOCATION (Coordinates or Station) MON# R-69 STA 4+65A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.SL	
3. DRILLING AGENCY W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOB. LE	
4. HOLE NO. (As shown on drawing title and file number) R-69/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN @ 497.6		16. DATE HOLE STARTED 2/25/89; COMPLETED 2/25/89	
8. DEPTH DRILLED INTO ROCK 33.7		17. ELEVATION TOP OF HOLE 497.6	
9. TOTAL DEPTH OF HOLE 463.9		18. TOTAL CORE RECOVERY FOR BORING 33.7 %	
		19. SIGNATURE OF INSPECTOR ZMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.6			CLS			PULL #1
	1					START 10:25
					Box 1	END 10:40
	2		S.-m.h, m-dk.gR, SLY			TIME 15 min
						DRL 15 min
	3		0.1 LC. 0.0.-0.1; SA. LCNS			RAN —
						REC 9.1
	4		0.7-1.4: BKN (mech) 4.2-			LOSS 0.1
					3.8	UNACC 0.1
	5		4.6; SLS w/some CALC			DEP 4.9 TIDEP 4.2
						PULL #2
	6		Mod. 4.6-5.4: VE BKN		Box 2	START 10:50
						END 11:00
	7		6.4-6.9: VE BKN 8.4-9.1			TIME 10 min
						DRL 10 MIN
	8		; SLI SA, SLS 9.4-9.9		7.2	RAN —
						REC 5.2
	9		; 10.7-11.3 SM (>1")		Box 3	LOSS 0.1
						UNACC 0
	10					DEP 9.9 TIDEP 9.2
			INCLS 11.3-11.7			PULL #3
	11					START 11:10
						END 11:20
	12				10.7	TIME 10 min
						DRL 10 min
	13					RAN —
483.9					Box 4	REC 4.8
483.9	14		SLS, SLI, SA, S.-m.h, m.gR			LOSS 0
						UNACC 0
	15		CLS/SLS			
			Interbdd, S.-m.h, m.dk.gR.			
	16		PTS. SLY; SLK 14.2-14.3		14.2	TIDEP+DEP 14.2
480.4	17					PULL #4
			SLS			START 11:30
	18		SLI; SA, S.-m.h, m.gR. BKN		Box 5	END 11:40
			HARD 17.7-18.2 & 18.7-19.1			TIME 10 min
478.5	19					DRL 10 min
						RAN —
			CLS		17.7	REC 5.1
	20		(CONT)		Box 6	LOSS 0
						UNACC 0
						DEP 18.5
						TIDEP 19.3
					(CONT)	PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. R-69/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.6 | Hole No. R-69/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #5
	21		S-M.h, M.gr. Elongated		20.8	START 11:50
			rod started @ 21.0			END 12:10
	22				Box 7	TIME 20 min
475.9						DRL 20 min
	23		ICL			UNACC 0
			greenish gr.-r.br,			RAN —
	24		S.-M.h. SLK VE BKN			REC 5.0
			22.3-24.3 greenish			LOSS 0
	25		gr to 25.0, 0.5 LC.		29.3	DEP 29.2
			BTWN 29.3 & 29.3			T/DEP 29.3
	26					PULL #6
					Box 8	START 12:20
	27					END 12.40
						TIME 20 min
	28					DRL 20 min
						RAN —
	29				27.5	REC 5.0
						LOSS 0
	30					UNACC 0
					Box 9	T/DEP 29.3 DEP 29.4
	31					PULL #7
						START 12:50
	32					END 1:20
						TIME 30 min
	33				31.5	DRL 30 min
463.9			BOTTOM HOLE			RAN —
	34				Box 10	REC 5.0
						LOSS 0
	35					UNACC 0
					33.7	
	36					DEP 34.4 T/DEP 34.3
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. R-69/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4y5VL	
2. LOCATION (Coordinates or Station) MONO R-70 STA 4+75A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W.6. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-70/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER		14. TOTAL NUMBER CORE BOXES 11	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0 497.5		16. DATE HOLE STARTED 2/24/89; COMPLETED 2/25/89	
8. DEPTH DRILLED INTO ROCK 40.8		17. ELEVATION TOP OF HOLE 497.5	
9. TOTAL DEPTH OF HOLE 456.7		18. TOTAL CORE RECOVERY FOR BORING 39.7 %	
		19. SIGNATURE OF INSPECTOR LMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5	1		SLS /CLS			PULL #1
	2		SLS., GR, S-M, H, SH			START 12:50
	3		0.0-2.3, 3.5-6.5, 7.0-7.7, 8.2			END 1:03
	4		11.7, CLS GR, S, SH 2.3-3.5		1	TIME 13min
	5		6.5-7.0, 7.7-8.2, 11.7-12.3			DRL 13min
	6		THINBD 0.1 TO 0.3, BKN 0.0-0.3			RAN 4.9
	7		8.0-2.3, 6.5-7.0 BKN PN		3.8	REC 3.9
	8		~0.1 SPACING W/CLAY			LOSS 0.5
	9		COATING 2.3-7.0, 11.7-12.3			UNACC 0.5 T/DEP 4.9
	10		CL ISLS 5.3-6.5, 6.9-7.7, 9.9			DEP 5.0
	11		10.7 (SO) SLS 8.8, -9.3			PULL #2
485.2	12				2	START 1:10
	13		SLS			END 1:25
	14		GR. S-M, H, BKN PNS,			TIME 15min
	15		~0.6 SPACING, SO 13.0-17.0		7.6	DRL 15min
	16		18.9-19.1 CL 17.6-17.8			RAN 5.0
	17		CLS, GR, S, SH 15.8-20.3			REC 5.0
	18		22.0-22.5 BKN 21.9-22.0			LOSS 0 UNACC 0
	19				3	DEP + T/DEP 9.9
	20		(CONT)			PULL #3
						START 1:31
						END 1:50
					11.2	TIME 19min
						DRL 19min
						RAN 5.0
					4	REC 4.8
						LOSS 0.2
						UNACC 0.2
					19.6	DEP + T/DEP 19.9
						PULL #4
						START 1:58
						END 2:10
					5	TIME 12min
						DRL 12min
						RAN 4.3
						REC 4.2
					18.3	LOSS 0.1
					6	UNACC 0.1 T/DEP 18.7
						DEP 19.9
					(CONT)	PULLS (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-70/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. R-70/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21				6	START 2:18
	22					END 2:34
474.8					21.9	TIME 16 min
	23		ICL			DRL 16 min
	24		R-BR, S-M,H, NUM			RAN 5.0 LOSS 0
	25		SLK THROUGHOUT, OCC MOTTLED			REC 5.0 UNACC 0
	26		W/GR-GN,GR, CLAYING		7	DEP AT T/DEP 23.7
	27		DK, GR, ABOVE 23.7			PULL #6
	28		SPARELY BTW 22.1-22.5			START 2:42
	29		33.3-33.6, 34.1-34.0			END 2:55
	30		38.8-39.2 SLT, 27.6-28.3		25.5	TIME 13 min
	31		30.0-32.0			DRL 13 min
	32				8	RAN 3.9
	33					REC 3.7
	34					LOSS 0.2
	35					UNACC 0.2
457.8			BOTTOM HOLE			DEP 28.7 T/DEP 29.6
	40				29.2	PULL #7
	41					START 8:00
	42					END 8:25
	43					TIME 25 min
	44					DRL 25 min LOSS 0.6
					9	RAN 4.4 UNACC 0.6
						REC 3.8 T/DEP 32.6
						DEP 32.6
						1 PULL #8
					38.6	START 8:33
						END 8:51
						TIME 18 min
						DRL 18 min UNACC 0.4
					10	RAN 4.0
						REC 3.6 T/DEP 36.0
						LOSS 0.4
						DEP 37.0
					37.5	PULL #9
						START 9:04
					11	END 9:20
						TIME 16 min
					39.7	DRL 16 min T/DEP 38.7
						RAN 3.7 UNACC 0
						REC 3.7
						LOSS 0 DEP 40.8

ENG FORM 1836-A JUN 67 | GPO: 1968 OF—328-249 | PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-70/1

DRILLING LOG | DIVISION: OCD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-70 STA 5+12A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-70/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.9
8. DEPTH DRILLED INTO ROCK: 39.9
9. TOTAL DEPTH OF HOLE: 458.0
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/25/87; COMPLETED 2/27/87
17. ELEVATION TOP OF HOLE: 497.9
18. TOTAL CORE RECOVERY FOR BORING: 39.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SLS/CLS/SS			PULL #1
	1		SLT, GR, S-M.H, SB, OCC			START 1:30
						END 1:43
	2		INTERBDD W/CLS/SS		1	TIME 13 MIN
						DRL 13 min
	3		BRN PNS W/.4 SPACING			PEN 4.7
					3.5	REC 4.7
	4		BRN PNS ~.05-0.1			LOSS 0
						UNACC 0 DEP 9.6
	5		SH, 0.0-3.5, 6.5-7.1			T/DEP 9.7
					2	PULL #2
	6		CLS, GR., S, SH, 2.6-3.1			START 1:30
						END 2:01
	7		7.8-9.3, 19.7-20.9, SS/			TIME 11 min
					7.1	DRL 11 min
	8		SLS 3.5-7.9, 13.3-19.3			PEN 4.9
					3	REC 0
	9		14.9-19.7, 18.5-18.7, CL BLK			LOSS 0 UNACC
						DEP 9.9 T/DEP 9.3
	10		5.0-6.5, 7.3-7.8, 10.2-		9.6	PULL #3
						START 7:15
	11		13.3, 15.0-18.5, 18.8-		4	END 7:30
						TIME 15 MIN
	12		19.7, BRN 8.8-9.3, ANG			DRL 15 min
						PEN 4.8
	13		PN ~ 90° W/CLY COATING			REC 4.8
					13.3	LOSS 0
	14		13.8-14.2			UNACC 0
					5	DEP 19.9 T/DEP 14.2
	15					PULL #4
						START 7:40
	16					END 8:00
					16.5	TIME 20 min
	17					DRL 20 min
						PEN 5.0
	18				6	REC 5.0
						LOSS 0
	19					UNACC 0
						DEP 19.5 T/DEP 19.4
	20		(CONT)		19.9	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-70/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-70½

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS/SS			PULL #5
	21					START 8:10
	22				7	END 8:20
475.6						TIME 10 MIN
						DRL 10 MIN
	23		ICL			RAN 5.1
	24		P-BR, S-M.H, SH,		23.7	REC 5.1
						LOSS Ø
	25		BKN, NUM SLK.			UNACC Ø T/DCP 29.2
						DEP 29.5
	26		OCC MOTTLED W/GR.-		8	PULL #6
	27		SNGR. CLAYEY, OFGR.			START 8:30
					26.9	END 8:50
	28		ABOVE 25.5, SEVERELY			TIME 20 MIN
						DRL 20 MIN
	29		BKN 22.3-22.9, 23.7-24.5			RAN 5.1
						REC 5.1
	30		29.6-30.9, 30.6-39.2		9	LOSS Ø
						UNACC Ø
	31					DEP 29.5
						PULL #7 T/DCP 29.6
	32				30.6	START 9:00
						END 9:20
	33					TIME 20 MIN
						DRL 20 MIN
	34				10	RAN 5.0
						REC 5.0
	35					LOSS Ø
					39.2	UNACC Ø
	36					T/DCP 39.6
						DEP 35.0
	37					PULL #8
					11	START 9:30
	38					END 9:40
					37.2	TIME 10 MIN
	37					DRL 10 MIN
						RAN 5.3
					12	REC 5.3
						LOSS Ø
458.0			BOTTOM HOLE		39.6	UNACC Ø DCP 39.7
	40					T/DCP 39.9
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1969 O-355-243

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-70½

HOLE NO. R-7111

DRILLING LOG	DIVISION OPD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK+DAM		10. SIZE AND TYPE OF BIT 4X5½	
2. LOCATION (Coordinates or Station) MONO R-71 STA 5+22A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W.G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) R-7111		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRYE		14. TOTAL NUMBER CORE BOXES 11	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 496.8		16. DATE HOLE STARTED 9/6/89; COMPLETED 9/6/89	
8. DEPTH DRILLED INTO ROCK 38.8		17. ELEVATION TOP OF HOLE 496.8	
9. TOTAL DEPTH OF HOLE 458.0		18. TOTAL CORE RECOVERY FOR BORING 38.8	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SLS/CLS			PULL #1
	1		SLS gr,S, M.H, Sh,			START 8:10
						END 8:30
	2		occ S a, BKN pns-0.3			TIME 20min
					1	DRL 20min
	3		SPACING, CLS gr,S,Sh			RAN 4.9
					3.7	REC 4.0
	4		bkn pn ~0.1 SPAING, SLS			LOSS 0.9
						UNREC 0.9
	5		0.0-1.3, 2.0-5.5, 6.3-6.9			DEP 5.0 T/DEP 4.9
					2	PULL #2
	6		7.1-7.9, 8.2-9.7, 10.0-			START 8:45
						END 9:07
	7		10.5, 12.3-16.6, 17.1-17.7		7.0	TIME 22min
						DRL 22min
	8		CLS 1.3-2.0, 5.5-6.3, 6.5-			RAN 4.8
						REC 4.6
	9		7.1, BKN pns, 0.5 SPACE		3	LOSS 0.2
						UNREC 0.2 T/DEP 9.7
	10		0.0-1.3, BKN 1.3-1.7, 5.0-			DEP 10.2
						PULL #3
	11		5.2, 8.8-8.9, 11.5-11.6, 13.4			START 9:29
						END 9.42
	12		-13.6, 18.9-19.3, SO LAB		12.0	TIME 18min
						DRL 18min
	13		2.0-3.6, 9.0-9.3, 13.0-14.0		4	RAN 9.6
						REC 4.6
	14		HIGH NNS FRAC -13.3-14.5			LOSS Ø T/DEP 13.3
						UNREC Ø
	15					DEP 15.1
					13.6	PULL #4
	16					START 10:03
						END 10:15 T/DEP 16.7
	17				5	TIME 12min DEP 16.9
						DRL 12min PULL #5
	18					RAN 2.6 START 10:30
						REC 2.6 END 10:48
	19				19.2	LOSS Ø TIME 18min
477.1					6	UNREC Ø DRL 18min
	20		CLS		(CONT)	RAN 4.2
						REC 4.2

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-7111

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. R-71/1

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL#5
	21		gR, S, Sh, BKN, gRAD			LOSS Ø
			into ICL @ Bottom			UNACC Ø
	22				6	T/DEP 21.1
			securely BKN 22.6-			PULL#6
	23					START 11:05
			23.3, 24.0 - 25.4		22.9	END 11:16
	24					TIME 11min
						DRL 11min
	25					RAN 4.3
					7	REC 4.3
						LOSS Ø UNACC Ø
470.8	26					DEP 25.5 T/DEP 25.4
			ICL			PULL#7
	27				26.6	START 12:26
			R-BR W/occ mottled			END 12:40
	28					TIME 14min
			w/GR-GN.GR. Sh,			DRL 14min
	29					RAN 4.2
			BKN, num Slk,		8	REC 3.5
	30					LOSS 0.7
			securely BKN 32.0-32.7			UNACC 0.7 T/DEP 29.6
	31					DEP 30.1
			39.0-39.6		30.6	PULL#8
	32					START 12:53
						END 1:09
	33					TIME 16min
					9	DRL 16min
	34					RAN 5.0
						REC 5.0
	35					LOSS Ø
					39.4	UNACC Ø T/DEP 34.6
	36					DEP 39.9
						PULL#9
	37					START 1:15
						END 1:37
	38				10	TIME 22min
						DRL 22min
						RAN 4.2
						REC 4.2
					38.1	LOSS Ø UNACC Ø
458.0			BOTTOM HOLE		11	
	39				38.8	DEP + T/DEP 38.8
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-71/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-71 STA 5+62
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-71/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.1
8. DEPTH DRILLED INTO ROCK: 39.6
9. TOTAL DEPTH OF HOLE: 457.5
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/7/89; COMPLETED 9/7/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 39.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1			SLS/CLS			PULL #1
	1		SLS w/occ in Tarbdd			START 10:56
						END 11:10
	2		CLS, SLS. gR. S-M.H., SH			TIME 19 min
					1	DRL 19 min
	3		occ SH, BKN pns ~.3			RAN 4.9
					3.8	REC 4.9
	4		CLS, gR, S, SH BKN			LOSS Ø
						UNACC Ø T/Dep 4.9
	5		pns ~ 0.3, SLS 0.0-4.6			Dep 4.9
					2	PULL #2
	6		6.2-7.5, 8.2-9.7, 10.9-10.8			START 1:18
						END 11:25
	7					TIME 7 min
			11.3-11.7, 12.1-16.7, 16.9-			DRL 7 min
	8				7.3	RAN 3.8
			18.2, 19.0-20.5, CLS 4.6			REC 4.5
	9					LOSS Ø
			-6.2, 7.5-8.2, 9.7-10.9			UNACC Ø T/Dep 8.9
	10					Dep 8.7
			10.8-11.3, 11.7-12.1, 16.7-		3	PULL #3
	11					START 12:14
			K.S, 18.2-19.0			END 12:28
	12				10.8	TIME 19 min
			BKN 0.7-0.9, 3.3-9.3, 11.7			DRL 14 min
	13					RAN 5.1
			-12.1, BKN pns ~0.1 space		4	REC 4.8
	14					LOSS Ø
			0.0-4.9 SR / SLS 8.8-8.9			UNACC Ø
	15					Dep 13.8 T/Dep 13.7
			12.1-12.6, 13.0-13.5, 17.0-19		14.2	PULL #4
	16					START 12:37
			SB. gR VE. F.S. M.H			END 12:51
	17				5	TIME 19 min
						DRL 19 min
	18		12.6-13.0			RAN 4.5
						REC 4.5
	19				17.8	LOSS Ø UNACC Ø
						Dep 18.3 T/Dep 18.2
	20		(CONT)		6 CONT	PULL #5
						START 1:00
						END 1:13
						TIME 13 min

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-71/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 Hole No. R-71/2

PROJECT GALLIPOLIS LOCK+DAM INSTALLATION ORH-CD SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.6	20		SLS/CLS			
	21		CLS GR, S, SH SLT @ TOP GRADES INTO R-BR ICL @ BOTTOM occ SLK BELOW 22.1		6	PULL #5 DRL 13 MIN RAN 4.6 REC 4.7 LOSS 0 UNACC 0
	22				21.9	DCP+TIDCP 22.9
474.1	23				7	PULL #6 START 1:23 END 1:37 TIME 19 MIN DRL 19 MIN RAN 3.3 UNACC 0 REC 3.8 LOSS 0
	24		ICL R-BR, S, SH, WUMSLK BKN occ MOTTLED/WL GR. SEVERELY BROKEN. 28.5-28.7, 30.8-32.1 39.0-39.6		25.1	TIDCP 26.3
	25					
	26				8	DCP 26.7
	27					PULL #7 START 1:45 END 2:05 TIME 20 MIN DRL 20 MIN RAN 5.4 REC 4.7 LOSS 0.7 UNACC 0.7
	28				28.7	
	29					
	30				9	
	31					DCP 32.2 TIDCP 32.1
	32					PULL #8
	33				32.9	START 2:20 END 2:28 TIME 8 MIN DRL 8 MIN RAN 2.5 REC 2.0 LOSS .5 UNACC .5
	34					
	35				10	DCP 35.5 TIDCP 35.6
	36					
	37				36.6	PULL #9 START 2:35 END 2:50 TIME 15 MIN DRL 15 MIN RAN 5.0 REC 5.0 UNACC 0 LOSS 0
	38					
457.5	39				11	
	40				39.6	DCP/TIDCP 39.6
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 O-349-243

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. R-71/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-72 STA 5+72 A
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): R-72/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.9
8. DEPTH DRILLED INTO ROCK: 36.0
9. TOTAL DEPTH OF HOLE: 461.9
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 4/6/89; COMPLETED 4/7/89
17. ELEVATION TOP OF HOLE: 497.9
18. TOTAL CORE RECOVERY FOR BORING: 33.9 %
19. SIGNATURE OF INSPECTOR: JMP

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.9			SLS/CLS			PULL #1
	1		SLS, GR. S - M.H, SH			START 2:12
						END 2:30
	2		OCC SQ BKN DNS			TIME 18 MIN
					1	DRL 18 MIN
	3		~0.3 SPACING, CLS GR, S,			RAN 5.1
						REC 3.5
	4		SH, SLS 0.8-2.6, 2.9-3.6			LOSS 0.7
					4.2	UNACC 0.7 T/DEP 4.2
	5		7.9-8.2, 9.1-12.9, 12.7-13.7			DEP 5.1
						PULL #2
	6		20.1-20.3, 20.6-21.1, CLS		2	START 7:17
						END 7:35
	7		0.7-0.8, 2.6-2.9, 7.6-7.7			TIME 18 MIN
						DRL 18 MIN
	8		8.7-9.1-12.9-12.7, 19.7		8.0	RAN 4.1 LOSS Ø
						REC 4.9 UNACC Ø
	9		20.1,-20.3-20.6, BKN ~			DEP 9.2 T/DEP 9.1
					3	PULL #3
	10		0.1 SPACING, 0.0-, SS.			START 17:46
						END 8:03
	11		LT GR., M-C.G., M.H			TIME 17 MIN
					11.6	DRL 17 MIN LOSS Ø
	12		BKN 0.0-0.2, BKN			RAN 9.7 UNACC Ø
						REC 9.8
	13		0.5-0.8, ZZ-2.5, 2.9-3.1			DEP + T/DEP 13.9
					4	PULL #4
	14		5.0-5.1 5.4-5.8, 8.8-9.1			START 8:11
						END 8:26
	15					TIME 15 MIN
						DRL 15 MIN
	16		11.9-11.6 SO/SLS 9.1-9.5		13.0	RAN 1.8
						REC 1.6
	17		9.1-9.5, 13.1-13.5, 14.3-			LOSS Ø T/DEP 15.3
						UNACC Ø DEP 15.7
	18		15.0, 16.0-16.5, 18.0-18.1		5	PULL #5
						START 8:39
	19		CL/SLS 5.1-7.6, 11.6-11.9			END 8:43
						TIME 4 MIN
	20		SS, GR.-LT GR, F.9, M.H,			DRL 4 MIN
						RAN 3.7 UNACC 0.1
					18.7	REC 3.8
					6	LOSS 0.1
					(cont)	T/DEP + DEP 19.9
						PULL #6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-72/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-72/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORW-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS. GRADATIONAL @ TOP + BOTTOM W/SLS (B.S. 19.3)			PULL #6
476.8	21				6	START 8:52
	22		CLS gr, S, Sh, BRN, occ SLKD BOTTOM; GRADATIONAL W/ R-BR, ICL, BOTTOM AND SLS @ TOP BLKPNS, ~0.2, SCURRELY BRN 22.2-22.5, 23.2-29.0			END 9:08
	23				22.2	TIME 16 min
	24					DRL 16 min
						RAN 4.9
					7	REC 5.0 UNACC 0
						LOSS 0
472.7	25					DEP 29.3 T/DCP 29.9
			ICL R-BR, S, Sh, NUM SLK BRN occ MOTTLED w/gr-GN, GR, SCURRELY BRN 26.0-26.2, 27.7-28.0 29.1-29.9		25.9	PULL #7
	26					START 9:33
	27					END 9:96
					8	TIME 13 min
	28					DRL 13 min
						RAN 5.9
	29					REC 5.0
						LOSS 0
					29.1	UNACC 0 T/DCP 29.9 DCP 29.7
	30					PULL #8
	31				9	START 10,20
						END 10,35
	32					TIME 15 min
						DRL 15 min
	33					RAN 6.3
						REC 3.1
463.3	34		BOTTOM HOLE			LOSS 1.9
					33.9	UN ACC 1.9 T/DCP 33.9
	35					
	36					DCP 36.0
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-248

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. R-72/1

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-72/2 STA 5+62A
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): R-72/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.6
8. DEPTH DRILLED INTO ROCK: 34.1
9. TOTAL DEPTH OF HOLE: 463.5
10. SIZE AND TYPE OF BIT: 4 7/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/8/87; COMPLETED 9/8/87
17. ELEVATION TOP OF HOLE: 497.6
18. TOTAL CORE RECOVERY FOR BORING: 33.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.6	0		SLS / CLS			PULL #1
	1		INTERBDD, SLS gr.,			START 7:28
	2		S. M. H, SH, occ SG			END 7:40
	3		BKN PNS ~0.3 SPACE			TIME 12 min
	4		CLS, gr, S, SH, BKN DNS		1	DRL 12 min
	5		12 SPACE SLS 0.0-2.6		3.7	PAN 5.0
	6		3.0-8.2, 9.0-10.0, 10.5			REC 3.7
	7		19.3, 20.2-20.9 CLS			LOSS 0.9
	8		2.6-3.0, 8.2-9.0, 10.0-10.5			UNACC 0.9 T/DEPTH 4.6 DEPTH 5.0
	9		19.3-20.2, BKN 0.1-.8			PULL #2
	10		2.9-2.6, 8.0-8.2, 12.1-12.6		2	START 7:48
	11		19.3-19.7 BKN PNS ~.1			END 7:56
	12		OPLESS SPACING: 0.0-2.6			TIME 8 min
	13		SG / SLS 3.0-3.7, 9.1-9.6			DRL 8 min
	14		12.6-13.2, CL / SLS 7.6-8.2		8.0	PAN 4.9
	15		10.5-11.1 15.8-19.3, CL			REC 5.0
	16		SEATED BH PNS ~.2 SPACE			LOSS 0
	17		16.2-18.9			UNACC 0 T/DEPTH 9.6 DEPTH 9.9
	18				3	PULL #3
	19					START 8:08
	20		(CONT)			END 8:21
						TIME 13 min T/DEPTH 11.9
					12.3	DRL 13 min
						PAN 4.9
						REC 2.1
					4	LOSS 0.2
						UNACC 0.7
					15.1	DEPTH 18.8
						PULL #4 DEPTH 19.9
						START 8:30
						END 8:36
						TIME 6 min
						DRL 6 min
						PAN 0.1
					5	REC 2.9
						LOSS 0.2
						UNACC 0.2
						PULL #5
						START 8:42
						END 8:53
						TIME 11 min DEPTH 18.5
					19.0	DRL 11 min
						PAN 3.6
					6	REC 2.8
						LOSS 0.5 UNACC 0.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. R-72/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.6 | Hole No. R-72/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS			PULL #6
476.7	21				6	START 7:06 END 9:12 TIME 6min DRL 6min RAN 13.9 REC 9.3 T/DEP 22.5 LOSS 0 UNACC 0
	22		CLS SR, S, SH, GRADATIONAL W/SLS @ TOP + ICL @ BOTTOM SLK @ BOTTOM		22.6	DEP 23.9
	23					PULL #7
	24					START 9:20 END 9:56 TIME 36min DRL 36min RAN 10.6 REC 2.0 LOSS 0.9 UNACC 0.9
472.3	25				7	DEP 25.0 T/DEP 25.1
	26		ICL		26.6	
	27		R, BR, S, BKN, SH,			PULL #8
	28		NUM. SLK, OCC, MOTTLED			START 10.04 END 10:17 TIME 13min DRL 13min RAN 9.9 REC 9.1 LOSS 0.2 UNACC 0.2
	29		W/GR + GN, GR., SEVERELY		8	T/DEP 27.9 DEP 29.9
	30		BKN 26.6-26.9, 30.0-			
	31		30.3, 32.5-39.0		30.3	PULL #9
	32					START 10:29 END 10:90 TIME 16min DRL 16min RAN 4.2 REC 4.6 LOSS 0 UNACC 0
	33				9	
463.6	34		BOTTOM HOLE		39.0	T/DEP 39.0
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. R-72/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO R-73 STA 6+20A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-73/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.4
8. DEPTH DRILLED INTO ROCK: 34.3
9. TOTAL DEPTH OF HOLE: 463.1
10. SIZE AND TYPE OF BIT: 4 7/8 V2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/8/89; COMPLETED 9/8/89
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 33.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SLS/CLS			PULL #1
			Int bdd, SLS & R. S-			START 11.08
	2		M.H., Sh, occ, SA, BKN			END 11.19
					1	TIME 11 min
	3		PNS 0.3 SPACING, occ			DRL 11 min
					3.5	RAN 9.9
	4		CLAYEY. CLS, GR, S, SH			REC 3.8
						LOSS 0.7
	5		BKN PNS ~0.7 SPACING			UNACC 0.7 T/DCP 9.5
						DCP 9.9
	6		SLT 0.0-0.2, 0.8-2.6, 3.3-			PULL #2
					2	START 12.35
	7		4.8, 5.6-7.3, 8.0-8.8, 11.6			END 12.98
						TIME 13 min
	8				7.7	DRL 13 min
			19.6, 20.1-22.0, CLS			RAN 9.3
	9					REC 9.1
			0.2-0.8, 2.6-3.3, 7.3-8.0			LOSS 0.3
	10					UNACC 0.3 T/DCP 8.5
					3	DCP 9.2
	11		9.8-11.6, 15.6-20.1, BKN			PULL #3
						START 12.56
	12		0.0-0.2, 2.8-3.1, 7.7-8.0			END 1.06
						TIME 10 min
	13		8.8-8.9, 11.0-11.6, 17.9-17.7		11.6	DRL 10 min
						RAN 4.6
	14		BKN PNS ~0.1 SPACING 0.0-			REC 9.8
						LOSS Ø UNACC Ø
	15		3.5, 6.2-8.0, SO/SLS 3.5-		4	DCP 13.8 T/DCP 13.7
						PULL #4
	16		4.8, 5.6-6.2, 13.7-15.5			START 1.15
					15.1	END 1.28
	17		SA GR LT GR., FG., M.H			TIME 13 min
						DRL 13 min
	18		4.8-5.6 CL/SLS 6.2-7.3		5	RAN 5.1
						REC 4.7
	19		8.9-9.1, 12.3-13.0, M.S.H			LOSS Ø
						UNACC Ø T/DCP 18.9
	20		ANG FRAC 14.5-15.9.		18.6	
					6 (CONT)	DCP 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-73/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. R-73/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS			PULL#5
	21					START 1:35
478.9	22				6	END 1:49
						TIME 14min
	23		CLS			DRL 14min
			GR, S, SH, GRADATIONAL W/SLS		22.3	RAN 3.9
	24		@ TOP + W/ICL @ BOTTOM			REC 9.5
			SLK @ BOTTOM BKN, SCUEBELY			LOSS 0.1
472.9	25		BKN 23.6-24.5			UNACC 0.1 T/DEP 23.0
			ICL			DEP 23.3
	26		R. BR, S, SH, BKN, NUM,			PULL#6
			SLK, OCC MOTTLED W/			START 1:57
	27		GR-GN GR., SCUEBELY			END 2:05
			BKN 24.5-26.0; 27.0-27.7		7	TIME 8min
	28					DRL 8min
			24.3-27.7			RAN 9.4
	29				26.0	REC 9.7
						LOSS 0
	30					UNACC 0 T/DEP 27.3
						DEP 27.7
	31				8	PULL#7
						START 2:22
	32					END 2:35
					29.7	TIME 13min
469.0	33		BOTTOM HOLE			DRL 13min
						RAN 3.8
	34					REC 3.9
						LOSS 0.5
	35				9	UNACC 0.5 DEP 31.5
						PULL#8 T/DEP 31.6
	36					START 2:48
						END 3:02
	37				33.4	TIME 14min T/DEP 33.9
						DRL 14min
	38					RAN 2.8 DEP 39.9
						REC 1.8
	39					LOSS 0
						UNACC 0
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-328-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. R-73/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET / OF SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO R-73 STA 6+55A
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-73/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.0
8. DEPTH DRILLED INTO ROCK: 33.3
9. TOTAL DEPTH OF HOLE: 463.7
10. SIZE AND TYPE OF BIT: 4 7/8 L
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/13/89; COMPLETED 9/13/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 33.1 ft
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0			SLS/CLS			PULL #1
	1		Interbdd, SLT, GR. S-M, H			START 9:12
	2		Sh, BKN PNS, 0.2-0.3 SPACE			END 9:22
	3		CLS GR. S. Sh, BKN PNS		1	TIME 10 MIN
						DRL 10 MIN
						PAN 4.9
492.9	4		0.1-0.3 SPACING CONT		4.1	REC 3.1 T/DEP 3.7
						LOSS 0.6
	5		SANDSTONE GR, M.H UEF-F.G.			UNACC 0.6 DEP 4.9
490.0	6					PULL #2
			SLS/CLS			START 9:30
	7					END 9:39
			SLS 0.0-2.7, 6.0-6.5, 7.7		2	TIME 9 MIN
	8		-9.6, 12.2-18.0, 19.2-20.1			DRL 9 MIN
						PAN 2.3
	9		20.8-21.3 CLS 2.7-3.1, 6.5			REC 9.1 T/DEP 9.2
	10		7.7, 9.6-12.2, 18.0-19.2			LOSS Ø
					7.8	UNACC Ø DEP 7.8
	11		20.1-20.8, BKN PNS 0.1			PULL #3
						START 9:46
	12		W/ 1.0-3.7, BKN 0.0-1.0			END 9:57
	13		3.7-4.1 7.8-8.3, 18.0-18.5,		3	TIME 7 MIN
	14		20.1-20.8, CLAYEY LSLS			DRL 7 MIN
						PAN 3.0
	15		6.0-6.5, 12.2-12.9, 19.3-			REC 9.3
	16		18.0 CLAY SEAM 7.1-7.3			LOSS Ø
					11.6	UNACC Ø
	17		SS/SLT 8.7-9.1, 12.9-19.3			DEP 12.2 T/D-D 12.1
	18		BKN PNS 0.1 SPACING			PULL #4
						START 10:06
	19		W/CL CONTINS 9.6-12.2, 14.3- (CONT)		4	END 10.10 LOSS Ø
	20					TIME 4 MIN UNACC Ø
						DRL 4 MIN T DEP 19.1
						PAN 1.9 DEP 14.3
					17.0	REC 2.2
						PULL #5
						START 10.19
						END 10:28
					5	TIME 9 MIN
						DRL 9 MIN
						PAN 3.5 UNACC Ø
						REC 3.8
						LOSS Ø DEP 18.0
					18.5	PULL #6 T/DEP 18.1
					6 (CONT)	START 10.35
						END 10.44
						TIME 9 MIN
						DRL 9 MIN

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO.: R-73/2

DRILLING LOG (Cont Sheet) — Elevation Top of Hole: 497.0 — Hole No. R-73/2

Project: Gallipolis Lock + Dam — Installation: ORH-CD — Sheet 2 of 2 Sheets

Elevation (a)	Depth (b)	Legend (c)	Classification of Materials (Description) (d)	% Core Recovery (e)	Box or Sample No. (f)	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) (g)
475.7	20–21		SLS/CLS - 17.3, 0.1-0.3 SPACING		6	PULL #6 PAN 4.5 REC 4.4 LOSS Ø UNACC Ø
473.0	22–24		CLS GR. S, SH, GRADATIONAL W/ SLT @ TOP TO ICL @ BOTTOM BKN, SLK @ BOTTOM SEVERELY BKN 22.4-22.5, 23.2-24.0		22.3 7 25.7	DEP+TIDEP 22.5 PULL #7 START 10:50 END 11:06 TIME 16 MIN DRL 16 MIN PAN 7.9 REC 5.2 LOSS Ø UNACC Ø
463.9	25–33		ICL P-BR, S, SH BKN, NUM SLK OCC, MOTTLED W/GR- GY, GR, SEVERELY BKN 29.0-28.0 BOTTOM HOLE		8 29.4 9 33.1	TIDEP 27.7 PULL #8 START 11:20 END 11:30 TIME 10 MIN DRL 10 MIN PAN 2.5 REC 9.5 LOSS Ø UNACC Ø DEP 29.7 TIDEP 32.2 DEP 32.9 PULL #9 START 12:40 END 12:47 TIME 7 MIN DRL 7 MIN PAN 0.9 REC 0.9 LOSS Ø UNACC Ø TIDEP 33.1 DEP 33.3

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1966 OF-626-503

Project: Gallipolis Lock + Dam — Hole No. R-73/2

Hole No. R-74/1

DRILLING LOG

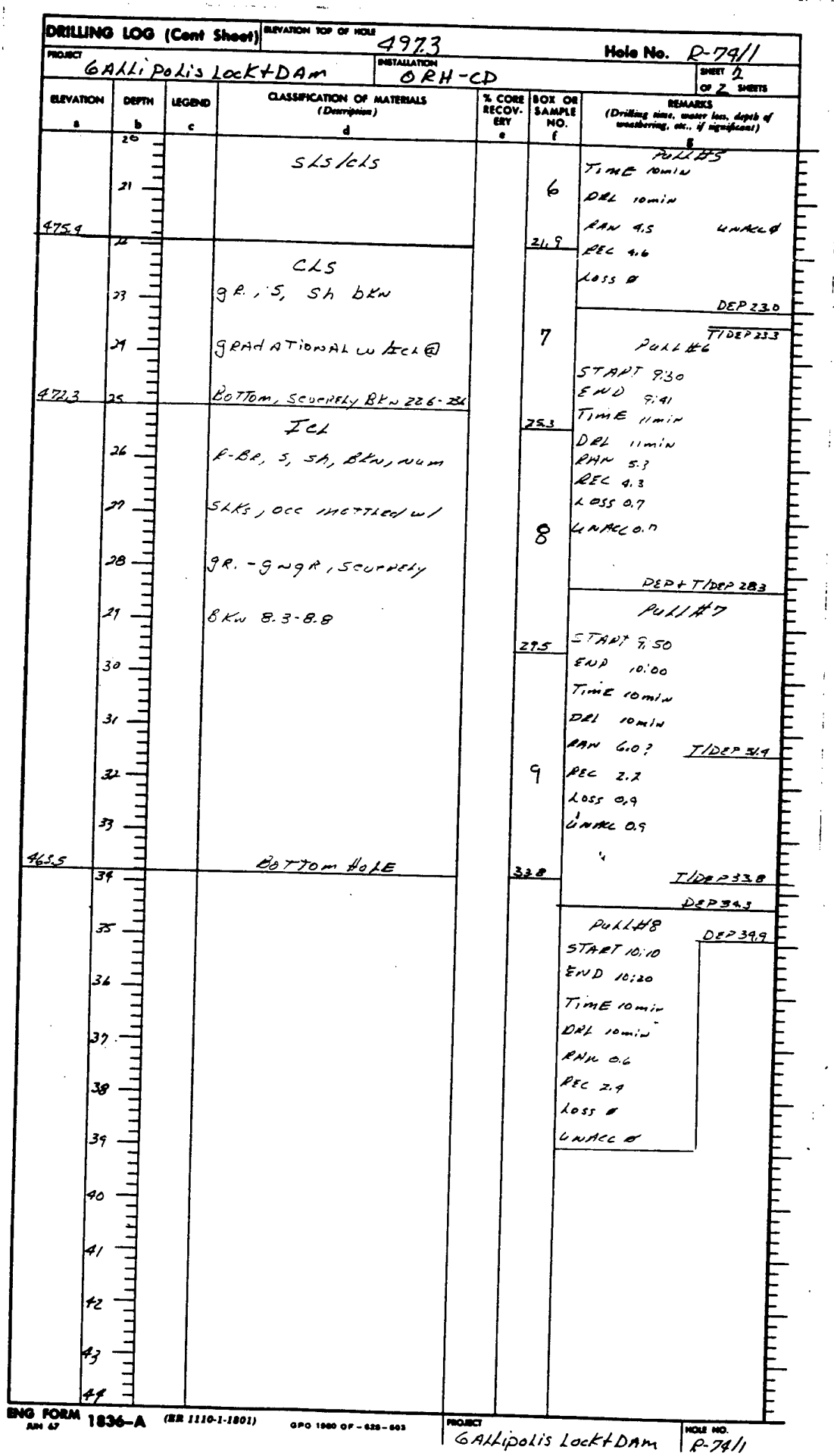
DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO R-74 STA 6+65A
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): R-74/1
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: ± 497.3
8. DEPTH DRILLED INTO ROCK: 34.9
9. TOTAL DEPTH OF HOLE: 462.4
10. SIZE AND TYPE OF BIT: 4 X 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 9/11/89; COMPLETED 9/11/89
17. ELEVATION TOP OF HOLE: 497.3
18. TOTAL CORE RECOVERY FOR BORING: 33.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3			SLS/CLS			PULL #1
	1					START 7:48
			interbed SLS/CLS			END 7:56
	2				1	TIME 8 min
			SLS, g.r., s-m.k., sh, bkn			DRL 8 min
	3					RAN 4.9
			pns - 0.3 spacing, CLS,		3.7	REC 4.2
	4					LOSS 0.4
			g.r. s., sh, bkn pns			UNACC 0.4 T/DEP 4.6
	5					DEP 4.9
			0.2 spacing, SLS 0.0-			PULL #2
	6				2	START 8:06
			2.5, 3.0-3.7, 4.6-8.1, 9.2			END 8:19
	7					TIME 13 min
			17.3, 18.7-19.4 19.6-21.9		7.6	DRL 13 min
	8					RAN 9.4
			CLS, 2.5-3.0, 3.7-4.6, 8.1			REC 4.1
	9					LOSS 0.3 T/DEP 9.0
			-9.2, 17.3-18.7, 19.4-19.6			UNACC 0.3 DEP 9.3
	10				3	PULL #3
						START 8:27
	11		BKN 0.0-1.0, 3.3-3.7, 8.2-			END 8:36
					11.3	TIME 9 min
	12		8.4, 9.0-9.4, 11.1-11.3, 12.8			DRL 9 min
						RAN 4.8
	13		- 14.0, CLS SEAM 13-13.5,		4	REC 5.0
						LOSS 0
	14		2.9-3.0 CL/SLS 4.6-8.1			UNACC 0
						DEP 14.1 T/DEP 14.0
	15		11.1-11.0, 20.0-21.9, BKN		14.4	PULL #4
						START 8:49
	16		PNS ~ 0.1 spacing w/		5	END 9:01
						TIME 12 min
	17		CL coating: 2.0-2.4, 17.3			DRL 12 min
						RAN 4.9
	18		18.7, SA/SLT 9.5-10.7			REC 4.5
					18.2	LOSS 0.2
	19					UNACC 0.2 DEP 18.5
					6	T/DEP 18.7
	20				(CONT)	PULL #5
						START 9:10
						END 9:20

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. R-74/1


DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 497.3
Hole No. R-79/1
PROJECT GALLIPOLIS LOCK+DAM
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS
ELEVATION a
DEPTH b
LEGEND c
CLASSIFICATION OF MATERIALS (Description) d
% CORE RECOV-ERY e
BOX OR SAMPLE NO. f
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
SLS/CLS
CLS
gR., S, Sh bKn
gRADATIONAL w ICL @
BOTTOM, SCURRILY BKN 226-236
ICL
R-BR, S, Sh, BKN, NUM
SLKS, OCC MOTTLED w/
gR.-gNgR, SCURRILY
BKN 8.3-8.8
BOTTOM HOLE
475.9
472.3
463.5
21.9
25.3
29.5
33.8
6
7
8
9
PULL #5
TIME 10min
DRL 10min
RAN 4.5 UNACC 0
REC 4.6
LOSS 0
DEP 23.0
T/DEP 23.3
PULL #6
START 9:30
END 9:41
TIME 11min
DRL 11min
RAN 5.3
REC 4.3
LOSS 0.7
UNACC 0.7
DEP+T/DEP 28.3
PULL #7
START 9:50
END 10:00
Time 10min
DRL 10min
RAN 6.0?
REC 2.2
LOSS 0.9
UNACC 0.9
T/DEP 33.9
T/DEP 33.8
DEP 34.3
PULL #8
DEP 39.9
START 10:10
END 10:20
TIME 10min
DRL 10min
RAN 0.6
REC 2.9
LOSS 0
UNACC 0
ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603
PROJECT GALLIPOLIS LOCK+DAM
HOLE NO. R-79/1

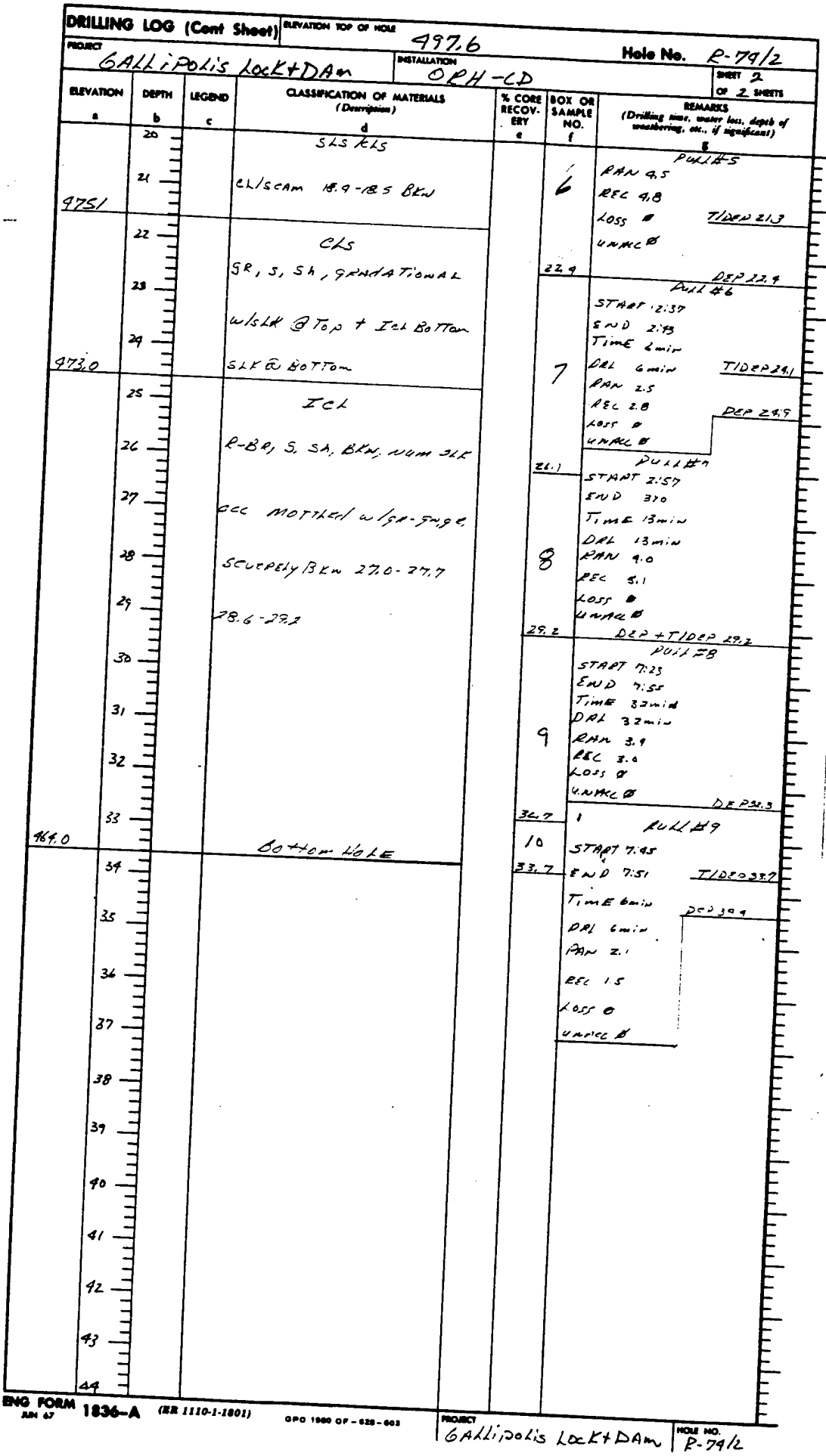
DRILLING LOG — ORD

1. PROJECT	GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station)	MONO R-79 STA 7+00A
3. DRILLING AGENCY	W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number)	R-74/2
5. NAME OF DRILLER	STEVE FRYE
6. DIRECTION OF HOLE	☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	497.6
8. DEPTH DRILLED INTO ROCK	34.9
9. TOTAL DEPTH OF HOLE	463.2
INSTALLATION	ORH-CP
SHEET 1 OF 2 SHEETS	
10. SIZE AND TYPE OF BIT	4 X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	10
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 9/13/83; COMPLETED 9/14/83
17. ELEVATION TOP OF HOLE	497.6
18. TOTAL CORE RECOVERY FOR BORING	33.7 %
19. SIGNATURE OF INSPECTOR	JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.6	1		SLS/CLS			PULL #1
			INTERBKD SLS/CLS			START 1:03
	2					END 1:10
			SLT GR, S-M.H., SH, CLS		1	TIME 7 min
	3					DRL 7 min
			GR, S, SH, SLT 0.0-1.8,			RAN 4.8
	4				3.8	REC 4.1
			1.2-3.8, 4.6-5.9, 6.7-7.8			LOSS 0.5
	5					UNACC 0.5
			9.8-10.0, 10.3-10.7, 12.2-12.8			DEP 4.8 TIDEP 4.6
	6					PULL #2
			13.4-21.8, CLS, 1.8-1.2-3.8		2	START 1:17
	7					END 1:25
			9.6, 7.8-9.8, 10.7-12.2, 12.8			TIME 8 min
	8					DRL 8 min
			13.4 BKN 0.0-0.8, 8.1-		7.8	RAN 5.1
	9					REC 5.2
			8.9, 9.1-9.6, 14.5-15.0, 15.8			LOSS Ø 1
	10				3	UNACC Ø
			-16.1, 17.2-20.9, 21.0-21.3			DEP 9.5 TIDEP 9.8
	11					PULL #3
			CL/SLS 0.8-1.8, 1.2-3.8,			START 1:38
	12					END 1:47
			20.4-21.0 BKN PNS ~0.1		11.4	TIME 9 min
	13					DRL 9 min
			ORGCSS 1.6-3.8, SO/SLS			RAN 3.6
	14					REC 3.6
			5.0-5.9, 6.7-7.8, 9.8		4	LOSS Ø
	15					UNACC Ø
			-10.0, SS. GR. vi fg., m H.			DEP 13.5 TIDEP 13.4
	16					PULL #4
			SLT. (5.9-6.7) + (10.0-10.3)			START 1:55
	17				15.0	END 2:03
						TIME 8 min
	18		BKN PNS ~0.1 w/cl coating			DRL 8 min
						RAN 4.9
	19		7.8-9.8, 10.7-13.9, N.S.H ANS		5	REC 2.8 TIDEP 16.6
						LOSS 0.9
	20		FRAC 13.7-14.3, 15.0-15.8 (CONT)			UNACC 0.9
						DEP 17.9
						PULL #5
						START 2:13
					18.9	END 2:20
					6 (CONT)	TIME 6 min
						DRL 6 min

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. R-74/2



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 497.6
Hole No. P-79/2
PROJECT GALLIPOLIS LOCK+DAM
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS & LS			PULL #5
	21		CL/SCAM 18.9-18.5 BKN		6	RAN 4.5 REC 4.8 LOSS 0 UNMKD 0
475.1						T/DEP 21.3
	22		CLS			
	23		SR, S, SH, GRADATIONAL			
	24		W/SLK @ TOP + ICL BOTTOM			
473.0			SLK & BOTTOM		22.9	DEP 22.9
	25		ICL			PULL #6
	26		R-BR, S, SA, BKN, NUM SLK		7	START 12:37 END 2:13 TIME 2 min DRL 6 min RAN 2.5 REC 2.8 LOSS 0 UNMKD 0
	27		OCC MOTTLED W/SR-SND			T/DEP 24.1
	28		SCUEPELY BKN 27.0-27.7			DEP 24.9
	29		28.6-29.2		26.1	PULL #7
	30					START 2:57 END 3:10 TIME 13 min DRL 13 min RAN 4.0 REC 5.1 LOSS 0 UNMKD 0
	31				8	
	32					
	33				29.2	DEP + T/DEP 29.2
464.0			BOTTOM HOLE			PULL #8
	34					START 7:23 END 7:55 TIME 32 mid DRL 32 min RAN 3.9 REC 3.0 LOSS 0 UNMKD 0
	35				9	
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44				34.7	DEP 34.3
					10	PULL #9
					33.7	START 7:45 END 7:51 TIME 6 min DRL 6 min RAN 2.1 REC 1.5 LOSS 0 UNMKD 0
						T/DEP 33.7
						DEP 33.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-620-003
PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. P-79/2

Hole No. M-111

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Grandpolis Lock & Dam
2. LOCATION (Coordinates or Station): Mone M-1 STA 1547+8
3. DRILLING AGENCY: W. G. Jacques
4. HOLE NO. (As shown on drawing title and file number): M-111
5. NAME OF DRILLER: Dave Harper
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.2
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 4580
10. SIZE AND TYPE OF BIT: 4¾ 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/12/68; COMPLETED 12/12/68
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 38.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	0		SANDSTONE			PULL #1
	1		gr-ltgr. m-H, F-c.g.			START 1:00
						END 1:12
	2		GRADATIONAL - COARSER			TIME 12 min
						DRL 12 min
	3		w/DEPTH		1	PAN 4.3
						REC 4.3
	4		MIC ABOVE 493.5			LOSS 0
						UNACC 0
	5		SA STRINGERS AND FRAG		3.7	
						PULL #2
	6		488.9 - 488.3			START 1:27
						END 1:37 DEP 5.3
	7					TIME 10 min
						DRL 10 min
					2	PAN 3.5
488.3	8					REC 3.6
						LOSS 0.1
	9		ICL		6.9	UNACC 0.1
						PULL #3
			R-BR, S. - VES, MOTTLED w/			START 1:57
			LTGR CL 488.1, 487.7, 486.2			END 2:12 DEP 7.9
	10		486.1 488.3 - 488.1 SCOURED		3	TIME 15 min
			LAM 486.1 - 485.8			DRL 15 min
485.9						PAN 2.5 UNACC 0
						REC 2.8
	11		SLS		10.1	LOSS 0
			GR-GNISR IS - M.M.			DEP 12.9
	12					PULL #4
			SR, SCOURED BEN 485.3			START 2:28
	13		485.0, CL COATED BDRY.		4	END 2:42
						TIME 14 min
	14		@ 479.8 FE STAIN 479.7			DRL 14 min LOSS 0
						PAN 3.3 UNACC 0
	15		- 479.5		13.5	REC 3.1 DEP 13.5
479.9						PULL #5
	16					START 2:57
						END 3:09
	17		SANDSTONE		5	TIME 12 min
						DRL 12 min
			GR-LTGR., M.H, F, M.G			PAN 5.0
	18					REC 5.0
			MIC. V-BR, SA STRINGERS		17.3	LOSS 0
	19				6	UNACC 0
			SOME AMOUNTS OF EL 478.0 -		(CONT)	
	20		471.9 (CONT)			DEP 18.5
						PULL #6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Grandpolis Lock & Dam | HOLE NO. M-111

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.2

Hole No. M-111

PROJECT: GALLIPOLIS LOCK + DAM

INSTALLATION: OPH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #6
	21				20.7	START 7:58
			Sourcely Hard BRN			END 8:30
	22					TIME 32 min
			468.4 - 469.1, Hard		7	DRL 32 min
	23					PAN 9.0
			Chipped @ 468.4, 467.6			REC 9.6
	24					LOSS 0
			467.1, 466.1, SHATTERED		24.9	UNACC 0
	25					
			FIND FRAGS 462.3-463.7			
	26				8	
	27					
					27.8	
	28					DEP281
	29					PULL #7
					9	START 8:59
	30					END 9.18
						TIME 29 min
	31					DRL 29 min
					31.3	PAN 10.2
	32					REC 10.1
						LOSS 0.1
	33					UNACC 0%
					10	
	34					
	35				34.9	
	36					
					11	
	37					
458.0	38		BOTTOM HOLE		38.2	DEP382
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO. M-111

Hole No. M-1 1/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS Lock + DAM
2. LOCATION (Coordinates or Station): GRID M-1 STA 15+32.8
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-1/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.7
8. DEPTH DRILLED INTO ROCK: 37.7
9. TOTAL DEPTH OF HOLE: 459.0
10. SIZE AND TYPE OF BIT: 4 X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/13/88; COMPLETED 12/13/88
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 37.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			PULL #1
	1		SE- LT GR., M-H, F-Cg.			START 9:17
						END 9:30
	2		occ. mic, GRADATIONAL			TIME 13 MIN
					1	DRL 13 MIN
	3		CONTACT w/ depth, occ Y-Bd			RUN 4.8
						REC 4.8
	4		Num mic bd pns, above		3.5	LOSS Ø
						UNREC Ø
	5		492.6, Fe STAINED 491.7-491.5			DEP 4.8
					2	PULL #2
	6		occ SHALE FRAG below			START 9:35
						END 9:47
	7		486.4			TIME 12 MIN
					7.0	DRL 12 MIN
	8					RUN 4.2
						REC 4.0
	9					LOSS 0.2
					3	UNREC 0.2
	10					DEP 9.0
485.7						PULL #3
	11		SLS			START 10:00
						END 10:14
	12		SE- gr/gr., S- m-H,		10.4	TIME 14 MIN
						DRL 14 MIN
	13		GRADATIONAL w/ contact Dip To			RUN 5.0
					4	REC 5.0
	14		SE @ Bottom, SEVERELY			LOSS Ø
						UNREC Ø
	15		BKN 485.7-484.3 485.7-482		14.0	DEP 14.0
						PULL #4
	16		Dip 30° N/SW 484.0-482.0 Sc			START 10:35
						END 10:41
	17		below 481.7, F.Gr.SS 480.8-478.7			TIME 6 MIN
					5	DRL 6 MIN
478.8						RUN 1.8
	18					REC 1.5
						LOSS Ø
					6	UNREC Ø
			SANDSTONE		(CONT)	DEP 15.9
	19					PULL #5
						START
	20		(CONT)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-1/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-1/2

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		gr - LTgr, M-H, F-MG		21.1	START 11:35
	22		MIC. V Bd, GRADATIONAL			END 11:58
						TIME 23 min
	23		CONTACT W/ UPPER SLS		7	DRL 23 min
	24		MOTTLY LT. FE STAINED			RAN 9.5
						REC 9.5
	25		476.6, VE.F. - SLT 469.5 to			LOSS 0
						UNACC 0
	26		468.5, SL. STAIN, 463.5-		29.8	
						DEP 25.4
	27		463.9		8	PULL #6
	28					START 1:00
						END 1:20
	29				28.2	TIME 20 min
						DRL 20 min
	30				9	RAN 2.8
						REC 2.7
	31					LOSS 0
						UNACC 0
	32				31.8	
	33				10	
	34					
	35				35.1	DEP 33.1
						PULL #7
	36				11	START 1:40
						END 1:51
	37					TIME 11 min
458.9			33' TOTAL HOLE		37.8	DRL 11 min
	38					RAN 2.8 DEP 38.0
	39					REC 2.9
						LOSS 0
	40					UNACC 0
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: Gallipolis Lock + Dam | HOLE NO. M-1/2

Hole No. M-211

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-2 STA 154+37
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-211
5. NAME OF DRILLER: DAVE HARDER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.4
8. DEPTH DRILLED INTO ROCK: 37.5
9. TOTAL DEPTH OF HOLE: 458.9
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/13/88; COMPLETED 12/13/88
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 37.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.4			SANDSTONE			PULL #1
	1					START 10:17
			GR-LTGR, M.H. F-C.G.			END 10:30
	2					TIME 13 min
			OCC. MICA, INTERBDD L-F.G		1	DRL 13 min
	3					RAN 4.2
			MECH CHIPPING 496.7, 495.1			REC 4.2
	4					LOSS 0
			492.3		3.6	UNACC 0
	5					DEP 4.2 T/DEP 4.1
						PULL #2
	6					START 10:47
					2	END 10:56
	7					TIME 9 min
						DRL 9 min
	8					RAN 4.5
					7.2	REC 4.7
487.9						LOSS 0
						UNACC 0
					3	
	9		ICL			DEP 8.7 T/DEP 8.6
			R. BR, S, MOTTLED w/GR-GN			PULL #3
	10		CLAYEY @ 487.9-487.0 Interb			START 11.10
			@ 487.7 - 487.3			END 11.26
485.3	11				10.5	TIME 16 min
						DRL 16 min
						RAN 2.2
						REC 2.2
						LOSS 0 UNACC 0
						TIDEPA 8 DEP 10
			SLS			PULL #4
	12				4	START 12:26
			GR-GN-GR S. M.H			END 12:45
	13					TIME 19 min
			K-STAIN - 485.3 - 484.9			DRL 19 min UNACC 0
	14					RAN 2.9
			CLSTNNI @ 482.5, BRN		13.8	REC 3.0 T/DEP 13.7
	15					LOSS 0 DEP 13.9
			PN-2 SPACING 482.3			PULL #5
	16					START 1:50
			480.8			END 2:00
479.6					5	TIME 10 min T/DEP 13.2
	17					DRL 10 min DEP 13.4
			SANDSTONE			RAN 1.5
	18					REC 1.5
			GR-LT.GR., M.H, F-M.G			LOSS 0
	19				17.0	UNACC 0
			MIC OCC K-BX, MECH BRK			PULL #6
			462.2 - 462.0		6	START 1:30
	20					END 2:02
			(CONT)			TIME 32 min
					(CONT)	DRL 32 min
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-211

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-2/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #6
					20.7	PAN 8.8
	21					REC 8.8
						LOSS 0
	22					UNACC 0
					7	
	23					
	24					TIDE 24.0
					24.4	24.4
						PULL #7
	25					START 2:17
						END 2:41
	26				8	TIME 24 min
						DRL 24 min
	27					PEN 10.0
						REC 10.0
	28				28.1	LOSS 0
						UNACC 0
	29					
					9	
	30					
	31					
					31.8	
	32					
	33				10	
	34					TIDE 34.0
						DCP 34.4
						PULL #5
	35				35.1	
						START 2:57
						END 3:20
	36				11	TIME 23 min TIDE 35.2
						DRL 23 min
	37					PEN 3.3
458.9			BOTTOM HOLE		37.5	REC 3.2 DEP 37.9
						LOSS 0.2
	39					UNACC 0.2
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-503

PROJECT Gallipolis Lock + Dam | HOLE NO. M/2/1

Hole No. M-Z-1-

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-2 STA 14+98B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-Z 1/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.1
8. DEPTH DRILLED INTO ROCK: 36.9
9. TOTAL DEPTH OF HOLE: 459.2
10. SIZE AND TYPE OF BIT: 4 7/8 N
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/13/88; COMPLETED 12/14/88
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 36.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1			SANDSTONE			PULL #1
495.5			GR, M-H, F-G			START 2.51
	1		SLS			END 3.00
			GR, S-M.H, Sh, Sa @			TIME 9 min
	2				1	DRL 9 min
			493.9 - 494.2, Scurrely Mech			RAN 3.7
	3					REC 3.7
			BKN Sh 492.4 - 492.3			LOSS Ø
492.3					3.7	UNACC Ø
	4		SANDSTONE			DEP 3.7
			LT.GR, M.H, M-C.G., OCC			PULL #2
	5					START 7.10
			Sh. FRAG, + STRINGERS			END 7.35
	6				2	TIME 25 min
			F.G. 492.3 - 491.8, 486.9 - 486.8			DRL 25 min
	7					RAN 5.0
			mech BKN 487.1 - 487.3, Sh		7.3	REC 5.0
	8					LOSS Ø
			SCAM 487.0 - 486.9			UNACC Ø
486.8	9					DEP 8.7
			CLS		3	PULL #3
	10		LT GR. S., MOTTLED, R-BR			START 8.13
			GR, GN. @ 485.6 - 484.7, AND			END 8.35
	11		20° W/SLK 486.8 - 486.7		10.8	TIME 22 min
484.1	12					DRL 22 min
			SLS			RAN 4.5
	13		GR-GN, GR, S-M.H.			REC 4.1
					4	LOSS 0.4
	14		GRADATIONAL W/Sh @ Top -			UNACC 0.4 DEP 13.2
						PULL #4
	15		Sa @ Bottom, BKN pns 0.2			START 9.41
					14.7	END 10.06
	16		482.9 - 481.0, Sa BKN below			TIME 25 min
						DRL 25 min
	17		481.0, F.G. SS 480.2 - 479.3		5	RAN 2.7 DEP 15.9
479.5						REC 2.7
	18		SANDSTONE			LOSS Ø
						UNACC Ø
	19		GR - LT GR, M.H, F - M.G.		18.2	
					&	PULL #5
	20		(CONT)		(CONT)	START 10.15
						END 10.44

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-Z 1/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. M-Z1/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		mic, occ x-bd, GRADATIONAL			TIME 29min
						DRL 29min
	22		CONTACT w/ upper SLS		21.8	PEN 8.7
						REC 8.7
	25		Thin interbdd SLS			LOSS 0
					7	UNACC 0
	29		471.0 - 469.7			
	25					PULL #6
					25.9	
	26					START 11:01
						END 1:30
	27				8	TIME 29min
						DRL 29min
	28					PEN 10.0
						REC 10.0
	29				29.2	LOSS 0
						UNACC 0
	30					
					9	
	31					
	32					
					32.8	
	33					
	34				10	
						DEP 34.6
	35					PULL #7
459.2	36		BOTTOM HOLE			START 12:20
					36.1	END 12:30
						TIME 10min
	37					DEP 36.9
						DRL 10min
	38					PEN 2.3
						REC 2.3
	39					LOSS 0
						UNACC 0
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-Z1/2

Hole No. M-3/1

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CP

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-3 STA 19+79.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-3/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 499.5
8. DEPTH DRILLED INTO ROCK: 35.6
9. TOTAL DEPTH OF HOLE: 458.9
10. SIZE AND TYPE OF BIT: 4¾ V2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/15/88; COMPLETED 12/15/88
17. ELEVATION TOP OF HOLE: 499.5
18. TOTAL CORE RECOVERY FOR BORING: 35.5
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
499.5			SANDSTONE			PULL #1
	1		gr-LTgr, m-H, F-Cg.			START 7.45
	2		C.g. w/occ sh frag +			END 7.53
	3		STRINGERS 497.0 - 489.9		1	TIME 8min
	4		mic below 489.5			DRL 8min
	5					RAN 5.0
					3.6	REC 5.0
						LOSS 0
						UNACC 0
					2	DEP 5.0
489.0						
	6		ICL			PULL #2
	7		Lt.Br, S, MOTTLED w/gr+			START 8.10
	8		SW cl, scarcely BKN			END 8.32
	9		483.7-483.4, scarcely mech			TIME 22min
			BKN 485.6 - 485.3		7.1	DRL 22min
483.7						RAN 3.9
						REC 3.8
					3	LOSS 0.1
						UNACC 0.1 DEP 8.9
	10		SLS			PULL #3
	11		gr-SWgr, S - M.H, gradation			START 8.53
	12		w/sh @ Top - sg @ Bottom			END 9.12
	13		ang PN ~20° @ 483.7			TIME 19min
	14		Abnpn w/slk 483.3-483.2			DRL 19min
	15		Sandy clay 481.1			RAN 3.6
					11.3	REC 5.6
478.9						LOSS 0
						UNACC 0 DEP 12.5
	16		SANDSTONE		4	PULL #4
	17		gr-LT.gr., M.H. F-Mg.			START 9.31
	18		mic, GRADATIONAL contact			END 9.47
	19		w/upper SLT, mech			TIME 16min
					14.5	DRL 16min
	20		(CONT)			RAN 7.1
					5	REC 7.1
						LOSS 0
						UNACC 0
					18.0	
					6 (CONT)	
						DEP 19.6
						PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-3/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 494.5 | Hole No. M-3/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		Chipped 477.0 - 476.7		21.5	START 10:05
	22		FG SLT ABOVE 476.5			END 10:25
	23		SLT 473.8 - 472.5		7	TIME 20 min
	24		Thin SH FRAG + STRINGERS			DRL 20 min
	25		470.6 - 469.6, LTR GRY		24.9	RAN 10.0
	26		w/ 2A: ccm.		8	REC 10.0
	27					LOSS 0
	28				28.9	UNACC 0
	29					DEP 29.6
	30					PULL #6
	31				9	START 10:42
	32					END 11:04
	33				32.9	TIME 22 min
	34					DRL 22 min
	35				10	RAN 5.5
459.0			BOTTOM HOLE		35.5	REC 5.5
						LOSS 0
						UNACC 0
						DEP 35.5
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-3/1

Hole No. M-3/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-3 STA 14+36.8
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): M-3/2
5. NAME OF DRILLER: A. TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 493.9
8. DEPTH DRILLED INTO ROCK: 39.9
9. TOTAL DEPTH OF HOLE: 454.0
10. SIZE AND TYPE OF BIT: 4 7/8 TN
11. DATUM FOR ELEVATION SHOWN (GS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/11/89; COMPLETED 1/11/89
17. ELEVATION TOP OF HOLE: 493.9
18. TOTAL CORE RECOVERY FOR BORING: 39.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493.9			CLS			PULL #1
	1		SLY., S. M.h., M.-dK. gR.			START 13.00
	2				Box 1	END 13.11
	3					TIME 11. min
490.2						DRL 11 min
	4		SANDSTONE			RAN 4.4
	5		m-c.g., m.h., m. gR			REC 4.4
	6				Box 2.	LOSS 0
	7				7.1	UNACC 0
485.9	8					DEP 4.4
	9		SLS/CLY			PULL #2.
	10		S.-m.h., m.gR. bKN-		Box 3.	START 13:15
	11		8.0 - 9.4 (mech); hA.)			END 13:46
	12		SLK. PTg. 10. - 10.4			TIME 31.0 min
	13		bKN (mech) 13.6 - 14.6			DRL 31. min
479.3	14				14.4	RAN 14.4
	15		SLS/SS		Box 4	REC 10.0
	16		m.gR. m.h. w/ occ shy			LOSS 0
	17		PTg. in shy AREAS			UNACC 0
	18				17.9	DEP 14.4.
	19				Box 5	PULL #3
	20		(CONT)		(CONT)	START 13:59
						END 14:25
						TIME 26.0
						DRL 26.0
					Box 6	RAN 24.4
						REC 10.0
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-3/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 493.9 **Hole No.** M-3/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/ss		Box 6	PULL #3
	21		M.GR. M.H. W/occ shy			LOSS 0
	23		PTG. IN Shy AREAS		21.6	UNACC 0
					Box 7	
	24					DEP 24.4
	25				25.1	PULL #4
	26				Box 8	START 14:43
	27					END 15:00
						TIME 27 min
	28					DRL 27 min
						RAN 34.5
	29				28.7	REC 10.1
						LOSS 0
	30					UNACC 0
					Box 9	
	31					
	32				32.2	
	33					
	34					
					Box 10	DEP 34.5
	35					
	36					
	37					
	38					
	39					
454.4			Bottom HOLE.		39.5	
	40					
	41					
	42					

ENG FORM 1836-A JUN 67 GPO: 1968 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. M-3/2

DRILLING LOG

DIVISION: ORD
Hole No. M-4/1
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-9 STA 19+26.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-9/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 493.0
9. TOTAL DEPTH OF HOLE: 493.0
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/15/88; COMPLETED 12/15/88
17. ELEVATION TOP OF HOLE: 493.0
18. TOTAL CORE RECOVERY FOR BORING: 43.5 %
19. SIGNATURE OF INSPECTOR: J MD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493	1		SANDSTONE LT GR, M.-H M-C.G., Num sh Frag + STRINGERS 492.7 491.0, M-GR BRLY 491.0 NUM MIC BDS/ONS 490.7-490.6		1	PULL #1 START 1:08 END 1:23 TIME 15 min DRL 15 min RAN 3.0 REC 2.6 LOSS 0.4 UNREC 0.4 DEP 5.0
490.0	3		ICL R-BR, S, MOTTLED W/GR-GNGR, MECH BRK 490.0-488.9, SCU"RELY BKN 488.3-488.0, 487.9 487.0, 486.8-485.7, ANG PN W/SLK 485.7-485.6 488.6-488.5 487.6-487.5	3.7	2	PULL #2 START 1:35 END 1:45 TIME 10 min DRL 10 min RAN 5.0 REC 5.0 LOSS 0 UNREC 0 DEP 8.0
485.7	7		SLS GR-GNGR, S-M.H. GRADATIONAL W/LT TOP TO SA @ BOTTOM, SA b:10., 484.1	7.6	3	PULL #3 START 1:51 END 2:16 TIME 25 min DRL 25 min RAN 9.5 REC 9.6 LOSS 0 UNREC 0 DEP 17.6
481.2	12		SANDSTONE GR-LTGR., M.H, F-M.G., OCC MIC, GRADATIONAL CONTACT, W/UPPER SLT, OCC X-Bd, HIGH ANG FRAC 480.9-480.2 SLS (GR, S) 478.5-478.0 490.1-476.6 (CONT)	11.1	4	
	20			19.2	5	
				14.2	6 (CONT)	PULL #4 START 2:32 END 2:53 TIME 21 min (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-4/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.0 | Hole No. M-9/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21					DRL 2/MIN
			HIGH ANG. FRAC 475.2-475.8		21.6	RAN 6.5
	22					REC 6.5
			SHALE STRKS 468.7-468.7			LOSS 0
	23				7	UNACC 0
			NUMMULITE BED PN 464.0			
	24					
			463.5, 460.1-460.0,			DEP 24.1
	25				25.0	PULL #5
			458.0-457.9, 456.3-456.2			
	26					START 3:09
						END 3:34
	27				8	TIME 25 MIN
						DRL 25 MIN
	28					RAN 7.4
						REC 5.7
	29				28.7	LOSS 0
						UNACC 0
	30				9	
	31					
	32				32.3	
	33					
						DEP 33.8
	34				10	PULL #6
	35					START 3:54
						END 4.19
	36				35.7	TIME 20 MIN
						DRL 20 MIN
	37					RAN 10.1
					11	REC 10.1
	38					LOSS 0
						UNACC 0
	39				39.3	
	40					
	41				12	
	42					
	43				43.1	
449.0	44		BOTTOM HOLE		13 43.9	DEP 43.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-9/2

Hole No. M-4/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 3 SHEETS
1. PROJECT: GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT: 4 X 5.5 IN.	
2. LOCATION (Coordinates or Station): MOND M-4 STA 13+94 B		11. DATUM FOR ELEVATION SHOWN (MSL or MLL): M.S.L	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): M-4/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DOWELL NORRIS		14. TOTAL NUMBER CORE BOXES: 13	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 0 496.1		16. DATE HOLE: STARTED 1/11/89; COMPLETED 1/11/89	
8. DEPTH DRILLED INTO ROCK: 47.7		17. ELEVATION TOP OF HOLE: 496.1	
9. TOTAL DEPTH OF HOLE: 448.4		18. TOTAL CORE RECOVERY FOR BORING: 47.7 %	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1	1		CLS m.-dk. gr, s.-m.h., shy		Box 1	PULL #1 START 15:50 Loss 0 END 16:05 UNACC 0 TIME 15 min DRL 15 min RAN 4.5 REC 4.5
493.1	3				3.7	
	4		SAND STONE m.-c.g., m.h., m.gr.		Box 2.	DEP 4.5 PULL #2 START 16.10 END 16.40 TIME 30 min DRL 30 min RAN 11.3 REC 6.8 Loss 0 UNACC 0
489.7	6				7.2	
	7		CLS/ICL m. gr., s., ve. bkn 6.4-11.0		Box 3.	
484.8	11				10.9	DEP 11.3
	12		SLS SA, m.h, m.gr. grading into SS/SLS		Box 4.	PULL #3 START 17.10 END 17:25 TIME 15 min DRL 15 min RAN 19.8 REC 8.5 Loss 0 UNACC 0
477.7	18				14.4 Box 5 17.9	
	19		SS/SLS (CONT)		Box 6 (CONT)	DEP 19.8 PULL #4 (CONT)
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. M4/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. M-4/2

PROJECT: GALLIPOLIS Locks + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SS/SLS		Box 6	PULL #4
	21		INTERbdd. m.h.,		21.5	START 17:45
	22		M. GR., SS. - Fig. SLY			END 18:00
	23		MOSTLY SS. bcLow 22.0		Box 7.	TIME 15 MIN
	24					DRL 15 MIN
	25					RAN 29.9
	26				25.3	REC 10.1
	27				Box 8.	LOSS 0
	28					UNACC 0
	29				29.1	
	30				Box 9	DEP 29.9
	31					PULL #5
	32				32.5	START 18:25
	33					END 18:45
	34				Box 10	TIME 20 MIN
	35					DRL 20 MIN
	36				36.0	RAN 39.7
	37					REC 9.8
	38				Box 11	LOSS 0
	39					UNACC 0
	40				39.7	DEP 39.7
	41					PULL #6
	42				Box 12	START 19:25
	43					END 20:10
	44		(CONT)		43.4 Box 13 (CONT)	TIME 45 MIN (CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 OP—329-243 | PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. M-4/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. M-4/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SS/SLS			PULL #6
	45		INTERBdd, M.h., M.GR.		Box 13.	DRL 45 MIN
			SS. - Fig. Sly. MOSTLY			RUN 47.7
	46		SS. below 22.0			REC 8.0
						LOSS 0
	47					UNACC 0
448.4			BOTTOM HOLE		47.7	DEP 47.7
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-343 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. M-4/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-5 STA 137+84 B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-5/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 492.8
8. DEPTH DRILLED INTO ROCK: 45.1
9. TOTAL DEPTH OF HOLE: 457.7
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/16/88; COMPLETED 12/16/88
17. ELEVATION TOP OF HOLE: 492.8
18. TOTAL CORE RECOVERY FOR BORING: 43.3 %
19. SIGNATURE OF INSPECTOR: JMM

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
492.8	1		SANDSTONE LT.GR, M.H.-H, M, C.G. NUM SH FRAS. W/STRINGERS			PULL #1 START 8:37 END 8:57 TIME 20 MIN
490.7	2		491.2 - 490.7		1	DRL 20 MIN RMN 2.5 REC 2.5 LOSS 0 UNACC 0
488.7	4		ICL R.BR., S, MOTTLED W/GR + GN-GR MOD BKN 490.3-490.1		3.4	DEP 2.5 PULL #2 START 9:06 END 9:13 TIME 7 MIN DRL 7 MIN RMN 2.6 REC 2.5 LOSS 0.1 UNACC 0.1
	5		SLS GR-GN GR., S-VF.M.			DEP 5.1
	6		SUBANGULAR, W/SA @ TOP		2	
	7		-SA @ BOTTOM, SECURELY			
	8		BKN 487.7-487.5, HNG FRAC		7.5	
	9		20° 483.8 - 483.7			
	10					PULL #3 START 9:26 END 9:48 TIME 22 MIN DRL 22 MIN RMN 8.6 REC 7.9 LOSS .7 UNACC .7
481.7	11				3	
	12		SANDSTONE GR-LTGR, M.H, M-F.G.		11.1	DEP 13.7
	13		MIC, OCC X-BD, SLT			
	14		479.5-479.8, 477.9-477.3		4	
	15		OCC SH STRINGERS 475.5-			PULL #4 START 10.04 END 10.23 TIME 19 MIN DRL 19 MIN RMN 7.9 REC 9.9 LOSS 0 UNACC 0
	16		476.2, 476.7, INCL FRAC		14.7	
	17		457.9 - 458.1, CALCITE		5	
	18		FILLED VEINS 456.5-457.2			
	19		CORE DIA LOSS 455.0		18.1	
	20		CONT		6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM
HOLE NO.: M-5/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 492.8 | Hole No. M-5/1

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #4
	21		- 458.9 numerous, EA		6	
	22		Pals 459.1, 455.3		21.7	
	23		449.7 - 449.9		7	DEP 23.6
	24					PULL #5
	25					START 11.09
						END 11.20
					25.3	TIME 16 min
	26					DRL 16 min
						RUN 9.8
	27				8	REC 9.5
						LOSS 0
	28					UNACC 0
					28.9	
	29					
	30				9	
	31					
	32				32.6	
	33					DEP 33.4
						PULL #6
	34				10	START 11.42
						END 12.00
	35					TIME 17 min
					35.9	DRL 17 min
	36					RUN 10.0
						REC 10.0
	37					LOSS 0
						UNACC 0
	38				1	
	39				35.4	
						PULL #7
	40					START 1.00
						END 1.09
	41					TIME 4 min
						DRL 4 min
	42				12	RUN 1.5
						REC 1.9
	43					LOSS 0
						UNACC 0
					45.3	
447.5	44		EOH at 45.3			DEP 45.3

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: Gallipolis Lock + Dam | HOLE NO. M-5/1

Hole No. M-5/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-5 STA 13+48 B
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-5/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 494.8
8. DEPTH DRILLED INTO ROCK: 46.8
9. TOTAL DEPTH OF HOLE: 448.0
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/2/88; COMPLETED 11/2/88
17. ELEVATION TOP OF HOLE: 494.8
18. TOTAL CORE RECOVERY FOR BORING: 46.8 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
494.8			SANDSTONE			PULL #1
494.1			M.CG.; M.H., MGR OSLC. 0.7-1.2			
	1.		SANDSTONE		Box 1	START 9:25
	2.		SLY; FIG., M.H., M.GR			END 9:33
	3.		WLLK GR. SLY LAM			TIME 8 min
491.2					3.6	DRL 8 min
	4.		SANDSTONE		Box 2	RAN 4.7
489.8	5.		M.-CG. M.H., M.GR, 2 S.GR LL 5.0-5.2			REC 4.2
						LOSS 0.5
						UNACC 0.5
						DEP + T/DCP 4.7
			SANDSTONE			PULL #2
	6.					START 9:45
	7.		FIG, M.H, SLY; M.GR			END 9:59
			CLS. LEN W/IRR. ANG		7.2	TIME 14 min
	8.		CONTACT @ 10.3-11.4			DRL 14 min
			O., HA - UCR, IRR. FRAC		Box 3	RAN
	9.		13.0-14.0: 1.0 LC BETWN			REC 8.3
			4.7 & 14.0			LOSS 1.0
	10.					UNACC 1.0
					10.9	
	11.					
	12.				Box 4	
	13.					
480.8						T/DEP 14.0
	14.		CLS/SS		14.4	DEP 14.6
	15.		INTERBDD., SS. FIG			PULL #3
			0.1 S.GR. CLS LENS		Box 5	
	16.		17.4 BKN 17.5-17.7			START 10:25
	17.					END 10:37
477.1						TIME 12 min
	18.		SANDSTONE		17.7	DRL 12 min
	19.				Box 6	RAN
						REC 10.0
						LOSS 0
	20.		(CONT)		(CONT)	UNACC 0
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-5/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 494.8

PROJECT GALLIPOLIS LOCK & DAM

INSTALLATION ORH-CD

Hole No. M-5/2

SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #3
	21		SLY, Dig, m.h., m.gr			
	22				21.4	
	23		0.1 CLS LENS @ 20.5		Box 7	
	24		45° SMOOTH, mic. PTG			T/DEP 23.6
						DEP - 24.0
	25		@ 26.0			PULL #4
	26		OCC DKGR SLY LAM			START 11:06
				26.0		END 11:18
	27				Box 8	TIME 12 min
	28					DRL RAN 12 min
	29					REC 10.1
						LOSS 0
	30			29.4		UNACC 0
	31				Box 9	
	32					
	33			32.9		
	34				Box 10	DEP 34.0 T/DEP 33.9
	35					PULL #5
	36					START 12:25
				36.3		END 12:50
	37					TIME 25 min
	38				Box 11	DRL RAN 25 min
	39					REC 10.0
	40					LOSS 0
				40.1		UNACC 0
	41					
	42				Box 12	
	43					
	44		(CONT)	43.8		(CONT)

ENG FORM 1836-A JUN 67

GPO: 1969 OF—329-343

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-5/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 494.8 Hole No. M-5/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE		Box 13	~~DEP 44.3~~ ~~T DEP 44.1~~ PULL #6
	45					START 1:56 REC 2.7
	46					END 2:34 LOSS 0
						TIME 38min UNACC 0
						DRL 38min
						RAN
448.0			Bottom HOLE		46.8	DEP - 47.0 T DEP 46.8
	47					
	48					
	49					
	50					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-5/2

Hole No. M-6/1

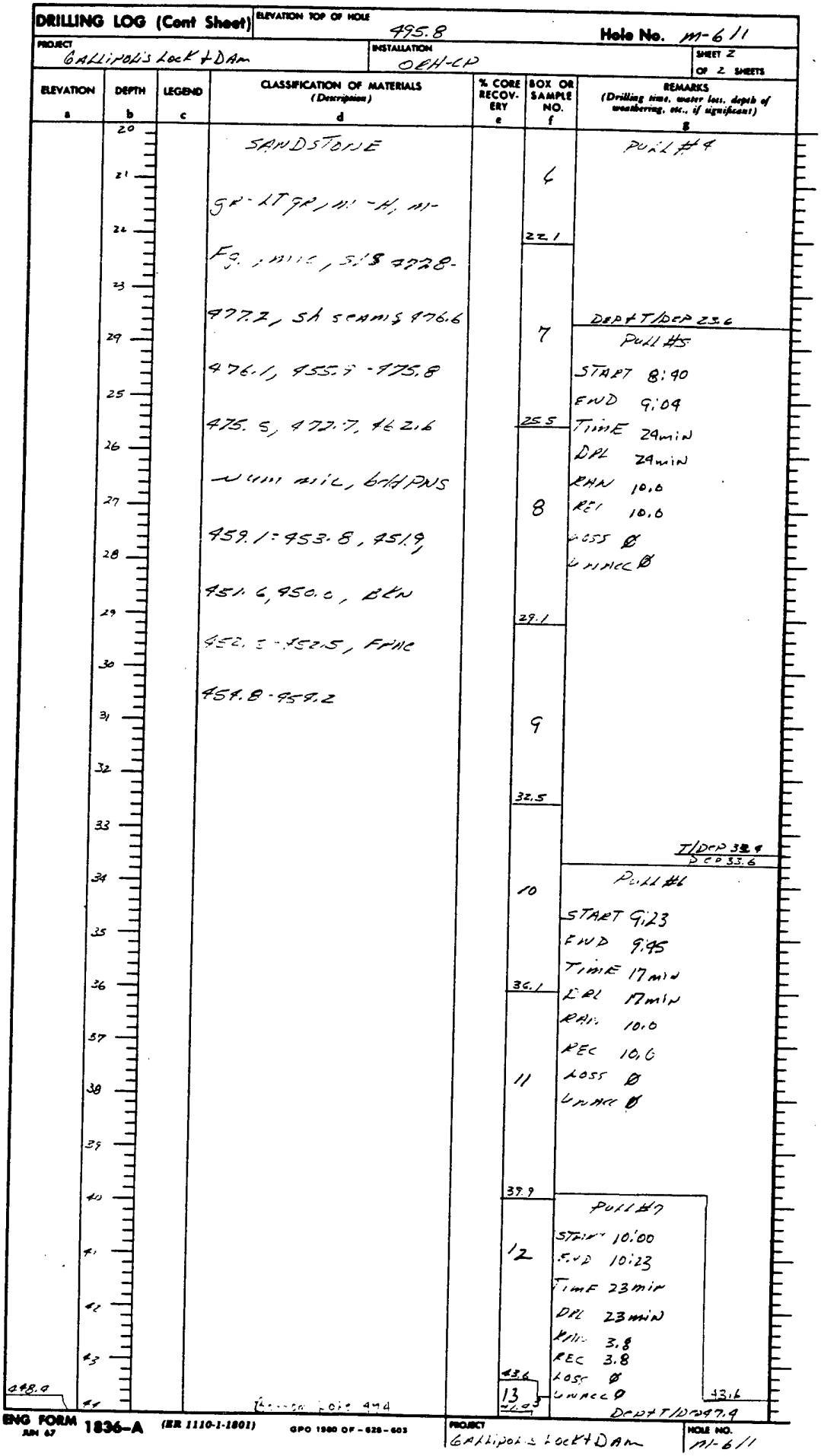
DRILLING LOG | DIVISION: OCD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): MONO M-6 STA 13+38B
3. DRILLING AGENCY: W.G. Jaques
4. HOLE NO. (As shown on drawing title and file number): M-6/1
5. NAME OF DRILLER: Wayne Tice
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 47.4
9. TOTAL DEPTH OF HOLE: 448.4
10. SIZE AND TYPE OF BIT: 4 7/8 V
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/16/88; COMPLETED 12/18/88
17. ELEVATION TOP OF HOLE: 495.8
18. TOTAL CORE RECOVERY FOR BORING: 47.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.8			SANDSTONE			PULL #1
	1		LT-GR. MH-H. F-C.G.,			START 1:35
						END 1:55
	2		OCC MIC, OCC THIN BN FRNG.			TIME 20 MIN
					1	DRL 20 MIN
	3		F-M.G. MIDDLE 479.3			RUN 4.9
						REC 4.9
	4		COARSE GRAINED BELOW 479.3		3.8	LOST 0
						UNREC 0
490.9	5					DCP 5.0 T/DCP 9.9
			FCL			PULL #2
	6		R-BR-S-VES, MOTTLED W/		2	START 2:21
			3P. SNGR. 488.7-488.3 BRN			END 2:39
488.7	7		488.3-487.9			TIME 13 MIN
						DRL 13 MIN LOSS 0.3
			SLS		7.2	RUN 3.0 UNREC 0.3
	8		GR-SNGR., S-MH.			REC 2.7
						T/DCP + DCP 7.9
	9		SPHERICAL WEAR		3	PULL #3
						START 2:48
	10		TOP - SCALLOPED, PITTING			END 3:05
						TIME 17 MIN
	11		PW W/SILT 488.6, BRN			DRL 17 MIN
					10.9	RUN 6.6
	12		487.9-486.7 = GG BELOW 486.3-			REC 5.6
						LOST 0
	13		481.5 INTERBED GRADATION		4	UNREC 0
	14		W/F.G. SS 483.3-481.1, BRN			T/DCP 13.5
						DCP 13.7
	15		REC 15-48.9, 479.9-480			PULL #4
					13.5	
479.6	16					START 7:51
						END 8:24
	17		SANDSTONE		5	TIME 33 MIN
						DRL 33 MIN;
	18					RUN 10.1
						REC 10.1
	19					LOSS 0
					18.3	UNREC 0
	20		(CONT)		6	
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-6/1



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 495.8
Hole No. M-6 11
PROJECT GALLIPOLIS Lock + DAM
INSTALLATION ORH-CP
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #4
	21		GR-LT GR, W.-H, MI-		6	
	22		FG., MIC, S.S 472.8-		22.1	
	23		472.2, SH SEAMS 476.6		7	DEPART/DCP 23.6
	24		476.1, 455.7 - 475.8			PULL #5
	25		475.5, 472.7, 462.6		25.5	START 8:40
	26		W/ MIC, 6HPNS			END 9:09
	27		459.1 - 453.8, 451.9,		8	TIME 29 MIN
	28		451.6, 450.0, BLK			DRL 29 MIN
	29		452.3 - 452.5, FINE		29.1	RMN 10.0
	30		454.8 - 454.2			REC 10.0
	31				9	LOSS 0
	32					UNREC 0
	33				32.5	
	34					I/DCP 33.9
	35				10	S CP 33.6
	36					PULL #6
	37				36.1	START 9:23
	38					END 9:45
	39				11	TIME 17 MIN
	40					DRL 17 MIN
	41				39.9	RMN 10.0
	42					REC 10.0
	43				12	LOSS 0
448.9	44		Termination point and		43.6	UNREC 0
					13	PULL #7
						START 10:00
						END 10:23
						TIME 23 MIN
						DRL 23 MIN
						RMN 3.8
						REC 3.8
						LOSS 0
						UNREC 0
					43.6	DEPART/DRM 43.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603
PROJECT GALLIPOLIS Lock + DAM
HOLE NO. M-6 11

DRILLING LOG

Hole No. M1-6/2

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK + DAM	10. SIZE AND TYPE OF BIT: 4.75"
2. LOCATION (Coordinates or Station): MONO M-6 STA 13+10B	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
3. DRILLING AGENCY: W. 6 JACOBS	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
4. HOLE NO. (As shown on drawing title and file number): M1-6/2	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: DAVE HARPER	14. TOTAL NUMBER CORE BOXES: 14
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: 0	16. DATE HOLE: STARTED 12/6/89; COMPLETED 12/20/89
8. DEPTH DRILLED INTO ROCK: 48.7	17. ELEVATION TOP OF HOLE: 496.2
9. TOTAL DEPTH OF HOLE: 497.3	18. TOTAL CORE RECOVERY FOR BORING: 48.7 ft
	19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2			SANDSTONE			PULL #1
	1		GR-LT.GR, M.H-H, M-CG.			START 3:01
						END 3:16
	2		SH. SEAMS 496.0-495.8		1	TIME 18 min
						DRL 18 min
	3		495.8-495.6, 495.5-495.4			RAN 9.1
						REC 9.1
	4		BKN PNS SPACING 0.1		3.7	LOSS 0
						UNACC 0
	5		462.2-495.1 MUM.			T/DCP 9.1
						DCP 9.5
	6		THIN SH + CL STRINGERS			PULL #2
						START 3:30
	7		+ FRAGS 491.1-490.3			END 3:40
					2	TIME 10 min
	8					DRL 10 min
						RAN 9.7
	9				7.9	REC 4.8
						LOSS 0
	10					UNACC 0
485.9					3	T/DCP 8.8
			SLS			PULL #3
	11		GR-GN-GR, S-M.H., SHALY			START 3:59
			SCURRELY BKN W/FATTY			END 4:09
	12		CL LT GR. 485.9-485.8			TIME 10 min
			BKN CLS W/FATTY CL, LT			DRL 10 min
	13		GR. S., VES 485.3-484.9		10.9	RAN 2.5
			BKN 483.0-482.6 W/ANG			REC 2.3
	14		DIP ~30.°			LOSS 0.1
481.2						UNACC 0.1
	15				4	DCP 11.8
			CLS			PULL #4
	16		LT GR, S-VES., OCC THIN FATTY			START 7:30
			CL, SEAMS, INTERBED SLS			END 7:38
	17		LT GR, S; SH. 480.8-480.7, 480.1			TIME 8 min
			480.0 SLS/FATTY CL 479.3-479.8			DRL 8 min
478.2	18		SPOTTELY BKN 478.6-478.3		19.0	RAN 1.7
						REC 1.7
			SLS			LOSS 0
	19		GR, M.H, SC, GRADATIONAL			UNACC 0
			SD W/HPT'S, SH SEAM 477.7		17.6	PULL #5
476.2	20		BKN 477.7-477.6		5	START 8:00
						END 9:18
						TIME 18 min
						DRL 18 min
						RAN 18 min
						REC 5.0
						LOSS 0
						UNACC 0
						DCP 18.0
						PULL #6
						START 9:00
						END 9:28
					6	TIME 28 min
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M1-6/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. M-6/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #6
	21		GR-LT.GR, M, H, F.M.G.		21.0	DRL 28 min
	22		Mic, SLT-F.G. 472.9-470.9			RAN 9.9
	23		OCC, PYR. NOD 468.2-466.6		7	REC 10.0
	24		NUM RANGE OF MIC			LOSS 0
	25		Ice pkts. 468.3, 467.9		24.8	UNACC 0
	26				8	
	27					T/DCP 27.7
	28				28.9	DCP 28.0
	29					PULL #7
	30				9	START 9:50
	31					END 10.07
	32				32.0	TIME 17 min
	33					DRL 17 min
	34				10	RAN 10.5
	35				35.7	REC 9.6
	36					LOSS 0
	37				11	UNACC 0
	38					T/DCP 37.3
	39				39.2	DCP 37.9
	40					PULL #8
	41				12	START 10:28
	42					END 10.40
	43				42.7	TIME 12 min
	44		(CONT)		13	DRL 12 min
						RAN 10.0
						REC 9.0
						LOSS 0
						UNACC 0
						(CONT)

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-6/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. M-6/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE			PULL #8
	45				13	
	46				46.2	
	47					TD CP 46.6
	48				14	DEP 47.6
						PULL #9
447.3			END OF HOLE		48.9	START 11:15 END 11:28 TIME 13 MIN DRL 13 MIN RAN 2.7 REC 2.3 LOSS 0 UNACC 0 TD 48.9 DEP 47.3
	49					
	50					
	51					
	52					
	53					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock + Dam | HOLE NO. M-6/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-7 STA 13+00.13
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-7/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.5
8. DEPTH DRILLED INTO ROCK: 42.7
9. TOTAL DEPTH OF HOLE: 453.8
10. SIZE AND TYPE OF BIT: 4 1/2 X 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/17/88; COMPLETED 12/17/88
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 42.7 %
19. SIGNATURE OF INSPECTOR: JMM

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			SLS			PULL #1
495.6			GR. S. INTRBDD/SS BKN FRGS 495.6			START 11:05
	1		SANDSTONE			END 11:25
			GR-LT.GR. M.H-H., CG			TIME 20min
	2		OCC SH STRINGERS + FRAGS		1	DRL 20min
			491.8 - 492.7, MG. 490.7 -			RAN 5.0
	3		490.9 CL COAT PW @			REC 5.0
			490.7		3.7	LOSS 0
	4					UNACC 0
						DEPTH/DRDS.0
	5					PULL #2
490.9						
	6		ICL		2	START 12:09
			R. BR, S, MOTTLED W/GR -			END 12:39
	7		GN, CL, GR. 490.9 - 490.5			TIME 25min
			SCUPPERLY BKN 490.8 - 490.9			DRL 25min
	8		SCUPPERLY MICA BKN W/		7.9	RAN 3.9
			0.2 LOSS 487.8 - 487.3, ANG			REC 3.7
	9		PW'S ~ 30° W/SLK 489.8 489.7			LOSS 0.2
			489.4 - 489.3, 489.2 - 489.1,			UNACC 0.2 T/DRDS.7
486.3			489.1 - 489.0 SLS NOD 488.0		3	DCP 8.9
						PULL #3
	11		SLS			START 12:50
			GR - GN. GR, S - M.H.			END 12:57
	12					TIME 7min
			SS GR. MG., M.H. 486.1 -			DRL 7min DCP 10.2
	13					RAN 1.8
			485.9 BKN 485.5 - 485.6			REC 1.5
	14				12.9	LOSS 0
			ICL W/SLT NOD & H/BKN			UNACC 0
	15					PULL #4
			489.6 - 489.0 RED/GL			START 1:12
	16					END 1:18
			486.1 - 489.0		4	TIME 6min
	17					DRL 6min
						RAN 3.3
	18					REC 3.0
478.2						LOSS 0
						UNACC 0 DCP 13.6
	19		SANDSTONE			PULL #5
					18.3	START 1:39
	20		CONT			END 1:53
					5	TIME 19min
						DRL 19min
						RAN 5.5
						REC 5.5
					18.0	LOSS 0
						UNACC 0
					6 (CONT)	DCP 19.3 T/DRDS.1
						PULL #6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-7/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. M-7/1

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #6
	21					START 2:08
			GR-LT GR., M.H, F-M.G.			END 2:28
	22					TIME 20 MIN
			OCC, MIC, OCC X-BD			DRL 20 MIN
	23					RAN 9.9
			SLT 476.5-476.0, SH. FRAG			REC 9.9
	24					LOSS Ø
			475.7, BRN 475.9-475.5			UNACC Ø
	25					
			NUM SH FRAG + STRINGERS			
	26					
			465.6-465.2, WH.-GRY.			
	27					
			COLCIVC 463.2-462.4			
	28					
			NUM MIC LAMINS 459.6			
	29					DEP + T/D = 029.2
						PULL #7
	30					START 2:49
						END 3:09
	31					TIME 20 MIN
						DRL 20 MIN
	32					RAN 10.1
						REC 10.1
	33					LOSS Ø
						UNACC Ø
	34					
	35					
	36					
	37					
	38					
	39					DEP 39.3 T/D = 39.1
	40					PULL #8
						START 3:23
	41					END 3:35
						TIME 12 MIN
	42					DRL 12 MIN
						RAN 3.4
453.8			BOTTOM HOLE			REC 3.4 DRL + T/D = 42.7
	43					LOSS Ø
						UNACC Ø
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. M-7/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORHCD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-7 STA 12+54 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-7/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 8 497.2
8. DEPTH DRILLED INTO ROCK: 45.2
9. TOTAL DEPTH OF HOLE: 452.0
10. SIZE AND TYPE OF BIT: 4x5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/20/88; COMPLETED 12/21/88
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 44.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE			PULL #1
	1		GR-LT GR M.H.-H, M.CG.		1	START 12:41
					1.6	END 12:54
	2		occ mic FCSTAINED			TIME 13 min
						DRL 13 min
	3		Del PN 4988			RAN 3.8
						REC 3.6
	4				2	LOSS 0 T/DCP 3.9
						UNREC 0
	5					DCP 5.9
						PULL #2
	6					START 1:10
						END 1:15
	7				6.8	TIME 5 min
						DRL 5 min
	8					RAN 4.3
						REC 4.2
					3	LOSS 0 T/DCP 8.1
	9					UNREC 0
						DCP 8.5
	10					PULL #3
						START 1:26
	11					END 1:33
					10.3	TIME 7 min
	12					DRL 7 min
						RAN 4.7
						REC 4.5
						LOSS 0
489.9					4	UNREC 0
						DCP & T/DCP 12.8
	13		CLS			PULL #4
			LT-GR, S-VF.S., INTBDD			
	14		W/FATTY CL.		13.9	START 1:48
						END 2:05
	15					TIME 17 min
480.5						DRL 17 min
	16		SLS		5	RAN 5.0
			GR-GNGR., S-M.M, GRADATIONAL			REC 5.0
	17		W/SH @ TOP TOSA @ BOTTOM			LOSS 0
			BKN PNS W/0.3 SPACING W/			UNREC 0
	18		CLSMMS, ANS PN 30° 481.6		17.6	T/DCP 18.0
			-481.5 THIN CLSMMS 481.3			DCP 18.0
	19		481.2, 481.0, 480.9, 480.2		6	PULL #5
			479.9, 479.7, 479.2, 477.9		(CONT)	START 2:55
	20		477.6 (CONT)			END 3:11
						TIME 12 min
						DRL 12 min

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO.: M-7/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. M-7/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL#5
	21		CLS LTgR. 479.5-479.3		20.9	RAN 9.3 REC 9.3 LOSS 0 UNREC 0
	22		MECH BRK 479.2-478.8			T/DCP 22.6 DCP 22.5
479.8			SANDSTONE		7	PULL#6
	23		GR-LTGR, MI.H, F-M.SI			START 7:43 END 7:54 TIME 11 MIN DRL 10 MIN
	24		MIC, CCC Y-Bd, FEW		24.3	RAN 9.9 REC 9.9 LOSS 0 UNREC 0
	25		SM, PYR Wod 472.1-469.4			
	26		LOWNG. SA BR DN 20° 466.1		8	DCP 26.8 T/DCP 26.7
	29		466.2 ccc SM-SA FRAC			PULL#7
	28		465.6-464.6 NUM hor		27.9	START 8:13 END 8:33 TIME 20 MIN DRL 20 MIN
	29		MIC bd PNS 485.5-485.0		9	RAN 3.4 REC 9.9 LOSS 0 UNREC 0
	30		453.8-453.7 cal. CEM.			
	31		LENSE 457.8-457.7		31.4	
	32					
	33				10	
	34					
	35				35.1	
	36					DCP 35.8 DCP 36.2
	37				11	PULL#8
	38					START 8.55 END 9.25 TIME 30 MIN
	39				38.6	DRL 30 MIN RAN 9.0 REC 8.5 LOSS 0 UNREC 0
	40				12	
	41					
	42				40.2	
	43				13	
452.5	44	44.7	Bottom Hole 44.7		44.7	T/DCP 43.7 DCP 44.5

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-7/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-ED

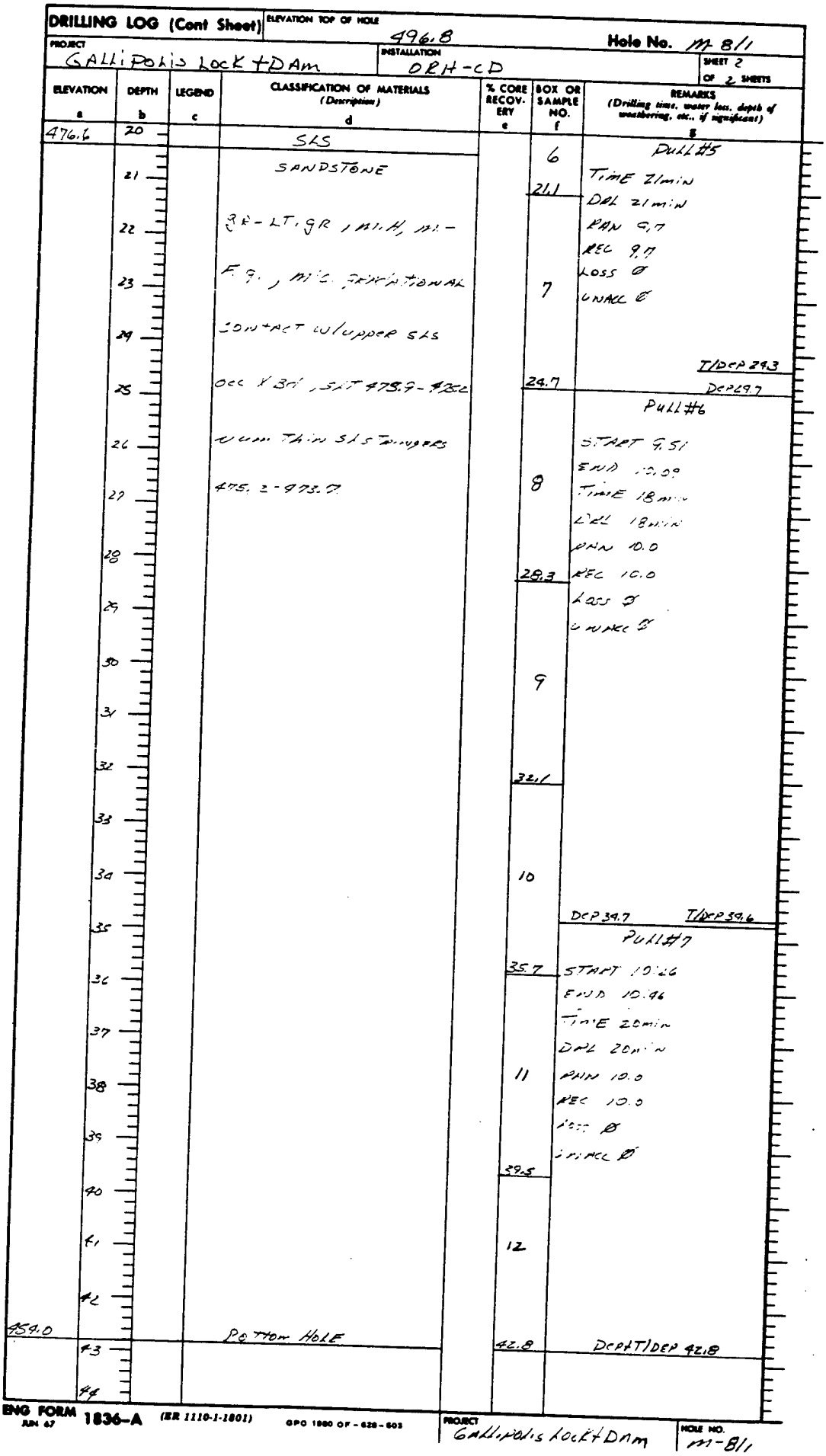
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-8 STA 12+99.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-8/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.8
8. DEPTH DRILLED INTO ROCK: 42.8
9. TOTAL DEPTH OF HOLE: 454.0
10. SIZE AND TYPE OF BIT: 4 X 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/19/88; COMPLETED 12/19/88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING 42.8 %
19. SIGNATURE OF INSPECTOR: J M N

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		GR-LT GR, MI.H-.H, M-			START 7:37
						END 7.95
	2		C.G, THINCL SHALE 499.8-		1	TIME 8 min
						DRL 8 min
	3		493.8, C. M.G INTERBDD @			RAN 5.0
						REC 5.0
	4		482.9 + MCM BELOW, FE		3.6	LOSS 0
						UNREC 0
	5		SURFACE STAIN 496.8-496.5, MUD			
						DEP+TIDEP 5.0
490.6	6		SH FRAG + STRINGERS 491.1-492.9		2	PULL #2
						START 7.56
	7		ICL			END 8:10
			R. BR, S, MOTTLED GR-GNGR		7.1	TIME 14 min
	8		CL, OCC SLKS, LT GR above			DRL 14 min LOSS 0.1
			489.2, JNTS DIP 20° W/ SLK			RAN 3.6 UNREC 0.1
	9		489.6 - 489.7, 489.0, 488.9			REC 3.5
			487.7 SECURELY HEALED BRK		3	DEP+TIDEP 8.6
	10		488.2 - 487.8 BRK 486.0			PULL #3
						START 8:23
	11					END 8:40
					10.5	TIME 17 min
484.7	12					DRL 17 min
						RAN 4.9
	13		SLS		4	REC 4.5
			GR-GN.GR, S-M.H,			LOSS 0
	14		SPA DATIONAL W/ SHALE			UNREC 0
						DEP 13.6 TID-P 13.5
	15		TOP TO SQ @ BOTTOM,			PULL #4
					18.1	START 8:95
	16		REDRILL 483.3 - 482.9, SQ			END 8:56
						TIME 11 min TDEP 15.0 DEP 13.2
	17		BROW 478.2		5	DRL 11 min
						RAN 1.5
	18					REC 1.5
						LOSS 0
	19				17.6	UNREC 0
	20		(CONT)		6 (CONT)	PULL #5
						START 7:14
						END 9:35
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. M-8/1



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 496.8
Hole No. M-811
PROJECT GALLIPOLIS LOCK+DAM
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.6	20		SLS		6	PULL #5
	21		SANDSTONE		21.1	TIME 21 min
	22		GR-LT.GR, MI.H, MI-			DRL 21 min
	23		F.G., MIC. FRIABLE, MASSIVE		7	RUN 9.7
	24		CONTACT W/UPPER SLS			REC 9.7
	25		OCC X BD, SAT 479.9-482		24.7	LOSS 0
	26		W/ THIN SLS LAMINAE			UNREC 0
	27		475.2-473.7			T/DEP 29.3
	28					DEP 29.7
	29					PULL #6
	30				8	START 9.51
	31					END 10.09
	32					TIME 18 min
	33					DRL 18 min
	34					RUN 10.0
	35				29.3	REC 10.0
	36					LOSS 0
	37					UNREC 0
	38				9	
	39					
	40					
	41				32.1	
	42					
454.0	43		BOTTOM HOLE		10	
	44					DEP 34.7 T/DEP 34.6
						PULL #7
					35.7	START 10:26
						END 10:46
						TIME 20 min
						DRL 20 min
					11	RUN 10.0
						REC 10.0
						LOSS 0
						UNREC 0
					39.5	
					12	
					42.8	DEP AT/DEP 42.8

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-503
PROJECT GALLIPOLIS LOCK+DAM
HOLE NO. M-811

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	OCD	ORH-CD	

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-8 STA 12+10 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-8/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.7
8. DEPTH DRILLED INTO ROCK: 49.3
9. TOTAL DEPTH OF HOLE: 452.4
10. SIZE AND TYPE OF BIT: 4.5 ½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/22/88; COMPLETED 12/22/88
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 44.3 %
19. SIGNATURE OF INSPECTOR: J. M. H.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			PULL #1
	1		GR-LTGR M.H-H. F.Cg., occ			START 9:57
	2		MIC, SLT-F.g. 493.5-493.0			END 10:06
					1	TIME 9 min
	3		Thin cl, STringers 492.0, 486.8			DRL 9 min
	4		GRADATIONAL BONES FINING			RAN 9.8
					3.7	REC 9.6
	5		UPWARD 493.5, 489.3, 489.2			LOSS 0.7
						UNREC 0.2
	6		MUM, MIC, Bd PNS 488.2 -			DEP+TIDEP 4.8
						PULL #2
	7		488.1, 487.1-487.2		2	START 10:20
	8					END 10:30
						TIME 10 min
	9				7.0	DRL 10 min
	10					RAN 4.3
						REC 4.5
	11				3	LOSS 0 UNREC 0
						DEP+TIDEP 9.1
	12					PULL #3
484.2						START 10:45
	13		SLS			END 11:00
					10.5	TIME 15 min
	14		GR-GN, GR., S-M.H			DRL 15 min
					4	RAN 4.7
	15		GRADATIONAL W/SH @ TOP			REC 4.3
						LOSS 0
	16		TO SA @ BOTTOM, BKN, PNS			UNREC 0 T/DEP 13.1
					13.8	DEP 13.8
	17		W/1-2 SPACING CLCOOTing.			PULL #4
						START 11:20
	18		INTERBDD cls 483.5-483.4, 483.2			END 11:35
					5	TIME 15 min
	19		-983.0, 481.9-481.8, 481.6-481.5			DRL 15 min
						RAN 4.9
	20		480.7-480.7, 479.0,-478.9, CL		16.6	REC 4.9
						LOSS 0.2
			SCHM 482.3, 480.3, 477.9, BLK		6	UNREC 0.2
						DEP+TIDEP 18.0
						PULL #5
						START 12:20
						END 12:40
					19.7	TIME 20 min
					7	

CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. M-8/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-8/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21		SA Below 477.8			DRL 20min RAN 4.6 REC 4.1 LOSS 0
479.8	22				7	UNACC 0 T/DrP 22.0
			SANDSTONE			DrP 22.6
	23		GR-LT GR., M.H. M.-FG.			PULL #6
	24		MIC., SLT-F.G 473.9		24.2	START 1.00 END 1.07 TIME 7min DRL 7min
	25		- 475.6, LOW ANG PNS 20°			RAN 3.8 REC 3.7 LOSS 0
	26		473.2, 473.3, 473.6, 475.5		8	UNACC 0 DrP 25.9 T/DrP 25.8
	27		PYR NOD 472.0, SA LENSE			PULL #7
	28		471.5-471.9 SL STAINED		27.8	START 1.30 END 1.50 TIME 20min DRL 20min
	29		470.9, 462.2, NUM. MIC			RAN 9.9 REC 9.9 LOSS 0
	30		EQ ON (2 Bands) 464.3-464.2		9	UNACC 0
	31		453.6-453.4, 452.8-452.7		31.5	
	32		454.1-454.3, 452.3-452.7			
	33				10	
	34					
	35				34.8	T/DrP 35.2
	36					DrP 35.6
	37				11	PULL #8 START 2.15 END 2.30 TIME 15min DRL 15min RAN 7.6
	38				38.1	REC 9.5 LOSS 2.1 UNACC 2.1
	39					
	40				12	
	41					
	42				41.7	
	43				13	
432.9	44		44.7 BOTTOM HOLE		44.3	DrP 45.2 T/DrP 45.2

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1966 OF - 625 - 603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-8/2

Hole No. M-911

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-9 STA 12+00 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-9/1
5. NAME OF DRILLER: TICE / HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: E 496.8
8. DEPTH DRILLED INTO ROCK: 44.1
9. TOTAL DEPTH OF HOLE: 452.7
10. SIZE AND TYPE OF BIT: 4x5 V
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/19/88; COMPLETED 12/19/88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 44.1
19. SIGNATURE OF INSPECTOR: [illegible]

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		GR-LT GR., M-C-G, H.			START 11.21
	2		M.G. + M.C ABOVE 493.0		1	END 11.35
			C.G. W/OCC THIN SH + CL			TIME 19 min
	3		FRAG + STRINGERS 6-LOW			DRL 19 min
	4		493.0, SURFACE STAINED		3.7	RAN 5.0
			496.8 - 496.6, SHALY			REC 4.7
	5		STRINGERS 495.8, 494.9			LOSS 0
	6					UNACC 0
	7					T/DEP 4.7
489.2						DEP 5.0
	8		TCL			PULL #2
			R. BR, S. MOTTLED W/		2	START 11.41
	9		GR-SN GR CL, LT GR.			END 11.51
	10		489.2 - 488.7 W/FATTY CL			TIME 10 min
			489.1 - 489.0 BKN 488.4 - 488.1			DRL 10 min
	11				7.2	RAN 3.7
485.2			BKN 486.3 - 486.1			REC 3.7
	12		SLS			LOSS 0
			SR-SN, GR, M.H,			UNACC 0
	13		GRADATIONAL W/SH			T/DEP 8.4
	14		@ TOP TO SA & BOTTOM			DEP 8.6
			REDRILL 484.9 - 483.2		3	PULL #3
	15		HIGH ANG FNS W/SLK			START 12.31
	16		483.1 - 482.5, 482.7 - 482.3			END 12.44
			481.6 - 481.5, SA BELOW			TIME 13 min
	17		477.6 W/OCC GRADATIONAL			DRL 13 min
	18		F.G. SS.		10.7	RAN 5
						REC 3.5
	19					LOSS 0
						UNACC 0
	20		(CONT)			T/DEP 11.7
					4	
						DEP 13.6
						PULL #4
					14.1	START 12.51
						END 1.06
						TIME 12 min
						DRL 12 min
					5	RAN 5.7
						REC 7.2
						LOSS 0
						UNACC 0
					17.8	
					6	
					(CONT)	DEP + T/DEP 19.3
						PULL #5
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-9/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. M-9/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.1	20		SLS		6	PULL #5
	21		SANDSTONE		21.0	START 1:21 END 1:37 TIME 16min DRL 16min PEN 10.0 REC 10.0 LOSS 0 UNACC 0
	22		GR-LT.GR. F.-M.G., M.H			
	23		MIC, OCC V. bedded		7	
	24		SH SEAM 479.2 - 479.1		24.5	
	25		473.6 - 473.5			
	26				8	
	27					
	28				28.2	
	29					DEP+TIDEP 29.3 PULL #6
	30				9	START 1:56 END 2:19 TIME 18min DRL 18min PEN 10.0 REC 10.0 LOSS 0 UNACC 0
	31				31.5	
	32					
	33					
	34				10	
	35				35.1	
	36					
	37				11	
	38				38.8	
	39					DEP+TIDEP 39.3 PULL #7
	40					START 2:31 END 2:46 TIME 15min DRL 15min PEN 9.8 REC 4.8 LOSS 0 UNACC 0
	41				12	
	42				42.3	
	43				13	
452.7	44.1		44.1 BOTTOM HOLE		44.1	DEP 44.3 TIDEP 44.1

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-620-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-9/1

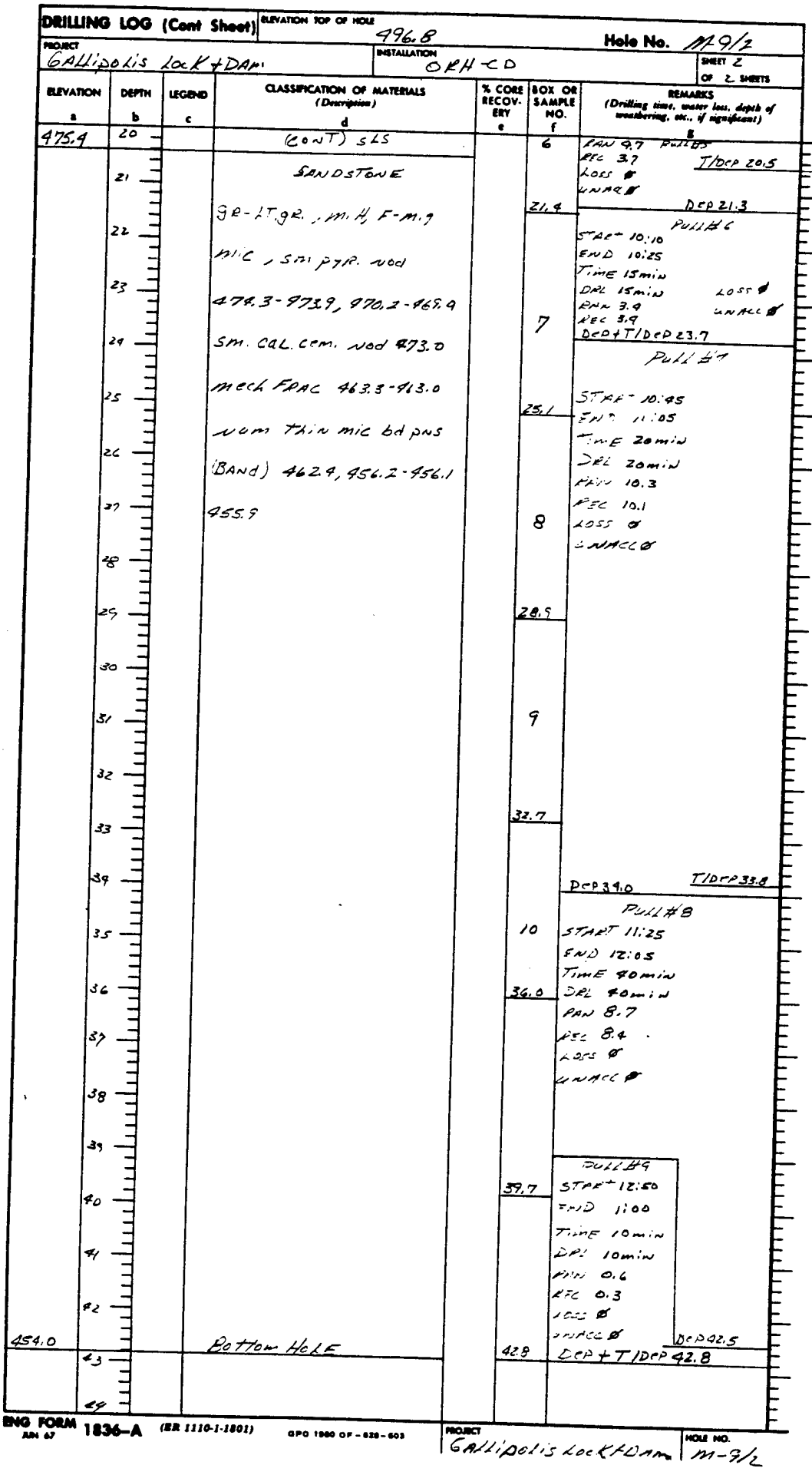
DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHCD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-9 STA. 11+60B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-9/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.8
8. DEPTH DRILLED INTO ROCK: 42.8
9. TOTAL DEPTH OF HOLE: 459.0
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/27/88; COMPLETED 12/27/88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 42.8 %
19. SIGNATURE OF INSPECTOR: JWD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		GR-LT GR, M.H-H, M.CG.			START 7:31
						END 7:4
	2		OCC. MIC. Fe SURFACE			TIME 11min
						DRL 11min
	3		STAIN 496.8-496.7, BRN		1	RAN 4.5
						REC 4.5
			PNS W/O.2SPACING 496.8			LOSS 0
	4					UNACC 0
			-493.8, COL, CCM. 495.4		3.8	
	5					
			-495.1, C.G. 493.8-487.6			DED+T/DCP 4.5
	6		M.G NODOUT BELOW			PULL #2
						START 8:09
			NUM THINSH STAINGNS		2	END 8:15
	7					TIME 6min
			492.0, 491.9, 490.9-490.8			DRL 6min
	8					RAN 3.8
					7.3	REC 3.8
	9					LOSS 0
						UNACC 0
	10					DCP+T/DCP 8.3
						PULL #3
	11				3	START 8:30
						END 8:49
	12					TIME 19min
						DRL 19min
						RAN 5.0
					10.9	REC 5.0
						LOSS 0
						UNACC 0
483.9					4	
	13		SLS			DCP+T/DCP 14.9
			GR, S.-M.H, SA, C/S STAIN			PULL #4
	14				14.9	START 8:59
			483.6-483.5, Fe STAINED HIGH			END 9:15
	15					TIME 16min
			ANG, FRAC, 483.5-482.0			DRL 16min
	16				5	RAN 4.9
			SS. GR, M.H, Fg. 481.6-481.1			REC 3.3
						LOSS 0 T/DCP 16.9
	17		476.9-476.1, BRN W/COR DIC			UNACC 0
			LOSS 479.6-479.2, TAINCLS			DCP 17.7
	18				18.0	
			STAIN 477.0 SCT-WELY BRN			PULL #5
	19				6	START 9:35
			INCL 476.5-476.4, LBN		(CONT)	END 9:52
						TIME 17min
	20		476.1-475.9 (CONT)			DRL 17min
						CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-9/2


DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 496.8
Hole No. M-9/2
PROJECT GALLIPOLIS LOCK + DAM
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS
ELEVATION a
DEPTH b
LEGEND c
CLASSIFICATION OF MATERIALS (Description) d
% CORE RECOVERY e
BOX OR SAMPLE NO. f
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.4
(CONT) SLS
SANDSTONE
GR-LT.GR., MED. H, F-M.G
MIC, SM. PYR. NOD
474.3-473.9, 470.2-469.4
SM. CAL. CEM. NOD @ 473.0
MECH FRAC 463.3-463.0
NUM THIN MIC BD PNS
(BAND) 462.9, 456.2-456.1
455.9
454.0
BOTTOM HOLE
6
PAN 9.7 POUNDS
REC 3.7
LOSS 0
UNACC 0
T/DEP 20.5
21.4
DEP 21.3
PULL #6
START 10:10
END 10:25
TIME 15 MIN
DRL 15 MIN
PAN 3.9
REC 3.9
LOSS 0
UNACC 0
7
DEP+T/DEP 23.7
PULL #7
START 10:45
25.1
END 11:05
TIME 20 MIN
DRL 20 MIN
PAN 10.3
REC 10.1
8
LOSS 0
UNACC 0
28.9
9
32.7
DEP 34.0
T/DEP 33.8
PULL #8
10
START 11:25
END 12:05
TIME 40 MIN
36.0
DRL 40 MIN
PAN 8.7
REC 8.4
LOSS 0
UNACC 0
PULL #9
39.7
START 12:50
END 1:00
TIME 10 MIN
DRL 10 MIN
PAN 0.6
REC 0.3
LOSS 0
UNACC 0
DEP 42.5
42.8
DEP+T/DEP 42.8
ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-620-603
PROJECT GALLIPOLIS LOCK+DAM
HOLE NO. M-9/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHCD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-10 STA 11+50B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-10/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 44.7
9. TOTAL DEPTH OF HOLE: 452.2
10. SIZE AND TYPE OF BIT: 4⅝ SV2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/19/88; COMPLETED 12/20/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 44.7 %
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE			PULL #1
	1		GR-LT GR., M.-H-H, MI-CG.			START 3:26
						END 3:31
	2		MIC FE SURFACE STAINED		1	TIME 11 MIN
						DRL 11 MIN
			496.9-496.8 BRDNS @ 6.5 FPH			RAN 4.6
	3					REC 4.6
			CONGLOMERITE 493.2-492.9			LOSS 0
	4				3.4	UNACC 0
			CL SEAM 492.5 BRN SHALEY SEAM			
	5		492.4-492.3, SH, SEAM			T/DFP 4.6
					2	DFP 5.0
	6		490.5-490.9			PULL #2
490.2						START 3.46
	7		ICL			END 3.49
			R-BR, S, MOTTLED W/		6.8	TIME 3 MIN
	8		GR+GN CL, SEV-PLY BRN			DRL 3 MIN
			W FATTY CL 490.2-490.1			RAN 3.7
	9		LT GR 490.2-489.5 BRN			REC 3.7 UNACC 0
			488.6-488.4 ANG PN 30°			LOSS 0
	10		488.1-478.5, 487.7-487.5		3	DFP 8.9 T/DFP 8.3
486.6			487.6-487.9, SCURRY BRN			PULL #3
			487.3-487.1			START 7:08
	11		SLS			END 7:23
			GR-SN, GR. S-A.H		9.8	TIME 15 MIN LOSS 0
	12		GRADATIONAL W/S.A			DRL 15 MIN UNACC 0
			@ TOP TO SAND @			RAN 2.4
	13		BOTTOM, BRN PNS			REC 2.5 T/DFP 10.7
			SPACING 0.5 BRN 485.6			DFP 11.2
	14		486.1, SHALE SEAM		4	PULL #4
			478.7-478.5, SANDSTONE			
	15		LT GR, M.H, F.G. 477.9-477.6			START 7:31
						END 8:01
	16				13.1	TIME 30 MIN
						DRL 30 MIN
	17					RAN 8.6
						REC 8.5
	18				5	LOSS 0
						UNACC 0
	19					
					16.8	
	20				6	DFP + T/DFP 19.3
						PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-10/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-10/1

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		20.2	Pull #5
	21				7	START 8:12 END 9:10 TIME 58min DRL 28min RUN 9.17 REC 9.7 LOSS Ø UNACC Ø
	22					
474.3	23		SANDSTONE GR-LTGR, MI H, E-MI G MIC, OCC X-BDD, GRADATIONAL CONTACT W/UPPER SLS OCC SMALL, SCATTERED PYRITE NODULES: 472.5-469.1, VUM. MIC BEDDING 471.7, 452.4		24.0	
	24					
	25				8	
	26					
	27				27.8	
	28					
	29				9	T/DCP 29.0 DCP 29.3 Pull #6
	30					START 9:18 END 9:40 TIME 22min DRL 22min RUN 10.0 REC 10.0 LOSS Ø UNACC Ø
	31				31.2	
	32					
	33				10	
	34					
	35				34.9	
	36					
	37				11	
	38					
	39				38.6	T/DCP 39.0 DCP 39.3 Pull #7
	40					START 10:04 END 10:17 TIME 13min DRL 13min RUN 5.7 REC 5.7 LOSS Ø UNACC Ø
	41				12	
	42				42.3	
	43				13	
452.2	44		Bottom Hole 44.7		44.7	DCP+T/DCP 44.7

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-620-603

PROJECT Gallipolis Lock+Dam | HOLE NO. M-10/1

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-10 STA 11+08.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-10/2
5. NAME OF DRILLER: DADE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.7
8. DEPTH DRILLED INTO ROCK: 45.7
9. TOTAL DEPTH OF HOLE: 451.0
10. SIZE AND TYPE OF BIT: 4 X 5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/27/88; COMPLETED 12/27/88
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 45.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			PULL #1
	1		GR-LT GR, M.H-H, M-CG.			START 1:40
			BKN PNS W/0.3 SPACING			END 2:00
	2		496.7-499.9, CAL-CEM. 495.7		1	TIME 20 MIN
						DRL 20 MIN
	3		492.8, CG. W/OCC SM, CL			RUN 4.3
			FRAG + STRING CAS 491.8			REC 4.3
	4					LOSS 0
			-491.1, OCC SM. CL FRAG			UNREC 0
	5		488.8-488.5, MECH CHIPPED		3.7	
						DEP + T/DEP 4.3
	6		488.5-488.3			PULL #2
						START 2:05
	7					END 2:15
					2	TIME 10 MIN
	8					DRL 10 MIN
487.8						RUN 9.6
	9		SLS			REC 4.6
			GR, M.H, SG CL INCSE		7.5	LOSS 0
	10		486.1-486.0			UNREC 0
486.0						DEP + T/DEP 8.9
	11		SANDSTONE		3	PULL #3
			GR-LT GR, M.H & -M.G.			START 2:26
	12					END 2:37
			OCC, MIC CAL CEM 484.6-482.6			TIME 11 MIN
	13					DRL 11 MIN
					11.2	RUN 9.8
	14					REC 5.1
						LOSS 0
	15				4	UNREC 0
481.6						
	16		SLS			DEP + T/DEP 13.7
480.4			GR-S-M.H, GRATIONAL			PULL #4
			W/SHALE STRINGERS & BETTON.		14.5	START 2:55
	17		CL GR, S, SEAMS 481.6-481.5, 481.3-481.1			END 3:15
						TIME 20
	18		SANDSTONE			DRL 20
			GR-LT GR, M.H, F-M.G. OCC			RUN 6.5
					5	REC 6.3
	19		MIC, SLT. 496.7-476.4			LOSS 0
						UNREC 0
	20				18.2	
					6 (CONT)	
						T/DEP 20.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM

HOLE NO.: M-10/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-10/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	DEP 20.2 PULL #5
	21		Few, occ, Sm. pyr. nod		21.9	START 3.45 END 4.14
	22		475.4-479.8, Thin calcite			TIME 29 min DRL 29 min
	23		Filled veins 468.2-468.1		7	RAN 9.3 REC 9.1
	24		Slightly mech. Brk			LOSS 0 UNACC 0
	25		467.2-467.1		25.0	
	26		Thin Sh. Stringers 466.3-		8	
	27		465.9, Coal Seam 463.1-461.2			
	28		454.2-459.0.		28.8	
	29					DEP 29.5 T/ZP 29.8
	30				9	PULL #6
	31					START 4.39 END 4.55
	32				31.9	TIME 21 min DRL 21 min
	33					RAN 8.1 REC 8.3
	34				10	LOSS 0 UNACC 0
	35				35.4	
	36					
	37				11	T/DEP 37.7
	38					DEP 38.9
	39				38.8	PULL #7
	40					START 5.20 END 5.27
	41				12	TIME 7 min DRL 7 min
	42					RAN 9.0 REC 8.0
	43				13	LOSS 0 UNACC 0
451.0	44		BOTTOM HOLE 45.7		45.7	DCP 45.8 T/DEP 45.7

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1988 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-10/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-11 STA 10+98.8
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-11/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.1
8. DEPTH DRILLED INTO ROCK: 49.4
9. TOTAL DEPTH OF HOLE: 452.7
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/16/88; COMPLETED 12/20/88
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 94.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE GR-LTGR., M.G., M.H. OCC MIC, FE SURFACE STAIN 497.1-496.9, BEN ANS -0.1 GRNCC 497.1-496.3, C.G 495.3 -493.1, 492.5-491.5, NUM THIN SH + CL FRAG + STRINGERS 497.1-491.5			PULL #1 START 11:02 END 11:12 TIME 10 min DRL 10 min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
491.3	2				1	
	3					
	4				3.6	
	5					
	6		SLS GR. S. SH. SANDSTONE LENSE 490.8-490.7 (LTGR. med gr)		2	DEP 7 TIDEP 5.0 PULL #2 START 11:25 END 11:34 TIME 11 min DRL 11 min RAN 2.9 REC 3.0 TIDEP 7.9 LOSS 0 UNACC 0
489.9	7				6.8	
	8		ICL R. BR, S. MOTHICC WKR TGN GR CL MECH BK 489.1-488.9, ANG FRAC 30° W/ SLK, 488.5-488.8, 488.6- 488.5, -488.4, 488.3-488.2		3	DEP 8.7 PULL #3 START 12:21 END 12:33 TIDEP 10.0 TIME 12 min DRL 12 min RAN 2.1 REC 1.9 LOSS 0.1 UNACC 0.1
487.1	9					
	10				10.0	
	11		SLS GR. SGNGR., F-M.H GRAY WISH @ TOP TO SA @ 30°		4	DEP 12.6 PULL #4 START 12:55 END 1:10 TIME 15 min DRL 15 min RAN 7.3 REC 9.1 LOSS 0.1 UNACC 0.1
484.3	12					
	13		SANDSTONE GR-LTGR, M.H. F-M.G. MIC, OCC X BD, SLT + F.G. 483.6-483.1, high ANG 45° SH SEAM 479.3-479.0, THIN CLS-MA. 479.0, SLT 479.0-477.8 (GRAY, S.) BKN SH, SEAM 477.5-477.4 CLS-MA 479.2, 468.7		5	
	14				13.5	
	15					
	16					
	17				17.0	
	18				6 (CONT)	
	19					DEP 19.7 TIDEP 19.3 PULL #5
	20		(CONT)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: M-11/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. MI-1111

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6 20.5	PULL #5
	21		- 966.7, occ SCATTered sm			START 1:29
	22		PYR NOT 477.1-473.1		7	END 1:49
	23					TIME 25 min
	24					DRL 25 min
						RAN 10 min
						REC 10 min
						LOSS 0
	29				29.2	UNACC 0
	25					
	26				8	
	27					
	28				27.9	
	29				9	DCP 29.9 DCP 29.3
	30					PULL #6
	31				31.2	START 2:05
	32					END 2:25
	33				18	TIME 20 min
	39					DRL 20 min
	35				34.9	RAN 9.4
	36					REC 9.8
	37				11	LOSS 0
	38					UNACC 0
	39				38.6	
						T/DCP 39.0
						DCP 39.4
	40				12	PULL #7
	41					START 2:43
	42					END 3:03
						TIME 20 min
						DRL 20 min
	43				41.8	RAN 5.0
						REC 5.0
					13	LOSS 0
455.0	44		BOTTOM HOLE 44.1		44.1	UNACC 0
						DCP 44.9 T/D-N 44.1

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1968 OF - 626 - 603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. MI-1111

Hole No. M-11/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHCD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO M-11 STA 10+58 B
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-11/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.8
8. DEPTH DRILLED INTO ROCK: 43.9
9. TOTAL DEPTH OF HOLE: 452.9
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 13
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/27/88; COMPLETED 12/27/88
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 43.9 %
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		GR-LT GR, M.H.-H, M-C-g			START 18:15
			OCC MIC, SH STRINGERS			END 18:26
	2		492.9, OCC THIN SH STRING			TIME 11 min
					1	DRL 11 min
	3		+ FRAG, 492.7-491.8			PAN 6.8
						REC 9.6
	4		COL COM 489.1-488.2			LOSS Ø
						UNACC Ø
					3.7	
	5		SLT, MECA BRN 488.1-487.8			T/DEP 5.6
					2	
	6					
	7					DEP 6.8
					7.2	PULL #2
	8					START 18:03
						END 18:50
						TIME 7 min
						DRL 7 min
						PAN 2.3 UNACC 0.3
487.6	9				3	REC 4.0
						LOSS 0.3 T/DEP 8.9 DEP 7.1
			CLS			PULL #3
	10		GN-GR, F, SA, BRN 487.6-487.5			START 19:06
486.1			LOW ANG, PNS, 20° 487.2-486.6			END 19:22
					10.7	TIME 16 min
	11		SLS			DRL 16 min
			GR-GN, GR, M.H-S, SA			PAN 9.6
	12					REC 3.6
			MOD BRN CL SA.S 484.5		4	LOSS Ø
	13					UNACC Ø T/DEP 12.3
			-484.3, 483.8-483.7, BRN			
						DEP 13.7
	14		484.3-483.8			PULL 4
482.0					14.4	START 19:40
	15		SANDSTONE			END 19:52
						TIME 12 min
	16		LT GR., M.H. F.g.		5	DRL 12 min
						PAN 3.8
	17					REC 2.5
						LOSS Ø
478.8	18		-			UNACC Ø T/DEP 17.2 DEP 17.5
					17.9	
			SLS		6	PULL #5
	19		GR.S-M.H, SA SH, 478.5-477.8		(CONT)	START 20:55
			SA a BOVE + BELOW, CL SCAM			END 21:20
			478.5, 478.2, 478.0-477.9			TIME 25 min
476.9	20					(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-11/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. M-111-2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #5
	21		gr.-LT.gr., m.H. F.mg. occ		6	DRL 25min
			mic, few SM, Pyr. Nod		21.6	PAN 6.8
	22		475.9-479.0, ANG 45°, Thin			REC 9.9
			sh STRINGER 471.3-471.2			LOSS 0
	23				7	UNACC 0
	24		COL, crm, vod 471.1-470.1			
			469.7-469.8, RcDRILL 465.2			DCP 29.2 T/DCP 29.3
	25				29.6	PULL #6
			- 469.2, THIN SH EAAS			START 21:55
	26		469.0, NUM thin mic		8	END 23:13
						TIME 18min
	27		Bdd DNS (BAND) 463.1			DRL 18min
						PAN 9.8
	28		462.6			REC 7.4
					28.9	LOSS 0.9
	29					UNACC 0.9
					9	
	30					
	31					
					31.6	
	32					T/DCP 32.0
	33					
					10	
	34					DCP 34.1
	35					PULL #7
					35.3	START 22:30
	36					END 22:93
						TIME 13min
	37					DRL 13min
					11	PAN 6.1
	38					REC 8.2
						LOSS 0
	39					UNACC 0
					38.7	
	40					
					12	T/DCP 40.0
	41					DCP 40.2
						PULL #8
	42					START 23:00
						END 23:20
	43					TIME 20min
						DRL 20min
					42.4	PAN 5.0
	44				13	REC 3.5 UNACC 0
452.9			Bottom HOLE			LOSS 0
					43.9	DCP 43.2 T/DCP 43.3

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT Gallipolis Lock+Dam | HOLE NO. M-111-2

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	ORD	ORH-CD	

1. PROJECT	Gallipolis Lock + Dam
2. LOCATION (Coordinates or Station)	Mono Mid 10798 B
3. DRILLING AGENCY	W. G. Jagues
4. HOLE NO. (As shown on drawing title and file number)	M-121
5. NAME OF DRILLER	Steve Fry
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	⊘ 497.1
8. DEPTH DRILLED INTO ROCK	37.9
9. TOTAL DEPTH OF HOLE	459.2
10. SIZE AND TYPE OF BIT	4 7/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-53 - Mobile
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	11
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 11/4/89; COMPLETED 11/5/89
17. ELEVATION TOP OF HOLE	497.1
18. TOTAL CORE RECOVERY FOR BORING	37.9 %
19. SIGNATURE OF INSPECTOR	JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1–11		SANDSTONE LT-gr-GR, M.H.-H. M-Cg. occ mic vum sm cl. seams, frags		1 3.8	PULL #1 START 21:22 END 21:39 TIME 17min DRL 17min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
						DEP 5.0
					2 7.2	PULL #2 START 21:52 END 22:34 TIME 42min DRL 42min RAN 6.1 REC 6.1 LOSS 0
485.7					3 10.9	UNACC 0
						DEP 11.4
	12–13		SLS SR-S-M.H, SA, CLS SCAM gr. S, Clayey 480.2 - 480.1		4 13.9	PULL #3 START 23:03 END 23:17 TIME 14min DRL 14min RAN — REC 2.6 LOSS — UNACC —
483.2						DEP 13.9
	14–26		SANDSTONE gr-LTGR, M.H, V.E.F.- M.g. scarcely BKN 479.1 - 479.2 SLTG FI. 478.1 SLIGHTLY BKN M.-F.g Below 468.5. (CONT)		5 17.5	PULL #4 START 8:00 END 900 TIME 60min DRL 60min RAN 9.0 REC 9.0 LOSS 0 UNACC 0 (CONT)
					6 CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Lock + Dam | HOLE NO. M-121

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-12/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21				21.3	
	22					
	23				7	DCP 22.9 PULL #5
	24					START 9:15 END 9:45 TIME 30 min
	25				24.8	DRL 30 min RAN 5.0
	26				8	REC 5.9 LOSS 0 UNACC 0
	27					
	28				28.3	DCP 28.3
	29					PULL #6
	30				9	START 10:00 END 10:20 TIME 20 min
	31					DRL 20 min RAN 9.6
	32				31.5	REC 9.6 LOSS 0
	33					UNACC 0
	34				10	
	35					
	36				35.7	
	37				11	
459.2	38		BOTTOM HOLE		37.9	DCP 37.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 620 - 603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-12/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CP | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-12 STA 10+10B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-12 1/2
5. NAME OF DRILLER: DAVE HARPED
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.4
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 459.2
10. SIZE AND TYPE OF BIT: 4 7/8 VR
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/28/88; COMPLETED 12/28/88
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 36.6 %
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	0–9		SANDSTONE LT; GR-GR, M.H-H, M.CG OCC MIC., NUM SM CL, FRAG 493.1-492.7, C.G. 493.3 -492.7 M.G 492.4-493.3 M G 492.7-487.7 Cal Com 489.7-489.1		1 37 2 72 3 11.0 4 19.6 5 18.2 6 CONT	PULL #1 START 7:45 END 8:03 TIME 18 min DRL 18 min PAN 4.2 REC 4.2 LOSS 0 UNACC 0 T/DEP 9.2 DEP 9.8 PULL #2 START 8:10 END 8:20 TIME 10 min DRL 10 min PAN 3.5 REC 3.2 LOSS 0.3 UNACC 0.3 T/DEP 7.7 DEP 9.6 PULL #3 START 8:30 END 8:50 TIME 20 min DRL 20 min PAN 9.6 REC 9.5 LOSS 0 UNACC 0 T/DEP 12.2 DEP 13.0 PULL #4 START 9:20 END 9:35 TIME 15 min DRL 15 min PAN 7.2 REC 7.4 LOSS 0 UNACC 0 T/DEP 9.6
487.8	10–12		SLS GR-GNGR, M.H-S, SA, NUM FRAC SLT BRN, FATTY CL LT. GR 487.8 - 487.6 SLT COL 487.6-486.6 SA BELOW 485.8, SCURRELY BRN 485.4-485.2			
484.9	13–15		SANDSTONE GR, M.H, F-VF.G. SLT			
481.9	15–16		SLS GR, S-M.H, SA CLS SEAM G.R. S. CLAYEY 481.1-481.0, 480.6 - 480.5			
480.5	17–20		SANDSTONE GR.-LTGR., M.H, VCF-M. G., SCURRELY BRN 479.2- 479.1, SLT 479.2-478.0 V. THIN CLS SEAM 478.1- 478.3. 478.5-478.4 CONT			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: M-12 1/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. M-12/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: OEH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			
	21		SLIGHTLY BRN 476.7		6	DCP 21.0
	22		PYR STRINGER 467.5-467.6			PULL #5
	23		M-F.G. BELOW 468.6, F-VF. ABOVE, MIC, SM. SLS FRAG W/CALCITE		21.7	START 15:55 END 16:27 TIME 32 min DRL 32 min RUN 9.9 REC 9.9 LOSS 0 UNACC 0
	24				7	
	25		466.2, CAL CEM. 464.1-463.4		25.9	
	26					
	27				8	
	28				28.8	
	29					DCP 29.5
	30				9	
	31					
	32				32.3	
	33					
	34				10	
462.0	35					
	36		SLS 462.0 - 460.0 GR, S.-M.H, SA BTW PNS 0.2 SPACING SS SEAMS, G. ALH F.G. 461.6 - 461.9, 461.2-461.1 460.5		36.0	
460.0	37				11	
			460.9 SANDSTONE		37.6	
459.8	38		460.0 - 459.8 LT.GR H. F-MG. CAL CEM. Bottom Hole			DCP 37.5 PULL # TIME 39.2 DCP 38.5 START 16:05 END 17:16 TIME 31 min DRL 31 min RUN 7.6 REC 8.9 LOSS 0 UNACC 0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-12/2

DRILLING LOG — ORH — INSTALLATION: ORH-CD — SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCKS & DAM
2. LOCATION (Coordinates or Station): MONO M-13 1stA 10+00 B
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-13/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.2
8. DEPTH DRILLED INTO ROCK: 38.7
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4" X 5 5/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M. S. L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/7/89; COMPLETED 1/9/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 38.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2			SANDSTONE			PULL #1
			SLY, M.G. M.H., M GR.			START 12.40
	1					END 12:52
						TIME 18
						DRL 18
	2				1	RHN
						REC 4.8
						LOSS 0
						UNACC 0
	3					
					3.8	
	4					
						T/DEP 4.6
	5					DEP 5.0
491.5						
						PULL #2
	6		CLS		2.	START 1.02
490.7			m.-dK.GR., S. n. h.			END 1.15
			SLS. LENS 6.1-6.5			TIME 13 MIN
						DRL 13 MIN
	7		ICL			RHN
			R BR, SLK, S. v. bKN		7.3	REC 4.4
			0.1 LC 9.2-9.3 (FROB)			LOSS 0
			V.:			UNACC 0
	8					
					3	
487.9	9					T/DEP 9.2
						DEP 9.4
			SLS-			PULL #3
	10		m-dK GR, m.h. occas.		(CONT)	(CONT)
			I.S CLS 13.0-13.3			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Locks & Dam — HOLE NO. M-13/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. M-13/1

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS M-dk.gr, m.h, os sa v.s. CLS 13.0-13.3		3	PULL #3
	11				10.7	START 1:28 END 1:43 TIME 15 DRL 15 RAN REC 4.3 LOSS 0.1 UNACC 0.1
	12				4	
483.9	13					
			SANDSTONE			T/DEP 13.6
	14		Sltst, fig, m.h, m. SR. mech pfgs @ 14.5, 14.9, 15.3, 15.7 & 16.8 : SLS 20		14.1	DEP 14.0
	15		17.5-18.0 : mech pfgs @ 19.3, 20.0, 20.8, 21.7 & 23.0			PULL #4
	16		CLAY 20.3-23.9		5	START 1:55 END 2.10 TIME 15 min DRL 15 min RAN REC 6.6 LOSS 0 UNACC 0
	17				17.5	
	18					
	19				6	
	20					T/DEP 20.4
						DEP 20.7
	21				21.1	PULL #5
	22		(CONT)		7 (CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 O—329-343

PROJECT Gallipolis Lock & Dam | HOLE NO. M-13/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. M-13/1

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE			PULL #5
	23				7.	START 2:25 END 3:00 TIME 35 MIN DRL 35 MIN RAN REC 6.4 LOSS 0 UNACC 0
	24				24.8	
	25					
	26					
	27				8	T/DEP. / DEP 26.8 PULL #6
	28				28.3	START 7:30 END 8:10 TIME 40 DRL 40 RAN REC 8.1 LOSS 0 UNACC 0
	29					
	30				9.	
	31					
	32				32.0	
	33				10	
	34		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-13/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. M-13/1

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		SANDSTONE		10.	PULL #6
	35				35.5	DEP: T/DEP 34.9
461.7						PULL #7
	36		CLS m. dk gr, s. m. h. bkn w/coal, spms			START 8:30 END 8:55 TIME 25 DRL 25
460.6					11.	RAN REC 3.8 LOSS 0 UNHCC 0
	37		I CL - R. OR, SLK, S. V. bkn.			
	38					
458.5					38.7	DEP: T/DEP 38.7
	39					
	40					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. M-13/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CP | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO M-13 STA 4+54.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-13/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.1
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 456.2
10. SIZE AND TYPE OF BIT: 4 7/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.SL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/5/88; COMPLETED 1/5/88
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 37.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	0		S.S.			PULL #1
	1		LT-M. GR. M-C.G. MOH.			START 8:45
	2		OCC CLY SEAM. WEATHERED			END 9:03
	3		SURFACES		1	TIME 18 MIN
	4					DRL 18 MIN
	5					RAN 9.9
490.9	6		CLS			REC 9.4
			WHITE. S.			LOSS 0
490.7			SLS		3.8	UNACC 0
	7		GRN, F.G. M.N-S., OCC PARTINGS			T/DEP 9.9
	8		ONCL/SH UCRT FACES 8.0-9.5			DEP 4.7
	9		SQ.			PULL #2
	10				2	START 9:11
485.7	11					END 9:39
			S.S.			TIME 23 MIN
	12		GR-GNGR. VEF.-F.G.			DRL 23 MIN
	13		MICA ON X-BDD		7.5	RAN 9.7
			CL/SH ON PARTINGS			REC 9.7
	14					LOSS 0
						UNACC 0
	15				3	
	16					
	17					
	18				11.2	
	19					
	20		(CONT)		4	T/DEP 19.1
					15.6	DEP 19.6
						PULL #3
						START 9:50
						END 10.06
					5	TIME 16 MIN
						DRL 16 MIN
						RAN 9.9
						REC 9.9
					18.2	LOSS 0
					6	UNACC 0
					(CONT)	
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-13/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-13/2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21					
	22				21.9	
	23				7	
	29					T/DCP 29.0
						DCP 29.3
	25					PULL #4
					25.3	START 10:40
	26					END 11:06
						TIME 26 min
	27				8	DRL 26 min
						RAN 9.5
	28					REC 8.7
						LOSS 0.8
	29				28.9	UNACC 0.8
	30					
					9	
	31					
	32					
464.7						
	33		CL GR, S, SLT, FRABLE, CASY		32.9	T/DCP 33.1
463.7						DCP 33.5
	34		ICL			PULL #5
			R. BR. – GR. GN, FRIABLE		10	START 11:36
	35		hd SLK.			END 12:09
						TIME 18 min
	36					DRL 18 min
						RAN 4.4
	37				36.8	REC 3.8
						LOSS 0.6
					11	UNACC 0.6
459.2	38		Bottom HOLE		37.9	DCP 37.9 T/DCP 37.7
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-628-603

PROJECT Gallipolis Lock+Dam | HOLE NO. M-13/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONOLITH M-14 / STA 9744 "B"
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-14/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.1
8. DEPTH DRILLED INTO ROCK: 38.6
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/5/88; COMPLETED 1/5/88
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 38.6 %
19. SIGNATURE OF INSPECTOR: MIKE WIELD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	0		SANDSTONE, SLY., M-C.G., M h., GR MIC WITHIN, IRR, DK. GR, SLY, STKS M. SPACED PTGS TO 3.8		1.	PULL #1 START 11:00 END 11:13 TIME 13 DRL 13 RAN 4.8 REC 3.8 LOSS 0 UNREC 0
493.3	4		ICL R. BR/GREENISH GR, S, SLK 0.4 L.C. (PROB 3.8-4.2) VC: BKN.; GRADING TO SLS.		3.8	T/DEP 4.6 DEP 4.8
491.3	6		SLS SA, S. M h., M. GR., PTS SHY BKN. 7.1-7.7 (MISCH) CLOSELY SPACED, HOR PTGS 8.5-11.2 GRADING TO S.S.		2.	PULL #2 START 11:23 END 11:37 TIME 14 DRL 14 RAN REC 4.3 LOSS 0.4 UNREC 0.4
	10		(CONT)		7.3	
					3.	T/DEP 8.5 DEP 8.8 PULL #3
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. M-14/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-14/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS		3.	PULL #3
					10.7	
	11					
485.9						
			SANDSTONE			START 12:40
						END 1:20
	12		SLY, fig. m.h, m.gR.			TIME 20
						DRL 20
						RAIN
			w/occ SLS zos pTg		4	REC 9.2
	13		@ Thin SLY. LAM @			LOSS 0
			13.6 & 13.8: vc SLY			UNACC 0
			15.6-16.8: mechpTg			
			@ 20.1, 23.0, 24.2:			
	14		CLOSELY SPACED			
			pTgS. w/TR. gR.			
			CL coa in SLY. 20		14.5	
	15		25.1-25.4: 0.1' dk. gR			
			SLS Lam @ 29.3-29.4			
			& 29.8-29.9			
	16				5	
	17					
						T/DEP 17.7
						DEP 17.9
	18				18.2	
						PULL #4
	19					START 1:35
						END 1:55
						TIME 20
						DRL 20
	20				6.	RAIN
						REC 9.3
						LOSS 0
						UNACC 0
	21					
	22		(CONT)		22.0	(CONT)

ENG FORM 1836-A JUN 67 GPO: 1969 OP—329-248

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-14/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-14/1

PROJECT: BALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF # SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE.			PULL #4
	23					START 1:35 END 1:55
					17.	TIME 20 DRL 20 RMN REC 9.3 LOSS 0 UNACC 0
	24					
	25					
					25.7	
	26					
	27					
					8.	DEP. T/DEP 27.6
	28					PULL #5
	29					START 2:10 END 2:25
					29.1	TIME 16 DRL 16 RMN REC 4.7 LOSS 0 UNACC 0
	30					
465.8	31				9.	
			ICL R. BR, S, SLK VE. BKN., SLT S. GR. CL ☒ CONTACT			T/DEP 31.8 DEP 32.1
	32				32.4	PULL #6
	33				10	
	34		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT: BALLIPOLIS LOCK & DAM | HOLE NO. M-14/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-14/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL R. BR, S, SLK, VE BKN SLT S. GR. CL & CONTACT			PULL #6 T/DEP 34.9
	35				10	START 2:45 END 3:11 TIME 26 DRL 26 RAN REC 2.6
	36				36.2	LOSS 0 UNACC 0 DEP 37.0
	37					PULL #7
	38				11	START 3:37 LOSS 0 END 3:47 UNACC 0 TIME 10 DRL 10 RAN 1.7 REC 3.5
458.5					38.6	T/DEP 38.6 DEP 38.7
	39					

ENG FORM 1836-A JUN 67 | GPO. 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-14/1

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS	
1. PROJECT: GALLIPOLIS LOCKS & DAM	10. SIZE AND TYPE OF BIT: 4"X5½"
2. LOCATION (Coordinates or Station): MONOLITH M-14 / STA	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
3. DRILLING AGENCY: W. G. JAQUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
4. HOLE NO. (As shown on drawing title and file number): M-14/2	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: WAYNE TICE	14. TOTAL NUMBER CORE BOXES: 11
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: 0 497.1	16. DATE HOLE: STARTED 1/5/88; COMPLETED 1/5/88
8. DEPTH DRILLED INTO ROCK: 39.4	17. ELEVATION TOP OF HOLE: 497.1
9. TOTAL DEPTH OF HOLE: 357.7	18. TOTAL CORE RECOVERY FOR BORING: 39.4 %
	19. SIGNATURE OF INSPECTOR: MIKE NIELD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE SLY, MI.-C.G., M.H., GR., M.C., W/THIN IRR. & C.P. SLY STKS		1.	PULL #1 START 13:25 END 13:40 TIME 15 DRL 15 RAN 5.1 REC 4.7 LOSS 0.4 UNACC 0.4
493.5	2					
	3				3.6	
	4		ICL R. BR/GREENISH GR., S SLK 0.4 LC (FROB 3.6-4.0)			
492.0	5					T/DEPÉDER 5.1
	6		SLS SH, L.-M.H., M.GR., PTS. SH, PTS. 6.5, 6.6, 8.0, 8.7 GRADING		2.	PULL #2 START 13:50 END 14:05 TIME 15 DRL 15 RAN 10.0
	7				7.5	
	8				3.	REC 10.0 LOSS 0 UNACC 0
488.4	9		CLS			
	10		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. M-14/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 497.1

Hole No. M-14/2

PROJECT: GALLIPOLIS LOCKS & DAM 1

INSTALLATION: ORH-CD

SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS		3.	PULL #2.
	11		SLY SR.m.h,, M.GR SCL. COA. HORDTG @ 9.6 mech. bkn @ 10.7-11.0 SA 12.1-13.7		11.3	
	12				4.	
	13					
483.4	14		SANDSTONE SLY ; F-M.G, M.H. M.GR SLS. LAM, STARTING @ 22.6, INCREASING W/DEPTH		14.9	TIDED : DEP 15.1
	15					PULL #3
	16				5.	START 14:11
	17					END 14:35
	18					TIME 24
						DRL 24
						RAIN 10.0
						REC 9.9
						LOSS 0
					18.5	UNACC 0
	19				6	
	20					
	21					
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67

GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM 1 HOLE NO. M-14/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 Hole No. M-14/2

PROJECT GALLIPOLIS LOCKS & DAM INSTALLATION ORH-CD SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE		6. 22.3	PULL #3
	23					
	24				7.	
	25					T/DEP 25.0 DEP 25.1
						PULL #4
	26				25.8	
470.6			CLS			START 14.50
	27		S. M.h., GK gR.,			END 15:45
			GRADING INTO ICL			TIME 65 MIN
						DRL 65 MIN
	28				8	RAN 10.0
						REC 10.0
468.6						LOSS Ø
			ICL			4 NAILS Ø
	29		GREENISH. SH, GK/		29.3	
			R. BR, S SLK. V. BKN			
	30		becoming R/BN @ 31.5			
					9.	
	31					
	32					
	33				29.3	
					10.	
	34		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-14/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-14/2

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL			PULL #4
			GREENISH GR/R.BR.			
	35		S SLK, V BKN			DEP 35.1 T/DEP 35.0
			BECOMING R.BR @ 35.5		10	PULL #5
	36					START 4:20
					36.3	END 4:45
						TIME 25
	37					DRL 25
						RAN 4.1
						REC 4.2
						LOSS 0
	38				11.	UNWGT 0
	39					T/DEP 39.1
457.7			BOTTOM HOLE		39.4	DEP 39.4
	40					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT: Gallipolis Lock & Dam | HOLE NO: M-14/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONOLITH M-15 / STA 9+00 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-15/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 33.7
9. TOTAL DEPTH OF HOLE: 463.2
10. SIZE AND TYPE OF BIT: 4" 15½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/5/88; COMPLETED 11/5/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 33.7 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SAND STONE, M-C.G. M. h., GR bKN. (Mech) 0.0 - 2.3			PULL #1 START 4:15 END 4:48 TIME 23 DRL 23 RUN 5.0 REC 2.8 LOSS 0 UNHCC 0
494.6	2				1	
	3		ICL GR; K. BR., S.; M.C. BKN. THROUGHT; 0.6 LC (PROB 2.3-2.9)			
492.8	4				3.6	T/DEP #6 DEP 5.0
	5		SLS SH, S. M. h; M. GR bKN HLONG HA FRAC 5.8-6.1; CL COZ, HCR PLA @ 6.7			T/DEP 5.0 PULL #2 START 4:48 END 5:03 TIME 15 DRL 15 RUN .5 REC 4.8 LOSS 0.6 UNHCC 0 DEP 5.0
	6				2	
	7				7.2	
486.7	8					
	9		CLS/SLS SH, S, M. GR C.C. COZ; CONTACT		3	PULL #3
	10		(CONT)	(CONT)		(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam. HOLE NO. M-15/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-15-1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.6	10				3	PULL #3 START 5:40 END 5:55 TIME 15 DRL 15 RAN 7.7 REC 4.8 LOSS 0 UNACC 0 T/DEP 12.8
	11				11.2	
	12		SANDSTONE SLY, FIG M.H MI.G.R. CL. COZ PTS @ 11.6 PTGS ALONG SLS. LAM 21.2, 21.4, 21.6 22.4 & 22.6 CRACKING INTO SLS			
	13				4	DEP 13.2
	14					PULL #4 START 6:15 END 6:30 TIME 15 DRL 15 RAN 2.6 REC 2.7 LOSS 0 UNACC 0 T/DEP & DEP 15.8
	15				14.6	
	16				5	PULL #5 START 6:58 END 7:15 TIME 17 DRL 17 RAN 9.6 REC 5.1 LOSS 0 UNACC 0
	17					
	18				18.2	
	19					
	20				6	T/DEP 20.6
	21					
	22		(CONT)		21.9	(CONT)

ENG FORM 1836-A JUN 67 | GPO 1969 O-339-343 | PROJECT: Gallipolis Lock & Dam | HOLE NO. M-15/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-15/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 5 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE			PULL #5
	23					
	24				7	
	25					
					25.4	DEP 25.6
	26		SLS S-m.h., m. gr. grading into ICL			PULL #6 START 7.15 END 7.23 TIME 8 DRL 8 RAN 3.9 REC 4.5 LOSS 0 UNACC 0
	27				8	
	28					
	29		ICL R. BR/GREENISH GR. 5 SLK, 6 KM.			
					29.1	DEP 29.3
	30					PULL #7 START 7.35 END 7.55 TIME 20 DRL 20 RAN 0.0 REC 4.5 LOSS 0 UNACC 0
	31				9	
	32					PULL #8 START 9.00 END 9.22 TIME 22 DRL 22 RAN 2.5 REC 4.1 LOSS 0 UNACC 0
					32.3	
	33				10	
463.2			Bottom Hole		33.7	DEP 33.8 T/DEP 33.7
	34					

ENG FORM 1836-A JUN 67 | GPO: 1968 O-F—329-283 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-15/1

Hole No. [illegible]

DRILLING LOG

DIVISION: ORH
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO R-15 ISTA 8+74.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-15/2
5. NAME OF DRILLER: DOWELL MORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 to 496.9
8. DEPTH DRILLED INTO ROCK: 33.2
9. TOTAL DEPTH OF HOLE: 463.7
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/5/89; COMPLETED 1/6/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 33.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0		SANDSTONE sl y, m.-c.g. m.h., m. gR closely spaced hor pTgs. 0.0-1.9; cl. con, ire FTs @ 3.1		1	PULL #1 START 5:15 END 5.30 TIME 15 min DRL 15 min RAN 5.0 REC 4.7 REC % [illegible] DIFFICULTY E
493.5	3				3.7	
491.6	5		CLS/ICL gR.-greenish gR. S-m.h. v.s & bkn 3.4-4.2 w/0.4 L.C (Mech) & End up to CLS			DEP 5.0 TIP 5.1
	6		SLS S2, m.h., m cl hd, IRR, FT 6.0-7.2 pTgs @ 7.7 & 8.3 Grading into Sandstone		2	PULL #2 START 5.45 END 6.15 TIME 30 min DRL [illegible] min RAN 7.4 REC 6.4 REC % 1.0 DIFFICULTY E
	7				7.6	
	8				3	
	9					
	10		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO. M15/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.9 **Hole No.** M-15/2

PROJECT GALLIPOLIS LOCK & DAM INSTALLATION ORH-CD SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE sly.; fig.; m.h., m.g w/ dk.gr sly. stgs & zos hor. ptgs w/ HR grid @ 11.0 & 11.1 grading into SLS		3	PULL #2
	11				11.4	
	12					
483.9	13		SLS. SH, mil, dk.gr, sli sby hor ptg @ 13.4; bkn (mech) 14.6-14.8 grading into SS.		4	I/DEP 13.5
	14				14.8	
	15					DEP 15.1
	16					PULL #3 START 6.35 END 6.55 TIME 20 min DRL 20 min RAN 6.5 REC 7.9 LOSS 0.2 UNACC 0
480.5						
	17		SANDSTONE sly., fig, m.h. m.gr. dk SLS lam & zos 0.2 LC btwn 13.5-21.6 (?) 0 hor cont+act		5	
	18					
	19				18.7	
	20				6	
	21					DEP & THK 21.6
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO: 1969 O-355-243

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-15/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-15/2

PROJECT GALLIPOLIS LOCKS & DAM | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SANDSTONE		22.2	PULL #4
	23					START 7:20 END 7:50 TIME 30 MIN DRL 30 MIN RHIV 8.6 REC 8.1 LOSS 0.3 UNACC 0
473.5						
	24		SLS M.-DK. GR., M.H.		7	
472.8						
	25		CLS M.-DK, GR, S.-M.H.			
	26				26.0	
469.9	29					
	28		ICL GREENISH GR.-R. BR. S., SLK BKN. 0.3 LC 29.3-30.0		8	
	29					
					29.5	
	30					T/DEP 30 DEP 30.7
	31				9	PULL #5 START 4:00 LOSS 0 END 4:25 UNACC 0 TIME 25 DRL 25 RHIV 8.3 REC 2.3
	32				32.3	DEP & T/DEP 32.3
					10	PULL #6 START 5:15 RHIV ? END 5:30 REC ? TIME 15 LOSS 0 DRL 15 UNACC
463.7	33		BOTTOM HOLE		33.2	DEP & T/DEP 33.2
	34					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-843

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-15/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-16 ISTA 8+64.8
3. DRILLING AGENCY: W. G. THOMES
4. HOLE NO. (As shown on drawing title and file number): M-16/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 to 476.9
8. DEPTH DRILLED INTO ROCK: 33.4
9. TOTAL DEPTH OF HOLE: 463.5
10. SIZE AND TYPE OF BIT: 4" 15½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/5/89; COMPLETED 11/5/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 33.4 %
19. SIGNATURE OF INSPECTOR: David Nilsen

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0–2		SANDSTONE SHY, M.-C.G., M.H., MI. JR SEV, WEAR HOR DTGS		1.	PULL #1 START 9:54 END 10:27 TIME 33 MIN DRL 33 MIN RUN 4.8 REC 4.2 LOSS .04 DIMCC 0.0
494.2	3–4		CLYSTCL S. MI.-VFR.-F.GR. S. JR. CL CONTACT @ 2.6-3.3 W/0.3 L.C.		3.9	T/DEP 4.6 DEP 4.8
491.9	5–10		SLS OCC. SH. M. DK. GR., M.H. HNTS. PTGS @ 6.1 & 6.3 GRADING SH W/GR-H BKN. HIGH IAR HA. - UCR FRACS. BTWN 8.6 & 10.2 W/ DK. GR. - L. GR. PTGS @ 7.9, 10.0 & 10.2.		7.6	PULL #2 START 10:55 END 11:15 TIME 20 DRL 20 RUN 3.7 REC 4.0 LOSS 0 DIMCC 0
					3.	DEP I T/DEP 8.5 PULL #3
			(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: M-16/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-16/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.7	10				3	PULL #3
	11		SANDSTONE SLY., Fig, m.h., m.g. THIN, HOR. SLY STGS, STARTING @ 11.5		11.0	START 3:42 END 3:55 TIME 13 MIN DRL 13 MIN RHN 5.0 REC 5.2 LOSS 0 UNACC 0
	12					
484.0					4	
	13		CLS			T/DEP 13.5
	14		DK. GR m.h. VE. BKN w/DK. GR FLD. 13.0 - 13.4; SH TO 13.4 - 13.8 BKN C mech 14.3 - 15.8		14.7	
	15					
461.1						
	16		SANDSTONE			DEP 16.5
	17		Fig, m.h., m.gr SLY MECH. PTG @ 17.8 & 18.4 TRANS STARTING @ 21.4 0.1 LC. BTWN 18.7- 23.6 (?)		5	PULL #4 START 4:10 REC 4.9 END 4:30 LOSS 0 TIME 20 UNACC 0 DRL 20 RHN 2.2
	18				18.7	T/DEP 18.6 DEP 18.7
	19					
	20				6	PULL #5 START 4:45 END 5:00 TIME 15 DRL 15 RHN 5.0 REC 4.8 LOSS 0.1 UNACC 0
	21					
	22		(CONT)		22.0	(CONT)

ENG FORM 1836-A JUN 67 GPO 1968 O-328-248

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-16/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-16/1

PROJECT Gallipolis Locks & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23		SANDSTONE			
473.3						DEP 23.7 T/DEP 23.6
	24		CLS DK. GR., S-M. hd 0.1' GR. CL @ 23.8- 23.9 V. BKN. 26.0- 26.8 GRADING into ICL		7	PULL #7 START 6:05 END 6:20 TIME 15 DRL 15 MIN 5.1 REC 4.3 LOSS 0.3 WATER 0
	25				25.5	
	26					
470.1						
	27		ICL - R-BR, S., SLK, OCC V. BKN.		8	
	28					
	29				29.1	
	30					
	31				9	
	32					
					32.6	
	33					
463.5			BOTTOM HOLE		33.4	T/DEP 33.4
						DEP 33.8
	34					
	35					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—320-242 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-16/1

Hole No. M-16/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONP R-16 / STA 8+38 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-16/2
5. NAME OF DRILLER: POWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 34.5
9. TOTAL DEPTH OF HOLE: 462.4
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/6/89; COMPLETED 1/16/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 34.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE SLY. m1-C.g, m.h, m GR. SEV NEAR HOR PTGS.			PULL #1
	1					START 6:00
						END 6:15
						TIME 15
						DRL 15
					1	RAN 5.0
	2					REC 4.1
						LOSS 1.0
						UNACC 0
493.9	3					
			CLS/ICL GREENISH GR - R.GR., S - m.h. 1.0 L.S (mech) 3.6 - 5.1 CAN 5.8 - 6.2		3.6	
	4					
	5					DEP 5.0 TIRED 5.1
					2	PULL #2
	6					
						START 6:25
						END 7:05
	7					TIME 40
						DRL 40
						RAN 10.0
						REC 9.6
489.0					7.9	LOSS 0
	8		SANDSTONE F/G. m.h, m.GR. w/ OCC CLS. ION & LAM D. UCRT, T 7.9-8.6 IRR CONT 8.6 ; CLS 8.6 - 8.9 ; CLAY pTgs @ 9.0, 9.1, 9.5 & 9.8		3	UNACC 0
	9					
	10		READING INTO SHALE - 11.0		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK/DAM | HOLE NO. M-16/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-16/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE			PULL #2
485.9	11				3	
			SLS sa; m.h.; m-clk.gr IRR pTgs @ 11.8 12.3, 12.4 & 12.5 C MECH)		11.7	
	12					
	13				4	
	14					T/DEP 14.7
	15					DEP 15.0
					15.2	
	16					PULL #3 START 7.15 END 7.45 TIME 30 ORL 30 RAIN 9.3 REC 10.3 LOSS 0 UNACC 0
480.1						
	17		SANDSTONE		5	
	18		Sly. fig., m.h., m.gr 45°, 0, T 17.6-17.8 BKN 45°, +.pm. 18.0 to 18.3 CLS to 20.1 20.8.w/BKN cl.coa. 20.1, 20.2			
	19				19.1	
	20				6	
	21					
	22		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-16/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-16/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.7	22					PULL #3
			CLS S. M. GR. CL. w/ ROCK FRAGS 23.0 - 23.2		22.7	
	23					
	24					
					7.	DEP : T/DEP 24.7
	25					PULL #4
						START 5.40 END 9.30 TIME 50
	26				26.4	DRL 50 RAN 10.0 REC 9.5
469.9	27					LOSS 0 UNREC 0
			ICL R. BR. - GREENISH GR, SLKY, BRN THROUGHT		8.	
	28					
	29					
	30				30.2	
	31					
	32				9.	
	33					
	34		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—328-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-16/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. MI-1617

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34		ICL - R.BR. GREENISH			PULL #4
462.4			gr. SLK MI, bKN, throughT		10,	T/DEP 34.5
						DEP 34.7
	35					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. MI-1617

Hole No. M-17/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-17 STA 8+28B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-17/1
5. NAME OF DRILLER: DAVE HAPPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.8
8. DEPTH DRILLED INTO ROCK: 33.7
9. TOTAL DEPTH OF HOLE: 463.5
10. SIZE AND TYPE OF BIT: 4 VSH
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/9/89; COMPLETED 1/9/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 33.3
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE GR. M.H. F.G. BRN 0.0-1.5			PULL #1
494.6	2				1	START 9:30 END 9:55 TIME 25min DRL 25min RAN 4.7 REC 4.3 LOSS .4 UNACC .4
	3		ICL R. BR. 2.2-3.5 S. BKG 492.2 493.3 GR. SNGR. / S, SC SLK 485.5-485.7 BAND R. BR/-GR. SNGR		3.5	
	4					
	5					DCP 4.7 PULL #2
	6				2	START 10:10 END 10:25 TIME 15min DRL 15min
	7				7.3	RAN 4.3 REC 4.3 LOSS 0 UNACC 0
	8					
	9					DCP 9.0 PULL #3
	10				3	START 10:40
	11					END 11:09
	12				11.1	TIME 29min
484.0	13		SANDSTONE GR, F.G. M.H.			DRL 29min RAN 9.4 REC 9.0 LOSS 0 UNACC 0
	14				4	
	15					
	16				19.5	
	17				5	
479.2	18		SLS GR. M.-F.G. BRN 17.6-20.2		17.5	DCP 18.9 PULL #4
	19				6	START 11:22 END 11:55 TIME 33min
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. M-17/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. M-17/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21		BRN 21.3 - 29.6		6	DRL 23min
						RAN 3.9
					21.3	REC 3.9
	22					LOSS Ø
						UNACC Ø
						DCP 22.3
	23					PULL #6
					7	START 12:30
	24					END 1:30
						Time 60min
						DRL 60min
471.8	25				29.6	RAN 7.8
			ICL			REC 7.6
	26		R. BR, S. SLT, MOTTLed			LOSS .2
						UNACC .2
	27		GR-GN GR., BRN 25.0 - 33.0		8	
	28					
					28.9	
	29					
	30				9	DCP 29.9
						PULL #7
	31					START 1:50
						END 2:13
						Time 23min
	32				31.8	DRL 23min LOSS Ø
					10	RAN 3.9 UNACC Ø
463.8	33		BOTTOM HOLE			REC 3.9
					33.3	DCP 33.3
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 620 - 603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-17/1

Hole No. [illegible]

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS Lock & Dams
2. LOCATION (Coordinates or Station): Mono M-17 / STA 7496
3. DRILLING AGENCY: W-6 JAQUE
4. HOLE NO. (As shown on drawing title and file number): M-17/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.1
8. DEPTH DRILLED INTO ROCK: 33.2
9. TOTAL DEPTH OF HOLE: 463.9
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/6/89; COMPLETED 1/7/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 33.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE. Sly., m.3., m. h., m.gr v bkn.			PULL #1 START 22:15
494.9	2				1	END 22:35
	3		ICL - A. CK S, SLK V.S. 2.2 - 2.4			TIME 20 min DRL 20 min RHN 4.0 REC 4.0 LOSS 0 UNHCC 0
492.9	4				3.7	DEP 3.9
	5		SLS Sa., m.h, m. dk.gr w/occ SANDSTONE zoa VS WEAK to FRAG; coa. and FS to 4.8 grading more SAND w/ depth			PULL # 2 START 22.45
	6				2	END 23:00
	7				7.2	TIME 15 min DRL 15 min RHN 7.5 REC 7.5 LOSS 0 UNHCC 0
486.3	8					
	9		SLS / SS Interbdd sly f'g, m.h. to gr.		3	
	10				(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO.: M-17/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 4971 **Hole No.** M-17/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SLS/SS		3	Pull #2
			SLS - shy, SA, m. - dk gr ½ calc. ptg. e		10.9	
	11		13.5 (CAVE IN)			
			D.1 L.C. @ 13.1 - 13.2 (?)			
	12				4	
488.0	13				12.5	DEP 13.4
			SANDSTONE			Pull #3
	14		f/g, m.i. m.g. w/thin			START 7:35
			Sly Lam; crading			End 7:56
	15		To cls			Time 21.0 min
					5	DRL 21.0 min
	16					RHN 6.2
						REC 6.0
	17					Loss .01
						Unhcc 0
					17.2	
	18					
	19				6	
						DEP 19.6
	19					Pull #4
	20					
					20.7	
476.0	21					
			CLS.		7	
			S. m h., m-dk. gr,			
	22		occ Sly		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-343

PROJECT Gallipolis Lock & Dam | HOLE NO. M-17/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 497.1

Hole No. M-17/2

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLS			
	23		S. - m. h, m-dk.			PULL #4
	24		GR, occ Sly		8	START 8:10
						END 8:41
						TIME 31.0 min
472.0	25				24.5	DRL 31.0 min
						RMN 10.0
						REC 10.0
						LOSS 0
						UNACC 0
	26		ICL -			
			P. GR, S, SLK, V			
	27		CKN.		9	
	28					
					28.4	
	29					DEP 29.6
	30					PULL #5
						START 9:05
					10	END 9:38
	31					TIME 33 min
						DRL
						RMN 33 min
					31.8	REC 3.6
	32					LOSS 0
						UNACC 0
					11	
463.9	33		Bottom Hole		33.2	DEPTH/DEP 33.2
	34					

ENG FORM 1836-A JUN 67

GPO: 1969 OP—328-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-17/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONOLITH -18 STA
3. DRILLING AGENCY: W. B. JONES
4. HOLE NO. (As shown on drawing title and file number): M-18/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 32.9
9. TOTAL DEPTH OF HOLE: 464.0
10. SIZE AND TYPE OF BIT: 4" X 5⅝
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/6/89; COMPLETED 1/6/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 32.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE SLY., M.-C.G., GY. H, M.J. SEV. NEAR HOR PTGS			PULL #1 START 6:55 END 7:10 TIME 15 DRL 15 RAN 5.0 REC 4.2 LOSS 0 UNREC 0
495.2	2		CLS / ICL S. M.-GR. GR O.I.S., GR. SL. I.7-I.E, CLS BEGINNING @ 3.0		1	
	3					
	4				3.8	
492.0	5		SLS-SH., DK. GR. M.H. SH. CONTENT INCREASING W/ DEPTH. MECH. PTGS @ 9.0, 9.2 GRADING INTO SS/SLS			DEP 5.0 T/DEP 4.9 PULL #2
	6				2.	START 7:25 END 7:45 TIME 20 DRL 20 RAN 5.1
	7				7.3	REC 4.7 LOSS 0 UNREC 0
	8				3	
	9					
486.9	10					T/DEP 9.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. M-18/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-18/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc... if significant) g
486.9	10		SS/SLS Interbedded, SS fig gr m.h., SLS, s-m.h. mi. dkg mech. pTgs @ 11.3, 11.9, 12.3. oz LC btwn 9.8 and 14.0 grading to SANDstone		3	DEP 10.1 PULL #3 START 8.37 END 8:50 TIME 13 DRL 13 RAN 6.7 REC 4.0 LOSS 0 UNACC 0
	11				11.0	
	12					
	13				4	
483.1	14		SANDSTONE, occ. SLY, fig., m.h., m. gr. ; sev. mech pTgs btwn 12.0 & 23.0 w/0.1 LC btwn 14.0 & 18.4 bkn w/s. grch. @ 23.0			TDEP 14.9
	15				14.6	
	16				5	
	17					DEP 16.7 PULL #4 START 9:00 REC 4.3 END 9:20 LOSS 0.1 TIME 20 UNACC 0 DRL 20
	18				18.0	RAN 2.3 TIDEP 18.4
	19					DEP 19.0 PULL #5
	20				6	START 7:32 END 7:52 TIME 20 DRL 20 RAN 4.0 REC 4.2
	21				21.3	LOSS 0 UNACC 0
	22		(cont)		7	(CONT)

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-18/1

DRILLING LOG (Cont Sheet) 496.9 Hole No. M-18/1

PROJECT: GALLIPOLIS LOCKS & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		SAND STONE			TIDE P 22.6
473.9	23					DEP 23.0
			CLS, S. M. h., m1-dk GR w/occ. ptgs & CORE SPINS		7,	PULL #6
	24					START 10:05
						END 10:25
						TIME 20
						DRL 20
	25				24.9	RAN 4.7
						REC 5.1
						LOSS 0
470.9						UNACC 0
	26		ICL			
					8,	
	27		S. F. Lt., SLK, BKN 0.9 L C. FRACTURED btwn 22.6 & 27.9			
						DEP/TIDE 27.7
	28					PULL #7
					28.6	
						START 10:45
	29					END 11:05
						TIME 20
						DRL 20
	30					RAN 5.2
						REC 4.3
						LOSS 0.9
					9.	UNACC 0
	31					
	32					
464.0			Bottom HOLE		32.9	DEP LT/DEP 32.9
	33					
	34					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO: M-18/1

Hole No. MT-18/Z

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-18 /STA 7454B
3. DRILLING AGENCY: W. 6. JAGLES
4. HOLE NO. (As shown on drawing title and file number): MT-18/Z
5. NAME OF DRILLER: A. TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.9
8. DEPTH DRILLED INTO ROCK: 33.8
9. TOTAL DEPTH OF HOLE: 463.1
10. SIZE AND TYPE OF BIT: 4"x5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: M-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/7/89; COMPLETED 1/7/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 33.0 %
19. SIGNATURE OF INSPECTOR: EMV

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE M G, M.h., M.g., bKN THROUGHOUT			PULL #1 START 10:15 END 10:30 TIME 15 MIN DRL 15 MIN RMN 5 REC 5 LOSS 0 UNACC 0
475.8	1					
	2		ICL R br - greenish gr, S, SLK		1	
	3					
	4				3.7	
491.6	5					DEP 5.0
						PULL #2
	6		SLS M. dk gr, mh occ Sa gradingSA w/depth C.I S.SK Ck AT CONTACT		2	START 10:56 END 10:57 TIME 1 MIN DRL 1 MIN RMN 2.7 REC 2.7 LOSS 0 UNACC 0
	7				7.2	
	8				3	
	9					
486.9	10		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. MT-18/Z

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-18/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		SANDSTONE		3	PULL #2 (CONT.)
			SLV. f.g., m.h., M.S.R., MECH. PTG @ 13.7 & 13.5		10.9	
	11					
	12				4	
	13					
483.2						
	14		SS/SLS		14.5	
			INT-BED, MOSTLY SANDSTONE			DEP 14.9
	15					PULL #3
						START 11:10
	16				5	END 11:31
						TIME 21 min
	17					DRL 21 min
						RAN 24.6
	18				18.1	REC 24.6
						LOSS 0
	19					UNHCC C
					6	
	20					
	21					
475.1					21.8	
	22		C.L.S		7	

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-18/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-18/2

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLS			PULL #3 (CONT.)
	23		M. GR. S. w/ 10cc. V. SLY V. BKN w/ GR. CL. coa @ 21.8-22.3		7	
472.3	24					DEP 24.6
	25		ICL		25.2	PULL #4
	26		GREENISH GR-BR, S. SLK becoming REDDISH @ 26.5 V BKN to 60+cm OF HOLE 0.8 L.C. BTWN 29.6-33.8 C (MECH)			START 12:24 END 13:17 TIME 53. min DRL 53. min RAN 8.4 REC 7.6 LOSS 0.8 UNREC 0
	27				8	
	28					
	29				29.1	
	30					
	31				9	
	32				32.6	
	33				10	
463.1			Bottom Hole		33.8	DEP 33.8
	34					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-848 | PROJECT Gallipolis Lock & Dam | HOLE NO. M-18/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO-A-19 ISTA 4+30 B
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-19/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 32.9
9. TOTAL DEPTH OF HOLE: 46.40
10. SIZE AND TYPE OF BIT: 4" 15½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.SL
12. MANUFACTURER'S DESIGNATION OF DRILL: M-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: NH
16. DATE HOLE: STARTED 1/7/89; COMPLETED 1/7/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 32.9 %
19. SIGNATURE OF INSPECTOR: JMO

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE M. G, M. h, M. GR.			PULL # 1
	1					START 7:35
						END 8:05
						TIME 30 MIN
						DRL 30 MIN
495.3					1	RAN 5.0
	2		ICL			REC 5.0
						LOSS 0
			R. BR., GREENISH GR., S. SLK, LKN			UNHCC 0
	3					
					3.5	
	4					
	5					DEP 5.0
491.4					2	PULL #2
	6		SLS			START 8:20
						END 8:40
			Sky, S. M. h, M -dk GR, CCC, SM.			TIME 20 MIN
						DRL 20 MIN
	7					RAN 3.9
			CLS LEN 7.2 - 7.6		7.2	REC 3.9
						LOSS 0
			becoming SA @ 7.6			UNHCC 0
	8					
					3	
	9					
						DEP 8.9
	1					PULL #3
	10		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam I HOLE NO.: M 19/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-19A1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.1	10		SLS		3	PULL #3
					10.8	START 8.53 END 9.27 TIME 34 min DRL 34 min RAN 6 REC 8.4 LOSS 0 UNACC 0
	11		SANDSTONE			
			SLY fig, M.H., M. GR.			
	12		MECH, pfg. @ 13.5			
	13				4	
	14					
482.4					14.5	
	15		SS/SLS			
			INTERBDD. MOSTLY S.S.			
	16				5	
	17					DEP 17.7
479.2						PULL #4
	18		SANDSTONE		19.2	
			SLY, fig, M.H., M. GR.			START 9.40 END 10.03 TIME 23 min DRL 23 min RAN 6 REC 8.4 LOSS 0.1 UNACC 0
	19				6	
	20					
	21					
474.9	22		(CONT)		21.7 7 CONT	(CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 OP—329-243

PROJECT Gallipolis Lock & Dam | HOLE NO. M-19A1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M1-19/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	22		CLS			Pull #4
	23		M-dk.gr., S.-mh.			
			Shy 0.1 LC btwn		7	
	24		17.3 & 25.6			
	25					
					25.5	
						EP 25.8
	26					Pull #5
	27					START 10:20
					8	END 10:40
469.4						TIME 20 min
						DRL 20 min
						RHW 6
	28		ICL			REC 3.3
			R.Br, S Silt			LOSS 0
						UNWCC 0
	29		0.9 LC btwn 25.8		29.0	EP 29.1
			& 32.9			
						Pull #6
	30					START 11:00
						END 11:17
					9	TIME 17 min
	31					DRL 17 min
						RHW 6
						REC 7.9
	32					LOSS 0
						UNWCC 0
464.0			Bottom Hole		32.9	DrP+T/DrP 32.9
	33					
	34					

ENG FORM 1836-A JUN 67 | GPO: 1969 O-F—329-343 | PROJECT Gallipolis Lock & Dam | HOLE NO. M1-19/1

Hole No. M-19/2A

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 1 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-R STA 7+12 B
3. DRILLING AGENCY: W. G. JACQUES
4. HOLE NO. (As shown on drawing title and file number): M-19/2A
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.6
8. DEPTH DRILLED INTO ROCK: 18.3
9. TOTAL DEPTH OF HOLE: 478.3
10. SIZE AND TYPE OF BIT: 4 5/5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/23/89; COMPLETED 1/24/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 18.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	0		ICL		Box 1	PULL #1
	1		Motted, S, w/SLY			START 3:15
	2					END 3:30
	3					TIME 15min
492.9					3.5	DRL 15min UNACC 0
						RAN 3.5
						REC 3.5
						LOSS 0
						DEPT TDEP 3.5
	4		SLS		Box 2	PULL #2
	5		m-dk. gR, S-M.h.			START 3:40
	6					END 4:00
	7		Sa Len 7.1-7.5 w/cl.			TIME 20min
						DRL 20min
			Contact @ 7.5 : grading			RAN 4.0
	8					REC 4.0
			SA @ 18.2 S. Cl. Fld. Contact			LOSS 0
					7.2	UNACC 0
487.6			@ 9.0			T/DEP 7.5
	9				Box 3	
						DEP 9.4
	10		SANDSTONE			PULL #3
						START 4:15
	11		Sly., f. mg., M.h., m.		10.7	END 4:40
						TIME 25min
	12		gR 0.1, S. br. Cl @ 12.5			DRL 25min
						RAN 5.0
	13		MASS below 12.5		Box 4	REC 5.0
						LOSS 0
			w/occ mech. break			UNACC 0 T/DEP 12.5
	14					DEP 13.0
						PULL #4
					T/DEP 13.9	START 5:40
	15				DEP 13.9	END 6:00
						TIME 20min
	16					DRL 20min
						RAN 1.4
					Box 5	REC 1.4
	17					LOSS 0
						UNACC 0
						PULL #5
						START 6:20
						END 6:59
						TIME 39min
						DRL 39min
					17.6	RAN 4.4
						REC 4.4
						LOSS 0
						UNACC 0
478.3	18		Bottom Hole		Box 6 18.3	T/DEP DEP 18.3
	19					
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-19/2A

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-19 STA 7+12.8
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-19/2
5. NAME OF DRILLER: WAYNE TICE / DOWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.9
8. DEPTH DRILLED INTO ROCK: 33.2
9. TOTAL DEPTH OF HOLE: 463.7
10. SIZE AND TYPE OF BIT: 4⅞"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/7/89; COMPLETED 11/7/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 32.5 %
19. SIGNATURE OF INSPECTOR:

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			CORE LOST. DUE TO REDRILL OF HOLE.		Box 1 0-3.7 3.7- LAST HOLE	HOLE 1. DRILLED 17.6' HOLE CAVED IN. + REDRILLED/APPARENT FIRST HOLE
495.8	1					
	2		SLS M.H., M.GR. U.BKN @ 2.0			PULL #1 START 14:00 RAN 3.2 END 14:20 REC 3.2 TIME 20 min LOSS 0 DRL 20 min UNACC 0 DEP 3.2
	3		W/ POSS LC. U.BKN. @		Box 2	
	4		4.8 ± W/POSS LC.			PULL #2 START 14:50 UNACC 0 END 14:57 TIME 7 min DRL 7 min RAN 2.4 REC 2.4 LOSS 0 T/DEP 5.6 DEP 6.4
491.9	5				4.8	
	6		SANDSTONE			
	7		SLY., FIG., M.H., M.GR		Box 3	PULL #3 START 3:30 END 3:40 TIME 10 min DRL 10 min RAN 5.0 REC 0.4 LOSS T/DEP 10.4 UNACC
	8		PTG @ 7.1 W/TR. GR. CL.			
	9		COG, GRADING V.SA.		9.6	
	10		@ 9.7 PTG. W/TR. GR.			
	11		CL @ 11.3 POSS LARGE		Box 4	
	12		CORE LOSS bc LOW 11.3 + 14.1			
	13		BECOMING MASS bc LOW			
	14		14.1			DEP 14.1
	15				14.8	PULL #4 START 4:35 END 4:55 TIME 20 min DRL 20 min RAN 4.6 REC 8.3 LOSS 2.8 UNACC 2.8
	16				Box 5	
	17					
	18				18.4	
	19				Box 6	
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO.: M-19/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. M-19/2

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORM-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #5
	21					START 5:25
	22					END 6:10 LOSS –
474.6					22.3	TIME 35min UNACC –
						DRL 35min
	23		CLS/ICL			RAN –
	24		m.-dk.gr.S-m.h w/		Box 7	REC 10.1
			VF.S. zos: bkn - 22.3-26.0			DEP/T/DEP 29.4
	25					PULL #6
						START 6:45
470.9	26				26.0	END 7:00 LOSS –
						TIME 15min UNACC –
	27		ICL			DRL 15min
			GREENISH GR.-R-BR,			RAN 3.3
	28		SLK. S.-M. h		Box 8	REC 2.9
						DEP/T/DEP 27.7
	29		0.5 LC (mech), 24.2-28.7			PULL #7
					29.5	START 11/17/89 11:00
	30		.5 LC (mech)			END 11:15
			28.7-33.2			TIME 15min
	31					DRL 15min
					Box 9	RAN –
	32					REC 4.0
						LOSS ?
	33					UNACC ?
463.7			Bottom HOLE		33.2	DEP 33.2
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-843 | PROJECT GALLIPOLIS Lock & DAM | HOLE NO. M-19/2

Hole No. M-20/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONOLITH M-20 STA 3+808
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-20/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 00 (496.8)
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 462.9
10. SIZE AND TYPE OF BIT: 4" X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/9/89; COMPLETED 1/9/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 33.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.8	1		SANDSTONE m.g., m. h., m.gR, 0.2 gR. Cl. sc @ 1.3-1.5		Box 1	PULL #1 START 2:50 END 3:37 TIME 47 DRL 47 RAN 5.0 REC 4.3 LOSS .7 UNHCC @ TL Depth 5.0 TP Depth 4.7 DWR Good COLOR GRAY
494.8	2					
	3		ICL R.bR, S., SLK, V.bKN, b 7 L.C. BTWN 3.3 & 4.7		3.5	
492.1	4					4.7 T. Dep Dep 5.0 PULL #2
	5		SLS CLY-SH, m. h., m-dk. gR, CLY, bKN (much) 9.2 - 9.8		2	START 3:37 END 3:50 TIME 13 DRL 13 RAN 4.1 REC 9.1 LOSS @ UNACC @ Dep 9.1 T Dep 9.2 DWR Good COLOR GRAY
	6					
	7				7.6	
	8					
	9				3.	T Dep 9.2 Dep 9.1 PULL #3
487.0	10		SANDSTONE			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Lock+Dam | HOLE NO. M-20/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.8 — Hole No. M-20/1

PROJECT: GALLIPOLIS Locks + DAM — INSTALLATION: ORH-CD — SHEET OF 2 SHEETS 3

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.8	10		9.8-22.7 SANDSTONE - SLY., FIG., M.H., M. GR much. pTg @ 12.3		4.	PULL #3
						START 4:00
					10.8	END 4:18
	11					TIME 18
						DRL 18
						RAN 4.8
						REC 1.8
						LOSS 0
	12					UNACC 0
						DWR-good
						COLOR GRAY
					5.	
	13					T-DEP
						DEP 13.9
	14					PULL #4
					14.4	START 4:30
						END 4:40
	15					TIME 10
						DRL 10
						RAN 4.1
						REC 1.8
	16					LOSS 0
						UNACC 0
						DWR Good
						COLOR GRAY
					6	T DEP 14.9
	17					
	18				17.9	
						DEP 18.0
						PULL #5
						START 5:00
						END 5:18
	19					TIME 18
						DRL 18
						RAN 4.3
					7	REC 9.3
						LOSS 0
	20					UNACC 0
					21.8	DWR Good
						COLOR GRAY
					8	DEP. 24.3
	21					TDEP 24.0
	22		(CONT)	(CONT)		(CONT)

ENG FORM 1836-A JUN 67 — GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK+DAM — HOLE NO. M-20/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.8 — Hole No. M-20/1

PROJECT: GALLIPOLIS LOCK + DAM — INSTALLATION: ORH-CD — SHEET OF 3 SHEETS 3

ELEVATION 474.8 (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
	22		SANDSTONE 9.8-22.7			PULL #5 START 5:00 END 5:18 SEE PG 2.
474.1						
	23		CLS - S-m.h, m.dk, GR O.L GR. CL. SEQ @ 23.4 22.7-25.2		8	
	24					
	25					PULL #6 START 5:36 END 6:25 TIME 49 DRL 49 RAN 8.5 REC 8.9 LOSS Ø UNACC Ø DEP 32.8 T-DEP 33.9 DWR Good COLOR GRAY
471.6					25.4	
	26		ICL - GREENISH GR.-R. BR., S-SLT BKN. 25.2-33.9			
	27				9.	
	28					
	29				29.0	
	30					
	31				10.	
	32					
					32.5	DEP 32.8
	33					
462.9	34		BOTTOM HOLE			T-DEP 33.9

ENG FORM 1836-A JUN 67 — GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK+DAM — HOLE NO. M-20/1

Hole No. M-20/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-20 STA (6+70) B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-20/2
5. NAME OF DRILLER: A. TICE / D NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.2
8. DEPTH DRILLED INTO ROCK: 34.5
9. TOTAL DEPTH OF HOLE: 462.7
10. SIZE AND TYPE OF BIT: 4 x 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 1/9/89; COMPLETED 1/13/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 34.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE m.-c.g., m.h., m.gr. v.bkn 0.0-3.0			PULL #1 START 10:03 LOSS 0.7 END 10:23 UNACC 0.1 TIME 15min DRL 15min RAN 2.4 REC 2.3
495.2	2				Box 1	DEP 3.0
	3		ICL GREENish gR-R.bR., s SLK, VE. bK. 0.0-5.1 w/ 1.9 LC.			PULL #2 START 10:37 REC 0.9 END 10:50 LOSS 1.2 TIME 13min UNACC DRL 13min RAN 2.4
492.1	5				5.1	DEP 5.1
	6		CLS S, m.h., m.-dK.gR		Box 2	PULL #3 START 10:55 RAN 2.7 END 11:10 REC 1.9 TIME 15min LOSS 0 DRL 15min UNACC 0
490.2	7					DEP 7.0
	8		SLS S.-m.h., m. dK. gR			PULL #4 START 12:00 RAN 2.7 END 12:34 REC 2.0 TIME 12min LOSS 0
487.5	9				8.5	DRL 12min UNACC 0 DEP 9.0
	10				Box 3	PULL #5
	11		SANDSTONE			START 12:55 END 13:14 TIME 19 min
	12		SLy, f-g., m.h., m-gR		12.1	DRL 19 min
	13		OCC VE SLy		Box 4	RAN 13.3 REC 6.0 LOSS 0 UNACC 0
	14					
	15					DEP 15.0
	16				15.7	PULL #6
	17				Box 5	START 13:30 END 13:48 TIME 18 min DRL 18 min RAN 23.1
	18					
	19				19.3	
	20		(CONT)		Box 6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-20/2

TTL

Hole No. M-20/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE (CONT)		Box 6	PULL #6
	21					REC 8.5
	22					LOSS 0
474.4					22.8	UNACC 0
	23		CLS			DEP 23.5
	24		S-. M.h., M.-dK.gR		Box 7	PULL #7
	25		VC bKN. 22.8 - 23.5			START 14:26
	26		GRADING INTO			END 15:00
470.6					26.4	TIME 24 MIN
	27		ICL			DRL 24 MIN
	28		R.bR., S.-M.b, SLK		Box 8	RAN 29.8
	29		PTGS bKN W/1.2			REC 6.3
	30		L.C bTWN. 29.8 & 34.5			LOSS 0
	31					UNACC 0
	32				29.8	DEP 29.8
	33				Box 9	PULL #8
	34					START 15:35 UNACC 1.2
462.7			BOTTOM HOLE			END 15:55
	35				34.5	TIME 20 MIN
	36					DRL 20 MIN
	37					RAN 34.5
	38					REC 3.5
	39					LOSS 0
	40					DEP 34.5
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-20/2

Hole No. M-21/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-21 / STA 6+88
3. DRILLING AGENCY: W G. JAQUIS
4. HOLE NO. (As shown on drawing title and file number): M-21/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.5
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 463.6
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 7
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/10/69; COMPLETED 11/10/69
17. ELEVATION TOP OF HOLE: 497.5
18. TOTAL CORE RECOVERY FOR BORING: 33.9 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5	0		SANDSTONE			PULL #1
			M. G., M. h, M. GR			START 7.30
	1		6 KM 0.0 - 2.8			END 7.45
						TIME 15 MIN
						DRL 15 MIN
	2				1	PEN 5.0
						REC 4.3
						LOSS 0
474.7						UNACC 0
	3		ICL			
			R. BR - GREENISH			
	4		GR. S. / SLK V.S &		3.7	
			CONTACT 2.8			
						TIDCP 9.3
	5					DCP 5.0
						PULL #2
491.8					2	START 8.29
	6		SLS			END 8.40
			M - DK. GR., S - M. h.			TIME 11 MIN
			V. BLK +/- RE JOINT			DRL 11 MIN
	7					PEN 7.6
						REC 5.0
					7.3	LOSS 0
						UNACC 0
	8					
488.7					3	
	9		SHNDSTONE			TIDCP 9.3
			(CONT)			DCP 9.6
	10				(CONT)	PULL #3 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO. M-21/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. M-211

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10					PULL #3
					3	START 9:03
						END 9:35
	11				11.0	TIME 32 min
			SHNDSTONE			DRL 32 min
						RAN 3.7
			SLY, FIG, M.H., M.GR.			REC 5.2
	12					LOSS 0
			BKN. V SLY 9.8-9.6			UNACC 0
			MECH FRCS @ 20.7,		4	
	13					
			21.3, 21.6, 21.7, 30.3			T/DCP 13.5
			30.5 31.1 C.I L.C			
	14					
			BT WD 14.5' 15.7		14.5	DCP 14.5
						PULL #4
	15					START 9:45
						END 9:55
						TIME 10 min
	16					DRL 10 min
						RAN 6.1
					5	REC 9.3
						LOSS 0.1
	17					UNACC 0.1
	18					
					18.3	
						T/DCP 18.5
	19					
						DCP 19.1
					6	PULL #5
	20					START 10:00
						END 10:15
						TIME 15 min
						DRL 15 min
	21					RAN 4.2
						REC 5.2
						LOSS 0
	22		(CONT)		21.9	UNACC 0 (CONT)

ENG FORM 1836-A JUN 67 | GPO: 1968 OP—329-345 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-211

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. M-21/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
474.9	22		SANDSTONE			PULL #5
	23		CLS M-dk. gr. S., SLY V bKN. 22.6-23.8		7	T/DCP 23.8
	24		SRADING INTO ICL			DCP 24.1
472.8						PULL #6
	25		ICL			START 10:30 END 10:45 TIME 15 min
			R. BR - GREENISH GR. S. - SLK 0.2 LC LTION 24.1' 29.3 1.1 LC. LTION 29.3' 32.9		25.4	DRL 15 min PAN 5.4 REC 5.0 LOSS 0.2 UNACC 0.2
	28				8	
	29					
	27				29.3	DCP 29.3 T/DCP 29.2
	30					PULL #7 START 11:00 END 11:20 TIME 20 min
	31				9	DRL 20 min PAN 4.8 REC 3.5 LOSS 1.1 UNACC 1.1
	32					
	33					
464.5	34		Bottom Hole		33.9	DCP 33.9 DCP 90.0

ENG FORM 1836-A JUN 67 | GPO: 1968 OF—329-343 | PROJECT: Gallipolis Lock & Dam | HOLE NO. M-21/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 4 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-21 / STA 6428.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-21/2
5. NAME OF DRILLER: A. TICE / D. MORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.5
8. DEPTH DRILLED INTO ROCK: 37.5
9. TOTAL DEPTH OF HOLE: 460.0
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: M-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/9/89; COMPLETED 1/9/89
17. ELEVATION TOP OF HOLE: 497.5
18. TOTAL CORE RECOVERY FOR BORING: 37.5
19. SIGNATURE OF INSPECTOR: J.M.P.

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5			SANDSTONE M. g., M. h., M. gr. V. b KN 0.0-1.4			PULL #1 START 13:45 END 14.05 TIME 20 MIN DRL 20 MIN
496.1	1					
	2		ICL L. BR. PREDISH GR, S. SLK V BKN, W/I.C LC BTWN 1.4-4.5		1	LAM 4.5 REC 3.5 LOSS 1.0 WATER 0
493.0	4				4.5	LEP 4.5
491.9	5		CLS S. M.h., M. dk. gr GRADING INTO SLS			PULL 2
	6		SLS SH, M. - dk. gr.) M h.		2	START 14:10 END 14.35 TIME 25 MIN DRL 25 MIN LAM 5.0 REC 5.0 LOSS 0 WATER 0
490.1	7					
	8		SANDSTONE FLY - FIJ) M.h. M. gr		2.4	
485.0	9				3	LEP 9.5
	10		CLS (CONT)		(CONT)	PULL #3 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM
HOLE NO. M-21/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. M-21/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	10		CLS			PULL #3
	11		DK. GE. W/SS LENS V & KN W/. 9 L.C.		4	START 14:50 END 15:02 TIME 12 MIN DRL 12 MIN RAN 6.0 REC 5.1 LOSS .9
	12					UNREC 0
485.0					12.6	
	13		SAND STONE			
	14		SLY, FIG, M.H,		5	
	15		M.SR MASS			DEP 15.5
	16				16.0	PULL #4
	17					START 15:20 END 15:28 TIME 8 MIN DRL 8 MIN RAN 4.3 REC 4.3 LOSS 0 UNREC 0
	18				6	
	19					
	20				19.6	
	21					PULL #5
					7	
	32		(CONT)		(CONT)	(CONT)

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-343

PROJECT: Gallipolis Lock & Dam | HOLE NO. M-21/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. M-21/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 3 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.4	22		CLS M-dk. gr., s-m.h 6Kn		7	PULL #5 START 16:00 END 16:40 TIME 40 min DRL 40 min RAN 8.8 REC 8.7 LOSS .1 UNREC 0
473.3	23				22.9	
	24					
	25		SLS m. SK gr. s, m.h 6Kn		8	
472.0	26				26.6	
	27		ICL R. br. CHERTY SH gr, s. SLK		9	DEP 25.5 PULL #6 START 17:20 END 17:50 TIME 30 min DRL 30 min RAN 9 REC 9 LOSS 0 UNREC 0
	28					
	29					
	30				30.1	
	31					
	32				10	
	33					
	34		(CONT)		33.2	(CONT)

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-842

PROJECT: GALLIPOLIS Lock & Dam | HOLE NO. M-21/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 427.5 | Hole No. M-21/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 4 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	34					Pull #6
			ICL			
	35		R. BR - GREENISH			
			GR., S. SLK		10	
	36					
	37					
460			Bottom Hole		37.5	DEP. 37.5
	38					
	39					
	40					

ENG FORM 1836-A JUN 67 | GPO: 1968 OP—329-343

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-21/2

DRILLING LOG	DIVISION	INSTALLATION	SHEET
	ORD	ORH-CD	1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM		10. SIZE AND TYPE OF BIT: 4X5½	
2. LOCATION (Coordinates or Station): MONO M-22 STA 6+80		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL	
3. DRILLING AGENCY: W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53	
4. HOLE NO. (As shown on drawing title and file number): M-22/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DAVE HARPER		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 0 497.4		16. DATE HOLE: STARTED 1/10/89; COMPLETED 1/10/89	
8. DEPTH DRILLED INTO ROCK: 33.9		17. ELEVATION TOP OF HOLE: 497.4	
9. TOTAL DEPTH OF HOLE: 463.5		18. TOTAL CORE RECOVERY FOR BORING: 33.9 %	
		19. SIGNATURE OF INSPECTOR: ZMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE LT GR, F-M. M-C.G. CALC CEM BRN W/FE STAIN 0.0-0.9			PULL #1 START 7:20 END 7:50 TIME 30min DRL 30min RAN 4.8 REC 4.1 LOSS 0.7 UNACL 0.7 DCP 4.8
496.0	2		CLS GR. S. CL, @ TOP TO SLT @ BOTTOM, ANG PNS W/SLK 3.0-3.1 SEVERELY BRN W/POSS LOSS 3.8-4.8		1 3.8	
492.6	5		SLS GR, S-M.H, GRANITIONAL W/SA @ BOTTOM, SEVERELY BRN 4.8-6.2 HIGH ANG FRAC 6.3-7.0, 7.3-7.6, LOW ANG FRAC 15° W/SLK 7.8-7.9 FG SS 10.6-10.9		2 7.9	PULL #2 START 8:10 END 8:23 TIME 15min DRL 15min RAN 4.2 UNACL 0.4 REC 3.8 LOSS 0.9 DCP+TID=P9.0
486.0	12		SANDSTONE GR-LT GR., M.H-H. F-M.S. CAL-CEM, 11.9-13.9, HIGH ANG J.T. 45°, 3.1-13.9 BRN PNS W/ 0.5 SPACING BELOW 16.3		3 11.4 4 19.9 5 18.5 6 (CONT)	PULL #3 START 8:40 END 9:00 TIME 20min DRL 20min RAN 3.5 REC 3.5 LOSS 0 UNACL 0 D+T+DCP 12.5 PULL #4 START 9:10 END 9:35 TIME 25min DRL 25min RAN 3.8 REC 3.8 LOSS 0 UNACL 0 D+T+DCP 16.3 PULL #5 START 9:53 END 10:17 TIME 29min DRL 29min RAN 8.9 REC 8.9 (CONT)
477.5	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-22/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.9 | Hole No. M-22/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21		GR, S, SH, BKN PNS W/0.3 SPACING CLS GR, S-VES.		6	LOSS 0
	22		22.9-23.5, BKN 24.3-24.9		22.1	UNACC 0
	23		25.2-25.7			
	24				7	
	25					DEPTH/DRP 25.2
470.9	26				25.8	PULL #6
	27		TCL			START 10:26
	28		R.BR S-VES., OCC. MOTTLED		8	END 10:45
	29		W/GR GNSR, W/OCC SLK			TIME 20 min
	30		SLT+LOSS @ 28.9, CL BELOW		29.5	DRL 20 min
	31		BKN 27.8; 28.1, 29.1, MOD.			RAN 5.9
	32		SPIN 33.0		9	REC 3.2
	33					LOSS 0.2
463.5	34		CRETACEOUS ROCK		33.9	UNACC 0.2
	35					DEPTH/DRP 28.6
	36					PULL #7
	37					START 11:00
	38					END 11:40
	39					TIME 40 min
	40					DRL 40 min
	41					RAN 5.3
	42					REC 4.4
	43					LOSS 0.9
	44					UNACC 0.9
						DEPTH/DRP 33.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-22/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-22 STA 5+86A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-22/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.5
8. DEPTH DRILLED INTO ROCK: 34.6
9. TOTAL DEPTH OF HOLE: 463.9
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/9/87; COMPLETED 1/10/87
17. ELEVATION TOP OF HOLE: 497.5
18. TOTAL CORE RECOVERY FOR BORING: 34.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.5	1		SANDSTONE LT GR. H.-M.H. M-C.G			PULL #1 START 8:15 END 8:35 TIME 20 min DRL 20 min RAN 5.0 REC 5.0 LOSS 0 UNACC 0
	2		CAL, CEM, SLIGHTLY BKN 0.7-1.0		1	
497.2	3		BKN PARS. W/0.3 SPACE 1.0			
	4		CLS GR, S, OCC, MOTTLED W/R-DK		3.9	
	5		MOD, BKN, THROUGHOUT			5.0
	6		SEVERELY BKN 3.9-4.1 4.7-5.0		2	PULL #2 START 8.90 END 10.00
490.3	7		5.4-5.7		7.2	TIME 80 min DRL 25 min
	8		SLS GR. S-M.H. GRADATIONAL			RAN 10.1 REC 9.7
	9		W/SH @ TOP TO SA @ BOTTOM		3	LOSS 0 UNACC 0
	10		BKN @ 8.0-8.1, 9.1-9.3			
	11		SH SEAM 17.8 - 17.9		11.0	
	12		SA BELOW 15.4			
	13				4	
	14					
	15				14.7	TIDPP M.7 DCP 13.1
	16					PULL #3
	17				5	START 10.95
479.5	18					END 11.15 TIME 30 min DRL 30 min
					18.2	RAN 10.0
	19		SANDSTONE LT. GR., M.H. M-F.GR.		6 (CONT)	REC 10.0 LOSS 0 UNACC 0
	20		COL CEM BELOW 20.0 CONT			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-22/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.5 | Hole No. M-22/2

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #3
	21				6	
475.8					21.5	
	22		SLS			
	23		gR., S-M.H. SH, BRN,			
			23.8-29.1		7	
	24					
	25					T/R of D-P 24.6
						PULL #4
	26				25.5	START 7:48
470.5	27					END 8:21
			ILL			TIME 33 min
	28		R-BR, S-M.H. MOTTLED		8	DRL 33 min
						RAN 4.9
	29		W/GR-G N.GR. NUM SLK			REC 4.9
					28.9	LOSS 0
	30		+ FRACTURES, SLT			UNACC 0
						D-P & T/D-P 29.6
	31		BRN (MECH) 29.6-29.9			PULL #5
					9	START 8:40
	32					END 9:19
						TIME 39 min
	33				32.9	DRL 39 min
						RAN 5.0
	34				10	REC 5.0
462.9			BOTTOM HOLE			LOSS 0
	35				34.6	UNACC 0
						DEPTH T/D-P 34.6
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1966 O-628-603

PROJECT: Gallipolis Lock + Dam | HOLE NO. M-22/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-23 STA 5+76.8
3. DRILLING AGENCY: W. & J. AGUES
4. HOLE NO. (As shown on drawing title and file number): M-23/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.3
8. DEPTH DRILLED INTO ROCK: 34.6
9. TOTAL DEPTH OF HOLE: 462.7
10. SIZE AND TYPE OF BIT: 4 x 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/17/89; COMPLETED 1/17/89
17. ELEVATION TOP OF HOLE: 497.3
18. TOTAL CORE RECOVERY FOR BORING: 34.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3	1–3		SANDSTONE F-M.GR, GR. IOCCCLON PARTINGS			PULL #1 START 12:47 END 12:57 TIME 10 min DRL 10 min RAN 4.7 REC 4.4 LOSS 0.3 UNACC 0.3
494.1					1	
	4–6		ICL RED BR-GR F.G.I M.H		3.5	
491.2						DEP 4.7
	7–20		SLS M-DK GN-GR F. VCR.GR THIN BD, CLAY PARTINGS ON VERTICAL FACES (CONT)		2 6.2 3 10.7 4 14.4 5 17.8 6 (cont)	PULL #2 START 13:01 END 13:38 TIME 37 min DRL 37 min RAN 10.0 REC 10.0 LOSS 0 UNACC 0 DEP 19.8 PULL #3 START 13:53 END 14:11 TIME 18 min DRL 18 min RAN 8.3 REC 8.0 LOSS 0.3 UNACC 0.3 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-23/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. M-23/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #3
	21				6	
	22				21.8	
	23					DEP 23.1
	24				7	PULL #4
	25					START 14:29
					25.2	END 14:56
471.3	26					TIME 32 min
			ICL			DRL 32 min
	27		R-BR, GN-GR, FG. M. H.			PAN 7.3
	28		OCC, SLK.		8	REC 9.3
						LOSS 0
	29					UNACL 0
					28.9	
	30					
	31				9	
	32					
					32.4	DEP 32.4
	33					PULL #5
	34					START 15:08
					10	END 15:23
462.7	35		BOTTOM HOLE			TIME 15 min
					34.6	DRL 15 min
	36					PAN 2.2
	37					DEP 34.6
	38					REC 2.2
	39					LOSS 0
	40					UNACL 0
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-23/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MOND M-23 STA 5+44 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-23/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.1
8. DEPTH DRILLED INTO ROCK: 34.6
9. TOTAL DEPTH OF HOLE: 462.5
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/17/89; COMPLETED 1/17/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 34.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	0					
	1		SANDSTONE m-c.g., m.h., m.gr. v.bkn. 0.0-3.2 w/0.2 L.C. 0.2 m.gr, s.cl. 4.3-4.5		Box 1	PULL #1 START 1:43 END 1:50 TIME 7 min DRL 7 min RAN
	2					
	3				3.5	REC 4.3 LOSS 0.2 UNACC 0.2 DEP 5.0
492.8	4				Box 2	
	5		CLS s.-m.h, m.-dk.gr. PTS shy m. SPACED hor PTgs. 0.4 L.C. btwn 4.5 & 9.4 grading into			PULL #2 START 2:00
	6					
	7				6.6	END 2:13 TIME 12 min DRL 13 min RAN
	8				Box 3	REC 4.5 LOSS 0.4 UNACC 0.4 I/DEP 9.4 DEP 9.8
	9					
	10				10.3	PULL #3
	11					START 2:22
	12				Box 4	END 2:40 TIME 18 min DRL 18 min RAN
	13					
482.8	14				13.9	REC 8.9 LOSS 0.2 UNACC 0.2
	15		SLS/SS m-dk.gr., s.-m.h, PTs shy, ss-sly. fig., m.h. m.gr. 80° 0., IRR JT. 14.3-15.2 0.2 SA LCNS @ 16.3 0.2 L.C. btwn 9.4 & 18.5 m. SPACED hor PTgs w/occ CL coa. (CONT)		Box 5	
	16					
	17				17.6	
	18				Box 6	I/DEP 18.5 DEP 18.9 PULL #4 (CONT)
	19					
	20				(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-23/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.1 Hole No. M-23/2

PROJECT GALLIPOLIS LOCK & DAM INSTALLATION ORHCO SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/SS		Box 6	PULL #4
	21				20.9	
479.1	22					START 2:50
			CLS		Box 7	END 3:24
	23		S. m.h, m.-dk. gr			TIME 34 min
			SPACED DTGS MAX. 5			DRL 34 min
473.1	24		0.1 LC BTWN 18.5 & 25.2			RAN
						REC 6.6
	25		ICL		24.8	LOSS 0.1
						UNACC 0.1
	26		GREENISH-gr - R-br. S.		Box 8	T/DEP 25.2
			mech & BKN			
	27					DEP 26.9
			V.S. 25.2 - 27.0			PULL #5
	28				27.9	START 3:35
			V. BKN. 29-30.3 (mech)			END 3:50
	29					TIME 15 min
			0.1 L.C btwn 30.4			DRL 15 min
	30				Box 9	RAN 5.2
			& 34.6			REC 5.2
	31					LOSS 0
						UNACC 0
	32					T/DEP 30.3 DEP 30.4
						PULL #6
	33					START 4:35
					31.6	END 4:45
	34					TIME 10 min
462.5			BOTTOM HOLE			DRL 10 min
	35				Box 10	RAN 4.9
						REC 4.5
	36					LOSS 0.1
						UNACC 0.1
	37				34.6	
						T/DEP 34.6
	38					DEP 35.2
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OP—320-345

PROJECT GALLIPOLIS LOCK & DAM HOLE NO. M-23/2

DRILLING LOG

DIVISION: OPD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-24 STA 5734B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-24/1
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 493.7
8. DEPTH DRILLED INTO ROCK: 37.0
9. TOTAL DEPTH OF HOLE: 456.7
10. SIZE AND TYPE OF BIT: 4"x5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/17/89; COMPLETED 1/17/89
17. ELEVATION TOP OF HOLE: 493.7
18. TOTAL CORE RECOVERY FOR BORING: 37.0 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493.7	1–5		SANDSTONE m.-c.g., m.a., m.gr closely spaced bdd PLN. PTGS 0.0-2.0 0.2 CL. SC. @ 5.7-5.9 4/0.1 L.C.		Box 1 3.8 Box 2	PULL #1 START 3:55 END 4:20 TIME 25min DRL 25min RAN 4.8 REC 5.3 LOSS – UNACC — DEP 5.3
488.0	6–8		ICL/CLS s-m.h., m.-dk.gr w/occ hor PTG.		7.4	PULL #2 START 4:25 END 4:50 TIME 25 min DRL 25 min RAN 10.0 REC 9.8 LOSS 0.1 UNACC 0.1
484.8	7–19		SLS sg, m.-dk gr. m.h. w/ occ S.S. Lens ± 20 m. SPACED SHY PTGS GRADING MORE SA. w/ depth.		Box 3 11.3 Box 4 14.6 Box 5 18.5 Box 6 CONT	DEP 13.0 TIDED IN? PULL #3 START 5:05 END 5:25 TIME 20min DRL 20min RAN 10.0 REC 9.1 LOSS .5 UNACC .5 (CONT)
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-24/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.7 | Hole No. M-24/1

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #3 (CONT)
	21		SLY, fig, m.h, m.gr			
472.0					22.1	
	22		CLS		Box 7	
	23		M: dk.gr, S.-m.h., w/			
	24		Closly spaced ptgs occ.			T/DEP 24.3
	25		gr CL. coa: 0.5 LC			DEP 24.8
	26		PLOB below 21.7		25.8	PULL #4
	27		grading into ICL		Box 8	START 5:45 END 6:10 TIME 25 min DRL 25 min RAN 9.5 REC 9.0 LOSS 0.7 UNACC 0.7
	28					
463.9	29				29.5	
	30		ICL			
	31		R. br, S.-m.h., SLK		Box 9	
	32		0.7 cc. Between 24.3 &			
	33		34.0		32.9	
	34					T/DEP 34.0
	35				Box 10	DEP 34.5 PULL #5 START 6:45 END 6:50 TIME 5 min DRL 5 min RAN 3.0 REC 3.3 LOSS 0 UNACC 0
	36					
456.7	37		BOTTOM HOLE		37.0	T/DEP 37.0 DEP 37.7
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OP—329-343

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-24/1

DRILLING LOG | ORD | ORH-6D | OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Stations): MONO M-24 STA 5+02.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-24/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 36.1
9. TOTAL DEPTH OF HOLE: 457.2
10. SIZE AND TYPE OF BIT: 4" x 5.5"
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 1/17/89; COMPLETED 1/17/89
17. ELEVATION TOP OF HOLE: 493.3
18. TOTAL CORE RECOVERY FOR BORING: 36.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493.3	1–5		SANDSTONE m.-c.g., m.h., m.gr. STA. 0.0-1.5; LEA lt.gr. 1.5-3.5: bKN 0.0-1.5;		Box 1	PULL #1 START 5:03 END 5:20 TIME 17 min DRL 17 min RAN 5.0 REC 4.9 LOSS — UNACC — DEP 5.0 T/DEP 4.9
488.3	5–8		CLS/ICL - s.m.h., m-dk.gr. VF.S. 5.0-6.3 & 7.5-7.7 bKN @ 7.3-7.5 closely spaced PAgs w/tr.gr.cl. LENS 7.9-8.6 grading into SLS		Box 2	PULL #2 START 5:40 END 6:04 TIME 16 min DRL 16 min RAN 5.2 REC 4.1 LOSS 0.4 UNACC 0.4 T/DEP 9.4
484.7	9–17		SLS SA, S.-M.L., m-dk.gr PTS Sly.: bKN 9.4-9.8 (Mech.) w/o.2 LC. grading sa @ 11.6 Sly. PTG @ 12.7 & 13.3 o.1 LC. (Prob mech) @ 14.0); sa contact increasing w/depth & grading into SS.		Box 3	DEP 10.2 PULL #3 START 6:20 END 6:34 TIME 14 min DRL 14 min UNACC 0.2 RAN 4.0 REC 4.4 LOSS 0.2 DEP 14.0 T/DEP 14.0
475.7	18–20		SANDSTONE Sly, fig, m.h., m.gr. o.1 S.gr. CL. 15.8-15.9 CLOSELY SPACED (MAX. 6) (CONT)		Box 4 Box 5 Box 6 (CONT)	PULL #4 START 6:45 END 7:00 TIME 15 min DRL 15 min RAN 4.8 REC 4.7 LOSS 0.1 UNACC 0.1 DEP 18.0 T/DEP 18.8 PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-24/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.3 | Hole No. M-24/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			PULL #5
472.1	21		PTGS 19.2-21.1 grading		6	START 7:10
	22		CLS			END 7:30
			S.-m.h. m-dk gr			TIME 20 min
	22		U.S. 22.8-23.8; 24.1-24.4; 26.0-27.0 w/			DRL 20 min
			0.1 LC.		22.1	RAN 5.1
	23					REC 5.0
						LOSS —
	24				7	UNACC —
						T/DCP 24.8
	25					DEP 24.1
						PULL #6
	26				25.4	START 7:44
						END 7:55
	27					TIME 11 min
						DRL 11 min
						RAN 4.9
465.3	28				8	REC 4.4
			ICL			LOSS 0.1
	29					UNACC 0.1 T/DCP/28.3
			GREENISH GR.-R. BR.		28.8	
	30		SLK S.-M.H. BKN			DEP 27.0
			0.2 LC BTWN 33.7;			PULL #7
	31		36.1			START 8:40
						END 8:53
	32					TIME 13 min
					9	DRL 13 min
	33					RAN 4.8
						REC 5.4
	34					LOSS 0
						UNACC 0
	35				32.6	
						DEP/T/DCP 33.8
457.2	36		Bottom HOLE			PULL #8
					10	START 9:25
	37					END 9:38 LOSS 0.2
						TIME 13 min UNACC 0.2
	38					DRL 13 min
					36.1	RAN ? T/DCP 36.1
	39					REC 2.2
						DCP 37.0
	40					
	41					
	42					

ENG FORM 1836-A JUN 67 GPO: 1968 O-328-245

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-24/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-25 STA 4+92 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-25/1
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 493.3
8. DEPTH DRILLED INTO ROCK: 37.3
9. TOTAL DEPTH OF HOLE: 456.0
10. SIZE AND TYPE OF BIT: 4 1/5.5"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/17/89; COMPLETED 1/17/89
17. ELEVATION TOP OF HOLE: 493.3
18. TOTAL CORE RECOVERY FOR BORING: 37.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493.3	1–4		SANDSTONE m.-c.g., m.h., m.gr. BKN 0.0-2.0 w/0.1 L.C		1 3.9	PULL #1 START 7:15 END 7:30 TIME 15 min DRL 15 min RAN 4.9 REC 4.6 LOSS 0.1 UNACC 0.1
488.6	5–7		CLS m.-dk.gr, s.-m.h. v.s. 4.7-6.0 grading		2 7.3	TIDEP 9.7 DCP 4.9 PULL #2 START 7:35 END 7:50 TIME 15 min DRL 15 min RAN 10.0 REC 9.6 LOSS — UNACC —
486.0	8–15		SLS SA., m.-dk.gr, s-m.h. mispassed, hor, ptgs (max. length 0.8) grading sandy @ 9.6 hor ptg. @ 11.8 ; 13.4; 15.2; grading		3 11.1 4 19.3	TIDEP 14.3 DCP 14.9
477.5	16–20		SANDSTONE sly., fig., m.h., m.gr bkn w/hor, IRR, O.JT. 15.8-17.9; SAME 19.0 -20.4; grading. (cont)		5 18.1 6 (cont)	PULL #3 START 8:40 END 9:05 TIME 25 min DRL 25 min RAN 9.7 REC 10.5 LOSS — UNACC — (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-25/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.3 | Hole No. M-25/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
472.9	20					
	21		CLS SLY. S.-M.H., M.-GK GR SLI WEA HOR PTGS 23.7 & 23.9: GRADING INTO		6	PULL #3
	22				24.7	
	23				1	
	24					DEP/T/DER 24.6
	25				25.2	PULL #4
466.9	26					START 9:05 END 9:40 TIME 35 MIN DRL 35 MIN RAN 9.1 REC 9.1 LOSS 0.6 UNACC 0.6
	27		ICL GREENISH GR.-R.BR., S-M.H. SLK, BKN THROUGHOUT 0.6 LC BTWN 24.8 & 34.3 0.3 LC. BTWN 34.3 & 37.3		8	
	28				28.8	
	29					
	30					
	31				9	
	32				32.6	
	33					T/DEP 33.7
	34					DEP 34.3
	35					PULL #5
	36				10	START 10:15 REC 2.7 END 10:20 LOSS 0.3 TIME 5 MIN UNACC 0.3 DRL 5 MIN RAN 3.0 T/DEP 37.3
456	37		BOTTOM HOLE		37.3	DEP 37.7
	38					
	39					
	40					
	41					
	42					
	44					
	45					

ENG FORM 1836-A JUN 67 GPO 1969 OF—329-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-25/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MOND M-25 STA 4+60 B
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): M-25/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☐ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 36.0
9. TOTAL DEPTH OF HOLE: 461.2
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/17/89; COMPLETED 1/18/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 36.0 %
19. SIGNATURE OF INSPECTOR: JMH

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	0		SANDSTONE			PULL #1
	1		m-c.g., m.h., m.gr		Box 1	START 10:00
	2		STA. BR. 0.0-1.0			END 10:15
	3					TIME 15 min
493.7	4					DRL 15 min
						RAN 4.5
						REC 4.5
					3.9	LOSS 0
			ICL			UNACC 0 TIDEP 4.5
	5				Box 2	DEP 5.0
			S, SLK., R.br., -greenish			PULL #2
	6					START 10:20
			gr. grading into			END 10:32
490.2	7					TIME 12 min
						DRL 12 min
						RAN —
					7.2	REC 4.3 TIDEP 7.0
			SLS			LOSS 0
	8					UNACC 0
			S.-m.h., m-c/k.gr.,		Box 3	DEP 8.8
	9					PULL #3
			PTS. Sly. S.gr. CL.			START 10:40
	10					END 10:52
			7.5-7.7; BKN 11.8-12.4		10.7	TIME 12 min
	11					DRL 12 min
						RAN 5.1
484.5	12					REC 5.1
					Box 4	LOSS 0
	13		SS/CLS			UNACC 0
			Interbdd			
	14				13.9	TIDEP 13.9 DEP 14.
			SS.-Pig., m.h., m.gr			PULL #4
	15					START 11:00
			CLS-S., m.h., m.c/kgr.		Box 5	END 11:16
	16					TIME 16 min
			Sly. SS 12.4-15.3: CLS/SLS			DRL 16 min
	17					RAN 5.4
			15.3-16.0. SS 16.0-17.0 ± 1"			REC 5.3
	18				17.7	LOSS 0.1
			Sgr. CL @ 17.0 · SLS 17.0-19.1		Box 6	UNACC 0.1
	19					
			± 0.1 AC BTWN 13.9 & 19.3			DEP 19.3 TIDEP 19.2
	20		(cont)		19.8	PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM
HOLE NO.: M-25/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 497.2

PROJECT Gallipolis Lock & Dam

INSTALLATION ORH-CD

Hole No. M-25/2

SHEET OF SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.7	20		SSTCL GRADING INTO CLS S.-m.h., m-dk.gr. dty shy w/cl.sc. SPACED dtys.w/AUL.02 -.05 L.C. (MECA) btwn 19.3' & 28.0		Box 7	PULL #5 START 7:35 END 8:16 TIME 41min DRL 41min RAN — REC 8.2 LOSS 0 UNACC 0
	21					
	22					
	23				23.5	
	24				Box 8	
	25					
	26					
	27				22.3	
469.2	28				Box 9	IDEP 28.0
	29		ICL VF-br., s-m.h., slt bkn.			DEP 28.9
	30					PULL #6 START 8:35 END 8:52 LOSS 0
	31				30.2	TIME 13min UNACC 0 DRL 13min RAN — REC 3.7 TIDEP 34.7
	32				Box 10	
	33					DEP 32.9
	34					PULL #7 START 9:08 END 9:23 TIME 27min DRL 27min RAN — REC 4.0 LOSS 0.3 UNACC 0.3 TIDEP 36.0
	35				34.4	
	36				Box 11	
461.2			Bottom Hole		36.0	
	37					DEP 36.9
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67

GPO: 1969 OP—329-549

PROJECT Gallipolis Lock & Dam | HOLE NO. M-25/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-26 STA 4+50R
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-26/1
5. NAME OF DRILLER: Dowell NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.2
8. DEPTH DRILLED INTO ROCK: 38.8
9. TOTAL DEPTH OF HOLE: 458.4
10. SIZE AND TYPE OF BIT: 4 15/16
11. DATUM FOR ELEVATION SHOWN (MSL or MLL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/17/87; COMPLETED 11/18/87
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 38.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	1		SANDSTONE LT. GR. M, M-CG.			PULL #1 START 10.45
	2		FE SURFACE STAIN 0.0-1.0			END 10.50 TIME 5min
	3		SLIGHTLY BKN 0.0-1.9		1	DRL 5min RAN 5.0
	4		CL-COATED BD PN 2.9			REC 5.0
492.5					3.9	LOSS 0 UNACL 0
	5		ICL		2	DEP 5.0 T/DEP 4.9
	6		LIGHT BR. S, OCC BKN, GR 4.7-5.0 FE STAINED SS 5.0-5.1			PULL #2 START 7:15
490.3	7		SLS			END 8:12 TIME 57min
	8		GR, M-H-S, SA, BKN		7.9	DRL 57min RAN 10.0
	9		6.8-7.2, 8.5-8.7, 12.3-			REC 9.2 LOSS 0
	10		12.9		3	UNACL 0
	11				11.3	
	12					
484.5	13		SANDSTONE		4	
	14		LT GR, M-H, F-MG.			
	15		OCC SLS FRAG OR INCLUSIONS			DEP 15.1 T/DEP 15.0
	16		16.1-16.8		15.5	PULL #3
	17					START 9.00
479.2	18				5	END 9:25 TIME 25min
	19		SLS			DRL 25min RAN 9.5
	20		GR. M-H-S, SA ABOVE			REC 9.5
			(CONT)		19.1	LOSS 0
					6 (CONT)	UNACL 0 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-26/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.6 | Hole No. M-26/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: OPH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #3
	21		23.0 + SH Below, F.G		6	
	22		SS GR, M.H. 18.9-19.1, 21.0			
	23		21.3 BRN 23.9-24.2, 24.5		22.6	
	24		24.8 26.4-26.6, LT.R.-BR		7	
	25		Below 27.0			T/DCP 24.5
						DCP 25.1
	26				25.8	PULL #4
469.8	27					START 9:40
						END 10:07
						TIME 33 min
	28		ICL		8	DRL 33 min
			R. BR, S-M.H, OCC NODULES			RMV 9.7
	29		W/GR-SAND, NKR ABOVE			REC 9.7
					29.5	LOSS 0
	30		31.0, CL ABOVE 31.7+			UNACC 0
	31		SH Below		9	
	32		Nom FRAC W/SILT THROUGHOUT			
	33		BRN: 28.0-28.1, 31.8-32.0		33.2	
	34		32.9-33.2, 34.1, 36.7-36.4			T/DCP 34.2
	35		38.2-38.4		10	DCP 35.0
						PULL #5
	36					START 10:25
						END 11:04
	37				36.8	TIME 39 min LOSS 0.3
						DRL 39 min UNACC 0.3
	38				11	RMV 4.5
458.5			BOTTOM HOLE			REC 4.2
					38.7	DCP 38.8 T/DCP 38.7
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-26/1

DRILLING LOG

DIVISION	ORD
INSTALLATION	ORH-CD
SHEET	1 OF 2 SHEETS
1. PROJECT	GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station)	MONO M-26 STA 4+18 B
3. DRILLING AGENCY	W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number)	M-26/2
5. NAME OF DRILLER	DAVE HARPOLD
6. DIRECTION OF HOLE	☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	@ 497.4
8. DEPTH DRILLED INTO ROCK	38.9
9. TOTAL DEPTH OF HOLE	458.5
10. SIZE AND TYPE OF BIT	4 15/16
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	10
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 11/18/89; COMPLETED 11/18/89
17. ELEVATION TOP OF HOLE	497.9
18. TOTAL CORE RECOVERY FOR BORING	38.9 %
19. SIGNATURE OF INSPECTOR	JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	1		SANDSTONE LT. GR.-GR, M.W-H, M.-CG. M. BKN @ SURFACE 0.0-1.0 SH SEAM 1.6-1.9			PULL #1 START 9.55 END 10.05 TIME 12 MIN DRL 12 MIN RAN 4.6
	2				1	
	3				3.9	REC 9.6 LOSS 0 UNACC 0 T/DCP 9.5
493.0	4					DCP 5.0
	5		ICL GR. S, SLT, MOTTLED W/ R-BR BELOW 6.2, S-VES., CL 4.0 -4.6, ANG PN W/SLK 4.8-5.1 7.0-7.3, MOD BKN W/SLK 5.6-6.2, 7.5-7.8		2	PULL #2 START 10:25 END 10:35 TIME 10 MIN DRL 10 MIN RAN 5.1
	6					
	7				6.7	
489.2	8				3	REC 5.1 LOSS 0 UNACC 0 D-P 9.8 T/DCP 9.7
	9		SLS GR. S.-M.N, SQ, BKN PN W/		9.7	
	10		SPACE 0.4, ANG PN W/CL			PULL #3 START 10.99
	11		ROOTING 8.5-8.7 F.G. SS			END 11.10
	12		10.7-11.0, ANG PN W/SLK		4	TIME 21 MIN DRL 21 MIN RAN 9.5
	13		12.9-13.1, 17.1-17.5, MOD		13.5	REC 9.5 LOSS 0 UNACC 0
	14		BKN 13.9-14.3, 14.6-14.8, 17.1			
	15		-18.0		5	
	16					
	17				17.1	
479.4	18				6 (CONT)	
	19		SANDSTONE GR, M.H. UC. E-F., HIGH ANG FRAC TERMINATING AT 8 DPW.			D-P 19.9 T/DCP 19.2
	20		CONT)			PULL #4 CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO.: M-26/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. M-76/2

PROJECT: Gallipolis Lock+Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.2	20		SANDSTONE		20.3	PULL #4
	21		18.0-19.2, COL, CCM 19.9-20.1			START 11:20
			20.3-20.4 BKN SH, SCAM			END 11:50
	22		20.1-20.3			TIME 30min
			SLS			DRL 30min
	23		GR. M H-S, SH, BKN PNS		7	RAN 3.2
						REC 1.9 T/DCP 22.4
	24		0.2 SPACING 3.3 LOC.			LOSS 1.8
						UNACC 1.8
	25		MECH BKN 22.9-23.7 W/LC			DCP 23.5
						PULL #5
	26					START 12:90
						END 1:20
	27				25.3	TIME 40min
						DRL 40min
	28					RAN 6.6
						REC 3.3
	29				9	LOSS 3.3
468.3						UNACC 3.3
						DCP+T/DCP 29.0
	30		ICL			PULL #6
			R. BR, S-M H, SLT, BELOW			START 1:50 UNACC .8
	31		30.0 + CL ABOVE, FRAC W/			END 203
						TIME 13min T/DCP 30.2
	32		SLK THROUGHOUT			DRL 13min
						RAN 1.2 PULL #7
	33		MECH BKN 29.1-30.5 W/LC			REC .9
						LOSS .8
	34		33.6-33.7 37.4-37.5, 38.2			START 2:20
						END 2:39
	35		38.4		32.4	TIME 19min
						DRL 19min
	36					RAN 3.9
						REC 2.5
	37					LOSS .9
						UNACC .9 DCP 33.6
	38				9	START 255 PULL #8
458.5						END 3:10 RAN 1.7
	39		BOTTOM HOLE			TIME 15min REC .5
						DRL 15min LOSS 1.2
	40					UNACC 1.2
						DCP+T/DCP 35.3
	41					PULL #9
						START 3:30
	42					END 16:00
						TIME 30min
	43					DRL 30min
					37.5	RAN 3.6
	44					REC 3.4
					10	LOSS 0.2
						UNACC 0.2
					38.9	DCP+T/DCP 38.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-620-603

PROJECT: Gallipolis Lock+Dam | HOLE NO. M-76/2

DRILLING LOG

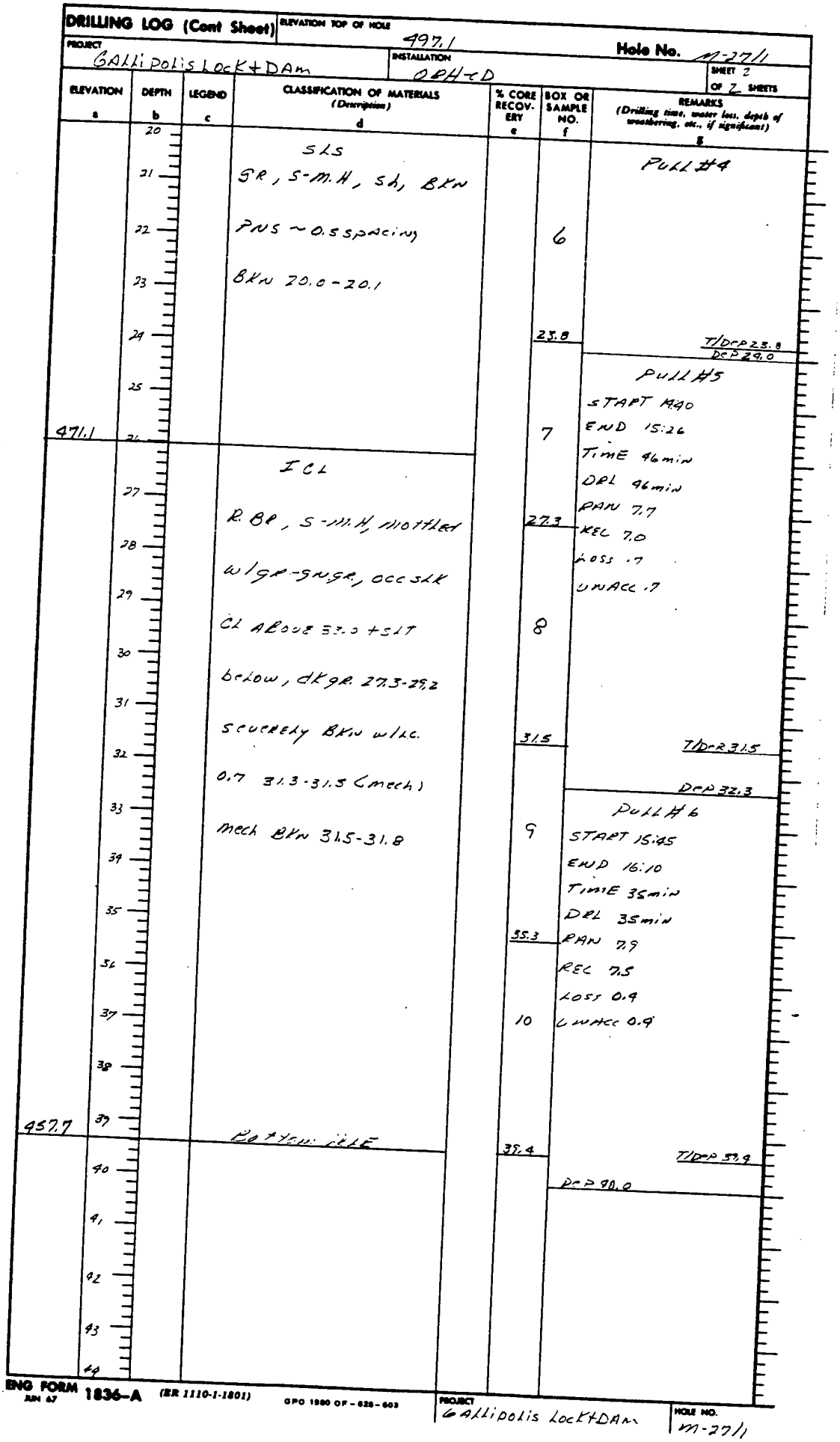
DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock + Dam
2. LOCATION (Coordinates or Station): Mono M-27 STA 4+08.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-27/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.1
8. DEPTH DRILLED INTO ROCK: 40.0
9. TOTAL DEPTH OF HOLE: 457.1
10. SIZE AND TYPE OF BIT: 4 1/5 1/2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/18/89; COMPLETED 1/18/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 39.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1			SANDSTONE			PULL #1
	1		LT.GR, H., M-CG. BKN PAS			START 11:30
						END 11:37
	2		W/ 0.2 SPACING 0.0-2.9		1	TIME 7 min
						DRL 7 min
	3		W/ FE STAINING THIN CL			RAN 5.1
						REC 5.1
	4		STRINGERS 4.9-9.7		3.9	LOSS 0
492.9						UNACC 0
						TIDCP 9.7
						DCP 5.1
	5		ICL		2	PULL #2
			R. BR, S, MOTTLED W/GR			START 12:12
	6					END 13:11
			+GN-GR, OCC SLK, LT GR			TIME 59 min
	7				7.3	DRL 59 min
			CL 4.7-5.1, 6.6-7.0, 11.3-11.9			RAN 4.3
	8					REC 2.5
			MECH BKN 5.1-5.4 W/SLK			LOSS 1.8
	9				3	UNACC 1.8
			7.0-9.9 W/LC 1.8, CORE DIA			DCP+TIDCP 9.9
	10					PULL #3
			LOSS 9.9-10.9, SLT S.F-M-G			START 13:18
	11					END 13:35
						TIME 17 min
	12					DRL 17 min
						RAN 9.9
	13					REC 9.3
					12.6	LOSS 0.1
						UNACC 0.1
482.9	14				4	DCP+TIDCP 13.8
	15		CLS			PULL #4
			GR., S, SH, BKN W			START 13:50
	16					END 14:14
480.5			L.C. 15.6-16.6		16.0	TIME 24 min
	17		SANDSTONE			DRL 24 min
			GR., M.H, F.G., SA SPAR			RAN 10.0
	18		18.0-18.1 BKN SLIGHTLY		5	REC 9.5
478.1	19					LOSS 0.5
						UNACC 0.5
	20		SLS			
			(CONT)		18.2	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock+Dam | HOLE NO. M-27/1


DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 497.1
Hole No. M-271
PROJECT Gallipolis Lock+Dam
INSTALLATION ORH-D
SHEET 2 OF 2 SHEETS
ELEVATION a
DEPTH b
LEGEND c
CLASSIFICATION OF MATERIALS (Description) d
% CORE RECOV-ERY e
BOX OR SAMPLE NO. f
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
SLS
GR, S-M.H, Sh, BKN
PNS ~0.5 SPACING
BKN 20.0-20.1
PULL #4
6
23.8
T/DCP 23.8
DCP 29.0
PULL #5
START 14:40
END 15:26
TIME 46 min
DRL 46 min
PAN 7.7
REC 7.0
LOSS .7
UNACC .7
7
27.3
471.1
ICL
R. BR, S-M.H, MOTTLED
W/GR-SN,GR, OCC SLK
CL ABOVE 30.0 +SLT
BELOW, DK GR. 27.3-29.2
SCURRELY BKN W/LC.
0.7 31.3-31.5 (MECH)
MECH BKN 31.5-31.8
8
31.5
T/DCP 31.5
DCP 32.3
PULL #6
START 15:45
END 16:10
TIME 35 min
DRL 35 min
PAN 7.9
REC 7.5
LOSS 0.9
UNACC 0.9
9
10
35.3
457.7
BOTTOM HOLE
38.4
T/DCP 38.4
DCP 90.0
ENG FORM 1836-A JUN 67 (ER 1110-1-1801)
GPO 1980 OF-626-603
PROJECT Gallipolis Lock+Dam
HOLE NO. M-271

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-27 STA 3+76.8
3. DRILLING AGENCY: W. 6. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-27/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.4
8. DEPTH DRILLED INTO ROCK: 41.6
9. TOTAL DEPTH OF HOLE: 454.8
10. SIZE AND TYPE OF BIT: 4 5/4
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/18/89; COMPLETED 1/18/89
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 39.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4			SANDSTONE			PULL #1
495.6	1		LT GR, VF-C.G., BRN			START 9.06
			PNS W/SPACING 0.2			END 9:20
	2		LIGHT FE STAIN			TIME 14 min
			ICL		1	DRL 14 min
	3		DR-R-BR, S-U.E.S. CL, OCC			RAN 5.0
						REC 4.2
	4		SLK OCC MOTTLED W/GR		3.8	LOSS @
						UNACC @
	5		& GN GR CL, LT GR FATTY			T/DCP 4.2
						DCP 5.0
	6		U.C.S. 0.8-1.1, SEVERELY			PULL #2
					2	START 4:29
	7		BRN W/2.8 LOSS 4.2-7.1			END 9:46
						TIME 17 min
	8					DRL 17 min T/DCP 7.3
						RAN .5
487.3	9		SLS			REC 2.1
			GR. S-M.H. SC BRN 9.1-9.7			LOSS @
					9.4	UNACC @
486.3	10		HIGH ANG DN 45° 10.0 10.1			DCP 9.5
			CLS			PULL #3
	11		BR, S, SA, SCURRELY BRN			START 5:00
			10.1-10.6 LT GR U.E.S. CLS			END 5:10
	12		11.6-12.1			TIME 10 min
					3	DRL 10 min
483.7						RAN 2.5
						REC —
	13		SLS			LOSS —
						UNACC —
	14		GR, M.H-S SA, BRN			DCP 12.0
						PULL #4
			PNS W/SPACING 0.3, CL 12.7		12.9	START 5.50
	15					END 5:59
			13.9, MOD BRN 14.9-14.9			TIME 9 min
	16					DRL 9 min
			ANG PN, 45° 14.7-14.9			RAN 2.0
	17					REC 1.0
			CORE DIA LOSS 15.5-16.6			LOSS —
	18					UNACC —
			SCURRELY BRN 17.6-18.1		4	DCP 14.6
	19					PULL #5
			18.5-18.7			START 6:15
	20		CONT			END 6:27
					16.6	TIME 12 min
						DRL 12 min
					5	RAN 3.9
						REC 5.0 UNACC 0.9
					18.7	LOSS 0.9 DCP 18.7
					6 (CONT)	PULL #6
						START 7:00
						END 7:20

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. M-27/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. M-27/2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #6
	21				21.0	TIME 20 min
479.4	22					DRL 20 min
						RAN 4.8
						REC 3.2
						LOSS —
	23		CLS		7	UNACC —
472.7			DKGR, S, CL SOLIDLY BKN 22.6-23.0, 23.5-23.7			DCP 23.5
	24					PULL #7
						START 7:39
	25		ICL			END 7:56
			R.BR, S-M.H, SH, NUMFRAC		25.2	TIME 17 min
	26		+ SLK, SOLIDLY BKN 23.7-			DRL 17 min
						RAN 5.1
	27		29.1, 27.2-27.9, 28.5-28.9		8	REC 4.8
						LOSS —
	28		30.9-31.2, 32.0-32.3			UNACC —
						DCP 28.9
	29		LKN ABOVE 32.5			PULL #8
					29.1	START 8:50
	30					END 9:08
						TIME 18 min
	31				9	DRL 18 min
						RAN 5.1
	32					REC 4.8
						LOSS 0
	33				32.8	UNACC 0
						DCP 33.5
	34					PULL #9
						START 9:30
	35					END 9:48
					10	TIME 18 min
	36					DRL 18 min
						RAN 3.3
						REC 2.8
						LOSS 0.7
	37					UNACC 0.7 DCP 36.8
459.1			BOTTOM HOLE			PULL #10 DCP 37.3
					37.9	START 10:15
	38					END 10:36
					11	TIME 21 min
	39					DRL 21 min
					39.2	RAN 4.8
						REC 4.6
	40					LOSS —
						UNACC —
	41					DCP 40.6
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock+Dam | HOLE NO. M-27/2

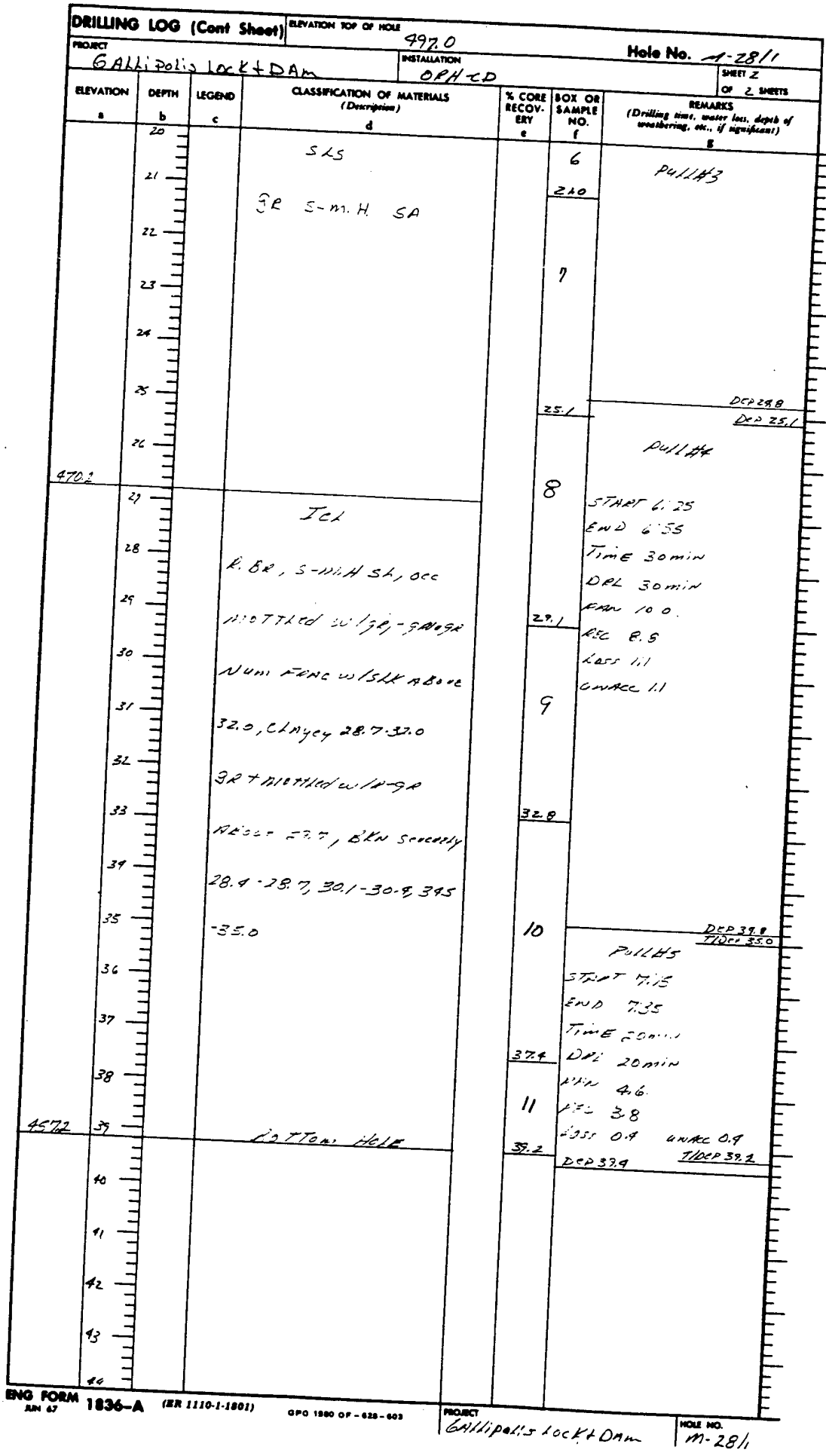
DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-28 STA 3+66B
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-28/1
5. NAME OF DRILLER: Dowell Norris
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.0
8. DEPTH DRILLED INTO ROCK: 39.9
9. TOTAL DEPTH OF HOLE: 457.6
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/18/89; COMPLETED 1/18/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 39.2 %
19. SIGNATURE OF INSPECTOR: [illegible]

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE LT. GR, M., M-CG, OCC LIGHT FE STAIN, BKN pws W/ 0.9 SPACING - BKN 0.0-0.6		1	PULL #1 START 4:45 END 5:00 TIME 15 MIN DRL 15min RUN 3.9 REC 4.8 LOSS 0.2 T/DP 3.9 UNACC 0.2 DCP 5.0
499.1	2					
	3		SLS GR. S. SH BKN 3.4-3.6		3.8	
	4					
	5				2	PULL #2 START 5:05 END 5:35 TIME 30 MIN DRL 30 MIN RUN 10.9 REC 9.9 LOSS 0 UNACC 0
490.9	6					
	7		SANDSTONE GR., M.H., F-VF. FG. SLT SLS, GR, M.H. SG 6.1-6.5 ANG PN #50 7.4-7.7		7.4	
488.5	8					
	9		SLS GR, S-M.H, SHA SC 8.5-9.3, EKN, 13.4-13.6, 15.3-15.3, CLS SCHIM 15.0-15.3		3	
	10					
	11				11.2	
	12				4	
	13					
	14					
	15				14.6	DCP 15.0 T/DP 14.8
480.9	16				5	PULL #3 START 5:45 END 6:05 TIME 20 MIN DRL 20 MIN RUN 10.0 REC 10.1 LOSS 0 UNAC 0
	17		SANDSTONE GR, M.H, F-VF.FG 16.6-16.8		17.2	
479.2	18				6 (CONT)	
	19		SLS GR, S-M.H. SH			
	20		CONT			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock + Dam | HOLE NO.: M-28/1



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 497.0

PROJECT: GALLIPOLIS LOCK + DAM

INSTALLATION: ORH-CD

Hole No. M-28/1

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #3
	21				210	
	22		GR S-M. H SA		7	
	23					
	24					
	25					DEP 24.8
					25.1	DEP 25.1
	26					PULL #4
470.2					8	START 6:25
	27		ICL			END 6:55
	28		R. BR, S-M.H SA, occ			TIME 30 min
	29		MOTTLED W/GR-GRAGR			DRL 30 min
					29.1	RUN 10.0
	30		NUM FRAC W/SLK ABOVE			REC 8.5
	31		32.0, CLAYEY 28.7-32.0		9	LOSS 1.1
	32		GR + MOTTLED W/BR-GR			GWARC 1.1
	33				32.8	
			REC = 2.7, BKN Severely			
	34		28.4-28.7, 30.1-30.9, 34.5			
	35		-35.0		10	DEP 34.8 T/DEP 35.0
	36					PULL #5
	37					START 7:15
						END 7:35
	38				37.4	TIME 20 min
						DRL 20 min
457.2	39		BOTTOM HOLE		11	RUN 4.6
						REC 3.8
	40					LOSS 0.9 GWARC 0.9
					39.2	DEP 39.9 T/DEP 39.2
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-28/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: Gallipolis Lock & Dam
2. LOCATION (Coordinates or Station): Mono M-28 STA 3+40 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-28/2
5. NAME OF DRILLER: Dave Harper
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.7
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/19/89; COMPLETED 1/19/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7 / 495.8			SANDY CLY GR. / SOFT		Bor 1	PULL #1 START 7:55 END 8:08 TIME 13 min DRL 13 min RAN — REC 4.9 LOSS 0 UNACC 0
489.2	2		SANDSTONE M.-C.G., M.H., M.GR.; LEA H.GR. 1.4-2.5		3.8	DEP TO DEP 5.0
488.0	3–8		ICL R.BR. mottled; S.-M.H. SLK 0.2 FAT & CLL. 2.5-2.7 VE. S. 4.9-5.7 BKN VES 6.6-7.3: BKN 7.3-9.1		Bor 2	PULL #2 START 8:18 END 8:35 TIME 17 min DRL 17 min RAN — REC 5.0 LOSS 0 UNACC 0
489.7	9–11		SANDSTONE SLY; F.G.; M.H., M.G. WHT GR SLS LAM.; VE BKN. 8.0-10.1 Lmeck GRADING MORE SLY W/DEPTH		7.5	DEP 10.0 T/DEP 9.9
481.6	13–15		CLS/ICL S.-M.H., M.-DK.GR SLK VE. S 12.5-15.1 W 10.3 LC.		Bor 3 10.7	PULL #3 START 9:07 END 9:37 TIME 30 min DRL 30 min RAN — REC 5.3 LOSS 0.3 UNACC 0.3
	16–20		SLS/SS INTERBDD, SLS PARTS SLY; CLOSELY SPACED, SLY. PTS. 15.5-17.8 (MAX 0.5) VE. SA. 17.8-20.5 GRADING (CONT)		Bor 4 14.5	T/DEP 15.5 DEP 16.3
					Bor 5 18.2	PULL #4 START 10:53 END 11:22 TIME 29 min DRL 29 min RAN — REC 4.7 LOSS 0 UNACC 0
					Bor 6 (CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam | HOLE NO. M-28/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-28/2

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORN-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.2	20		SLS/SS		Box 6	T/DEP 20.2
						DEP 20.5
	21		CLS		21.3	PULL #5
	22		occ silty; sdy.; m-DK GR S-M.h. CLOSELY-med SPACED SDY PARTINGS; SLK		Box 7	START 12:00
	23		PTG @ 23.6 GRADING INTO ICL			END 12:35
	24					TIME 35 min
	25				25.1	DRL 35 min
	26				Box 8	RAN —
470.2						REC 9.8
	27		ICL			LOSS 0
	28		S.-M.h.; GR. R. BR, SLK GRAYISH TRANS. FROM		28.9	UNACL 0
	29		CLS TO ICL 26.5-28.0		Box 9	
	30		VE to med bkn to B/H			DEP 30.1 T/DEP 30.0
	31					PULL #6
	32				32.2	START 12:46
	33					END 1:10 UNACL 0
	34				Box 10	TIME 24 min
	35					DRL 24 min
	36				35.8	RAN —
	37				Box 11	REC 4.8
458.5	38		BOTTOM HOLE		38.2	LOSS 0 T/DEP 38.2
						UNACL 0 DEP 38.9
	39					PULL #7
	40					START 1:50
	41					END 2:06
	42					TIME 16 min
	43					DRL 16 min
	44					RAN —
						REC 3.4
						LOSS 0
						UNACL 0

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-243

PROJECT: GALLIPOLIS Lock/DAM | HOLE NO. M-28/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS Lock & DAM
2. LOCATION (Coordinates or Station): MONO M-29
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-29/1
5. NAME OF DRILLER: DOWELL MORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 458.7
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: NA
16. DATE HOLE: STARTED 1-18-89; COMPLETED 1-19-89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 38.2 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0		SANDSTONE		Box 1	PULL #1
	1		M-C.G., M.H. M.GR.			START 8:40
	2		BRN., STA (MAX PIECE			END 8:45
	3		0.2') 0.0-0.7			TIME 5min
	4					DRL 5min
	5					RAN 5.0
491.5					3.7	REC 5.3
						LOSS —
						UNACC —
					Box 2	DCP-5.0 T/DCP 4.8
	6		ICL			PULL #2
	7		R. BR. GREENISH GR			START 9:15
	8		S.-M.H. SLK, BRN		7.9	END 9:35
	9		GRADING INTO		Box 3	TIME 20min
487.5						DRL 20min
	10		CLS			RAN 7.9
	11		SHY, S.-M.H., M.GR. PS			REC 10.0
485.7			ALONG L. HA, SLK PLNS 10.0-11.2			LOSS —
						UNACC —
	12		SANDSTONE		10.8 Box 4	
	13		SHY, FIG., M.H., M.GR.			TDEP 12.9
	14		INTERBDD W/SLS, S-M.H., M-CRS GR HA (CBO), O, PTS SHY,			
	15		O, IRR; T 11.2-11.7: HA, O, JT. W/SLK. 11.8		14.6 Box 5	DEP 15.3
	16		-12.1 ICL. 20. 13.6-14.1; S. 13.6-13.7,			PULL #3
	17		BRN, SLK 13.7-14.1			START 9:45
	18		SLS 14.1-17.3: CLS 17.3 -17.6 HA.-VCR, IRR,			END 10:05
	19		O, JT. 16.7-17.5 SS		18.3 Box 6	TIME 20min
	20		W/SLS/CLS INCL & STGS STARTING @ 17.6: SHY CLS			DRL 20min
			(CONT)		(CONT)	RAN 11.0 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. M-29/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-29/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.4	20				Box 6	PULL #3
	21		CLS M.-DK.GR, S.-M.H.PTG SLY CORE SPM-E 20.5, CLOSELY SPACED HOR PTGS		21.8	REC 9.8 LOSS — UNACC —
	22					
	23				Box 7	
472.2	24					
	25		ICL GREENISH GR.-R.BR., S.-M.H, 6KN W1 SLK. 26.3-38.2			DEP 24.8
	26				25.4	T/DEP 25.1 PULL #4
	27				Box 8	START 22:25 END 22:50 TIME 25min DRL 25min RAN 10.8
	28				29.2	REC 10.8 LOSS 0 UNACC 0
	29					
	30				Box 9	
	31					
	32					
	33				33.1	
	34					
	35				Box 10	
	36					DEP/T/DEP 35.9
	37				36.5	PULL #5
	38		BOTTOM HOLE		Box 11	START 7:45
	39				38.2	END 8:10 T/DEP 38.2 TIME 25min DRL 25min RAN —
	40					REC 2.3 LOSS 0 UNACC 0
	41					
	42					
	43					DEP 42.7
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OP—329-243

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-29/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-29 STA 2+89R
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-29/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.7
8. DEPTH DRILLED INTO ROCK: 37.8
9. TOTAL DEPTH OF HOLE: 458.9
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/19/87; COMPLETED 11/19/87
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 37.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	0		SANDSTONE			PULL #1
	1		M.-C.G., M.H., M, GR BRN (MECH) INTO SM-M.			START 2:52
	2		PIECES			END 3:04
					Box 1	TIME 12 MIN
	3					DRL 12 MIN
						RAN –
						REC 4.8
492.5	4				3.8	LOSS 0
			ICL			UNACC 0 T/DEP 4.5
	5				Box 2	DEP 5.1
			S.-M.H., GREENISH-GR.,			PULL #2
	6		SLK VE. S. 4.2-4.7: BRN			START 3:12
						END 3:23
	7		INTO SM, SLK PIECES			TIME 11 MIN
					7.5	DRL 11 MIN
	8		4.7-6.0 M. SPACED, SLK			RAN –
					Box 3	REC 4.2
	9		PTGS 6.0-9.5 VE. BRN			LOSS 0
						UNACC 0 DEP 9.7
	10		9.5-11.1			T/DEP 9.8
485.6	11					PULL #3
			SANDSTONE		11.2	START 4:36
484.7	12		SLY., M.G., M.H., M.GR 0.45° J.T.'S @ 10.3 + 11.0			END 4:47
						TIME 11 MIN UNACC 0
	13				Box 4	DRL 11 MIN
						RAN 5.5
	14		ICL/SLS			REC 5.6
						LOSS 0
			S:M.H., M-DK.GR. SLK. VE BRN 12.0-16.0 W/ OCC. VE. S. GR. CL. 18.1-18.7			DEP + T/DEP 19.7
	15					PULL #4
					15.6	START 5:00
	16				Box 5	END 5:20
						TIME 20 MIN
	17					DRL 20 MIN
						RAN 5.2
	18					REC 6.1
477.9					15.6	LOSS 0
	19		SS/SLS		Box 6	UNACC 0
			INTERBDD, SS FG. PTS. SHY			DEP T/DEP 19.6
	20		(CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-29/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-29/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORN-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SS/SLS CONT		Box 6	PULL #5
	21		MOSTLY SLS			START 5.32
475.0						END 6.06
	22		CLS			TIME 34 min
			SLY, S.-M.h., m.-dk			DRL 34 min
	23		GR, PTS SHY. ½ VE.S.		23.2	RAN 4.6 T/DEP 23.1
			GR CL @ 21.7 CLOSELY			REC 4.8
	24		M-SPACED, PTGS		Box 7	LOSS —
						UNREC — DEP 24.4
	25		GRADING			PULL #6
						START 6.15
	26					END 6.31
470.2						TIME 16 min
						DRL 16 min
	27		ICL		26.7	RAN 4.6
						REC 5.2
	28		GREENISH GR.-R.BR, S.-			LOSS 0
						UNREC 0 T/DEP 27.5
	29		M.h., SLK VE BTN 28.5		Box 8	DEP 28.0
						PULL #7
	30		-32.0 BECOMMING R.BR			START 6.42
						END 6.56
	31		@ 32.0 LEFT IN HOLE			TIME 14 MIN
					30.9	DRL 14 min
	32		37.8-39.5.			RAN 6.3
					Box 9	REC 5.4
	33					LOSS 0
						UNREC 0
	34					DEP T/DEP 32.4
						PULL #8
	35					START 7.05
						END 7.32
	36				34.3	TIME 27 min
						DRL 27 min
	37				Box 10	RAN 3.2
						REC 4.5
458.9			BOTTOM HOLE			LOSS —
						UNREC —
					37.8	DEP 37.8
	38					
	39					T/DEP 39.5
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO 1969 OF—329-248 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-29/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-30 STA 2+74 B
3. DRILLING AGENCY: W. 6. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-30/1
5. NAME OF DRILLER: WAYNE TIGE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.5
8. DEPTH DRILLED INTO ROCK: 37.8
9. TOTAL DEPTH OF HOLE: 458.7
10. SIZE AND TYPE OF BIT: # 15½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/19/89; COMPLETED 1/19/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 37.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		SANDSTONE m.-C.g.; m.h., m.gr. BKN - 0.0. - 0.8		Box 1	PULL #1 START 8:50 END 9:00 TIME 10 min DRL 10 min RAN — REC 4.5
493.4	3				3.9	LOSS 0 UNACC 0 T/DEP 4.5 DEP 3.1
	4		CLS / ICL S:m.h., m-dk.gr VE.S. 0.0 CL. 3.1-3.3; S 3.3-3.9: BKN. W/SLK SURFACES 3.9-7.3 (MAX PIECE 0.2)		Box 2	PULL #2 START 9:13 END 9:21 TIME 8 min
489.2	7				7.7	DRL 8 min RAN — REC 5.2
	8		SANDSTONE slY, f.g., m.h. m.gr w/dk gr. sly zost LAM.: 0. HA JT. 7.5-9.0 grading		Box 3	LOSS 0 UNACC 0 DEP. 9.7 T/DEP 9.8
486.8	10					PULL #3
	11		CLS/SLS m.-dk.gr, s.-m.h, PTS.sly w/closely		11.1	START 9:28
	12		SPACED SLK, hor- NEAR PTGS W/STRIATIONS		Box 4	END 9:36 TIME 8 min
	13		becoming softer, more CLAYIER @ 12.0: VEBKN.SLK			DRL 8 min UNACC 0 RAN — REC 5.0
	14		12.6-13.8 grading			LOSS 0
481.8			Into		14.7	DEP & T/DEP 14.7
	15		SLS			PULL #4
	16		Cly.-m.dk.gr, s-m.h.		Box 5	START 9:44 END 9:54 TIME 10 min
479.5	17					DRL 10 min RAN — REC 4.9
	18		SANDSTONE		18.5	LOSS 0
	19		Sly. fig., m.h., m.gr grading To		Box 6	UNACC 0 DEP & T/DEP 14.6
	20		(CONT)		(CONT)	PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: M-30/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.5

Hole No. M-301

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS		Box 6	PULL #5
	21		Interbdd S:mlh m.dkgr			START 10:02
	22		w/occ horsby ptg. CLS			END 10:19
	23		Increasing w/depth		22.0	TIME 17min
	24		grading into			DRL 17min
	25				Box 7	RAN — T/DEP 23.1
	26					REC 3.6
	27					LOSS 0
469.0						UNACC 0 DEP 23.4
	28		JCL			PULL #6
	29		GREENISH. gr. - R. br.,			START 10:28
	30		S: m.h., w/occ.		25.5	END 10:43
	31		SLK PTG.			TIME 15min
	32				Box 8	DRL 15min UNACC 0
	33					RAN 0
	34					REC 4.3 T/DEP 27.5
	35					LOSS 0 DEP 28.0
	36					PULL #7
	37				29.2	START 10:50
458.7			BOTTOM HOLE			END 11:40
	38					TIME 50min
	39				Box 9	DRL 50min UNACC 0
	40					RAN —
	41					REC 5.1
	42					LOSS 0
	43				32.6	DEP + T/DEP 32.6
	44					PULL #8
						START 12:34
					Box 10	END 12:55
						TIME 21min
						DRL 21min
						RAN —
					36.0	REC 5.2
					Box 11	LOSS 0
						UNACC. 0
					37.8	DEP + T/DEP 37.8

ENG FORM 1836-A JUN 67

GPO 1969 O-329-243

PROJECT: GALLIPOLIS LOCK & DAM

HOLE NO. M-301

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORN-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-30 2+40 B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-30/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.9
8. DEPTH DRILLED INTO ROCK: 39.5
9. TOTAL DEPTH OF HOLE: 457.4
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/9/88; COMPLETED 11/9/88
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 39.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1–3		SANDSTONE m-C.g, m.h., m.gr bkn INT sm. pieces (MAX 0.3) CORE SPINS @ 2.4' 2.9 w/0.4 L.C		Box 1	PULL #1 START 8:30 END 8:45 TIME 15 min DRL 15 min RAN 5.0 REC 4.4 LOSS 0 UNACC 0 DEP+T/DEP 5.0
493.3					3.7	
492.1	4		CLS s. m. h., m.gr. 0.0 @ 3.4 (prob AREA of 0.2 L.C.)			
	5–7		SANDSTONE f.g, m.h., m.gr BKN. 5.0-6.5 w/CLS LAM grading into		Box 2.	PULL #2 START 8:55 END 9:12 TIME 17 min DRL 17 min UNACC 0 RAN 4.1 REC 4.5 LOSS 0 DEP 9.1 T/DEP 9.4
489.2					7.7	
	8–11		CLS/SLS INTERBDD, shy, s m.h. - m. dk.gr w/ CLOSELY SPACED SLK PTGS		Box 3	PULL #3. START 9:27 END 9:45 TIME 18 min DRL 18 min RAN 5.2 REC 4.6 LOSS 0 UNACC 0 DEP 14.3 T/DEP 14.1
485.3					11.4	
	12–17		CLS s. m.h., m. dk.gr. w/occ SA LAM ut bkn 11.4 - 12.9 occ SA. INCREASING SA w/depth 0.1 L.C btw N 19.1 & 17.6		Box 4	
479.1					14.8	
	18–19		SANDSTONE shy. f.g. m.h., m.gr BKN 18.1 - 19.4		Box 5	PULL #4 START 9:56 END 10:08 TIME 12 min DRL 12 min RAN 4.8 REC 5.3 LOSS 0.1 UNACC 0.1 DEP 19.1 T/DEP 19.5
477.3					18.6	
	20		CLS (CONT)		Box 6 (CONT)	PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. M-30/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-30/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #5
	21		occ sdy s. - m.h., m			START 10:15
	22		dk.gr sdy bkn A.9		22.1	END 10:35
			-21.8 w/0.2 L.C. (mech)			TIME 20min LOSS 0.2
	23		: 0.2. s.gr.cl. 26.9-27.1		Box 7	DRL 20min UNACC 0.2
	24					RAN 4.9
						REC 4.5
	25				25.5	DEP 29.0 T/DEP 29.2
	26					PULL #6
469.6	27				Box 8	START 10:49
	28		ICL			END 10:58
			mottled to r.br			TIME 9min
	29				29.0	DRL 9min
			s. - m.h., slx			RAN 5.4
	30		s 27.1 to 29.4.			REC 5.2
						LOSS 0
	31					UNACC 0
	32					DEP/T DEP 29.4
					32.6	PULL #7
	33				Box 9	START 11:10
	34					END 11:25
						TIME 15min
	35					DRL 15min UNACC. 0
	36					RAN 4.1
						REC 3.9
	37					LOSS 0 T/DEP 33.3 DEP 33.5
	38				Box 10	PULL #8
						START 23:40
	39					END 23.59
457.2			BOTTOM HOLE		36.1	TIME 17min
	40					DRL 17min
						RAN 6.2
	41				Box 11	REC 5.1
	42					LOSS 1.1
						UNACC 1.1
	43					T/DEP 39.5
	44				39.5	DEP 39.5

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT: Gallipolis Lock+Dam | HOLE NO. M-30/2

Hole No. M-31/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-31 STA 2+30R
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-31/1
5. NAME OF DRILLER: Dowell Norris
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.5
8. DEPTH DRILLED INTO ROCK: 39.0
9. TOTAL DEPTH OF HOLE: 457.5
10. SIZE AND TYPE OF BIT: 4 Y5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B. 57- MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED n/a; UNDISTURBED n/a
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: n/a
16. DATE HOLE: STARTED 1/19/89; COMPLETED 1/19/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 39.0 ft
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	0		SANDSTONE			PULL #1
	1		h. gr, m.g th. bdd to		Box 1	START 13:25
	2		FLAGGY			END 13.33
	3					TIME 8 min
						DRL 8 min
						RAN —
492.6	4				3.6	REC 4.7
						LOSS 0.3
						UNREC 0.3
	5		CLS		Box 2	DEP 5.1 T/DEP 5.0
			m.h. gr w/0.1 S, to 6			PULL #2
	6		3.9, 0.3 LOSS 0-5.0			START 13:43
			bkn CORE 5 5 TO 7.5 w/			END 13:52
	7		occ SLK.		7.0	TIME 9 min
			Becoming MASS & SLD			DRL 9 min
	8		7.6 w/ CL/SLS inter			RAN —
			bdd & occ SL pn's		Box 3	REC 5.0
	9		LOSS SL below 10.5			LOSS Ø
			w/occ SLK AND			UNREC Ø T/DEP 9.6
	10		MORESH w/depth			DEP 10.2
			16.0-16.3 bkn CRUMBLY		10.5	PULL #3
	11					START 19.05
						END 18:12
	12				Box 4	TIME 1hr 7 min
						DRL 11 min
	13					RAN —
						REC 4.6
	14					LOSS Ø
480.3					14.2	UNREC Ø
	15					DEP + T/DEP 14.6
			SANDSTONE			PULL #4
	16		m.h. gr f. MASS		Box 5	START 13:21
			grading			END 15.33
	17					TIME 12 min
						DRL 12 min
	18					RAN —
					17.7	REC —
	19				Box 6	LOSS —
						UNREC — T/DEP 18.8
	20		CLS			DEP 19.6
			(CONT)		CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-31/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. M-31/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL#5 T/DEP 20.3
	21		S, m.h. gr 0.3 w/SLK		20.9	START 4:20 DEP 20.7
			0.1 LOSS 18.8 - 20.3			END 4:40 PULL#6
	22		Intrbdd TCL below		Box 7	TIME 20min START 4:45
			21.5 SLK 22.9 MASS			DRL 20min END 4:55
	23		SH, SL 22.9 - 25.8			RAN — TIME 10min
			GRADATIONAL CONTACT			REC 1.4 DRL 10min
	24					LOSS 0.1 RAN 4.2
						UNACC 0.1 REC 5.1
	25				29.7	UNACC — LOSS —
						DEP 25.0
	26				Box 8	PULL#7 T/DEP 26.9
470.1						START 5:10
	27		TCL			END 5.35
			m.h gr. - R, SLK, SOLID			TIME 25min
	28					DRL 25min
			w/SH PARTINGS. 0.9 LC			RAN 5.1
	29				28.5	REC 4.8
			30.2 - 39.6			LOSS 0.3
	30					UNACC 0.3
					Box 9	DEP 30.0
	31					T/DEP 30.2
						PULL#8
	32					START 5:50
					32.1	END 6:30
	33					TIME 40min
					Box 10	DRL 40min
	34					RAN 9.7
						REC 8.4
	35					LOSS .13
						UNACC .13.
	36				36.0	
					Box 11.	
	37				37.5	
					Box 12	
	38					
457.5	39		Bottom HOLE		39.0	T/DEP 39.0
						DEP 39.7
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-31/1

DRILLING LOG	DIVISION	INSTALLATION	SHEET
	ORD	ORN-CD	1 OF 2 SHEETS

1. PROJECT	Gallipolis Lock + Dam
2. LOCATION (Coordinates or Station)	MONO M-31 STA 1+85.8
3. DRILLING AGENCY	W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number)	M-31/2
5. NAME OF DRILLER	Dowell Norris
6. DIRECTION OF HOLE	☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	0 496.6
8. DEPTH DRILLED INTO ROCK	38.6
9. TOTAL DEPTH OF HOLE	458.0
10. SIZE AND TYPE OF BIT	4x5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL	B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A ; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	10
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 1/19/89 ; COMPLETED 1/15/89
17. ELEVATION TOP OF HOLE	496.6
18. TOTAL CORE RECOVERY FOR BORING	38.6 %
19. SIGNATURE OF INSPECTOR	LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE		Box 1	PULL #1
	2		M.-C.G., M.H, M.GR.			START 7:35
	3					END 7:45
	4		BKN 0.0-2.5			TIME 10 min
						DRL 10 min
						RAN 4.9
					3.6	REC 5.1
						LOSS 0
					Box 2	UNACC 0
491.3	5					DEP 4.9 / TIDEP 5.1
	6		CLS			PULL #2
	7		S.-M.H, M.-DK.GR W/			START 7:50
			MED SPACED ANG SLK. PTS.		7.3	END 8:20
488.1	8		SLS.LAM. 8.1-8.3			TIME 30 min
	9		SANDSTONE		Box 3	DRL 30 min
	10		SLY FIG, M.H., M.GR.			RAN 9.4
			BKN ALONG HA-UCR FRAC			REC 9.3
	11					LOSS 0
			8.5-10.4. GRADING			UNACC 0
484.6	12				11.1	
	13		CLS		Box 4	
			S.-M.H., M.-DK.GR			
	14		VF.S., BKN 12.6-15.2			
			0.8 LC BTWN 14.4-15.2			
	15		BECOMING SLY W/SLK			
481.2			PTS @ 15.2		14.5	DEP 14.3 / TIDEP 14.4
	16		SANDSTONE		Box 5	PULL #3
			SLY., FIG., M.H., M.-			START 9:15
	17		DK.GR MED. SPACED			END 9:55
	18		PTS			TIME 40 min
					17.6	DRL 40 min
	19				Box 6	RAN 10.5
477.0						REC 7.9
	20		CLS		(CONT)	LOSS 0.8
						UNACC 0.8 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Lock & Dam | HOLE NO. M-31/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. M-3/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20				Box 6	PULL #3
	21		CLS		21.2	
	22		SLY., S-MH, M-DTGA		Box 7	
	23		OCC. SLY. : SA @ 25.0			T/DEP 23.3
	24					
471.2	25				25.4	DEP 24.8
	26		ICL			PULL #4
	27		GREENISH GR-R-BR.		Box 8	START 10:20
	28		S-M.H SLK			END 10:50
	29		0.1 S.GR CLY @ 25.4		29.1	TIME 30 MIN
	30		UCRY BRN 26.8-33.4			DRL 30 MIN
	31		W/21. L.C.		Box 9	RAN 8.4
	32					REC 8.0
	33					LOSS 2.1
	34					UNACC 2.1
	35				34.7	DEP 33.4 T/DEP 33.2
	36				Box 10	PULL #5
	37					START 14:45
	38					END 15:10
458.0			BOTTOM HOLE		38.6	TIME 25 MIN
	39					DRL 25 MIN UNACC 0
	40					RAN 0
	41					REC 3.4
	42					LOSS 0
	43					DRL 3RD
	44					

ENG FORM 1836-A JUN 67 GPO 1969 O—328-248

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-3/2

Hole No. M-32/1

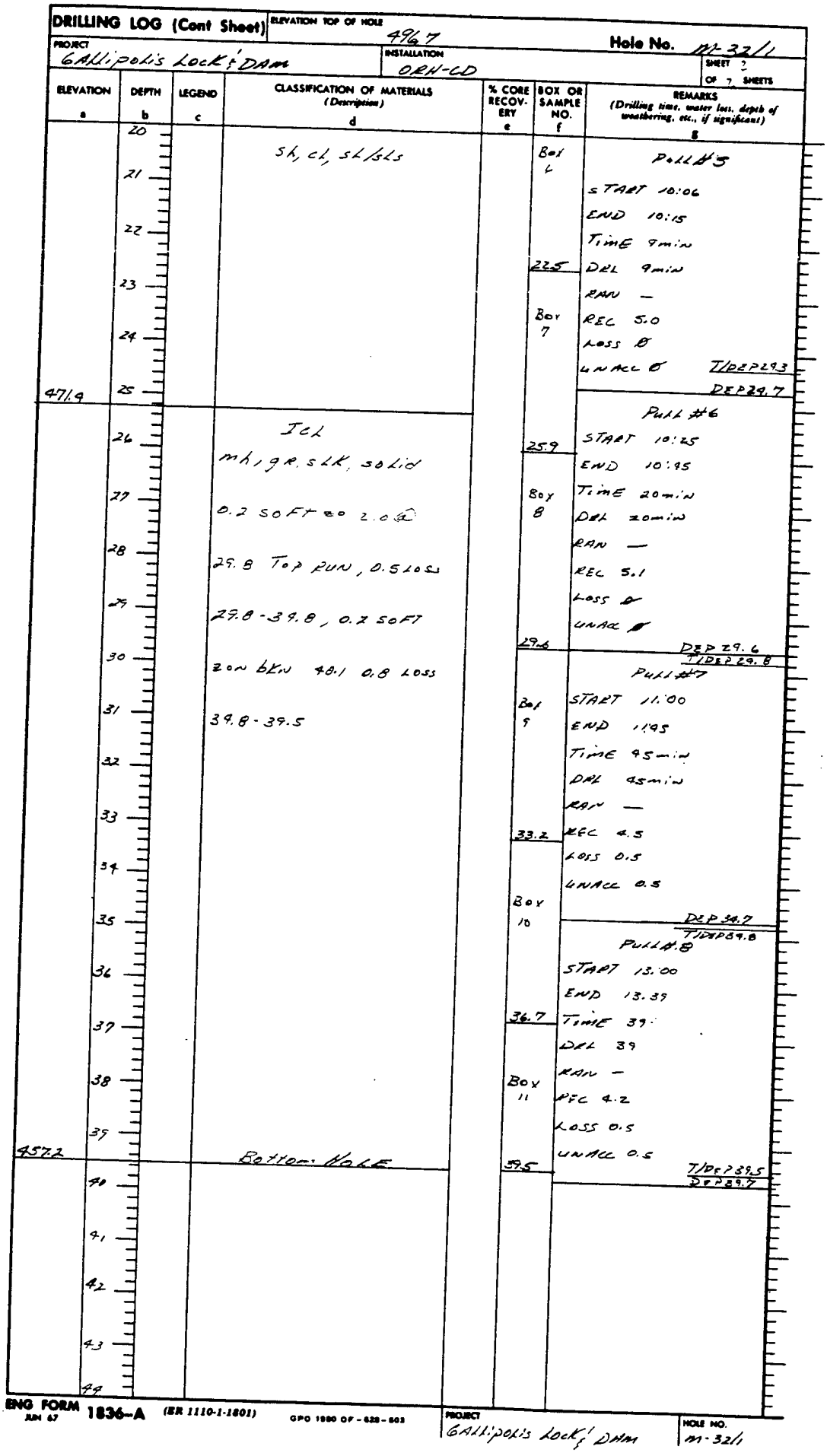
DRILLING LOG	DIVISION OCD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MON M-32 STA 475+8
3. DRILLING AGENCY: W. C. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-32/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.7
8. DEPTH DRILLED INTO ROCK: 39.5
9. TOTAL DEPTH OF HOLE: 457.2
10. SIZE AND TYPE OF BIT: 4 YSK
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/20/89; COMPLETED 11/20/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 39.5 ft
19. SIGNATURE OF INSPECTOR: AMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			PULL #1
	1		m.h., g R, m.g. Thin bd		Box 1	START 8:25
	2		To MASS			END 8:33
						TIME 8 min
	3					DRL 8 min
						RAN —
	4					REC 5.0
					3.8	LOSS 0
492.1						UNACC 0
	5		CLS		Box 2	DEP 5.0 T/DEP 5.0
			m.h., g R w/occ SLK			PULL #2
	6					START 8:45
			o.l. Red Icl @ 4.6			END 8:58
	7					TIME 13 min
			0.1 Loss 5.0 - 9.7, 0.2 HA		7.5	DRL 13 min
	8					RAN —
			IRR clear frac @ 7.5			REC 9.6
	9					LOSS 0.1
487.2					Box 3	UNACC 0.1
	10		SLS			DEP+T/DEP 9.7
			m.h. g R HA to occ			PULL #3
	11		clear tight frac 9.7 to			START 9.08
			11.3		11.0	END 9:26
484.6	12					TIME 18 min
			CLS			DRL 18 min
	13		m.h. g R w/0.1 SOFT 29			RAN —
			11.5, 0.1 bkn @ 13.2, 0.3		Box 4	REC 6.0
	14		bkn @ 14.2			LOSS 0
482.1						UNACC 0
	15		Sh, cls SL/SLS			DEP 14.7
			mh, g R MASS w/rs Bo.			T/DEP 15.0
	16		1.2 FRSS @ 16.3, 0.6			PULL #4
			Loss 14.7-14.7 0.2			START 9:41
	17		BKs 5.20 22.5 TO 25.2		Box 5	END 9:50
						TIME 9 min
	18					DRL 9 min
						RAN —
	19					REC 4.9
					18.5	LOSS 0.6
	20		(CONT)		Box 6	UNACC 0.6
					(CONT)	T/DEP 19.5 T/DEP 19.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. M-32/1



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 49.7

Hole No. M-32/1

PROJECT Gallipolis Lock & Dam

INSTALLATION ORH-CD

SHEET 2 OF 7 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SH, CL, SLTSLS		Bol 6	PULL #5
	21					START 10:06
	22					END 10:15
	23					TIME 9 min
					22.5	DRL 9 min
	24				Box 7	RAN —
						REC 5.0
	25					LOSS 0
47.9						UNACC 0 T/DEP 29.3
						DEP 29.7
						PULL #6
	26		TCL		25.9	START 10:25
			MH, GR. SLK. SOLID			END 10:35
	27				Box 8	TIME 20 min
			0.2 SOFT @ 2.0			DRL 20 min
	28					RAN —
			29.8 TOP RUN, 0.5 LOSS			REC 5.1
	29					LOSS 0
			29.8 - 39.8, 0.7 SOFT			UNACC 0
	30				29.6	DEP 29.6
			20% BKN 40.1 0.8 LOSS			T/DEP 29.8
	31					PULL #7
			39.8 - 39.5		Bol 9	START 11:00
	32					END 11:45
						TIME 45 min
	33					DRL 45 min
						RAN —
	34				33.2	REC 4.5
						LOSS 0.5
	35					UNACC 0.5
					Box 10	DEP 34.7
	36					T/DEP 34.8
						PULL #8
	37					START 13:00
						END 13.39
	38				36.7	TIME 39
						DRL 39
					Box 11	RAN —
	39					REC 4.2
45.72			BOTTOM HOLE			LOSS 0.5
					39.5	UNACC 0.5
	40					T/DEP 39.5
						DEP 39.7
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-503

PROJECT Gallipolis Lock & Dam

HOLE NO. M-32/1

Hole No. M-32-2

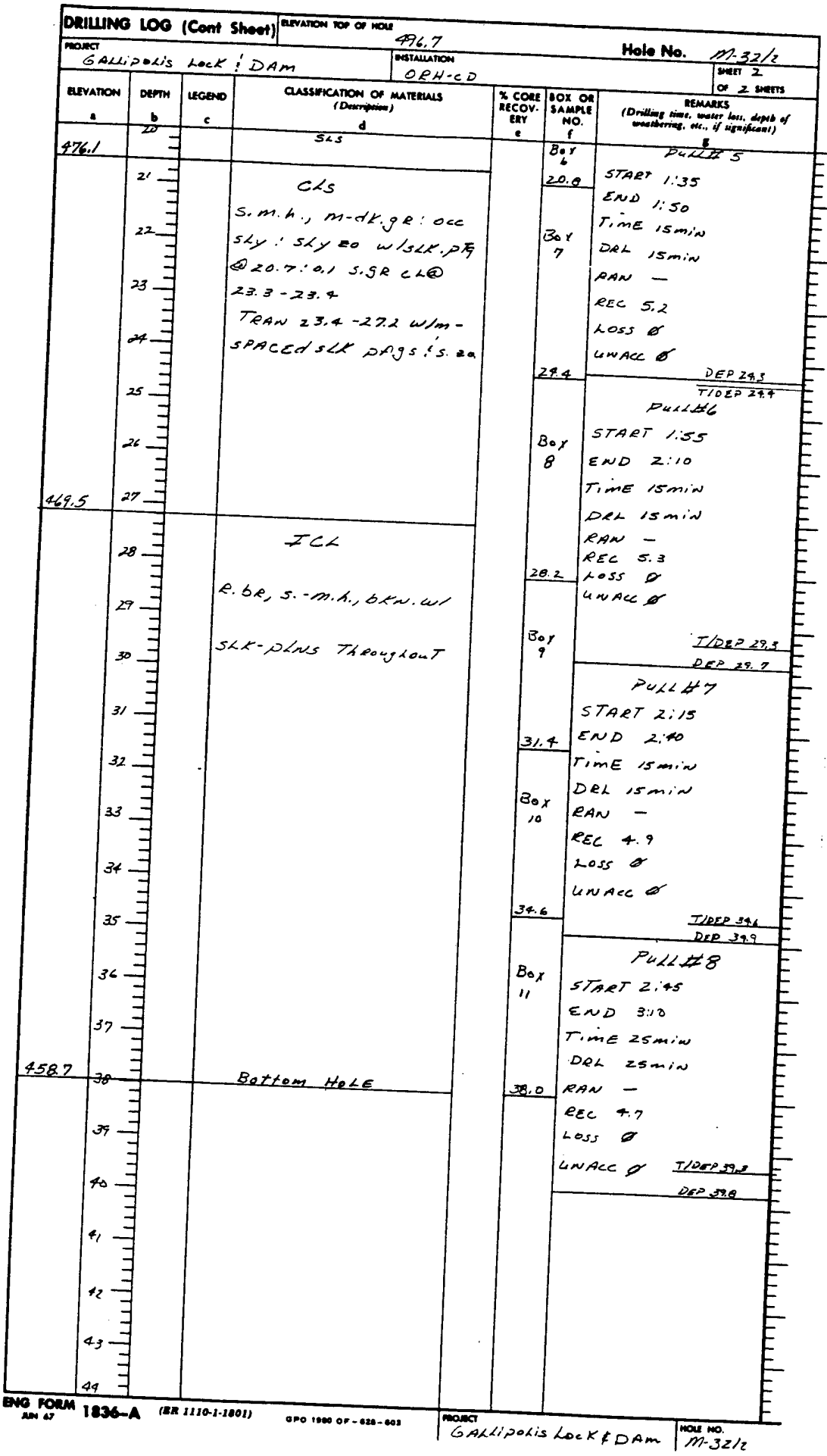
DRILLING LOG	DIVISION ORH	INSTALLATION ORN-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-32 STA 1+40B
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-32/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 — 496.7
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 458.7
10. SIZE AND TYPE OF BIT: 4"/5½"
11. DATUM FOR ELEVATION SHOWN (MSL or MLL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/25/89; COMPLETED 1/25/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 38.0 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7						PULL #1
	1		SANDSTONE			START 12:25
			M.-C.g., M.H., M.gR.		Box 1	END 12:40
	2					TIME 15min
						DRL 15min
	3					RAN —
						REC 4.9
492.5	4				3.8	LOSS Ø
						UNACC Ø
						DEP 4.5
			CLS			DEP 4.9
	5		S.-M.H., M.-dK.gR		Box 2	PULL #2
			0.2 S.gR.CL. @ 4.2-4.4			START 12:50
	6		M.-SPACED SLK PTGS			END 1:00
			VEBRN. W/SLS LEN &			TIME 10 min
	7		SLK. PTGS 8.0-10.2		7.1	DRL 10 min
						RAN —
	8					REC 4.5
						LOSS Ø
	9				Box 3	UNACC Ø
						T/DEP 9.4
486.5	10					DEP 9.9
			SLS.			PULL #3
	11		S.-M.A., M.-dK.gR		10.8	START 1:05
484.8						END 1:15
	12					TIME 10 min
			CLS			DRL 10 min
	13		M.-dK.gR., S.-M.A., shy		Box 4	RAN —
			occ shy			REC 4.9
	14		Shy -14.3-15.6 W/HOR,			LOSS Ø
			gR.CL. coa., hor. pTg @		14.0	UNACC Ø
			15.0			T/DEP 14.3
	15					DEP 14.7
481.1						PULL #4
	16		SANDSTONE		Box 5	START 1:18
			Slty., fig., M.H., M.gR.			END 1:30
480.1			UCRT. IRR, O.JT 15.6-16.6			TIME 12 min
	17					DRL 12 min
			SLS		17.3	RAN —
	18		S.-M.H., M.-dK.gR., pTs		Box 6	REC 4.9
			Shy sa 20. 19.6-20.6			LOSS Ø
	19					UNACC Ø T/DEP 19.0
						DEP 19.9
	20		(CONT)		(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-32/2



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 496.7

Hole No. M-32/2

PROJECT GALLIPOLIS LOCK & DAM

INSTALLATION ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.1	20		SLS		Box 6	PULL #5
	21		CLS		20.0	START 1:35
	22		S.M.H., M-DK.GR: OCC			END 1:50
	23		SLY: SLY EO W/SLK.PKT		Box 7	TIME 15MIN
	24		@ 20.7: 0.1 S.GR CLE			DRL 15MIN
	25		23.3 - 23.4			RAN —
	26		TRAN 23.4 - 27.2 W/M-			REC 5.2
469.5	27		SPACED SLK PKTS: S. EO			LOSS Ø
	28		ICL			UNACC Ø
	29		R. BR, S.-M.H., BKN. W/		28.2	DEP 29.3
	30		SLK-PKTS THROUGHOUT		Box 9	T/DEP 29.4
	31					PULL #6
	32					START 1:55
	33				Box 8	END 2:10
	34					TIME 15MIN
	35					DRL 15MIN
	36					RAN —
	37					REC 5.3
458.7	38		BOTTOM HOLE		34.6	LOSS Ø
	39					UNACC Ø
	40					T/DEP 34.6
	41				Box 10	DEP 34.9
	42					PULL #7
	43					START 2:15
	44					END 2:40
						TIME 15MIN
						DRL 15MIN
						RAN —
						REC 4.9
						LOSS Ø
						UNACC Ø
					38.0	T/DEP 38.0
					Box 11	DEP 38.9
						PULL #8
						START 2:45
						END 3:10
						TIME 25MIN
						DRL 25MIN
						RAN —
						REC 4.7
						LOSS Ø
						UNACC Ø
						T/DEP 39.2
						DEP 39.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-32/2

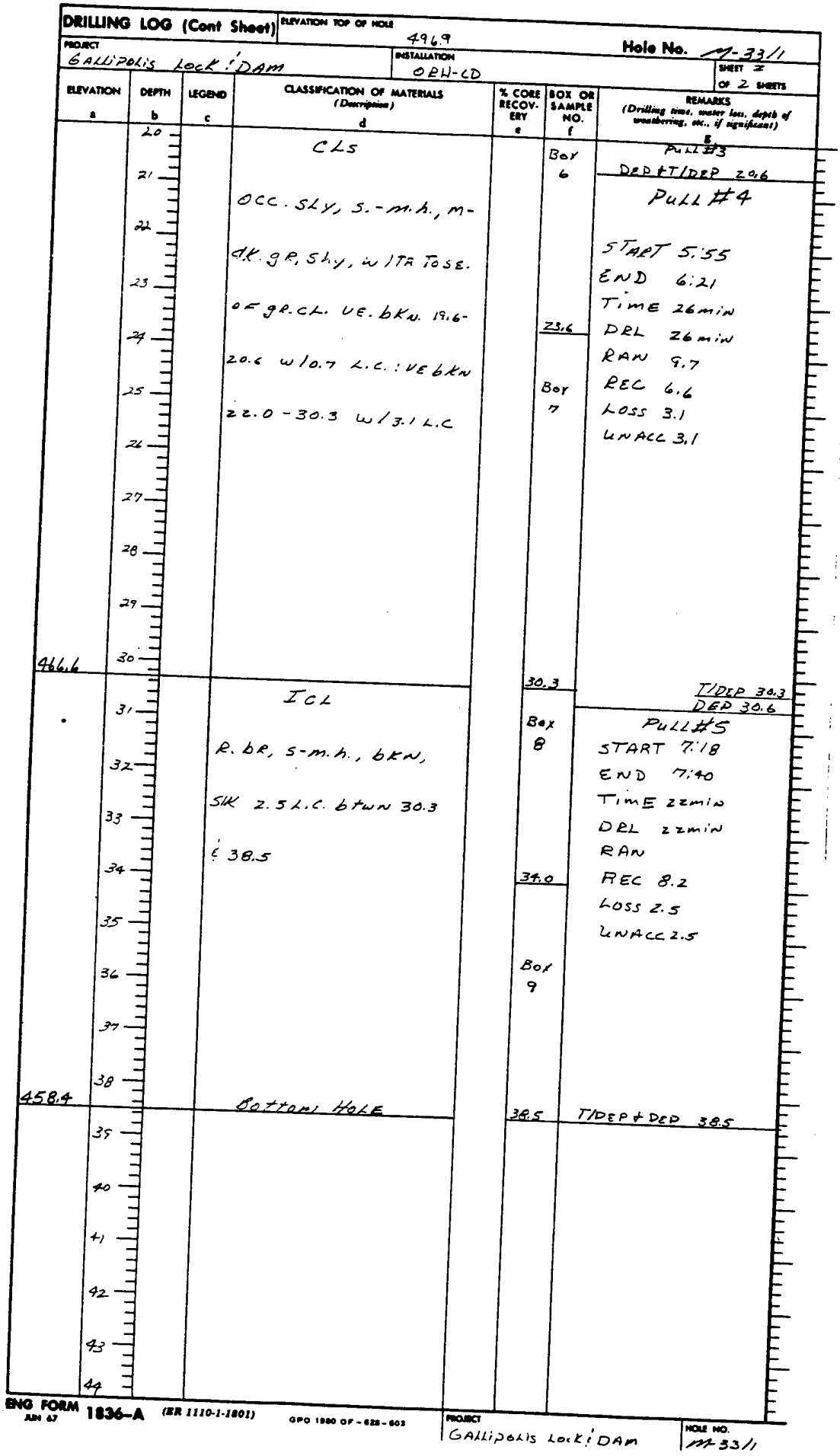
Hole No. M-33/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 2 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4 X 5½"	
2. LOCATION (Coordinates or Station): MONO M-33 STA 1+30A		11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.	
3. DRILLING AGENCY: W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): M-33/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRY		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.9		16. DATE HOLE: STARTED 11/25/89; COMPLETED 11/25/89	
8. DEPTH DRILLED INTO ROCK: 38.5		17. ELEVATION TOP OF HOLE: 496.9	
9. TOTAL DEPTH OF HOLE: 458.4		18. TOTAL CORE RECOVERY FOR BORING: 38.5 %	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE			PULL #1
	1		m. c.g., m.h., m.gr			START 4.15
	2		Thin bdd		Box 1	END 4:30
	3					TIME 15min
493.5						DRL 15min
						RAN —
						REC 5.0
	4		CLS		3.9	LOSS Ø
			m.dk.gr, s.-m.h.			UNACC Ø
	5				Box 2	DEP 5.1 T/DEP 5.0
			VE. bkn w/slk. 3.4-7.2			PULL #2
	6					START 4:38
			W/6.9 L.C			END 4:50
489.7	7					TIME 12min
			SANDSTONE		7.3	DRL 12min
	8		sly., p.g., m.h., m.g.			RAN 5.1
			30°ANG PTg @ 7.4-7.7		Box 3	REC 4.2
	9		& 8.1-8.6;			LOSS 0.9
487.3						UNACC 0.9
						DEP 9.8 T/DEP 10.1
	10		SLS			PULL #3
485.9	11		cly, s.-m.h, m.-dk-gr w/slk PFgs			
			CLS/SLS		11.3	START 5:03
	12		INTERbdd; w/gr.cl.se			END 5:40
	13		sly, m.-dk.gr: VE closely		Box 4	TIME 37min
	14		SPACED PTgs btwn 11.0'			DRL 37min
	15		15.0: sly 15.0-15.8			RAN —
481.1						REC 9.8
					15.4	LOSS 0.7
	16		SANDSTONE			UNACC 0.7
	17		sly A.g. m.h., m.gr		Box 5	
479.5			GRADING INTO			
	18		SLS			
			cly., s.-m.h., m-dkgr			
	19					
477.3			sly		19.3	
	20		CLS (CONT)		Box 6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-33/1



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 496.9

Hole No. M-33/1

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #3 DEP & T/DEP 20.6
	21		OCC. SLY, S.-M.H., M-			PULL #4
	22		D.K. GR, SLY, W/TR TO SE.			START 5:55
	23		OF GR. CL. VE. BKN. 19.6-			END 6:21
	24		20.6 W/0.7 L.C.: VE BKN	23.6		TIME 26 MIN
	25		22.0 - 30.3 W/3.1 L.C		Box 7	DRL 26 MIN
	26					RAN 9.7
	27					REC 6.6
	28					LOSS 3.1
	29					UNACC 3.1
466.6	30			30.3		T/DEP 30.3 DEP 30.6
	31		ICL		Box 8	PULL #5
	32		R. BR, S-M.H., BKN,			START 7:18
	33		SLK 2.5 L.C. BTWN 30.3			END 7:40
	34		& 38.5	34.0		TIME 22 MIN
	35					DRL 22 MIN
	36					RAN
	37				Box 9	REC 8.2
	38					LOSS 2.5
458.4			BOTTOM HOLE	38.5		UNACC 2.5 T/DEP & DEP 38.5
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM

HOLE NO. M-33/1

Hole No. M-33/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-33 STA 1+40 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-33/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.7
8. DEPTH DRILLED INTO ROCK: 37.4
9. TOTAL DEPTH OF HOLE: 459.3
10. SIZE AND TYPE OF BIT: 4 5/8"
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1-25-89; COMPLETED 1-25-89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 37.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			PULL #1
	1		m.h. gr m.g Thin bd		Box	START 12:25
495.2			To FLASSY		1	END 12:40
						TIME 15 min
	2		CLS			DRL 15 min
			S-m.h. gr. GRADES			RAN —
	3		silty w/interbdd w/			REC 4.9
			CL/SLS		3.8	LOSS Ø
	4		0.6 ft SS @ 5.0			UNACC Ø T/DEP 4.5
			0.2 LOSS 0-5.0			DEP 4.9
	5		SLTSLCY ±0.			PULL #2
			UCPY CL w/occ SLT		Box	START 12:50
	6		9.1 to 19.5		2	END 1:00
			SL, SA AND MASS			TIME 10 min
	7		14.5-23.4 1.0 CLS			DRL 10 min
			w/HA DRAC @ 20.7		7.3	RAN —
	8		0.1 LOSS 15.0-18.9			REC 4.5
			SLK @ 11.6			LOSS Ø
	9				Box	UNACC Ø
					3	T/DEP 8.9
	10					DEP 9.7
						PULL #3
	11				10.8	START 1:05
						END 1:15
	12					TIME 10 min
					Box	DRL 10 min
	13				4	RAN —
						REC 4.9
	14					LOSS Ø
					18.5	UNACC Ø T/DEP 14.3
	15					DEP 14.7
						PULL #4
	16					START 1:18
					Box	END 1:30
	17				5	TIME 12 min
						DRL 12 min
	18					RAN —
					18.2	REC 4.9
	19				Box	LOSS Ø
					6	UNACC Ø
	20		(CONT)		(CONT)	DEP T/DEP 19.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-33/2

DRILLING LOG (Cont Sheet) — Elevation Top of Hole: 496.7 — Hole No. M-33/2

Project: GALLIPOLIS LOCK & DAM — Installation: ORH-CD — Sheet 2 of 2 Sheets

Elevation a	Depth b	Legend c	Classification of Materials (Description) d	% Core Recovery e	Box or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		(CONT) CLS		Box 6	PULL #5 START 1:35 END 1:50
	21				21.7	TIME 15 min DRL 15 min RAN —
	22				Box 7	REC 5.2 LOSS 0 UNACC 0
	23					T/DEP 29.1 DEP 29.3
472.3	29					
	25		ICL			PULL #6 START 1:55
	26		S-M.h.-R-gR., SLK			END 2:10
	27		crumbly to fairly massive		26.2	TIME 15 min DRL 15 min
	28		1.2 loss in bkn ICL		Box 8	RAN — REC 5.3 LOSS 0
	29		29.9 - 37.9			UNACC 0
	30				29.9	T/DEP 29.3 DEP 29.7
	31					PULL #7 START 2:15
	32				Box 9	END 2:40 TIME 15 min DRL 15 min RAN —
	33					REC 4.9
	34				33.5	LOSS 0 UNACC 0 T/DEP 33.9
	35				Box 10	DEP 34.9
	36					PULL #8 START 2:45
459.3	37		BOTTOM HOLE		36.2	END 3:10 TIME 25 min DRL 25 min RAN —
	38					REC 4.7 LOSS 0 UNACC 0 T/DEP 38.7
	39					DEP 38.8
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM — HOLE NO. M-33/2

Hole No. M-34/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-34 STA 0+80 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-34/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 492.7
8. DEPTH DRILLED INTO ROCK: 37.2
9. TOTAL DEPTH OF HOLE: 455.5
10. SIZE AND TYPE OF BIT: 4 7/8 V2
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/25/89; COMPLETED 1/26/89
17. ELEVATION TOP OF HOLE: 492.7
18. TOTAL CORE RECOVERY FOR BORING: 37.2 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
492.7	1		SANDSTONE m.h.gr & m.g Th. Bdd To Flaggy		Box 1	PULL #1 START 20:55 END 21.07 TIME 12MIN DRL 12MIN RAN 4B REC 4.6 LOSS 0.2 UNACC 0.2
490.8	2		S, m,h,gr CLS 0.1 V.S. Z.3 PLASTIC.			
490.2	3		SANDSTONE m.h.gr. U Fg. SL, Flaggy		3.7	DEP+T/DEP 4.8
	4					PULL #2
	5				Box 2	START 21:20
	6					END 21.35
	7					TIME 15MIN
						DRL 15MIN
489.3	8				7.4	RAN 4.9
	9		CLS m.h.gr 0.1-0.8 PCS w/ EVID OF MECH grading 0.4 BKN @ END RUN 9.9, 3 FRACS SL, SL AND MORE MASS @ 14.0 TO 17.8 1.3 LC 9.7-19.1 0.4 S. CL @ 17.6 VES, CL @ 22.3 TO 25.3			REC 4.9 LOSS 0 UNACC 0
	10				Box 3	DEP+T/DEP 9.7
	11					PULL #3
	12				10.8	START 21:45
	13					END 22:43
	14					TIME 38MIN
	15				Box 4	DRL 38MIN
	16					RAN 10.4
	17					REC 9.1
	18					LOSS 1.3
	19				14.5	UNACC 1.3
	20		(CONT)		Box 5	
					17.8	
					Box 6	
						DEP+T/DEP 5.1
						PULL #4
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: M-34/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 492.7 | Hole No. M-34/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #4
	21					START 22:35
	22				21.7	END 23:10
	23				Box 7	Time 35 min
	24					DRL 35 min
	25					RAN 9.7
467.4					25.3	REC 8.6
	26		ICL			Loss 1.1
	27		f-gr. w/SLK pTgs		Box 8	UNACC 1.1
	28		1.1 LC btwn 28.8			
	29		0.6 LC btwn 28.8 & 32.6			DEP & T/DEP 28.8
	30		1.0 LC btwn 32.6 & 37.2		29.9	PULL #5
	31					START 9:28
	32				Box 9	END 9:50
	33					Time 22 min
	34					DRL 22 min
	35					RAN — UNACC 0.6
	36					REC 3.2
455.5	37		BOTTOM HOLE		37.2	Loss 0.6 T/DEP 32.6
	38					DEP 32.9
	39					PULL #6
	40				33.8	START 10:02
	41					END 10:35
	42					Time 33 min
	43				Box 10	DRL 33 min
	44					RAN 3.6
						REC 2.7
						Loss 1.9
					37.2	UNACC 1.9 T/DEP 37.2
						DEP 32.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. M-34/1

Hole No. M-34/2

DRILLING LOG	DIVISION OCD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-34 STA 0+40 R
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-34/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.8
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 458.8
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 7
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/25/80; COMPLETED 1/26/80
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 40 %
19. SIGNATURE OF INSPECTOR: J MW

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE M.H, gr. m.g, Thk To FLAGGY		BOX 1	PULL#1 START 12:25 END 12:40 TIME 15min DRL 15min RAN 4.9 REC 4.9 LOSS Ø UNACC Ø
493.2	4		CLS S-M.h, gr. w/occ SLK. 0.3 VERT IRR FRAC 489.4 READING TO V-SLT-SH @ 19.0 MASS W/THIN SLS STRKS, SLK @ 16.0 ! 16.8 1.4 LOSS 10.5 - 19.5	3.8	BOX 2	DEPTH/DEP 4.9 PULL#2 START 12:50 END 13:00 TIME 10min DRL 10min RAN 9.9 REC 4.9 LOSS Ø UNACC Ø
	7			7.4	BOX 3	DEPTH/DEP 10.5 PULL#3 START 13:05 END 13:15 TIME 10min DRL 10min RAN 14.3 UNACC Ø REC 4.9 LOSS Ø
	11			11.1	BOX 4	DEP 14.3 PULL#4 START 13:18 END 13:30 TIME 12min DRL 12min RAN 10.2 REC 4.9 LOSS Ø UNACC Ø
477.3	19			14.7	BOX 5	DEP 19.2 PULL#5 (CONT)
	20		CLS (CONT)	19.3	BOX 6	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-34/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.0 | Hole No. M-34/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CP | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #5
	21		M.-GR.GL		Box L	START 13:35
			CORE SPIN 22.1-23.2			END 13:50
	22					TIME 15min
			W/O. 7 LC			DRL 15min
	23					RAN 29.4
473.2						REC 5.2
					23.6	LOSS Ø
	24					UNAC Ø
						DEP 29.4
			ICL		Box 7	PULL #6
	25					START 13:55
			R.BR, S., VF, bKN			END 14.10
	26					TIME 15min
						DRL 15 min
	27				27.3	RAN 29.7
						REC 5.3
	28				Box 8	LOSS Ø
						UNAC Ø
	29					
						DEP 29.7
	30					PULL #7
						START 1415
	31				31.0	END 1440
					Box 9	TIME 25min
	32					DRL 25min
						RAN 34.6
	33					REC 4.9
						LOSS
	34					UNACC
						DEP 34.6
	35				Box 10	PULL #8
						START 1495
	36					END 15:10
						TIME 25min
	37					DRL 25min
						RAN 38.0
					Box 11	REC 3.4
458.8	38		BOTTOM HOLE			LOSS Ø
					38.0	UNACC Ø DEP 38.0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-34/2

Hole No. M-35/1

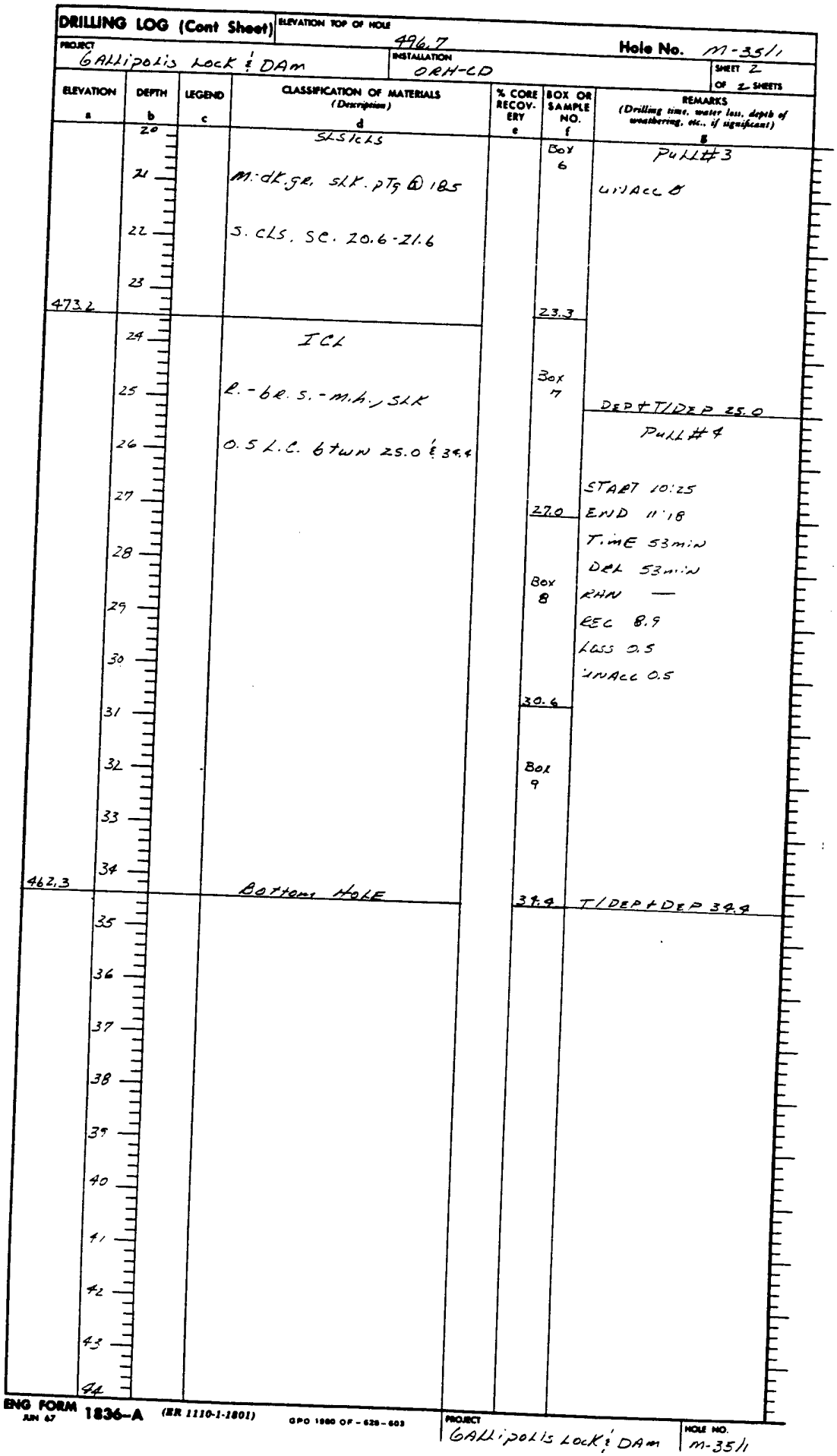
DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-35
3. DRILLING AGENCY: W.G JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-35/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.7
8. DEPTH DRILLED INTO ROCK: 34.4
9. TOTAL DEPTH OF HOLE: 462.3
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/7/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 34.4 %
19. SIGNATURE OF INSPECTOR: JMB

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	0–1		SANDSTONE m.c.g, m.h, gr - STA 6a TO 1.9, L.O LC (mech) 0.0-1.8		Box 1	PULL #1 START 7:30 END 8:00 TIME 30 min DRL 30 min RAN — REC 4.1 LOSS 1.0 T/DEP 4.1 UNACC 1.0 DEP 5.1
494.7	2				3.7	
	3–4		SLS/CLS INTERBDD, S.-M.H, M.-DK GR., SLY VE.S. 2.0-2.7:			
	5–6		occ SLK. PTG. 0.3 L.C. (mech) 6 TWN 5.1 & 19.0		Box 2	PULL #2 START 8:15 END 9:03 TIME 48 min DRL 48 min RAN — REC 9.6 LOSS 0.3 UNACC 0.3
	7–8				8.2	
	9–10				Box 3	
	11–12				11.9	
	13–14				Box 4	
482.5	14					DEP & T/DEP 15.0
	15		SANDSTONE			PULL #3
	16–17		VE SLY, F.G., M.H., M.GR 0.1 CLS LEN 15.0-15.1		15.6 Box 5	START 9:22 END 10:02 TIME 40 min DRL 40 min RAN — REC 10.0 LOSS 0
478.9	18		grading 17.0-17.8 into		19.4 Box 6 (CONT)	(CONT)
	18–19		SLS/CLS INTERBDD, S.-M.H. (CONT)			
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM — HOLE NO. M-35/1



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 496.7
Hole No. M-35/1
PROJECT Gallipolis Lock & Dam
INSTALLATION ORH-CD
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS|CLS		Box 6	PULL #3
	21		M.-dk.gr. SLK. pTg @ 185			UNACC 0
	22		S. CLS. SC. 20.6-21.6			
	23					
473.2					23.3	
	24		ICL		Box 7	
	25		R.-br. S.-M.A., SLK			DEPT/T/DEP 25.0
	26		0.5 L.C. 6 twn 25.0 & 34.4			PULL #4
	27					START 10:25
	28				27.0	END 11:18
	29				Box 8	TIME 53 min
	30					DRL 53 min
	31					RHN —
	32					REC 8.9
	33					LOSS 0.5
	34					UNACC 0.5
462.3			Bottom HOLE		30.6	
	35				Box 9	
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44				39.9	T/DEP/DEP 39.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603
PROJECT Gallipolis Lock & Dam
HOLE NO. M-35/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-35 STA 5+76R
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-35/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 495.8
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 462.4
10. SIZE AND TYPE OF BIT: 4 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/9/89; COMPLETED 2/9/89
17. ELEVATION TOP OF HOLE: 495.8
18. TOTAL CORE RECOVERY FOR BORING: 33.4 %
19. SIGNATURE OF INSPECTOR: [signature]

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.8			SLS			PULL #1
	1		GR. S. - MI. H, SA, BRN			START 5:30
	2		PNS w/0.2 SPACING, CLS		1	END 5:42
	3		GR, S, SH, 2.0-3.1, SA 3.1-3.3			TIME 12 min
	4		5.5-5.8, SS GR, MI, H, F-		3.7	DRL 12 min
	5		VF 3.5-4.9, 6.5-6.7		2	RAN 5.1
	6					REC 4.8
	7				2.2	LOSS 0.4
	8					UNREC 0.9
487.0						DEP + TIDE 4.8
	9		CLS		3	PULL #2
485.3	10		GR, S, SH, SEVERAL BRN + FATTY 7.0-7.1, 9.3-9.6			START 5:55
	11		SLS		11.2	END 6:10
	12		GR, S - MI. H, SA, BRN			TIME 15 min
	13		PNS, .2 11.2-12.6, 20.0		4	DRL 15 min
	14		21.3 W/0.3 SPACING 14.2-			RAN 9.9
	15		20.0 BRN 13.4-13.6, 18.3-		14.5	REC 3.2
	16		18.8, OCC SA 13.6-14.8			LOSS 0.9
	17		CL BELOW 17.0		5	UNREC 0.9
	18					TIDE 9.0
	19				19.2	DEP 8.8
	20				6 (CONT)	PULL #3
						START 6:26
						END 6:42
						TIME 16 min
						DRL 16 min
						RAN 4.9
						REC 3.6
						LOSS 0.8
						UNREC 0.8
						TIDE 13.9
						DEP 13.8
						PULL #4
						START 6:54
						END 7:15
						TIME 21 min
						DRL 21 min
						RAN 5.9
						REC 4.1
						LOSS 1.3
						UNREC 1.3
						TIDE 18.6
						DEP 18.6
						PULL #5
						START 7:25

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. M-35/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 995.8 | Hole No. M-35/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORHED | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21					END 7:50
974.3						TIME 25 min
						DRL 25 min
	22		ICL		6	RUN 5.3
			R. BR, S-M.H, OCC SILT			REC 5.0
	23				23.1	LOSS 0.2
						UNACC 0.2
	24		OCC MOTTLED, SA			DEP 23.8
						TIDEP 29.0
	25		SILTY SAND 22.2-22.7, 23.1-24.0			PULL #6
					7	TD 29.8
	26		SCATTERED LENS 23.1-			START 8:43
						END 9:00
	27		23.2, 23.6-23.8, 25.4-			TIME 17 min
					26.7	DRL 17 min
	28		25.6, 27.5-27.7			RUN 4.9
						REC 4.9
	29					LOSS 0
					8	UNACC DEP 29.7
	29					PULL #7
						START 9:35
	30				28.9	END 9:55
						TIME 20 min
	31					DRL 20 min
					9	RUN 5.0
	32					REC 4.7
						LOSS 0.3
	33					UNACC 0.3
962.9			BOTTOM HOLE		33.9	DEP+TIDEP 33.9
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. M-35/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORHCD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-36 STA 0+26A
3. DRILLING AGENCY: W. 6. JACOBS
4. HOLE NO. (As shown on drawing title and file number): M-36/1
5. NAME OF DRILLER: DAVE HARPER / STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.3
8. DEPTH DRILLED INTO ROCK: 35.9
9. TOTAL DEPTH OF HOLE: 460.9
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/9/89; COMPLETED 2/9/89
17. ELEVATION TOP OF HOLE: 496.3
18. TOTAL CORE RECOVERY FOR BORING: 33.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.3			SANDSTONE			
			LTGR, M.H, M-C.g. OCC			PULL #1
495.1	1		CLS FRAGS FRSURFACE STAIN 0.6-0.5			START 1:00
			SLS			END 1:20
	2		GR. S, M.H, BRN PNS ~.3		1	TIME 20 MIN
			SPACE SA, CL SPAM .03 @ 2.8			DRL 20 MIN
	3		45° JOINT 1.9-2.1 BRN 3.4-3.6			RAN 5.0
492.8			SA CGR M.H. FG. 3.5-3.5		3.6	REC 5.0
	4		SLS/CLS			LOSS 0
			SLS GR, S-M.H, SA, 3.5-			UNREC 0
	5					DEP+T/DEP 5.0
			6.6, 7.5-11.1, 11.5-12.3, CLS		2	PULL #2
	6					START 1.40
			GR, S, SA 6.6-7.5, 11.1-11.5			END 1:55
	7				7.1	TIME 15 MIN
			12.3-13.3, BRN PNS 0.2 SPAC			DRL 15 MIN
	8					RAN 5.0
			THROUGHTOUT, BRN 6.0-6.6			REC 3.2
	9					LOSS 1.8
			10.0-10.2		3	UNREC 1.8
	10					DEP 9.8
						T/DEP 10.0
	11					PULL #3
						START 2.10
	12					END 2:30
					12.3	TIME 20 MIN
483.0	13					DRL 20 MIN
						RAN 4.6
	14		SLS		4	REC 4.6
			GR, S-M.H, SA, BRN PNS			LOSS 0 UNREC 0
	15					T/DEP 14.6
			0.2 SPACING, SA 13.3-13.8			DEP 14.8
	16					PULL #4
			FEW BRN, SS. GR M.H, VER.		15.8	START 2.37
	17					END 2:55
			9.1, 13.9-15.0, CLS, GR, S, SA			TIME 18 MIN
	18				5	DRL 18 MIN
						RAN 4.2
			F.G. 20.3, 21.4-21.8			REC 4.2
						LOSS 0
						T/DEP 18.8
					18.4	UNREC 0
	20		CONT		6 (CONT)	DEP 19.6
						PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO.: M-36/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. M-36/1

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL#5
	21				6	START 3:00 END 3:20 TIME 20min DRL 20min RUN 9.0 REC 4.0 LOSS 0 UNACC 0
	22					
473.5	23				22.8	DRP+TIDP 22.8
			ICL			PULL#6
	24		R.BR, S-M.H, OCC SLK		7	START 3:57
	25		OCC MOTTLED, W/GR.SNDR		25.7	END 3:49 TIME 12min DRL 12min RUN 3.7
	26		GRDR, ABOUT 6.0			REC 3.7 TIDP 26.5 LOSS 0
	27		CL ABOUT 27.3 + SHALE OW		8	UNACC 0
	28		SCOTTEEN BKN 27.8-28.1			DRP 28.2
	29		29.1-29.3, 25.1-25.5, 28.6-			PULL#7
	30		29.1, 30.9-30.1		29.6	START 4:12 END 4:38
	31				9	TIME 26min DRL 26min RUN 6.8
	32					REC 5.1 LOSS 1.7
463.3	33		BOTTOM HOLE		33.3	UNACC 1.7 TIDP 33.3
	34					
	35					DRP 35.4
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT Gallipolis Lock + Dam | HOLE NO. M-36/1

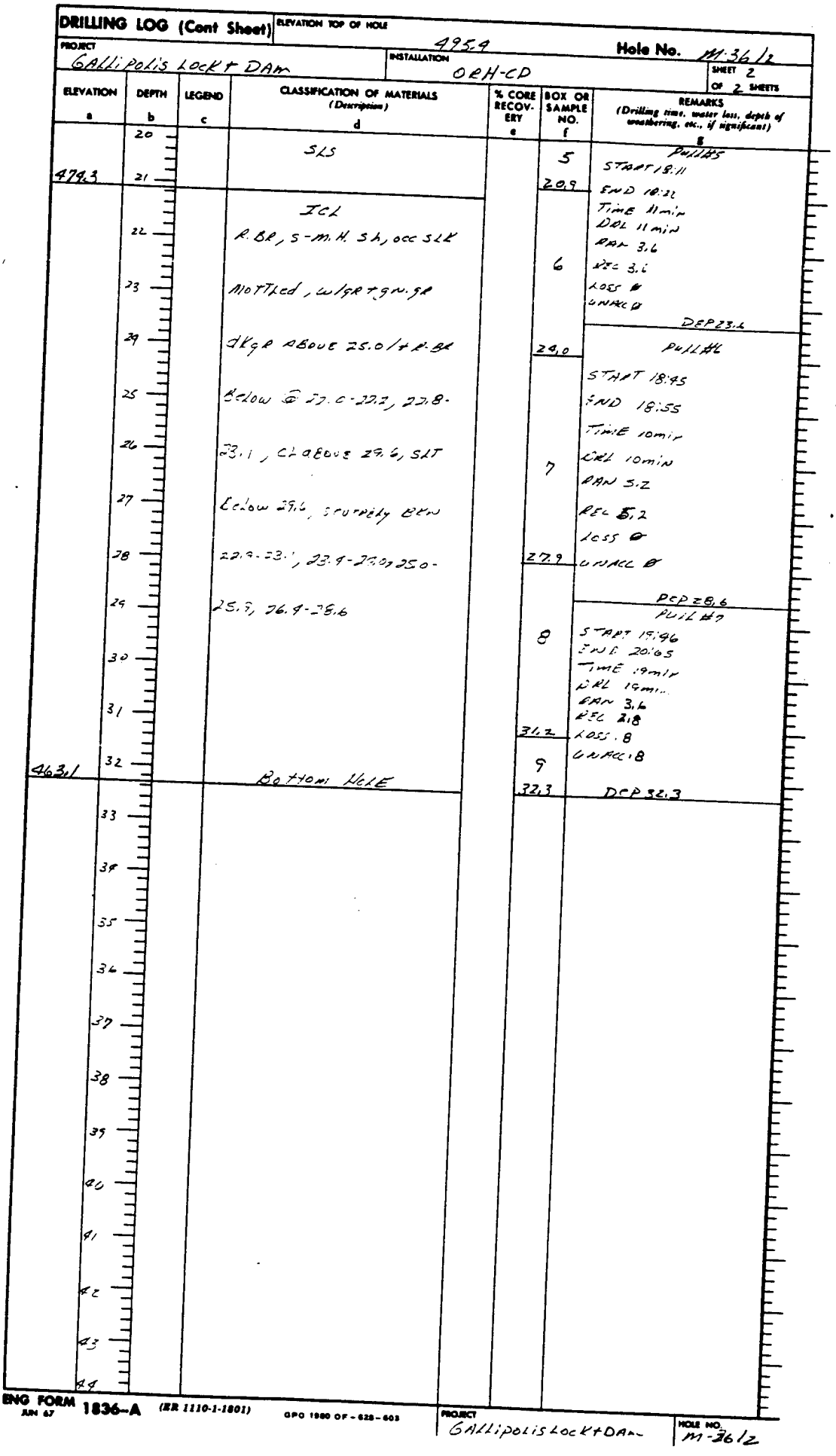
DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CP | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-36 STA 0+60A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-36/2
5. NAME OF DRILLER: STEVE FLY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 495.4
8. DEPTH DRILLED INTO ROCK: 32.3
9. TOTAL DEPTH OF HOLE: 463.1
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/10/89; COMPLETED 2/10/89
17. ELEVATION TOP OF HOLE: 495.4
18. TOTAL CORE RECOVERY FOR BORING: 32.3
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.4			SLS			PULL #1
	1		GR, S, -M.H, SH, BRN DNS			START 15:45
	2		0.0-5.4 W/0.2 SPACING SLT			END 16:00
	3		TO MICA-BRN W/L.C 0.0-5A		1	TIME 15min
	4		CLS GR, VF.S. SCT PBLY BRN			DRL 15min
	5		4.6-4.9, SC FLOW 5.4 AW			RAN 4.6
	6		BRKS, SS. GR, MI. H F.G			REC 3.0
	7		6.2-7.2			LOSS 1.6
487.7						UNACC 1.6 DEP 24.6
	8		CLS		5.4	PULL #2
	9		GR, S, SH, SCT PBLY BRN			START 16:10
486.0			7.7-8.0, 8.6-8.8, 9.1-9.4			END 16:30
			SLS			TIME 20min
	10		GR. S. -M.H, SH, BRN DNS			DRL 20min
	11		0.9 SPACING, BRN DNS		2	RAN 5.5
	12		0.2 SPACING 11.2-11.9, SA			REC 5.0
	13		W/OCC THIN LAMINATIONAL			LOSS .5
	14		INTERBDS OF SS V.F.G.		9.1	UNACC 1.5
	15		11.9-14.0, CLS GR, S, SH			DEP 10.0
	16		BRN DNS W/0.1 SPACING W/			PULL #3
	17		OCC CL COATING 16.6-17.6		3	START 16:52
	18		16.2-16.4, 16.7-18.7			END 17:06
	19					TIME 14min
	20		(CONT)		12.8	DRL 19min
						RAN 4.9
						REC 4.6
					4	LOSS 0.3
						UNACC 0.3
						DEP 19.9
						PULL #4
					16.5	START 17:27
						END 17:45
					5	TIME 18min
						DRL 18min
						RAN 4.9
						REC 4.4
						LOSS 0.5
						UNACC 0.5
				(CONT)		DEP 19.8 PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-36/2



DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE 495.9

PROJECT Gallipolis Lock + Dam

INSTALLATION ORH-CD

Hole No. M-36/2

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		5	PULL #5
479.3	21				20.9	START 18:11
			ICL			END 18:21
	22		R.BR, S-M.H. SH, occ SLK			TIME 11 min
						DRL 11 min
	23		MOTTLED, W/GR+GN.GR		6	RAN 3.6
						REC 3.6
	24		DK GR ABOVE 25.0 / + R.BR			LOSS 0
						UNACC 0
	25		BELOW @ 22.0-22.2, 22.8-			DEP 23.6
					29.0	PULL #6
	26		23.1, CL ABOVE 29.6, SLT			START 18:45
						END 18:55
	27		BELOW 29.6, SPOTTEDLY BRN			TIME 10 min
					7	DRL 10 min
	28		22.9-23.1, 23.9-24.0, 25.0-			RAN 5.2
						REC 5.2
	29		25.9, 26.9-28.6			LOSS 0
					27.9	UNACC 0
	30					DEP 28.6
						PULL #7
	31				8	START 19:46
						END 20:05
	32					TIME 19 min
463.1			BOTTOM HOLE			DRL 19 min
						RAN 3.4
						REC 2.8
					31.2	LOSS .8
						UNACC .8
					9	
					32.3	DEP 32.3
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock + Dam

HOLE NO. M-36/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO M-37 STA 0+70A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-37/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.3
8. DEPTH DRILLED INTO ROCK: 39.6
9. TOTAL DEPTH OF HOLE: 461.7
10. SIZE AND TYPE OF BIT: 4 5/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/9/82; COMPLETED 2/9/82
17. ELEVATION TOP OF HOLE: 496.3
18. TOTAL CORE RECOVERY FOR BORING: 34.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.3	0–2		SLS/CLS SLS gr,-S.-M.H, SA 0.7-2.0, 2.2-2.8, CLS gr. S, SA 0.0-0.7 2.0-2.2 SA Below 2.3, BRN 1.6-2.2			PULL #1 START 10:35 END 10:45
493.5	3–6		SANDSTONE gr., M.H, F.g.		1 3.5	TIME 10 min DRL 10 min PEN 4.6 REC 4.4 LOSS 0.2 UNACC 0.2 T DEP 4.6
490.1	7–20		SLS gr, S-M.H, SA, BRN PNS 0.3 SPACING, CL ABOVE 13.0 + BELOW 21.5, BRN MICA 9.0-9.6 10.0-10.3, 18.6-18.8 19.6-19.7, SOLID 10.3-13.0 SA 14.9-15.5, CLS GR, S, SA 20.1-20.8 (CONT)		2 7.2 3 10.3 4 18.0 5 17.5 6 (CONT)	DEP 6.1 PULL #2 START 11.00 END 11.15 TIME 15 min DRL 15 min T/DEP 7.8 PEN 5.0 REC 5.0 LOSS 0 UNACC 0 DEP 9.9 PULL #3 START 12:00 END 12:40 TIME 40 MIN DRL 40 MIN PEN 5.1 REC 5.1 LOSS 0 UNACC 0 T/DEP 14.6 DEP 15.9 PULL #4 START 1:00 END 1:20 TIME 20 min DRL 20 min PEN 5.7 REC 5.7 LOSS 0 UNACC 0 DEP + T/DEP 15.8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM
HOLE NO.: M-37/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. M-371

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CO | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL#5
	21				21.0	START 1:30
	22					END 1:55
473.8						TIME 25min
						DRL 25min
	23		ICL			RUN 4.8
			R. BR, S-M.H, SH, OCC		7	REC 4.7
	24					LOSS 0.1
			MOTTLED W/GR-GNGR.			UNACC 0.1
	25				24.7	DRD+T/DRD 24.7
			SCC SLK, HKGR. ABOVE 25.0			PULL#6
	26					START 2:10
			SEVERELY BRN MICA 29.5			END 2:30
	27				8	TIME 20min
			29.9, 29.9-29.?, 33.7-33.7			DRL 20min
	28					RUN 4.9
			CL ABOVE 31.2 + SL BELOW			REC 4.9
	29				28.5	LOSS 0
						UNACC 0
	30					DRD 29.7 T/D=29.6
					9	PULL#7
	31					START 2:45
						END 3:10
	32					TIME 25min
					32.0	DRL 25min
	33					RUN 4.8
					10	REC 4.8
	34					LOSS 0
461.9			BOTTOM HOLE			UNACC 0
					34.4	DRD 34.1 T/DRD 34.4
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-626-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-371

Hole No. M-37/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-37 STA 1+15A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-37/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 495.9
8. DEPTH DRILLED INTO ROCK: 31.1
9. TOTAL DEPTH OF HOLE: 464.0
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 8
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/8/89; COMPLETED 2/10/89
17. ELEVATION TOP OF HOLE: 495.9
18. TOTAL CORE RECOVERY FOR BORING: 31.9 %
19. SIGNATURE OF INSPECTOR: DMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.9	1–4		SANDSTONE M. H, GR, BRN FROM .05 TO .6 THIN CL BONES 0.1 LOSS 495 - 494.1		Box 1	PULL #1 START 8.45 END 9:00 TIME 15 MIN DRL 15 MIN RAN — REC 4.4 LOSS 0.1 UNACC 0.1
491.5					3.0	T/DEP 4.5 DEP 5.0
	5–11		CLS/SLS INTERBDD, SH, THIN BD TO FLAGGY, NO S CL		Box 2	PULL #2 START 9:15 END 9.30 TIME 15MIN DRL 15MIN RAN — REC 4.9 LOSS Ø UNACC Ø
484.4					7.3	T/DEP 8.9 DEP 9.8
	12–16		SANDSTONE M. H GR, F.y 0.5 60° FRAC @ 12.6 RESCALED, 0.3 LOSS		Box 3	PULL #3 START 9:44 END 10:05 TIME 21MIN DRL 21MIN RAN — REC 4.0 LOSS 0.3 UNACC 0.3
481.9					10.9	T/DEP 13.2 DEP 14.2
	15–20		CLS DK. GR, M. H, SH (CAVE IN) 0.2, S. CRUMBLY 20 @ 14.0 W/SCAT, SLT ZONES NEAR BASE 1.2 LOSS 18.2 TO 21.6 (CONT)		Box 4	PULL #4 START 10.20 END 10:44 TIME 24MIN DRL 24MIN RAN — REC 4.2 LOSS — UNACC —
					14.9	T/DEP 18.2 DEP 19.2
					Box 5	PULL #5
					18.2	
					Box 6	
					CONT	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-37/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 495.9 | Hole No. M-37/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Boy 6	PULL # 3 START 11:00 END 11:17 TIME 17min T/DEP 21.6 DRL 17min RAN —
479.1	21					
	22		ICL			
	23		M.H, R, SLK, with SCAT		22.9	REC 2.2 LOSS 1.2
	24		S. 20		Boy 7	UNACC 1.1 DEP 24.4
	25					PULL # 6 START 9.50 REC 4.8 END 10:30 LOSS 0.1 TIME 40min UNACC 0.1 DRL 4min RAN —
	26					T/DEP 4 DEP 26.8
	27					T/DEP 26.9 PULL # 7 START 13:50 RAN — END 14:12 REC 18 TIME 22min LOSS 3.5 DRL 22min UNACC 3.5 DEP 28.4
	28					PULL # 8 START 14:43
	29				29.4	END 15:25 TIME 42min T/DEP 29.4
	30				Boy 8	DRL 12min UNACC — RAN — REC 2.7 LOSS —
	31					DEP 30.8 PULL # 9
464.0	32		BOTTOM HOLE		31.8	T/DEP 31.8 REC 1.6 START 4:15 LOSS 0.5 END 4:30 UNACC 0.5 TIME 15min DRL 15min RAN — DEP 33.9
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. M-37/2

Hole No. M-38/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-30 STA 1725A
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-38/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.1
8. DEPTH DRILLED INTO ROCK: 32.1
9. TOTAL DEPTH OF HOLE: 464.8
10. SIZE AND TYPE OF BIT: 4⅞"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/8/89; COMPLETED 2/9/89
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 32.0 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1						
	1		INTERBDD SS/SLS			PULL #1
			UCRT, O. IRR J.T. IN SS			START 8:30
	2		1.1-1.9			END 8:50
493.8					1	TIME 20 MIN
	3		CLS			DRL 20 MIN
			S, M-DKGR; UE. S. 2.3-2.6			RAN —
492.9						REC 4.3
	4		SANDSTONE		3.8	LOSS 0
			SLY, F-M.G, M.H, M.GR			UNACC 0 T/DEP 4.3
491.3			T.J.A.T. CONTACT			
	5		CLS		2	
	6		S.-M.H, M.-DK.GR W/			DEP 5.9
			OCC SM SS LENCL &			PULL #2
	7		SLY LAM: BKN 7.3-7.9		7.0	START 9:01
			W/O.3 L.C			END 9:20
	8					TIME 19 MIN UNACC —
						DRL 19 MIN
	9				3	RAN — T/DEP 9.0
486.5						REC 4.1
	10		SLS			LOSS — DEP 9.9
485.4			CLY, S.-M.H, M.-DK.GR.SLY			PULL #3
485.2	11		SS SLY, F.G. M.H, M.GR		11.0	START 9:30
			SLS			END 9:50
	12		CLY, S.-M.H, M.-DK.GR;			TIME 20 MIN
483.9			BKN CLY LENS 11.9-12.3			DRL 20 MIN
	13		SANDSTONE		4	RAN —
			SLY, F.G., M.H. M.GR			REC 9.8
482.3			GRADING SLY			LOSS — T/DEP 13.8
	14		SLS		14.2	UNACC — DEP 14.5
	15		S-M.H, M.GR W/CLS			PULL #4
			LENSES CLS: 14.2-15.1;			START 10:00
	16					END 10:40
					5	TIME 40 MIN LOSS — UNACC —
	17		SLI SA SLS 15.1-17.0			DRL 40 MIN
						RAN —
	18		F. BR. CLS 17.0-17.4			REC 5.2
					17.9	DEP LT/DEP 17.9
	19		M SPACED HORIZ JTS			PULL #5
			BELOW 17.4		6	START 10.50
	20					END 11:10
					(CONT)	TIME 20 MIN
						CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-38/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. M38/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: OHN-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS (CONT)		6	PULL #5 DRL 20 min RAN — REC 4.1 LOSS 0
474.4	21				21.5	UNACC 0 DEP + T/DEP 22.5
	22		ICL			PULL #6
	23		S-M.N. GR TO R, SLK		7	START 8:00 END 8:36 TIME 36 min
	24		6 KN to 27.9		25.4	DRL 36 min RAN —
	26					REC 5.0
	27				8	LOSS 0 UNACC 0
	28				28.3	T/DEP 27.9 DEP 28.0 PULL #7
	29					START 9:21 END 9:50
	30				9	TIME 29 min DRL 29 min
	31					RAN — REC 4.7
464.0	32		BOTTOM HOLE		32.1	LOSS 0 UNACC 0 T/DEP 32.6
	33					
	34					DEP 34.2
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-38/1

Hole No. M-38/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MON. M38 STA. 1449 A
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): M-38/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496
8. DEPTH DRILLED INTO ROCK: 33.0
9. TOTAL DEPTH OF HOLE: 463.6
10. SIZE AND TYPE OF BIT: 4"X5¼"
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/7/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 33.0 %
19. SIGNATURE OF INSPECTOR: DMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.8			SANDSTONE shy, F.g.-m.h, m.gr ue. brn w/ o.2 L.2			PULL #1
	1		CLS			START 9:15
	2		S.-m.h., shy, m. dk.gr		Box 1	END 9:37
	3		ue. s, 2.6-3.5			TIME 22min
493.1						DRL 22min
	4		SANDSTONE			RAN —
			shy, F.g., m.h., m.gr		3.8	REC 4.5
	5		shy 5.0 : SLK CONTACT			LOSS 0.2
						UNACC 0.2
490.2	6		@ 6.4			T/DEP 4.7 DEP 5.0
	7		CLS		Box 2	PULL #2
			S.-m.h., m.-dk gr			START 9:50
	8		CLOSELY SPACED DTS			END 10:12
	9		w/ lt. coa / FLD		7.5	TIME 22min
487.3						DRL 22min UNACC Ø
	10		CLS/SLS			RAN —
			shy, s.-m.h, m. dk.gr		Box 3	REC 4.6
	11					LOSS Ø
	12					DEP 9.3 T/DEP 9.2
	13					PULL #3
483.2						START 10:17
	14		SANDSTONE			END 10:30
			ue. shy, F.g.-m.h., m.gr		11.1	TIME 13min
482.0			o. 42 - VERT. IRR. FT. 13.7-14.3			DRL 13min
	15		SLS/CLS			RAN —
					Box 4	REC 3.6 T/DEP 12.9
	16		INTERBDD, S.-m.h., m.-			LOSS Ø
	17		dk.gr occ shy: CL oscly			UNACC Ø
	18		SPACED HOR. DTS. 16.7-		14.1	
477.3	19		WITH GR. CL COA / FLD.			DEP 14.9
	20		TRANS ZONE. m.-clr.gr.s-m.stn		Box 5	PULL #4
						START 10:46
						END 11:17
						TIME 31min
						DRL 31min
						RAN —
					18.4	REC 7.4
					Box 6	LOSS Ø
						UNACC Ø
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-38/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. M-38/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		TRANS. ZONE			PULL #4
	21		m-dk.gr. s.-m.h, SiR		6	
	22				22.1	T/DEP 22.3
	23					DEP 22.9
	24				7	PULL #5
472.0						START 11:35
	25		ICL			END 11:05
						TIME 15 min
	26		lt. br, s.-m.h., bKN, SLK		25.9	DRL 15 min T/DEP 25.4
	27		2.4 L.C. 6TWN 25.4; 26.7			RAN —
						REC 3.1 UNACC 0
	28					LOSS 0
	29				8	DEP 27.4
	30					PULL #6
	31					START 1:05
						END 1:39
	32				29.5	TIME 34 min
463.6	33		BOTTOM HOLE			DRL 34 min
						RAN —
	34					REC 5.7
	35				9	LOSS 2.4
	36					UNACC 2.9
	37					
	38				33.0	T/DEP 33.1
	39					DEP 33.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-38/2

Hole No. M-39/1

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK & DAM	10. SIZE AND TYPE OF BIT: 4 7/8"
2. LOCATION (Coordinates or Station): MONO M-39 STA 1+57 A	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
3. DRILLING AGENCY: W. V. JABucs	12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
4. HOLE NO. (As shown on drawing title and file number): M-39/1	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: WAYNE TICE	14. TOTAL NUMBER CORE BOXES: 9
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: 496.3	16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/7/89
8. DEPTH DRILLED INTO ROCK: 32.9	17. ELEVATION TOP OF HOLE: 496.3
9. TOTAL DEPTH OF HOLE: 463.4	18. TOTAL CORE RECOVERY FOR BORING: 32.9 ft
	19. SIGNATURE OF INSPECTOR: [signature]

ELEVATION 496.3 a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.8			SANDSTONE sly f.g., m.h., m.gr ha.e. ICL ST. @ 3', aa-@9			PULL #1
495.4			CLS sly, dk gr, s-m.h. sfuCA. @ 0.9			START 13:10
494.5	1		SANDSTONE sly, f.g. m.h. m.gr thin (0.2) ST bdd plns.			END 13:19
	2		CLS sly, s-m.h, m.dk.gr VE BKN 1.8-4.2		Box 1	TIME 9min
	3					DRL 9min
	4					RAN —
491.7						REC 5.1
	5		SANDSTONE sly. f.-m.g. m.h, m.gr UCR pTs 4.6-4.7; MASS below 4.7; core spin @ 7.2		3.9	LOSS 0
	6					UNACC 0
489.1	7				Box 2	T/DEP + DEP 5.1
488.0	8		SLS sa (TRANS) s.-m.h., m. dk gr			PULL #2
	9		CLS sly. s.-m.h. occ sly, s.-m.h. m.gr. R.BR 8.6-9.7; sly 10.3-10.8 ICL sli R. br 11.4-11.9; bkn w/slk 11.5-12.1			START 13.52
	10					END 14:18
	11				7.2	TIME 26min
484.2	12					DRL 26min
	13		SANDSTONE sly, f.g., m.h., m.gr., bkn (mech) 13.6-14.1 w/hvy gr CL @ 14.1		Box 3	RAN —
482.2	14					REC 9.0
	15		CLS- sly, m.-dk.gr. s:m.h pTs sly bkn (mech) 14.1-14.3 R. br (ICL) 18.2-18.3;			LOSS 0
	16					UNACC 0
	17				10.8	
	18				Box 4	
	19					
	20				14.1	T/DEP + DEP 14.0
						PULL #3
					Box 5	START 14:30
						END 15:01
						TIME 31min
						DRL 31min
					17.8	RAN —
						REC 9.3
					Box 6	LOSS 0
						UNACC 0
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-39/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.3

Hole No. M-39/1

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: OEH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					PULL #3
	21				6	(CONT)
474.7					21.5	
	22		TRANS. ZONE			
	23				7	
472.9						T/DEP 23.4
	24		ICL			DEP. 24.0
			S.-M.-h, R. br, SLK			PULL #4
	25					START 3:15
			L.C. BTWN 23.4		25.4	END 3:58
	26					TIME 43 min
	27				8	DRL 43 min
						RAN 9.5
	28					REC 9.4
					28.3	LOSS 0.1
	29					UNACC 0.1
	30				9	
	31					
	32				32.0	
463.9	33		Bottom Hole			DEP & T/DEP 32.9
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	43					

ENG FORM 1836-A AUG 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. M-39/1

Hole No. M-39/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS Lock + Dam		10. SIZE AND TYPE OF BIT: 4y5½	
2. LOCATION (Coordinates or Station): MONO M-39 STA 2+03A		11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.	
3. DRILLING AGENCY: W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): M-39/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DAVID HARPER / Fey		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 0 496.5		16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/7/89	
8. DEPTH DRILLED INTO ROCK: 33.4		17. ELEVATION TOP OF HOLE: 496.5	
9. TOTAL DEPTH OF HOLE: 463.1		18. TOTAL CORE RECOVERY FOR BORING: 33.4 %	
		19. SIGNATURE OF INSPECTOR: L Mk	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5			SLS			PULL #1
	1		Cly, s.-m.h, dkgR., slY			START 2:20
			TR.nsh. pTgs 0.0-1.4 TRANS			END 2:36
	2		sa 1.7-2.4; CL coq		1	TIME 16 min
494.1						DRL 16 min
	3		SANDSTONE			RAN 4.8
			slY f-m.g., m.h, m.gR		3.7	REC 4.8
	4		grading slY @ 4.2			LOSS 0
491.7						UNACC 0 DEP 9.8
	5		SLS			PULL #2
			Cly-s.-m.h., m. dk.gR.		2	START 2:45
	6		ve slY 4.8.-5.5; CL coq			END 3:00
			pTgs @ 5.4'-5.5' huy. CL			TIME 15 min
	7		se @ 7.6-8.1 w/0.1 L.C		7.2	DRL 15 min
			slY pTgs 9.2-9.6; 12.0			RAN 4.4
	8		-12.5			REC 4.3
						LOSS 0.1
	9					UNACC 0.1 DEP 9.2
					3	PULL #3
	10					START 3:07
						END 3:20
	11				10.8	TIME 13 min
						DRL 13 min
	12					RAN 4.4
484.0						REC 4.4
	13		SLS-sa		4	LOSS 0
482.9			(TRANS ZONE)			UNACC 0 DEP 13.4
	14		SANDSTONE			PULL #4
			slY. f-g, m.h m.gR. hn. 0, 1RR.		14.6	
481.6						START 15:50
	15		Coq JT. 14.0-14.4; 16RN			END 16:19
			14.4-14.9; grading Into			TIME 29 min
	16		SLS/cLS		5	DRL 29 min
			Interbdd w/thin-huy			RAN 10.5
	17		gR-dkgR. SE: sa 14.9-16.2			REC 9.3
			; huy cly se. 6 twn			LOSS 0.7
	18		17.2-20.2 w/occ R.6R		18.4	
			SLK. ICL, EOS; PR06		6	UNACC 0.7
	19		AREA OF 0.7 LC.			
					(CONT)	
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-39/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. M-39/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS			(CONT)
	21				6	PULL#4
474.3	22				22.2	
	23		ICL			
	24		S.-M.L., BR.GR.-R.BR			DEP 24.1
	25		SLK VE.S. 6KN 22.9-23.4 : S. 23.4-24.1 : VE 6KN 24.1-28.6 W/1% OIL			PULL#5
	26				7	START 16.43
	27				27.4	END 17.17
	28					TIME 34MIN
	29					DRL 34MIN
	30				8	RAN 9.3
	31				31.3	REC 9.3
	32				9	LOSS 0
463.1	33		BOTTOM HOLE		33.4	UNACC 0
	34					DEP 33.4
	35					
	36					
	37					
	38					
	39					
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ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. M-39/2

Hole No. M-40/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4 5/8"	
2. LOCATION (Coordinates or Station): MOND M-40 STA 2+13.8		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L	
3. DRILLING AGENCY: W. B. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): M-40/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: WAYNE TICE		14. TOTAL NUMBER CORE BOXES: 8	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.4		16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/7/89	
8. DEPTH DRILLED INTO ROCK: 39.0		17. ELEVATION TOP OF HOLE: 496.4	
9. TOTAL DEPTH OF HOLE: 462.4		18. TOTAL CORE RECOVERY FOR BORING: 34.0' %	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4	1		SLS Cly, S-m.h. dkgr., Sly bkn 0.0 - 0.3 w/ 0.1' LC			PULL #1 START 16:20 END 16:40 Time 20 min DRL 20 min RAN 4.2 REC 4.2 UNACC 0.1 LOSS 0.1
494.4	2					
	3		SANDSTONE Sly, m.gr, m.g bkn 2.5 - 3.3 (MECH) 0. PTgs w/ core spin 4.9 PTgs 5.5, 6.0		1	
	4				3.8	DEP 4.3
	5					PULL #2
490.0	6				2	START 16:45 END 17:20 Time 35 min DRL 35 min RAN 9.8 REC 5.2 LOSS 4.6 UNACC 4.6
	7		CLS/SLS		7.2	
	8		Interbdd. dk. gr S.-m.h			
	9		Sly w/ thin To buy ca			
	10		se ve bkn. 7.2 - 19.1 w/			
	11		4.6 L.C. : ve bkn. 14.1		3	
	12		- 14.4 : core spins			
	13		@ 14.4, 14.9 : mass			
	14		15.2 - 18.9 (mostly CLS)			DEP 19.1
	15		bkn 18.9 - 19.3 & 20.7		15.2	PULL #3
	16		- 21.7			START 17:30 END 18:30 Time 60 min DRL 60 min RAN 8.5 REC 3.3 LOSS 0.2 UNACC 0.2
	17				4	
	18				18.8	
	19				5 (cont)	
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-40/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. M-401

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS			PULL #3 (CONT)
479.7	21'				5	
	22		ICL			
	23		R.BR, S-M.A, SLK			
	24		BRN W/0.1 L.C. BTWN			
	25		21.7 & 22.2			
	26		1.0 L.C. BTWN 27.6 &		6	
	27		34.0			
	28					
	29					
	30					
	31					
	32				7	
	33					
462.4	34		BOTTOM HOLE.			
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

22.6

29.9

PULL #4
START 18:45
END 19:20
TIME 35min
DRL 35min
RAN 5.0
REC 5.0
LOSS 0
UNACC 0

DEP 27.6

PULL #5
START 19:30
END 20:00
TIME 30min
DRL 30min
RAN 6.4
REC 5.4
LOSS 1.0
UNACC 1.0

DEP 39.0

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1990 OF-626-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-401

Hole No. M-90/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-90 STA (2+93) A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-90/2
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 33.1
9. TOTAL DEPTH OF HOLE: 463.8
10. SIZE AND TYPE OF BIT: 4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/7/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 33.1 E
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0–1–2		SLS Cly, dk. gr, s-m.h, shy UE BKN 0.0-2.5. w/a few LC. UE S 2.5-2.9		Box 1	PULL #1 START 18:20 END 18:35 TIME 15min DRL 15min RAN 4.8 REC 4.1 LOSS 0.7 UNACC 0.7
494.0	3–4		SANDSTONE Shy. F.mg, m.h, mg hd, BRN , f. 3.1 - 3.6		3.8	DEP 4.8
492.9	5–6–7–8–9–10–11		CLS/SLS Interbdd-dk gr, s-m.h. shy w/occ thin-bdy CL SE: Closely SPACED AOR PTgs Throughout 0.7 L.C BTWN 4.5'-9.8'. UES. 7.8 - 9.8'; Closely spaced PTgs 7.8-11.7 w/Poss LOSS		Box 2	PULL #2 START 18.50 END 19.25 TIME 35min DRL 35min RAN 5.0 REC 4.3 LOSS 0.7 UNACC 0.7
485.2					8.2	DEP 9.8
482.9	12–13–14		SANDSTONE shy, f-vgr, m.H., m.gr.		Box 3 12.2	PULL #3 START 19:35 END 20:20 TIME 45min DRL 45min RAN 9.7 REC 8.8 LOSS 0.9 UNACC 0.9
477.6	15–16–17–18–19		CLS/SLS Interbdd, s.m.h, dk. gr. Closely spaced PTgs w/occ CORE SPINS (Tr. CL. SE) 14.0 - 19.5 w/10.9 L.C.		Box 4 16.0	
	20		SLS (CONT)		Box 5 (CONT)	DEP 18.5 PULL #4

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-90/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. M-40/2

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.5	20		M.F.S. DK. GR		5 20.4	PULL #4
	21		ICL			START 21:05
	22		br gr.-r. br, s-m.h.		6	END 21:50 TIME 45min
	23		SLK VERY TO 29.1			DRL 45min RAN 9.6
	24		1.2 LC LTWN 29.1			REC 9.6 LOSS 0
	25		+ 33.1		24.3	UNACC 0
	26				7	
	27					PULL #5
	28				28.2	START 23:20
	29					END 23:40 TIME 20min DEP 29.1
	30				8	DRL 20min
	31					RAN 4.0 REC 2.8
	32				31.1	LOSS 1.2
463.8	33		BOTTOM HOLE		9 33.1	UNACC 1.2 DEP 33.1
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-628-603

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. M-40/2

Hole No. M-41/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4 1/5" R	
2. LOCATION (Coordinates or Station): MONO M-41 STA 2+53.8		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L	
3. DRILLING AGENCY: W. G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): M-41/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: WAYNE TICE		14. TOTAL NUMBER CORE BOXES: 10	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 497.3		16. DATE HOLE: STARTED 2/7/89; COMPLETED 2/8/89	
8. DEPTH DRILLED INTO ROCK: 35.1		17. ELEVATION TOP OF HOLE: 497.3	
9. TOTAL DEPTH OF HOLE: 462.2		18. TOTAL CORE RECOVERY FOR BORING: 35.1 %	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.3			SLS			PULL #1
	1		Cly, S-m.h., dk.gr.; shy			START 21:00
	2		bkn 0.0-0.5: CLS Len		Box 1	END 21:15
			1.9-2.3 becoming Sa @			TIME 15 min
			2.7			DRL 15 min
494.2	3					RAN 4.8
			SANDSTONE		3.6	REC 4.8
	4		Sly. f-m.g., m.h., m.gr.			LOSS Ø
			bkn 6.1-6.4 becoming			UNACC Ø
	5		ve sly 6.1-7.2.		Box 2	DED 4.8
	6					PULL #2
490.1	7				7.2	START 21:20
			CLS/SLS			END 21:50
	8					TIME 30 min
	9		Interbdd, dk.gr.s-m.h		Box 3	DRL 30 min
						RAN 9.9
	10		: ve sly to 7.9			REC 9.9
	11					LOSS Ø
					11.0	UNACC Ø
	12					
483.9	13				Box 4	
483.3	14		SANDSTONE			
			sly, f.g., m.h, hA, IRR			
			o, JT. 13.4-13.6		14.7	DED 14.7
	15		CLS/SLS			PULL #3
	16		Interbdd, dk.gr, s.-m.h			START 22:00
					Box 5	END 22:40
	17		Sa (v.f.g) 20.0-21.1			TIME 40 min
	18					DRL 40 min
						RAN 9.8
	19				18.5	REC 9.8
					Box 6	LOSS Ø
	20					UNACC Ø
					(cont)	(CONT)

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PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-41/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.3 | Hole No. M-41/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS		Box 6	PULL #3 (CONT)
476.2	21					
	22		ICL			
			br. gr. -R, br. s-m.h.		22.2	
	23		w/SLK 2.1 L.C bTWN			
	24		27.8 & 35.1		Box 7	
	25					DEP 24.5
						PULL #4
	26				25.6	START 22:50
						END 23:50
	27				Box 8	TIME 60 min
						DRL 60 min
	28				27.8	RAN 3.2
						REC 3.2
	29					LOSS 0
						UNACL 0
	30				Box 9	PULL #5
						START 8:40
	31					END 9:09
						TIME 29 min
	32				31.6	DRL 29 min
						RAN 7.4
	33					REC 5.3
					Box	LOSS 2.1
	34				10	UNACL 2.1
462.2	35		BOTTOM HOLE		35.1	DEP 35.1
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF - 628-663

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. M-41/1

Hole No. M-41/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-41 STA 3+23 A
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): M-41/2
5. NAME OF DRILLER: DAVE HARDER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.1
8. DEPTH DRILLED INTO ROCK: 33.2
9. TOTAL DEPTH OF HOLE: 463.9
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/8/89; COMPLETED 2/8/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 33.2 %
19. SIGNATURE OF INSPECTOR: TMO

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SLS Cly., m-dk.gr.s-m.h. bkn, sky 0.0-1.2; grading			PULL #1 START 9:55 END 8:15 TIME 20 min DRL 20 min RAN —
494.1	3				1	
	4		SANDSTONE sky, f-m.g, m.h, m.gr		3.6	REC 4.9 LOSS @ UNALL @ DEP 5.0 T/DEP 4.5
492.9	5		CLS sky. occ, sky, s-m.h.		2	PULL #2 START 8:30
	6		m.-dk gr sky 4.2-5.0:			END 8:42
	7		sky. pty w/tr.gr.		7.2	TIME 12 min
	8		cl. coa f se 7.5-12.7			DRL 12 min LOSS @ RAN — UNALL @
	9		w/0.4 LC			REC 3.6 T/DEP 8.5
	10				3	DEP 9.5
	11				10.9	PULL #3 START 6:55
484.4	12					END 7:35 TIME 40 min DRL 40 min
	13		SANDSTONE F.g., m.h. m.gr. CLS LENS		4	RAN —
	14		13.9-14.5 w/ang (45°) CONTACT @ 13.9			REC 7.0 LOSS 0.4
481.3	15				14.5	UNALL 0.4
	16		CLS s. m.h, dk. gr., sky			T/DEP 15.9
	17		w/occ SLS LENSES: CLOSELY - M SPACED		5	
	18		HOR. sky pty s w/occ		18.3	DEP 18.4
	19		(CONT)		6 (CONT)	PULL #4 (CONT)
	20					

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-41/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-41/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #4
	21		TR. of g.R.CL cob/Bld		6	
	22		SLS LCN 16.6-16.8		22.2	START 9:50 END 10:21
	23		R.bR 19.9-19.96 FN			TIME 31 min DRL 31 min
	24		W/SLK 22.2-22.8		7	RAN — REC 8.9 LOSS 0
472.3						T/DEP 24.8 UNACC 0
	25		ICL		25.8	DEP 25.9
	26		R. bR, S.-M. h.			PULL #5
	27		0.5 L. C. & TWN 29.8-33.2		8	START 10:43 END 11:22
	28					TIME 39 min DRL 39 min
	29				29.5	RAN — REC 7.9
	30					LOSS 0.5
	31				9	UNACC 0.5
	32					
463.9	33		Bottom HOLE		33.2	T/DEP 33.2
	34					DEP 33.9
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A AUG 67 (ER 1110-1-1801) GPO 1968 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-41/1

Hole No. M-42/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-42 STA 2+93.8
3. DRILLING AGENCY: W.G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-42/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.8
8. DEPTH DRILLED INTO ROCK: 34.8
9. TOTAL DEPTH OF HOLE: 462.0
10. SIZE AND TYPE OF BIT: 4 X 5½ "
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/8/89; COMPLETED 2/8/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 34.8 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION 496.8 a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			
	1		sly., f.m.g, m.h, m.gr			PULL #1
			SLS			START 10:30
	2		cly, s:m.h, dk gr., PTS. shy		Box 1	END 10:38
499.0			CLS LENS 2.0-2.3			TIME 8 min
	3		SANDSTONE			DRL 8 min
	4		sly; f.-m.g., m.h, m. gr bkn w/HA, o, JT.		3.7	RAN —
			5.0-5.8			REC 5.0
	5					LOSS 0
491.0						UNACL 0
						DEP 5.0 T/DEP 4.9
	6		SLS		Box 2	PULL #2
	7		s.-m.h., m.-dk gr w/occ			START 10:45
			CLS LEN CLS 7.9-8.9;		7.2	END 11:07
	8					TIME 22 min
	9		CLS 8.9-11.9 m.h LG		Box 3	DRL 22 min
						RAN —
	10		w/ vcart, o, JT. 11.9-12.2			REC 9.6
	11					LOSS 0
					10.9	UNACL 0
	12					
484.3						
	13		SAND STONE		Box 4	
			sly fig m.h., m.gr.			
	14					
482.2					14.6	T/DEP 14.6
	15		SLS/CLS			DEP 14.9
						PULL #3
	16		Intrbdd CLS-15.9-16.2		Box 5	
			(R. 16.6-17.2) 30°			START 12:01
	17		SMOOTH CONTACT @ 16.2			END 12:35
			CLS -18.7-20.0			TIME 34 min
	18		(R. 18.7-19.1)		18.2	DRL 34 min
						RAN —
	19				Box 6	REC 9.5
						LOSS 0.6
	20		(cont)		(cont)	(CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-42/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. M-42/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS		Boy 6	PULL #3
	21				22.0	
475.3						UNACC 0.6
	22		CLS		Box 7	
	23		m.-dk.gr, s.-m.s w/slk			
			HA pts			
472.8	24					
			JCL			
	25					DEP 24.9 T/DEP 24.7
			R.br, s.-m.h, slk			PULL #4
	26				26.0	
			0.6 L.C. btwn 24.0 &			START 12:50
	27					END 13:34
			24.7		Box 8	TIME 49 min
	28					DRL 49 min
						RAN —
	29					REC 9.9
						LOSS 0
	30				29.7	UNACC 0
	31					
	32				Boy 9	
	33					
	34					
462.0			BOTTOM HOLE		34.8	DEP 34.8 T/DEP 34.6
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-42/1

Hole No. M-42/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Stations): MONO M-42 STA 3123 A
3. DRILLING AGENCY: W. G. JAMES
4. HOLE NO. (As shown on drawing title and file number): M-42/2
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.1
8. DEPTH DRILLED INTO ROCK: 33.5
9. TOTAL DEPTH OF HOLE: 463.6
10. SIZE AND TYPE OF BIT: 4 V 5.5"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/8/89; COMPLETED 2/8/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 33.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		CLS			PULL #1
			SA, shy, s.-m.h., m.-dk.gr.			START 12:15
			w/ss lam bkn 0.0-1.1		Box 1	END 12:21
	2		w/0.8 LC s. CL SE @ 2.2			TIME 6 min
494.7						DRL 6 min
	3		SANDSTONE			RAN —
			shy, f.-g., m.h., m.gr		3.7	REC 3.8
493.0	4					LOSS 0.8
			CLS			UNACC 0.8 T/DEP 4.6
	5		s.-m.h, m. dk. gr. shy			DEP 5.0
						PULL #2
	6		w/m closely spaced		Box 2	START 12:35
						END 12:50 UNACC 0.2
	7		hor pTgs - To 9.1 0.2 L.C.			TIME 15 min
						DRL 15 min
	8		btwn 4.6 & 9.1 ; occ shy		8.0	RAN —
						REC 9.3
	9		LEN			LOSS 0.2
						DEP 9.3 T/DEP 9.1
	10				Box 3	PULL #3
						START 1:01
	11					END 1:42
					11.6	TIME 41 min
	12					DRL 41 min
484.6						RAN —
	13		SLS		Box 4	REC 9.0
			SA, m.h., m.-dk. gr			LOSS 0
	14					UNACC 0
			hn PRAC 13.0-13.3 grading			
	15		into		15.3	
481.5						
	16		CLS			
			m.-dk.gr, s.-m.h., pTs			
	17		shy w/occ sly lam		Box 5	
			SA 17.4-17.7 ; m.-closely			
	18		spaced hor pTgs w/			T/DEP 18.1
			occ TR. of gr. CL con		18.9	
	19		/fld started @ 17.7		Box 6	DEP 18.9
						PULL #4
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-42/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. M-92/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS (CONT)		Box 6	PULL #4
	21					START 1:52
475.3						END 2:25
	22		ICL			TIME 33 min
					22.6	DRL 33 min
	23		br. gr - R. br., s.m.h.,			RAN —
						REC 9.8
	24		SLK TRANS 21.8 - 24.0		Box 7	LOSS 0
	25					UNACC 0
			Becoming R. br. @ 24.0			
	26				26.3	
	27					
					Box 8	DEP 27.7 DEP 27.9
	28					PULL #5
	29					START 2:40
					29.7	END 3:10
	30					TIME 30 min
						DRL 30 min
	31					RAN —
					Box 9	REC 6.0
	32					LOSS 0
						UNACC 0
	33					
463.6			BOTTOM HOLE		33.5	
	34					T/DEP+DEP 37.9
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-626-663

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-92/2

Hole No. M-43/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4X5.5	
2. LOCATION (Coordinates or Station) MONO M-43 STA 3+33 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W.G. JAQUES CO.		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) M43/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 496.7		16. DATE HOLE: STARTED 2-8-89; COMPLETED 2-8-89	
8. DEPTH DRILLED INTO ROCK 33.1		17. ELEVATION TOP OF HOLE 496.7	
9. TOTAL DEPTH OF HOLE 463.6		18. TOTAL CORE RECOVERY FOR BORING 33.1 %	
		19. SIGNATURE OF INSPECTOR Jet	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		CLS Shy. S.-m.h., m.-dk.gr Icl. 2.1-3.2 (soft).		Box 1	PULL #1 START 1405 END 1415 TIME 10 MIN. DRL 10 MIN. RAN — REC 5.0 LOSS 0 UNACC. 0 DEP 5.0 T/DEP 5.0
493.5	3				3.7	
	4		SANDSTONE Sly., f.g., m.h., m.gr. thn dk.gr cly.sm.-5.0-5.5 grading 5.0-6.0		Box 2	PULL #2 START — END 1630 TIME — DRL — RAN — REC 10.2 LOSS — UNACC. —
490.7	6				7.4	
	7		CLS S.-m.h., m.-dk.gr., dk.gr.br. 12.2-12.6 Good Contact		Box 3	
484.1	12				11.2	
	13		SANDSTONE Vf.-f.g., m.-dk.gr. Calc.cl. 13.7-14.4		Box 4	
482.2	14				15.1	DEP 15.2
	15		CLS Occ. Sly., m.-dk.gr. S.-m.h., Sl., Sy. 17.8-18.3 m. spaced Ptgs throughout: rb., ang. Slk. ptg 17.5-17.8		Box 5	T/DEP 17.2
	17				18.5	
	18				Box 6	PULL # 3
	19				(CONT.)	(CONT.)
	20		(CONT.)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS Lock & Dam | HOLE NO. M-43/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. M-43/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.4	21		CLS (CONT.)		Box 6	PULL #3 START 1645 END 1730 TIME 45 MIN DRL 45 MIN RAN — REC 9.4 LOSS 0.3 UNACC 0.3
474.2	22		CLS / ICL gr., s.-m.h., slk.		22.3	T/DEP 24.0
	23		ICL s.-m.h., r. br. slk.		Box 7	DEP 24.9
	24		0.3 L.C. btwn 22.5 + 24.9			PULL #4
	25		0.2 L.C. btwn 24.94 29.4		26.0	START 1740 END 1815 TIME 35 DRL 35 RAN —
	26				Box 8	REC 4.3 LOSS 0 UNACC 0
	27					
	28				29.5	DEP 29.4
	29					T/DEP 29.8
	30				Box 9	PULL #5 START 1830 END 1900 TIME 30 MIN DRL 30 MIN RAN —
	31					REC 4.7 LOSS — UNACC —
	32					
463.6	33		BOTTOM HOLE		33.1	DEP 34.1
	34					T/DEP 34.5
	35					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1966 OP-628-663

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. M-43/1

Hole No. M-43/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 1 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO M-43 STA 3+65A
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): M-43/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.6
8. DEPTH DRILLED INTO ROCK: 33.7
9. TOTAL DEPTH OF HOLE: 463.9
10. SIZE AND TYPE OF BIT: 4" 15.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/8/89; COMPLETED 2/8/89
17. ELEVATION TOP OF HOLE: 497.6
18. TOTAL CORE RECOVERY FOR BORING: 33.7 %
19. SIGNATURE OF INSPECTOR: LMB

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.6	0–2		CLS shy, s.-m.h., m-dk.gr.		Box 1	PULL #1 START 4:37 END 4:55 TIME 18min DRL 18min RAN — REC 4.7 LOSS 0 UNACC 0 TIDEP 9.7 DEP 5.0
494.9					3.6	
492.9	3–4		SANDSTONE slty, f.g., m.h., m.gr. IRR vcrt, hld. frac 2.7-3.2 & IRR hz JT 3.3-4.7		Box 2	PULL #2 START 5:00 END 5:15 TIME 15min DRL 15min RAN — REC 9.2 LOSS 0.5 UNACC 0.5 DEP 9.4 T/DEP 8.6
	5–13		CLS/SLS Interbdd, m.-dk.gr w/ occ. hvy, dk.gr.cl SE. 0.5 L.C. 4.7-9.0 ICL LEN 9.0-9.4 mostly CLS (slty w/s.cl LENS below 9.4.		7.1	
484.4					Box 3	
	14		SANDSTONE slty, f.g., m.h., m.gr bkn 13.2-13.3: grading @ 14.0-14.8 into		Box 4	PULL #3 START 5:23 END 5:36 TIME 7min DRL 7min RAN — REC 5.0 LOSS 0 UNACC 0 DEP 14.5 T/DEP 14.4
482.8					12.0	
	15–20		CLS/SLS Interbdd, m-dk.gr, s-m.h, m-closely spaced PTGS occ slk occ. Tr. gr. cl. coal/ald. 52-20 18.4-18.8		14.7	
					Box 5	PULL #4 START 5:45 END 6:00 TIME 15min DRL 15min RAN — REC 3.8 LOSS 1.0 UNACC 1.0 T/DEP 19.2 DEP 19.9
					18.2	
					Box 6 (CONT)	PULL #5 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-43/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.6 | Hole No. M-43/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
477.0	20		CLS		Bot 6	PULL #5 START 6:12 END 6:29 TIME 17min
	21		ICL			
	22		R. BR S.-M. h., V E. BTWN		22.0 Box 7	DRL 12min RAN — REC 4.3 LOSS 6.0 UNACC 1.6
	23		SLR 1.0 L.C BTWN			
	24		20.6 & 22.5			T/DEP + DEP 24.5
	25					PULL #6
	26				26.4 Box 8	START 6:45 END 7:07 TIME 22min DRL 22min RAN — REC 4.7 LOSS 0 UNACC 0
	27					
	28					
	29					T/DEP 29.2 DEP 29.6
	30				30.0 Box 9	PULL #7 START 7:20 END 7:40 TIME 20min DRL 20min RAN — REC 5.4 LOSS 0 UNACC 0
	31					
	32					
	33					
463.9	34		BOTTOM HOLE		32.7	DEP 34.5 T/DEP 39.6
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. M-43/2

Hole No. L-1/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-1 STA 12+14.23B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-1/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.9
8. DEPTH DRILLED INTO ROCK: 34.7
9. TOTAL DEPTH OF HOLE: 462.2
10. SIZE AND TYPE OF BIT: 4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/22/88; COMPLETED 12/22/88
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 32.9 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SAND STONE			PULL #1
	2		LT GR - GR, H TO M-H		1	START 7:58
	3		M - CGR., OCC. MIC.			END 8:12
	4		FE SURFACE STAINED		3.8	TIME 14min
	5		496.9 - 496.8, SH, STR			DRL 14min
	6		487.4 - 487.3, CLY PLN		2	RAN 4.8
	7		486.4, SH. FRAG 486.2 -			REC 4.8
	8		485.8		7.4	LOSS Ø
	9					UNACC Ø
	10				3	DEP 4.8 T/DEP 4.7
	11					PULL #2
	12				11.1	START 8:23
	13					END 8:30
483.8					4	TIME 17min
	14		SLT			DRL 17min UNACC Ø
	15		GR - GN - GR, S - M.H		14.5	RAN 3.6
	16		SR, BKN PLN, SS. BDN			REC 3.6
	17		GR. F.G., M.H, W/OCC		5	LOSS Ø
	18		PYRITE NODULES 477.1			T/DEP + DEP 8.9
	19		476.9		18.1	PULL #3
	20		(CONT)		6	START 8:41
					CONT	END 8:49
						TIME 8min
						DRL 8min
						RAN 4.9
						REC 5.0
						LOSS 0.1
						UNACC 0.1
						DEP 13.3
						T/DEP 13.4
						PULL #4
						START 8:55
						END 9:10
						TIME 15min
						DRL 15min
						RAN 6.2
						REC 6.2
						LOSS Ø
						UNACC Ø
						T/DEP + DEP 19.6
						PULL #5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. L-1/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.9

Hole No. L-1/1

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.7	20				6	PULL #5
	21		SAND STONE			START 9:29
	22		gr - H.gr., m.H, F-mgr		21.7	END 9:41
	23		occ. m.c.,			TIME 17min
	24		-pyrite bdd pln. 466.5		7	DRL 17min
	25		466.1, 465.9			RAN 10.0
	26		cal cemented nodule			REC 10.0
	27		465.0 - 464.8		8	LOSS 0
	28		cl BRN at 475.0			UNACC 0
	29				28.9	
	30					DEP 29.7 T/DEP 29.4
	31					PULL #6
	32				9	START 7:56
	33					END 10:08
	34					TIME 12min
462.2			EARTHEN HOLE.		32.5	DRL 12min
	35					RAN 5.0
	36					REC 5.1
	37				10	LOSS 0
	38					UNACC 0
	39				39.7	
	40					DEP 39.7 T/DEP 39.8
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-1/1

Hole No. L-1/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4X5½"	
2. LOCATION (Coordinates or Station) MOND L-1 STA 11+74.60 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W.G. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-1/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER WAYNE TICE		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø		16. DATE HOLE STARTED 12/22/88; COMPLETED 12/22/88	
8. DEPTH DRILLED INTO ROCK 496.8	34.2	17. ELEVATION TOP OF HOLE 496.8	
9. TOTAL DEPTH OF HOLE 462.6		18. TOTAL CORE RECOVERY FOR BORING 34.2 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8						PULL #1
	1		SAND STONE			START 10.38
	2		LT GR TO GR M.-H.H.		1	END 10.42
	3		M.-C.GR., TH, SL 0.1			TIME 4min
	4		SP 492.4 TO 489.0			DRL 4min
	5		High Ang FRAC 488.6-			RAN 4.8
	6		487.8, GR TO DKGR M.H.			REC 4.8
	7		M.GR, Below 487.2		7.3	LOSS Ø
	8		SH, STRINGERS 488.8-			UNACC Ø
	9		485.7			DEP 5.0 TIDEP 9.7
	10					PULL #2
	11				2	START 10.47
	12					END 11.02
484.0						TIME 15min LOSS Ø
	13		SLT			DRL 15min UNACC Ø
	14		GR.-GN.GR S.-M.H.			RAN 3.8
	15		SA, SS GR, FGR. M.H.			REC 3.8
	16		483.6-486.4 CL 477.9			TIDEP + DEP 8.6
	17		SS. BKN 483.8 -483.7		3	PULL #3
	18		DKGR. F. V.F.GR. M.H			START 11:08
477.6	19		480.8 - 480.7			END 11.14
					10.6	TIME 16min
	20		SANDSTONE CONT			DRL 16min
						RAN 5.0
					4	REC 5.0
						LOSS Ø
						UNACC Ø
						TIDEP + DEP 13.6
					19.0	PULL #4
						START 11.21
						END 11.35
					5	TIME 14 min
						DRL 14min
						RAN 5.8
						REC 5.8
					17.6	LOSS Ø
						UNACC Ø
					6	DEP 19.3
					CONT	PULL #5 TIDEP 19.4

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-1/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.8 | Hole No. L-1/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20				6	PULL #5
	21		SANDSTONE		21.2	START 12:25
	22		LT.gr.-GR, M.H, F-M.gr			END 12:45
	23		MIC, SM. PYRITE Med.		7	TIME 20 min
	24		+ FLAKS 475.2 - 473.2			DRL 20 min
	25		CAL CEMENTed LENS			RAN 9.8
	26		469.0 - 468.9, 470.3 - 470.8		8	REC 9.8
	27		MOD. 465.1 - 465.0			LOSS 0
	28		VE. F. GR, SLT 475.3 - 475.0		28.5	UNACC'D
	29					DEP 29.3 T/DEP 29.2
	30					PULL #6
	31				9	START 12:55
	32				32.0	END 1:08
	33					TIME 13 min
462.6	34		BOTTOM HOLE		10	DRL 13 min
	35				34.2	RAN 5.0
	36					REC 5.0
	37					LOSS 0
	38					UNACC'D
	39					DEP 34.3 T/DEP 34.2
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-1/2

Hole No. L-21I

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-2 STA 11+82, 19 R
3. DRILLING AGENCY: W. G JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-21I
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.6
8. DEPTH DRILLED INTO ROCK: 34.3
9. TOTAL DEPTH OF HOLE: 462.3
10. SIZE AND TYPE OF BIT: 4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/27/88; COMPLETED 12/27/88
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 34.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE			PULL #1
	2		LT.GR TO GR M.-H.H.		1	START 12:30
	3		F.-C.GR. OCC. MIC.			END 12:41
	4		MECH BRK 496.6-496.4			TIME 11 MIN
	5		CAL. CEM. 495.4-494.2,			DRL 11 MIN
	6		483.8-483.3		3.1	RAN 4.9
	7		NUM SH BD PLN OC			REC 5.0
	8		FRAG. 490.2-489.9, 486.5-			LOSS Ø
	9		486.9, 486.1-486.0, 485.5-			4 NACC Ø
	10		485.4 HIGH ANG. FRAC. 484.9			DEP + T/DEP 4.9
	11		484.3, C-MGR 493.7-485.9		2	PULL #2
	12		F.-MGR ELSEWHERE			
483.3	13					START 13:01
	14		SLT			END 13:20
	15		GN.-GR, S-M.H, SH		7.2	TIME 19 MIN
	16		CL SEAM 483.3-483.2			DRL 19 MIN
479.6	17		BRK 480.8-480.7			RAN 9.7
	18		SANDSTONE		3	REC 9.5
	19		LT GR-GR, M.H-H.H, M. FGR.			LOSS Ø
	20		OCC. MIC.,			4 NACC Ø
			OCC THIN SH BD 477.9-477.0		11.0	
					4	
					14.5	DEP 19.6 T/DEP 19.9
						PULL #3
					5	START 13:40
						END 14:01
						TIME 21 MIN
						DRL 21 MIN
						RAN 9.9
					18.1	REC 9.8
					6	LOSS Ø
						4 NACC Ø
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-21I

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. L-2/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		OCC PYRITE, NOD 477.0		21.7	
	22		476.2, CAL CEM 476.3			
	23		476.0, 470.5 - 469.8,		7	
	24		CL/SH BD PLN THIN			T/DEPT+DEP 24.5
	25		W/PYR FLAKES 474.2-474.0		25.1	PULL #4
	26		MECH SPIN 472.3 472.0			START 19:15
	27		CAL. NOD., S. OCC 465.9-		8	END 19.29
	28		464.9			TIME 19min
	29		TH. SH BD 463.7		28.8	DRL 4min
	30					PEN 9.9
	31				9	REC 10.0
	32					LOSS 0
	33				32.4	UNREC 0
462.3	34		BOTTOM HOLE		10	
	35				34.3	DEP 34.4 T/DEP 34.3
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-2/1

Hole No. L-2/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-2 STA 11+46.89B
3. DRILLING AGENCY: W. G JACQUES
4. HOLE NO. (As shown on drawing title and file number): L-2/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.6
8. DEPTH DRILLED INTO ROCK: 33.8
9. TOTAL DEPTH OF HOLE: 463.1
10. SIZE AND TYPE OF BIT: 4 X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/22/88; COMPLETED 12/23/88
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 33.8 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1–13		SANDSTONE LT-gr. m.-H. FTo mgr occmic, TH, SLI cl Bd PLN 496.5, 495.3, 495.2 499.9 HNG 20°, C. gr 493.7 - 488.9 Sh Bd w/0.2 spacing 491.9 - 488.6, wuni, mic. bd. pln. (BANds), 488.9 - 488.3, 487.7 - 487.2 occ S. FALT (THRUST) drp And Fold (45°) < 0.1 displacement 488.2 - 487.2 SLT LENS W/LT COL ROCK FRAGS 487.0 - 486.7		1 2 3 3.5 4 5 6.7 7 8 10.2 10 11 12 13.6	PULL #1 START 1:35 END 1:43 TIME 8 min DRL 8 min RAN 4.9 REC 4.9 LOSS 0 UNACC 0 DEP 5.0 T/DEP 4.9 PULL #2 START 1:57 END 2:03 TIME 8 min DRL 8 min RAN 2.9 REC 2.9 LOSS 0 UNACC 0 T/DEP 7.6 DEP 7.8 PULL #3 START 2:10 END 2:30 TIME 20 min DRL 20 min RAN 4.7 REC 4.7 DEP 12.5 T/DEP 12.3 LOSS 0 UNACC 0 PULL #4
483.2	13–19		SLT gr.-gn.gr., S-M.H. Sa, SLI BKN. 483.2 - 482.8 W/SS LENS @ 482.9 - 482.8 SS gr, m.H, f-mgr., 482.0 - 481.5, 479.9 - 479.4 SLI BKN 478.2 477.9		13.6 17.3 4 5 6	START 2:47 END 3:05 TIME 18 min DRL 18 min RAN 7.2 REC 7.3 LOSS 0 UNACC 0
477.7	19–20		SANDSTONE CONT		CONT	DEP 19.9 T/DEP 19.7

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-2/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. L-Z/Z

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #5
	21		LT. gr-gr, m.H, F.-mgr.		20.8	
	22		occ. mic. X Bd, pyr nod			START 7:49
	23		AND FLAKES 476.2-473.6		7	END 8:09
	24		SH SCAM 475.5-475.9			TIME 20 min
	25		CAL CEM Lens 473.3-			DRL 20 min
	26		473.9, num S. SH. FRAG.			RAN 10.0
	27		+ Bd PLN 470.2-470.0			REC 10.0
	28		num mic Bd, pln Chor		29.5	LOSS Ø
	29		Bands) 466.0-465.5			UNACC Ø
	30				8	
	31					PULL #6
	32				28.3	
	33					START 8:23
463.1			BOTTOM HOLE			END 8:28
	34					TIME 5 min
	35				9	DRL 5 min DEP 30.0
	36					RAN 4.0
	37					REC 4.0
	38					LOSS Ø
	39				31.8	UNACC Ø
	40					
	41				10	
	42					
	43					
	44				33.8	DEP + TI DEP 33.8

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-Z/Z

Hole No. L-311

DRILLING LOG

DIVISION	ORD
INSTALLATION	ORH-CD
SHEET	OF 2 SHEETS
1. PROJECT	GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station)	MONO L-3 STA 11+54.98 B
3. DRILLING AGENCY	W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number)	L-311
5. NAME OF DRILLER	D. NORRIS
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	Ø 496.8
8. DEPTH DRILLED INTO ROCK	33.5
9. TOTAL DEPTH OF HOLE	463.3
10. SIZE AND TYPE OF BIT	4 X 5 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A / UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	10
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 12/27/88 / COMPLETED 12/27/88
17. ELEVATION TOP OF HOLE	496.8
18. TOTAL CORE RECOVERY FOR BORING	33.5 %
19. SIGNATURE OF INSPECTOR	JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		LT gr. - gr, m.H. - H, mi - c gr., occ. mic. BKN PLNS w/ o. 0.2 976.8 - 495.8			START 15.01
	2		m. gr. mic 496.8 - 494.1		1	END 15.12
	3		488.5 - 487.7 l.c. - m gr.			TIME 11 min
	4		494.1 - 488.5, Th, SA. Bd			DRL 11 min
	5		491.9 - 491.3 SA. FRAG.			RAN 5.0
	6		489.6 - 489.1			REC 4.8
	7				3.7	LOSS Ø
	8					UNACC Ø
487.7	9					DEPTH/DEP 5.0
			ICL		2	PULL #2
	10		R. br, S, mottled w/ gR - gN			START 16.00
	11		cl L. PI 20° 30° 4829 - 4873			END 16.22
485.9			SLF 90° @ CONTACT w/ SLT			TIME 22 min
			POSS FAULT		7.2	DRL 22 min
						RAN 6.9
						REC 6.9
					3	LOSS Ø
						UNACC Ø
					11.0	
			SLT			DEPTH/DEP 11.7
	12		gR - gN gR., S - m.H, sa			PULL #3
	13		BKN @ CONTACT w/ ICL		4	START 16.45
	14		SLF 485.9 - 485.3, mech			END 17.20
	15		chipped 485.1 - 484.7			TIME 35 min
	16		BKN 480.2 - 480.1, w/ TH CL,			DRL 35 min
480.1			cont @ 480.1		14.5	RAN 10.1
						REC 10.1
	17					LOSS Ø
	18				5	UNACC Ø
	19		SANDSTONE			
					18.3	
			LT. gr. - gr, m.H F - m. gr		6	
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. L-311

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.8 | Hole No. L-311

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE			
	21		occ.mic., SLT 480.1-477.5			
	22		SLT SEAM blk 479.5-		21.8	DEPTH/DEP 21.8
	23		479.3, occ Th SLY bd			PULL #9
	24		477.3-476.8, occ S.pyr			START 18:10
	25		Nod. 475.0-479.0			END 18:55
	26		CAL. CEM. 465.0-464.3		25.5	TIME 45min
	27					DRL 45min
	28					RAN 9.8
	29				29.2	REC 9.3
	30					LOSS 0
	31					UNACC.0
	32				31.8	DEPTH/DEP 31.8
	33					PULL #5
463.3			BOTTOM HOLE			START 21:00
	34				33.5	END 21:11
	35					TIME 11min
	36					DRL 11min
	37					RAN 1.2
	38					REC 1.2
	39					LOSS 0
	40					UNACC 0
	41					DEP+ T/DEP 33.3
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-311

Hole No. L-3/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-3 STA 11+19.18 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-3/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 497.0
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 463.1
10. SIZE AND TYPE OF BIT: 4 7/8 V
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/23/88; COMPLETED 12/23/88
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 33.9 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1–8		SANDSTONE LT.gr.-gr, m-HH, F-C gr. occ mic, num SM. sz & sd + FRAG 496.0-495.3, 492.7-492.5, 491.6-491.3 489.5-489.3, SH SCAM w/ Cl coating occ at under 492.0-492.1 CAL, CEM, 489.9-489.7		1 3.5 2 7.1 3 10.6 4 14.2 5 17.8 6 CONT	PULL #1 START 9:00 END 9:13 TIME 13 min DRL 13 min RAN 4.9 REC 4.9 LOSS Ø UNACC Ø DEP 5.0 T/DEP 9.9 PULL #2 START 9:26 END 9:57 TIME 31 min DRL 31 min RAN 9.6 REC 9.9 LOSS Ø UNACC Ø DEP 19.8 T/DEP 19.6 PULL #3 START 10:[illegible]5 END 10:26 TIME 21 min DRL 21 min RAN 10.3 REC 9.9 LOSS Ø (CONT)
488.3	9–18		SLT gr.-gn.gr. S.-M.H. 3 RADIATIONAL W/SH @ Top To sq AT Bottom Few breaks 1.0 spacing mech spin 487.3 NO LC SS. LT gr, m.H, m.gr, 481.0-480.2			
478.8	19–20		SANDSTONE (CONT)			

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PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-3/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-3/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SAND-STONE			PULL #3
	21		LTgr-GR, M.H, F-MGr.		6	UNACC Ø
	22		mic.			
	23		SLT GR, M.H. Sa 472.5-		23.6	
	24		476.9, PYR NOD SMALL		7	
	25		SCATTERED ALSO FLAKS 476.1		25.3	DEP 24.8 DEP 24.9
	26		-472.9, SLT VC. F. GR 475.5		8	PULL #4
	27		-479.9, CAL CEM 468.4-			START 10:47
	28		468.3.			END 11:05
	29				28.9	TIME 18 MIN
	30				9	DRL 18 MIN
	31					RAN 9.0
	32					REC 9.0
	33				32.6	LOSS Ø
463.1	34		BOTTOM HOLE		10 33.9	UNACC Ø
	35					DEPTH DEP 33.9
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-625-603

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. L-3/2

Hole No. L-9/1

DRILLING LOG	Division: ORD	Installation: ORH-CD	Sheet 1 of 2 sheets

1. Project: GALLIPOLIS LOCK + DAM
2. Location (Coordinates or Station): MONO L-9 STA 11+26.76B
3. Drilling Agency: W. G. JAGUES
4. Hole No. (As shown on drawing title and file number): L-9/1
5. Name of Driller: WAYNE TICE
6. Direction of Hole: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. Thickness of Overburden: 496.9
8. Depth Drilled into Rock: 34.8
9. Total Depth of Hole: 462.1
10. Size and Type of Bit: 4 x 5½"
11. Datum for Elevation Shown (USGS or MSL): M.S.L
12. Manufacturer's Designation of Drill: B-57 MOBILE
13. Total No. of Overburden Samples Taken: Disturbed N/A; Undisturbed N/A
14. Total Number Core Boxes: 10
15. Elevation Ground Water: N/A
16. Date Hole: Started 12/28/88; Completed 12/28/88
17. Elevation Top of Hole: 496.9
18. Total Core Recovery for Boring: 34.8 %
19. Signature of Inspector: JMO

Elevation (a)	Depth (b)	Legend (c)	Classification of Materials (Description) (d)	% Core Recovery (e)	Box or Sample No. (f)	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.9	1–10		SANDSTONE LT gr. - gr., m.H-H, m-cgr. occ. mic., BLN 496.6 - 496.5 sm cl FRAG 493.7, Cgr. 494.0 - 487.5, m gr. ABOVE + BELOW, cl seam, 487.9 - 487.8, 487.7 - 487.6 FESTAIN, F gr. SS. 487.8- 487.7, Thin cl COATED PLN 487.5		1	PULL #1 START 8:00 END 8:10 TIME 10 min DRL 10 min RAN 2.4 REC 2.4 LOSS 0 UNACC 0 TIDED DEP 2.4
					3.4	PULL #2 START 8:29 END 8:40 TIME 11 min DRL 11 min
					2	RAN 5.0 REC 5.0 LOSS 0 UNACC 0
					7.2	DEP + TIDEP 7.4
486.4						PULL #3
					3	START 8:50 END 9:00 TIME 10 min DRL 10 min
					10.6	RAN 6.5 REC 7.5 LOSS 0 UNACC 0
485.7	11–12		CL LT gr, S. SI, SLT LOW ANGLE 486.2, HIGH ANGLE 486.3 - 485.8		4	
	13–14		SLT gr-sm.gr. S-M.H. gradation w/sh @ Top To sa Bottom sa Below 478.1 SS. gr, m.H, f. m gr., SL 480.5 - 479.8, SS gr. m-H. m.gr 478.0 - 477.8		14.3	DEP + TIDEP 19.9
					5	PULL #4
	15–16				16.6	START 15:35 END 16.45 TIME 10 min DRL 10 min RAN 9.7 REC 9.7 LOSS 0
	17–18				6	
	19–20		(CONT)		20.0	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM HOLE NO. L-9/1

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.9 | Hole No. L-9/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLT			PULL #4
	21					
475.3					7	UNACC Ø
	22		SANDSTONE			
	23		LTGR.-GR, M.H, F-M.GR.			
	24		MIC, GRADATIONAL CONTACT			
			W/ UP SLT, SLT F. GR		24.6	T/DEP 24.4
	25					DEP 24.8
			ABOVE 473.8, CL COATED			PULL #5
	26				8	
	27		BD PLN, OCC PYR UNIT SM.			START 16:58
						END 17:22
	28		474.2 - 472.8, CAL. CEM.			TIME 24 min
					28.4	DRL 24 min
	29		472.8 - 472.7, FEW THIN			RAN 9.7
					9	REC 10.2
	30		SH. BD. 468.0 - 467.9			LOSS Ø
						UNACC Ø
	31		BANDS OF MIC LAMINS.			
					31.6	
	32		463.1			
	33				10	
	34					
462.1			BOTTOM HOLE		34.8	DEP 34.6
	35					T/DEP 34.8
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-9/1

Hole No. L-9/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Stations): MONO L-9 STA 10+87.71B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-9/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.0
8. DEPTH DRILLED INTO ROCK: 34.1
9. TOTAL DEPTH OF HOLE: 462.9
10. SIZE AND TYPE OF BIT: 4Y5H
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/23/88; COMPLETED 12/23/88
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 34.1 %
19. SIGNATURE OF INSPECTOR: JMH

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1–8		SANDSTONE LT.GR.-GR, M.H.-H. M.-C.GR, OCC.MIC., FE SURFACE STAIN 497.0 496.9 ANG JT 45° 496.7-496.5, NUM THIN SH/CL BD 492.1-491.7		1	PULL #1 START 11:35 END 11:53 TIME 18min DRL 18min RAN 5.0
					3.5	REC 5.0 LOSS 0 UNACC 0
					2	DEP+TIDEP 5.0
						PULL #2 START 12:34 END 12:52
					7.0	TIME 18min DRL 18min RAN 9.6
488.2	9–15		SLT GR-GN GR. S-MH, GRADATIONAL W/CL TOP TO SA BOTTOM OCC SEL ANG PN 45° W/SEL SLT BTN 487.9-487.2, 486.6-486 HOR ~10° 486.2, OCC MOTTLED W/LT.BR CL 487.5-486.4 ANG PN, SLI BTN 30° 485.1-485.0, ANG PN 30° 484.7-484.6, SA BELOW 484.3		3	REC 9.1 LOSS 0 UNACC 0
					10.8	
					4	
					14.7	TIDEP 19.0
481.6						DEP 19.6
	16–17		SANDSTONE LT.GR., M.H. F.GR.		5	PULL #3 START 1:09 END 1:30 TIME 22min DRL 22min RAN 9.4
479.2					18.0	REC 10.0
	18–19		SLT GR., M.H. SA LSS. GR. M.H. M.GR 479.0-478.8)		6 (CONT)	LOSS 0 UNACC 0 (CONT)
477.2	20		SANDSTONE			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-9/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-4/2

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		LT. GR.-GR, M.H. F. MGR		21.7	
	22		OCC MIC, SLT, GR, M.H. SU,			
	23		475.6 - 474.9, 473.8 - 473.2		7	
	24		HIGH ANG FRAC 479.3 - 477.0			DEP+TIDEP 24.0
	25					PULL #4
	26		NEW CLAY LSA GD + FRAGS		25.2	START 2:10
	27		471.5 - 470.7, 469.6 - 469.4		8	END 2:21
	28		467.7, 467.4 + 466.6, 463.8			TIME 11 MIN
	29		CAL. NOD. 470.8 - 470.7		28.7	DRL 11 MIN
	30		466.6 - 466.5			RAN 10.0
	31				9	REC 10.0
	32					LOSS 0
	33				32.3	UNALLD
462.9	34		BOTTOM HOLE		10	
	35				34.1	DEP 34.0
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. L-4/2

Hole No. L-511

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK & DAM	10. SIZE AND TYPE OF BIT: 4 15.5"
2. LOCATION (Coordinates or Station): MONO L-5 / STA 10+80 B	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
3. DRILLING AGENCY: W. G. JAQUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
4. HOLE NO. (As shown on drawing title and file number): L-511	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: DAVID HARPER / STEVE FRY	14. TOTAL NUMBER CORE BOXES: 11
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
	16. DATE HOLE: STARTED 11/10/89; COMPLETED 11/10/89
7. THICKNESS OF OVERBURDEN: 0 496.5	17. ELEVATION TOP OF HOLE: 496.5
8. DEPTH DRILLED INTO ROCK: 38.9	18. TOTAL CORE RECOVERY FOR BORING: 38.9 %
9. TOTAL DEPTH OF HOLE: 457.6	19. SIGNATURE OF INSPECTOR: J Mid

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1 2 3 4 5 6		SANDSTONE M-C.g., M.h, M.gR. 0.1 LC bTWN 0.0 & 2.9 LEA Lt.gR. 3.4-4.4		Box 1 3.4 Box 2 7.1	PULL #1 START 1:20 END 1:35 TIME 15min DRL 15min RAN 2.9 REC 2.8 LOSS 0.1 UNACC 0 DEP 2.9 PULL #2 START 1:45 END 2:00 TIME 15min DRL 15 min RAN 7.4 REC 7.4 LOSS 0 UNACC 0 DEP 7.4
489.9	7 8 9 10 11 12 13 14 15 16 17		SANDSTONE SLY, Fig., m.h., M. gR bKN. 7.3-7.4 OVER CORED 7.4-8.0		Box 3. 10.6 Box 4 13.8 Box 5. 17.3	PULL #3 START 2:10 END 2:22 TIME 12min DRL 12min RAN 12.0 REC 4.7 LOSS 0 UNACC 0 DEP 12.1 PULL #4 START 2:35 END 2:53 TIME 18min DRL 18 min RAN 20.4 REC 8.3 LOSS 0 UNACC 0
479.4	18 19 20		SLS SA. m.h., m.-dK.gR OCC. SS. LENS: 0.2. CLS (CONT)		Box 6 (CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-511

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. L-5/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: OAH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS (cont'd)		Box 4	DEP 22.0
	21		LENS @ 20.6-20.8			PULL #5
	22		grading more SA		Box 7	START 3:05
	23		w/ depth			END 3:25
						TIME 20 min
						DRL 20 min
472.5	24				24.0	RAN 30.5
	25		SANDSTONE			REC 10.1
	26		SLY, Fig., m.h., w/		Box 8	LOSS 0
	27		dk. gr. SLY LAM: occ			UNACC 0
	28		PTG along SLY LAM		27.7	
	29					
	30				Box 9	DEP 30.5
	31				31.4	PULL #6
	32					START 15:40
	33				Box 10	END 16:27
	34					TIME 47 min
	35				35.1	DRL 47 min
	36					RAN 40.6
	37				Box 11	REC 9.9
	38					LOSS 0.7
457.6			BOTTOM HOLE		38.9	UNACC 0
	39					DEP 38.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1968 OF—329-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-5/1

Hole No. L-5/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 3 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-5 STA 10+67.90B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-5/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.0
8. DEPTH DRILLED INTO ROCK: 49.1
9. TOTAL DEPTH OF HOLE: 947.5
10. SIZE AND TYPE OF BIT: 4X5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 14
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 12/27/88; COMPLETED
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 49.1 %
19. SIGNATURE OF INSPECTOR: J MH

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE			PULL #1
	2		LT. GR-GR, M. H-N, F-C GR,			START 7:33
	3		MIC, SURFACE FE STAINED		1	END 7:49
	4		497.0 - 496.9, BROKEN PAN.			TIME 16 min
	5		W/0.3 SPACING 497.0 - 495.0			DRL 16 min
	6		CGL. CEM. 490.5 - 490.0		3.5	RAN 5.0
	7					REC 4.8
488.6	8					LOSS Ø
	9		SLT		2	UNACC Ø
	10		GR-GN.GR., S, GRADATIONAL			T/DEP 4.8
	11		W/CL @ TOP TO SA BOTTOM			DEP 5.0
485.4			CL, GR, S, 488.6-487.3, SEV. BK		7.0	PULL #2
	12		W/POR. 02 LOSS 487.6 - 487.3			START 8:02
	13		SANDSTONE		3	END 8:34
	14		LT. GR. - GR - M.H, VCF - MGR.			TIME 36 min
	15		SL., SA 482.6 - 482.5, FOLLOWS			DRL 33 min
	16		BH + FRAG 482.5 - 482.3, F.M.,			RAN 8.1
	17		GR. 482.4 - 481.9 F-VCF.			REC 7.4
479.4			SS.		10.5	LOSS 0.2
	18		SLT			UNACC 0.2
	19		GN. GR, S, SA, SS. GR, M.H.		4	
477.9			M. AGR. 478.7 - 478.5 SA BELOW			
			478.2			
	20		SANDSTONE			DEP + T/DEP 12.9
			GR. M H., F-VCF GR SL.			PULL #3
			(CONT)		14.1	START 8:49
						END 9:13
						TIME 24 min
					5	DRL 24 min
						RAN 9.7
						REC 9.5
						LOSS Ø
						UNACC Ø
					17.8	
					6	
					CONT	
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS Lock + Dam | HOLE NO. L-5/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-5/2

PROJECT Gallipolis Lock + DAM | INSTALLATION ORH-CD | SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		Sh, Low Angl. 10° 475.9 - 475.8			
475.5					21.5	
	22		SLT.			
			GR. S - MH, Sh, mech BRN		7	DEP 22.6 T/DEP 22.4
	23		474.6 - 474.5			PULL #4
473.4					23.9	START 9:42
	24					END 9:52
			SANDSTONE			TIME 10 min
	25		LT. GR. - GR, M.H., F. - M. GR.,			DRL 10 min
					8	RAN 7.1
	26		Mic, Occ SMALL PYR			REC 7.0
						LOSS Ø
	27		bd 472.9 - 472.7, SMALL			UNACC Ø
	28		CAL. NOD. (PATCH) 471.7			
					28.6	
	29		- 471.6, 470.9 - 470.2,			DEP 29.5 T/DEP 29.9
						PULL #5
	30		Occ THIN sh Bd 468.8 -		9	START 10:00
						END 10:27
	31		468.4, 463.9 - 462.9.			TIME 27 min
						DRL 27 min
	32		SMALL CAL. NOD. 463.7		32.1	RAN 9.9
						REC 10.0
	33		NUM, MIC bd. DIN.			LOSS Ø
					10	UNACC Ø
	34		(BANDS) 460.6 - 460.4			
	35		457.2, FEW, OCC, SMALL			
					35.9	
	36		SH Bd 463.1 - 460.9			
	37		MECH CHIPPING 457.7		11	
	38		457.6			
	39					
					39.4	DEP 39.3
	40					PULL #6 T/DEP 39.4
	41				12	START 10:45
						END 11:09
	42					TIME 24 min
						DRL 24 min
	43				43.0	RAN 10.1
					13 CONT	REC 9.7
	44		(CONT)			(CONT)

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock + DAM | HOLE NO. L-5/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-5/2

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	44		SANDSTONE			PULL #6
	45				13	LOSS Ø
	46					UNACC Ø
	47				46.8	
	48				14	
447.9	49		Bottom HOLE		49.1	T/DEP 49.1
						DEP 49.5
	50					
	51					
	52					
	53					
	54					
	55					
	56					
	57					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OP-628-603

PROJECT: Gallipolis Lock & Dam | HOLE NO. L-5/2

DRILLING LOG | DIVISION: ORH | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-6 STA 10+98B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-611
5. NAME OF DRILLER: A. TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.0
8. DEPTH DRILLED INTO ROCK: 40.0
9. TOTAL DEPTH OF HOLE: 456.0
10. SIZE AND TYPE OF BIT: 4 1/5 IN.
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/11/89; COMPLETED 1/11/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 40.0 %
19. SIGNATURE OF INSPECTOR: J MD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8						PULL #1
	1		SANDSTONE			START 2:14
	2		SLY, M.-C.g., m.h.,		Box 1	END 2:28
	3		M.gR. bKN. C mech)			TIME 14 min
	4		4.0 - 5.6 w/ 0.5 LC			DRL 14 min
	5		TIGHT CONTACT			RAN 3.5
	6					REC 3.5
	7				3.5	LOSS 0
	8					UNACC 0
	9					DEP 3.5
	10				Box 3	PULL #2
	11					START 2.40
	12					END 2.51
	13					TIME 11 min
	14				Box 2	DRL 11 min
482.5						RAN 8.4
	15		SANDSTONE			REC 4.4
	16					LOSS 0.5
	17		SLY, Fig., m.h., m.gR.			UNACC 0
	18		W/SLS. LAM. & ZOS		7.0	
	19		0.1 LC C mech) btwn			DEP 8.4
476.9	20		8.4 & 15.9		Box 3	PULL #3
			S.-m.h, bKN. CLS ZOS.			START 3:06
			@ 19.7 - 19.9			END 3:20
						TIME 14 min
					10.9	DRL 14 min
						RAN 15.9
						REC 7.4
						LOSS 0.4
					Box 4	UNACC 0
					14.7	
						DEP 15.9
					Box 5	PULL #4
						START 15:40
						END 16.05
					18.3	TIME 25 min
						DRL 25 min
					Box 6	RAN 25
						(CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-611

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. L-6/1

PROJECT: GALLIPOLIS LOCKS + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #4
	21		S., shy., m-dk.gr.			REC 9.1
474.8	22		v bkn. 20.6-22.0		22.0	LOSS 0
	23				Box 7	UNACC 0
	24		SANDSTONE			
	25		- F.-m.g. m.h. m-gr			DEP 25
	26				25.6	PULL #5
	27				Box 8	START 16:20
	28					END 16:27
	29					TIME 7 min
	30				29.2	DRL 7 min
	31				Box 9	RAN 34.9
	32					REC 9.9
	33				33.0	LOSS 0
	34					UNACC 0
	35				Box 10	DEP 34.6
	36					PULL #6
	37				36.6	START 16:53
	38					END 17:00
	39				Box 11	TIME 7 min
456.8	40		BOTTOM HOLE			DRL 7 min
	41				40.0	RAN 40.
	42					REC 5.1
	43					LOSS 0
	44					UNACC 0
						DEP 40.0

ENG FORM 1836-A JUN 67 GPO: 1969 OF—328-243

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-6/1

Hole No. L-6/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORN-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-6 STA 10+10 B
3. DRILLING AGENCY: W G JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-6/2
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.1
8. DEPTH DRILLED INTO ROCK: 41.7
9. TOTAL DEPTH OF HOLE: 455.4
10. SIZE AND TYPE OF BIT: 4 X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 12
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/10/89; COMPLETED 1/10/89
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 41.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE			PULL #1
			LT. gr-gr m-HH, m-Cgr			START 10:05
	2				1	END 10:17
			FE SURFACE STAIN 0.0-0.1			TIME 12 min
	3					DRL 12 min
			Cl COATED PN 6.0, 6.4			RAN 5.0
	4				3.7	REC 4.9
			Sh bd 8.2-8.3, CAL, CEM			LOSS 0.1
	5					UNACC 0.1
			9.4-10.3, Sh Bd 9.1, 9.3		2	DEPT/DEP 5.6
	6					PULL #2
			2.9			
	7				7.3	START 10:21
						END 10:99
	8					TIME 23 min
					3	DRL 23 min
	9					RAN 10.1
						REC 10.1
486.8	10					LOSS 0
			SLT			UNACC 0
	11				10.9	
			GR-SW.GR. S-M.H.			
	12				4	
			GRADATIONAL W/Cl AT TOP			
	13					
			TO SA AT BOTTOM, SE BE 10.9			
	14					
			-11.2, LOW ANG PN 20°		14.6	
	15					T/DEPT + DEP 15.1
			W/SLT 11.9-12.0			
481.6						PULL #3
	16				5	
			SAND STONE			START 11.10
	17					END 11.23
			LT gr-gr, M.H.-HH,			TIME 13 min
	18				18.2	DRL 13 min
			F.-m.gr., occ mic.		6	RAN 9.7
	19				(CONT)	REC 9.7
			(CONT)			LOSS 0
	20					(CONT)

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PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-6/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-6/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		GRADATIONAL CONTACT			UNACC Ø
	22		W/ UPPER SLT, CAL. CEM.		21.9	
	23		16.8-17.1, 21.5-22.9		7	
	24		24.8-28.0, 35.2-36.8			T/DEP + DEP 24.8
	25		F. GR ABOVE 20.0,		25.5	PULL #4
	26		FEW OCC. SMALL+THIN			START 12:31
	27		SH Bd BELOW 21.5		8	END 12:46
	28		CAL, CEM. NOD: 23.9			TIME 15 MIN
	29		29.5, 30.1		29.0	DEL 15 MIN
	30					PAN 9.7
	31				9	REC 9.7
	32					LOSS Ø
	33				32.8	UNACC Ø
	34					
	35				10	T/DEP + DEP 34.7
	36					PULL #5
	37				36.2	START 13:00
	38					END 13:35
	39				11	TIME 35 MIN
	40					DEL 35 MIN
	41					PAN 7.0
455.4			BOTTOM HOLE			REC 7.0
	42				39.8	LOSS Ø
	43					UNACC Ø
	44				12.	
					41.7	T/DEP + DEP 41.7

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-6/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK AND DAM
2. LOCATION (Coordinates or Station): MONO L-7 STA 10+00 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-7/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 458.8
10. SIZE AND TYPE OF BIT: 4 5/8 TN
11. DATUM FOR ELEVATION SHOWN (MSL or USL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1-11-89; COMPLETED 1-11-89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	0–5		SANDSTONE. m-c.g., m.h., m.gr. To 5.8 m. SPACED, IRR PTGS ALONG thin, mic. SLY LAM.' 0.7 LC (mech) DTWN 0.0 + 3.0. 0.3 CLS @ 5.5-5.8; 5. CLS ±0. @ 18.8-19.3 w/Hvy. S, GR CL. FKL.		Box 1	PULL #1 START 9:15 END 9:30 TIME 15min DRL 15min RAN 3.0 REC 2.8 LOSS .2 UNACC 0 DEP 3.0
					3.6	PULL #2 START 9:40 END 9:50 TIME 10 min DRL 10 min RAN 7.0 REC 4.0 LOSS 0 UNACC 0
491.2	5–10		SANDSTONE SLY, Fig. m.h., m.gr. w/ thin, dk. gr. SLY mic. LAM		Box 2.	
					7.0	DEP 7.0
					Box 3.	PULL #3 START 10:00 END 10:11 TIME 11min DRL 11 min RAN 11.1 REC 4.1 LOSS 0 UNACC 0
					10.6	DEP 11.1
	10–15				Box 4	PULL #4 START 10:23 END 10:55 TIME 32 min DRL 32 min RAN 19.5 REC 8.4 LOSS 0 UNACC 0
					14.0	
					Box 5	
					17.7	
	15–20				Box 6	
	20		(CONT)		(CONT)	DEP - 19.5 PULL #3 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-7/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-7/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20				Box 6	PULL #5
	21		SANDSTONE		21.0	START 11:08
						END 11:47
	22				Box 7	TIME 39 min
			SLY, Fig m.b., m.gR.			DRL 39 min
	23		w/ thin, dK.gR. sly			RAN 25.6
			mic LAM			REC 6.1
	24					LOSS 0
						UNACC 0
	25				24.8	
						DEP 25.6
	26				Box 8	PULL #6
	27					START 12:35
	28				28.3	END 13:15
						TIME 40 min
	29					DRL 40 min
					Box 9	RAN 35.3
	30					REC 9.7
						LOSS 0
	31					UNACC 0
	32				32.0	
463.9	33					
			CLS/SS		Box 10	
	34		INTER bdd			
461.9	35				35.3	DEP 35.3
						PULL #7
	36		SANDSTONE			START 13:30 UNACC 0
			SLY, Fig. M.B., M.gR		Box 11	END 13:47
	37		W. THIN SLY LAM.			TIME 17 min
						DRL 17 min
458.8	38					RAN 38.2
					38.2	REC 2.2
	39					LOSS .7
	40					DEP 38.2
	41					
	42					
	43					

ENG FORM 1836-A JUN 67 | GPO: 1969 OP—329-343 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. L-7/1

Hole No. L-7/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CP | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-7 9+54 B
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-7/2
5. NAME OF DRILLER: WAYNE TICE / D. NORRIS
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.9
8. DEPTH DRILLED INTO ROCK: 38.9
9. TOTAL DEPTH OF HOLE: 458.0
10. SIZE AND TYPE OF BIT: 4 7/8 ½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/10/89; COMPLETED 11/10/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 38.9 %
19. SIGNATURE OF INSPECTOR: IMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE			PULL #1
	1		gR., m.H. M.-C.gR, occ			START 13.56
	2		mic., BKN @ SURFACE		1	END 14.12
	3		0.0-0.4, SH SEAM 3.5-3.7			TIME 16 min
	4		7.1-7.2, 7.5-7.6, SM CL			DRL 16 min
	5		NOH 7.0.			RAN —
					3.5	REC 5.0
	6					LOSS Ø
	7					UNACC Ø
	8				2	DEP 5.0
487.9	9					PULL #2
			CL			START 14.15
	10		gR., VF.S.-S, CLAYEY 9.0-9.4		7.1	END 14.31
486.9			SLT below 9.4, ANG CONTACT			TIME 16 min
	11		w/UPPER SS.			DRL 16 min
			SLS		3	RAN 9.5
	12		gR, S-M.H., occ GRADATIONAL			REC 9.5
	13		INTER bdd w/VERY Agr.			LOSS Ø
			SS., SS. F-g. gR m.H. 11.7			UNACC Ø
	14				11.0	
	15		13.0		4	
480.8	16				14.5	TIDE + DEP 14.5
			SANDSTONE.			PULL #3
	17		LT gN-gR M.-H, F-M. gR		5	START 19.40
	18		mic, SH SEAM 18.6-18.7			END 19.55
	19		CAL-CEM., 19.2-21.9, 23.8-24			TIME 15 min
	20		(CONT)			DRL 15 min
					14.5	RAN 10.0
					6.	REC 10.0
						LOSS Ø
					(CONT)	UNACC Ø
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-7/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. L-7/2

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		29.9 - 31.3, ANG FRAC. 45°			
	22		21.9 - 22.2, BRN 23.2 - 23.4		21.9	
	23		HIGH ANG. FRAC. 23.8 - 24.8		7	
	24		OCC SM THIN SH BD. 27.6-28.2,			TIDED + DEP 24.5
	25		31.2		25.4	PULL #4
	26					START 15:10
	27				8	END 15:27
	28					TIME 17min
	29				29.1	DRL 17min
	30					RAN 11.1
	31				9	REC 10.2
	32					LOSS 0.9
463.6	33				32.9	UNREC 0.9
	34		SLS			PULL #5
	35		GR, S-H., SH, SS, SEAM LTGR. M.GR, CAL., SMPYR. NOD.		10	START 15:50
461.3						END 16:00
	36		SANDSTONE			TIME 10min
460.4			LTGR. H. M GR CAL, CONGLOMATE 36.3 - 36.5 NUM CL FRAG			DRL 10min
	37		ICL		37.3	RAN 3.3
	38		B. BR, S, MOTTLED W/GR BELOW 37.5, ANG, DIP. 30° W/SLK 38.0 - 38.2 BOTTOM HOLE		11	REC 3.3
458.0					38.9	LOSS 0
	39					UNACC 0
	40					T/DED DEP 38.9
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-7/2

Hole No. L-8/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORHCD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MOND L-8 STA 9+49 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-8/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.1
8. DEPTH DRILLED INTO ROCK: 38.2
9. TOTAL DEPTH OF HOLE: 458.9
10. SIZE AND TYPE OF BIT: 4 X 5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/10/87; COMPLETED 11/10/87
17. ELEVATION TOP OF HOLE: 497.1
18. TOTAL CORE RECOVERY FOR BORING: 38.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.1	1		SANDSTONE			PULL #1
	2		LT. GR-GR, M.-M.H, M-C GR.			START 17.48
	3		OCC. MIC, BKN PN 0.2 SPACE		1	END 17.66
	4		0.0-1.0, SM. SH. BDI/FRAG			TIME 25 MIN
	5		4.2-9.4, 7.5, BKN PN 0.3			DRL 26 MIN
	6		SPACED 7.3-10.3, CAL		3.5	RAN —
	7		CEM 13.3-14.2, CL, GR,			REC 9.1
	8		S. 14.2-14.3			LOSS 0.4
	9					UNACC 0.4
	10				2	
	11					
	12				7.3	
	13					
	14				3	T/DEP 9.4
482.9						DEP 9.6
	15		SLS			PULL #2
481.6			GR. M. H Sa.		11.0	START 18.25
	16		SANDSTONE			END 18.55
	17		LT. GR-GR, M. H. F-M. GR.			TIME 30 MIN
	18		MIC, VF. GR (SLT) ABOVE		4	DRL 30 MIN
	19		22.5., HIGH ANG FRAC 16.0			RAN —
	20		16.7, CLAY SEAM 18.6, 0.05 (CONT)			REC 9.5
						LOSS Ø
					14.5	UNACC Ø
					5	
					18.1	
					6	T/DEP 18.9
					CONT.	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-8/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.1 | Hole No. L-8/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	DEP 20.4
	21		THCK., CALC CEM. 26.9-27.7,			PULL #3
					21.9	
	22		32.8-34.6, THINCL. BD. 28.2			START 19:00
						END 19.95
	23		NUM. S. SLS. FRAG. 34.6-		7	TIME 45 MIN
						DRL 45 MIN
	24		34.8			RAN ←
						REC 10.1
	25				25.0	LOSS 0.1
						UNACC 0.1
	26					
					8	
	27					
	28					
					28.6	
	29					T/DEP 29.1
						DED 29.3
	30					PULL #4
					9	
	31					START 19:55
						END 20:45
	32					TIME 50 MIN
					32.2	DRL 50 MIN
	33					RAN —
						REC 8.7
	34					LOSS 0.4
					10	UNACC 0.4
462.0	35					
			SLS			
	36		BR., S., SH/, INTERBD W/CLS		36.0	
			CL 36.2-36.8, CLSEAMS			
	37		0.05 THCK 36.3 37.0, 37.5,		11	
			37.6			
458.9	38		BOTTOM HOLE		38.2	T/DENT DEP 38.2
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-8/1

Hole No. L-8/2

DRILLING LOG	DIVISION ORH-CD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4X5½	
2. LOCATION (Coordinates or Station) MONO L-8 STA 9+00 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-57 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-8/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER Dowell Norris		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 8	496.7	16. DATE HOLE: STARTED 11/10/89; COMPLETED 11/10/89	
8. DEPTH DRILLED INTO ROCK 39.1		17. ELEVATION TOP OF HOLE 496.7	
9. TOTAL DEPTH OF HOLE 457.6		18. TOTAL CORE RECOVERY FOR BORING 38.6 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6			SANDSTONE			PULL #1
	1		LT gr. - gr, mH-H, m-c. gr.			START 4:30
	2		occ mic., BKN/PN w/spacing		1	END 4:45
	3		0.2, 0-2.1, CAL, cem. 4.3-			TIME 15 min
	4		6.2			DRL 15 min
	5					RAN 4.8
	6				3.7	REC 4.7
	7					LOSS 0
	8					UNACC 0
488.8						DEP 4.8 T/DEP 4.7
	9		CLS			PULL #2
			gr, S, SH, num FRAC VES.)		2	START 4.50
487.5	10					END 5:15
			SLS		7.3	TIME 25 min
	11		gr m-H, sa., F. gr. SS.			DRL 25 min
	12		gr, m H. 12.6 - 13.3			RAN 5.0
	13					REC 10.3
					3	LOSS —
478.3	19					UNACC — T/DEP 9.8
					11.1	
					4	
					14.7	
	15		SANDSTONE			DEP 15.0
	16		LT gr. - gr, mi-H, F-m. gr			PULL #3
			mic, occ THIN SH, bl		5	START 5:30
	17		17.0-17.7, 20.0-20.9, 27.2			END 5:50
	18		-27.3, slightly BKN 21.2-22.0			TIME 20 min
						DRL 20 min
	19				18.4	RAN -
					6	REC 9.9
	20		(CONT)		(CONT)	LOSS 0 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-8/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. L-8/2

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #3
	21		CAL, CEM. NOD. 23.8			UNACC Ø
	22		CAL CEM. 26.5-27.5		22.0	
	23		SHALE SEAM @ 30° ANG		7	
	24		W/SLK 28.6-29.8			DEP 25.8
	25					T/DEP 24.9
	26				25.6	PULL #4
	27					START 6:05
	28				8	END 6:40
	29					TIME 35min
466.6	30					DRL 35min
	31		CLS		9	RAN 8.4
464.5	32		gR-dkgR., S, SL, scarcely SKN W/0.1 Loss 31.2-32.3			REC 7.2
	33		ICL		29.3	LOSS 0.1
	34		R-bR, S: MOTTLED w/gR			UNACC 0.1
	35		+ gN:gR, NUM. FRAC. W/		33.0	T/DEP+DEP 32.2
	36		SLK, SA, Less R-bR +		10	PULL #5
	37		MORE gN. gR 2-1CM 36.4			START 7:10
	38		Less SKN			END 7.45
458.1			BOTTOM HOLE		38.6	TIME 35min
	39					DRL 35min
	40					RAN 6.9
	41					REC 6.4
	42					LOSS Ø
	43					UNACC Ø
	44					T/DEP 38.6
						DEP 39.1

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-8/2

Hole No. L-9/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-9 STA 9+0± B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-9/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.0
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 459.1
10. SIZE AND TYPE OF BIT: 4"TSK"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/10/89; COMPLETED 1/10/89
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 37.9 %
19. SIGNATURE OF INSPECTOR: ZMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	0		SANDSTONE		Box 1	PULL #1
	1		m-.C.g., M.H., M.gR.			START 21:45
						END 21:55
						TIME 10 min
						DRL 10 min
	2					RAN 5.0
						REC 5.0
	3					LOSS 0
						UNACC 0
					3.8	
	4				Box 2.	
						DEP 5.0
	5					PULL #2
491.4						START 22:07
	6		SANDSTONE			END 22:15
						TIME 8 min
	7		sLy., fig., m.h., m.gR			DRL 8 min
					7.5	RAN 10.0
	8		Interbdd w/ m.dk.		Box 3.	REC 5.0
						LOSS 0
	9		gR. sLs. CLs 8.5.-9.0			UNACC 0
	10		sLs zon 11.8-14.3:			DEP 10.0
						PULL #3
	11		vc. bKN. 17.1-17.6		11.1	START 22:27
						END 22:45
	12		CLs 17.1-18.8;		Box 4.	TIME 18 min
						DRL 18 min
	13		gRADing more			RAN 14.8
						REC 4.8
	14		sANDy w/ depth			LOSS 0
						UNACC 0
					14.8	
	15					DEP 14.8
					Box 5	PULL #4
	16					START 22:55
						END 23:15
	17					TIME 20 min
						DRL 20 min
	18					RAN 24.6
						REC 9.8
					18.5	
	19				Box 6	LOSS 0
						UNACC 0
	20		(CONT)		Cont	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-9/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-9/1

PROJECT Gallipolis Lock & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21		SANDSTONE		Box 6	Pull #4
	22				22.1	
	23				Box 7	
	24				24.6	DEP 24.6
	25					Pull #5
	26				Box 8	START 7:18
470.0	27					END 7:55
						TIME 37 min
						DRL 37 min
	28		CLS		28.1	RAN 34.1
			m.gr., s.m.h.			REC 9.5
467.9	29					Loss 0
					Box 9	UNACC 0
	30		ICL			
	31		R.br., bKN, slKN.			
	32				31.9	
	33				Box 10	
	34					DEP 34.1
						Pull #6
	35				35.3	START 8:20 Loss 0
						END 8:40
	36					TIME 20 min UNACC .2
						DRL 20 min
	37				Box 11.	RAN 37.9
						REC 3.6
459.1	38		Bottom Hole		37.9	DEP 37.9
	39					
	40					
	41					
	42					
	43					
	44					
	45					

ENG FORM 1836-A JUN 67 | GPO: 1969 OP—328-343 | PROJECT Gallipolis Lock + DAM | HOLE NO. L-9/1

Hole No. L-9/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MGNO L-9 STA 8+65.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-9/2
5. NAME OF DRILLER: D NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 39.2
9. TOTAL DEPTH OF HOLE:
10. SIZE AND TYPE OF BIT: 4 1/4"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/10/87; COMPLETED 11/11/87
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 39.2 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE m.-C.G., m. h., m-GR.		Box 1	PULL #1 START 20:45 END 21:00 TIME 15min DRL 15min RAN 4.9 REC 4.9 Loss 0 UNACC 0
493.1	3				3.8	
	4		SANDSTONE Sly, f.-m.g, m.h., m.GR		Box 2	DEP 4.9 PULL #2 START 21:05 END 21:25 TIME 20min DRL 20min RAN 15.2 REC 10.3 Loss 0 UNACC 0
489.7	7				7.2	
	8		SLS Cly-SA., S. m.h., m.GR UE. 6KN 7.4-8.2; 8.7 -11.0 GRADING INTO		Box 3	
482.9	14				11.0	
	15		SANDSTONE Sly, Fig, m.h., m.GR W/occ., m.-DK.GR. Sly. LAM @ 20s:1" IRR. CLS LAM @ 17.0		Box 4	
	20		(CONT)		14.6	
					Box 5	DEP 15.2 PULL #3 START 21:40 END 22:05 TIME 25min DRL 25min RAN 24.9
					18.1	
					Box 6	
					(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. L-9/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. L-9/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #3
	21				21.7	REC 9.7
	22					LOSS 0
	23				Box 7	UNACC 0
	24					
472.2					24.9	DEP 24.9
	25		CLS			PULL #4
	26		occ. SLy., S-M.h., M.gR			
470.3			VERY KN 24.7-24.9 GRADING into		Box 8	START 22:25
	27					END 23:25
	28		ICL			TIME 60 min
	29		R. BR - GREENISH			DRL 60 min
	30		GR., S-M.h, SLK.		28.6	RAN 33.5
	31					REC 8.8
	32				Box 9	LOSS 0
	33					UNACC 0
	34				32.1	
	35				Box 10	DEP 33.7
	36					PULL #5
	37					1/11/91
	38					START 7:30
457.4	39		BOTTOM HOLE		35.7	END 7:54
	40					TIME 24 min
	41				Box 11	DRL 24 min
	42					RAN 39.2
	43					REC 5.5
	44					LOSS 0
						UNACC 0
					39.2	DEP 39.2

ENG FORM 1836-A JUN 67 GPO: 1969 O—329-343

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-9/2

DRILLING LOG — DIVISION: ORD — INSTALLATION: ORH-CD — SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-10 STA 8+55B
3. DRILLING AGENCY: W. B. JACQUES
4. HOLE NO. (As shown on drawing title and file number): L-10/1
5. NAME OF DRILLER: DAVID HARPER / STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.0
8. DEPTH DRILLED INTO ROCK: 38.3
9. TOTAL DEPTH OF HOLE: 448.7
10. SIZE AND TYPE OF BIT: 4" X 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/12/88; COMPLETED 1/12/88
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 38.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	0–8		SANDSTONE m-c.g, m.h, m.gr BKN 0.0 - 2.7 ANG CONTACT			PULL #1 Box 1 START 1:55 END 2:04 TIME 9min DRL 9min RAN 5.0 REC 5.0 3.8 LOSS 0 UNACC 0 Box 2 DEP/TIDEP 5.0
488.8						PULL #2 START 2:15 UNACC 0 END 2:21 TIME 6min 7.1 DRL 6min RAN — Box 3 REC 4.3 LOSS 0 DEP/TIDEP 9.3
488.3	8–13		CLS S.m.h., m.-clkgr 0.1 s.gr CL@ 8.2 : TR gr.cl. Fillins@8.7 SANDSTONE Sly m.h., m.-gr, f.g NEAR HOR PTG ALONG Sly.stg @ 11.8 · CLS/SLS ZONE 13.2-13.8 W/FRAC IN CLS 13.3-13.5			10.3 PULL #3 Box 4 START 2:30 END 3:04 TIME 34min DRL 34min RAN — 13.8 REC 9.1 LOSS 0 UNACC 0
483.9	13–20		SS/CLS Interbdd CLS-16.2-16.5' HOR. PTG ON BOTH SIDES HOR PTG. @ 16.0 1" CLS LEN @ 17.0 (Sly BKN) CLS - 17.4-17.7 CLS - 19.2-20.4 W/ Closely Spaced HOR PTGS & TR. GR. CL. THIN LAM (PROB AREA OF 0.1 LC.) MECH PTG @ 21.7 (CONT)		Box 5 17.4 Box 6 (CONT)	TDED 18.4 DEP 19.9

ENG FORM 1836 MAR 71 — PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM — HOLE NO.: L-10/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.2 | Hole No. L-10/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: OEM-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SS/CLS		Box 6	
	21				20.8	PULL #4
	22				Box 7	START 3:50
473.9	23					END 4:18
						TIME 28 min
						DRL 28 min
	24		CLS			RAN 17.1
			SLY, SLY, M.-DK.G.B.J.S		23.6	REC 13.5
	25		-M.H PTG (MCCA) @ 23.1		Box 8	LOSS 0
			23.7: 1" SS. LAM @ 26.1			UNACC 0
	26		SLY. SLK. 24.3, 25.9: 45°			
			SLK PTG @ 26.6 26.8			
	27		1 OR SLK PTG @ 27.0.			
			GRADING INTO			
468.8	28				27.9	
	29		ICL		Box 9	
	30		R. BR, SLK; BRN,			
			S.-M.H. 0.5 L.C.			
	31		btwn 28.2 & 33.5		31.5	
	32					
	33				Box 10	
	34					
	35					
					35.7	DEP + T/DEP 35.5
	36					PULL #5
	37					START 5:25
						END 5:37
						TIME 12 min
						DRL 12 min
						RAN 2.8
458.7	38		BOTTOM HOLE			REC 2.8
					38.3	LOSS 0 T/DEP 38.3
						UNACC 0
	39					DEP 39.3
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-243 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-10/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-10 STA 8+03.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-10/2
5. NAME OF DRILLER: A. TICE
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 448.1
10. SIZE AND TYPE OF BIT: 4 1/5.5"
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1-11-89; COMPLETED 1-11-89
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 38.0 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1			SANDSTONE			PULL #1
	1		SLY., M-C.G., M.H., 0.2		Box 1	START 8:20
	2		L.C. 0.0-0.5			END 8:30
	3		GRADING INTO			TIME 10 MIN
						DRL 10 MIN
						RAN 5.0
						REC 4.8
						LOSS .2
						UNACC 0
491.7	4				3.8	
			SANDSTONE		Box 2.	DEP 5.0
	5		SLY, fig., m.h., M.GR			PULL #2
	6					START 8:35
	7					END 9:12
488.0	8				7.5	TIME 37.0 MIN
			CLS			DRL 37.0 MIN
481.0			GR. V.S. IRR CONTACT		Box 3,	RAN 14.8
	9		CLS			REC 9.8
	10		SLY, S-M.H. bKN			LOSS 0
	11		10.2-10.6 & 11.2-11.4			UNACC 0
			bKN, hA, IRR FRAC			
			13.6-14.0			
	12				11.4	
	13				Box 4.	
	14					
481.3					14.8	DEP 14.8
	15		SANDSTONE			PULL #3
	16		SLY. fig., m.h., M.		Box 5.	START 9:25
	17		GR. W/ THIN SLY,			END 9:43
			LAM & ZOS.			TIME 18 MIN
	18					DRL 18 MIN
					18.5	RAN 24.7
	19				Box 6	
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCKS & DAM | HOLE NO.: L-10/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. L-10/2

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: OAH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #3
	21					REC 9.9
						LOSS 0
	22					UNACC 0
473.8					22.3	
	23		CLS / SLS			LOSS OF DRILL WATER THROUGH FRAC TO SURFACE 30'-40' FROM HOLE
	24		INTER bckd, S.-M.h., M. GR V. bKN. 22.3-23.1; SLK ANS. PTG 23.4-24.0		Box 7	
	25					DEP 24.7
						PULL #4
	26				26.0	START 10:10
	27					END 10:35
						TIME 25 MIN
	28				Box 8	DRL 23 min
284.0						RAN 30.0
	29		ICL			REC 5.3
						LOSS 0
	30		SLK, GREENISH-R. bR S.-M.h.		29.7	UNACC 0
						DEP 30.0
	31					PULL #5
	32				Box 9	START 10:50
						END 11:08
	33					TIME 18 MIN
	34				33.2	DRL 18 MIN
						RAN 38.0
	35				Box 10	REC 8.0
						LOSS 0
	36					UNACC 0
					35.9	
	37				Box 11	
458.1	38		Bottom hole		38.0	DEP 38.0
	39					
	40					
	41					
	42					
	43					

ENG FORM 1836-A JUN 67 GPO: 1969 OF—329-245

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. L-10/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-11 STA 8+10 B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-11/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.9
8. DEPTH DRILLED INTO ROCK: 37.0
9. TOTAL DEPTH OF HOLE: 459.9
10. SIZE AND TYPE OF BIT: 4"X5¼"
11. DATUM FOR ELEVATION SHOWN (MSL or MLL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9.
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/12/89; COMPLETED 1/12/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 37.0 %
19. SIGNATURE OF INSPECTOR: JMW

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0		SANDSTONE		Box 1	PULL #1
	1		m-c.g., m.h., m.gr.			START 6:05
	2		v.bk. 0.0-0.8 w/o.3 LC			END 6:10
	3		(mech) closely spaced			TIME 5min
	4		o. near hor. bdg plns			DRL 5min
	5		throughout; 0.3			RAN 4.7
	6		l.c. (mech) btn 4 & 5			REC 4.3
	7		8.3		3.8	LOSS .3
	8					UNACC .3
	9					T/DEP 4.6
487.6					Box 2	DEP 4.9
487.2			CLS			PULL #2
	10		ve.s m.dk.gr.			START 6:17 LOSS 0.3
	11		SLS		7.5	END 6:35 UNACC 0.3
	12		SA, m.-dk.gr., PTgs			TIME 18min
	13		shy o. contact			DRL 18min
478.6	14					RAN 3.8
	15		SAND STONE			REC 3.6
	16		sly., f'g., m.h., m.gr.			T/DEP 8.4
	17		w/ cls/sls lam.'s lenses		Box 3	DEP 8.7
	18		sls. zo 15.0-15.4' ve.s.			PULL #3
	19		gr. cl. 15.4-15.5' sls. bkm			START 6:48
	20		(CONT)		11.1	END 7:21
						TIME 33min
					Box 4	DRL 33min
						RAN 9.8
						REC 10.2
						LOSS 0
						UNACC 0
					14.8	
					Box 5	
					18.5	DEP & T/DEP 18.5
					Box 6	PULL #4
					CONT	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-11/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. L-11-1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #4
	21		w/ TR. GR. CL coa. ptgs			START 7:35
	22		16.6 - 17.0 ; mech ptg @		22.3	END 8:25
	23		17.2, 17.6, 18.0, 20.6, 21.2			TIME 50 min
	24		V.bKN 22.8 - 27.8 w/		Box 7	DRL 50 min
	25		4.1 LC.			RAN 8.0
	26					REC 5.2
	27					LOSS 4.1
469.1						UNACC 4.1
	28					DEPTH/DEP 26.3
	29		ICL			PULL #5
	30		R. BR., SLK, S.-M.		29.7	START 9:25
	31		VC. S, BKN 27.8-37.0		Box 8	END 10:12
	32		w/ 2.3 L.C.			TIME 47 min
	33				33.2	DRL 47 min
	34				Box 9	RAN 10.4
	35					REC 6.9
	36					LOSS 2.3
459.9	37		Bottom Hole		37.0	UNACC 2.3
	38					DEPTH/DEP 37.0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1969 OF—329-343 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-11-1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORN-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-11 STA 7+64 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-11/2
5. NAME OF DRILLER: DOWELL MORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.5
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 458.5
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/2/89; COMPLETED 11/3/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 38.0 %
19. SIGNATURE OF INSPECTOR: JMO

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1–6		SANDSTONE m.-c.g., m.h., m.gr blky into sm sect (MAX 0.3) 0.0-1.8: 5 PTS @ 4.2		Box 1 3.8	PULL #1 START 10:10 END 10:25 TIME 15 min DRL 15 min RAN 5.0 REC 5.0 LOSS Ø UNACC Ø DCPT T/DEP 5.0
489.6	7–13		CLS/ICL S. m.h., m.-dk.gr. Ve.S., Blky 6.9-7.5: grading sly w/depth: HW, 0.1, ERR, JT 12.5-13.0 Hor. Shy pTs. @ 13.4		Box 2 7.5 Box 3 11.3	PULL #2 START 10:30 END 11:10 TIME 40 min DRL 40 min RAN 7.9 REC 10.2 LOSS Ø UNACC Ø T/DEP 12.9
483.1	14–20		SS/CLS Shy: SS. fig, m.h., m.gr CLS s.m.h.-m. dk.gr. CLS - 15.0-15.7 (Blky 15.0-15.3) PTS @ 15.7; 15.9 SLI. ANG PTS ALONG THIN dk.gr. Shy. LAM @ 16.6, 17.0, 17.2 & 18.1 : CLS INCLS 18.5-19.3: CLS LAM; INCLS 19.3- 21.7: CLOSE PTS ALONG ALONG THIN CLS LAM (CONT)		Box 4 15.0 Box 5 18.6 Box 6 (CONT)	DEP 15.2 PULL #3 START 7:30 END 8:12 TIME 42 min DRL 42 min RAN — REC 7.8 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-11/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. L-11/2

PROJECT: GALLIPOLIS Lock + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SS/CLS		Box 6	PULL #3
	21		20.0 - 20.6 : ½ crushed CLS LAM @ 21.5 grading			LOSS 0
474.8						UNACC 0
	22		SLS		22.4	
473.8			S.M.H., M.-DK.GR. grading			
	23		CLS/ICL		Box 7	
	24		M.-DK GR., S.-M.H. SLK PTG. @ 22.7-23.0 & 23.6 ; VE BK. 24.0-24.5 W/DK CL. 0.1 crushed, DK. GR. CLS Pld. ANG FT. @ 24.4-24.6 (Prob SAME cond 24.0-24.5) grading into			
	25					DED + T/DEP 25.0
						PULL #4
	26				26.0	START 8:50
						END 9:12
	27				Box 8	TIME 22 min
469.0						DRL 22 min
	28		ICL			RAN —
						REC 4.9
	29		R. BR., S-M. HD., BLN,			LOSS 0
					29.5	UNACC 0 T/DEP 29.6
	30		SLK 0.7 L.C. BTWN			DEP 29.9
						PULL #5
	31		29.5 & 38.0		Box 9	
	32					START 9:29
						END 10:30
	33					TIME 1 HR
					33.1	DRL 1 HR
	34					RAN —
					Box 10	REC 7.8
	35					LOSS 0.7
						UNACC 0.7
	36					
	37				36.9	
					Box 11	
458.5	38		BOTTOM HOLE		38.0	DEP 38.2 T/DEP 38.0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1968 OF—329-263 | PROJECT GALLIPOLIS Lock & DAM | HOLE NO. L-11/2

Hole No. L-12/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-12 STA 7+55 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-12/1
5. NAME OF DRILLER: STCUE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: ≥ 496.7
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 458.8
10. SIZE AND TYPE OF BIT: 4 1/5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/12/89; COMPLETED 1/13/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 37.7' %
19. SIGNATURE OF INSPECTOR: IMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	0–5		SAND STONE m.-C.S., m. h., m. gr W/0.1 L.3 bKN. 0.0 -5.2 (AVE 0.2 PIECES)		Box 1 3.6 Box 2	PULL #1 START 11:05 END 11:25 TIME 30 min DRL 30 min RAN 5.0 REC 4.9 LOSS 0.1 UNACC 0.1 DEP/TDEP 5.0
491.6	5–9		ICL GREENISH gR., S. m. h SLK 0.1 S. gR. CL 5.2- 5.3; m SPACED PTgS ALONG ANG SLK PLNS		6.9 Box 3	PULL #2 START 7:30 END 7:50 TIME 20 min UNACC 0 DRL 20 min RAN — REC 4.0 LOSS 0 DEP 9.1 TDEP 9.0
487.7	9–20		SS/SLS Interbdd, CLS ION 16.7-16.9 bKN 17.9-19.2 W/CLS LENS 18.2-18.5: CORE SPUN 18.5-18.7 CLS LAM @ 18.7: CLS LEN @ 19.6-19.8; 20.7-21.2 (CONT)		10.3 Box 4 14.1 Box 5 17.9 Box 6 (CONT)	PULL #3 START 8:04 END 8:22 TIME 18 min DRL 18 min RAN — REC 9.5 LOSS 0 UNACC 0 TDEP 18.5 DEP 18.9 PULL #4 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-12/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. L-12/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SS/SLS		Box 6	PULL #4
	21				21.1	
478.8	22					START 8:32
			CLS			END 8:58
	23		S. m.h., m.-dk. gr.,		Box 7	TIME 26 min
			Shy TR. OP OCC. CL			DRL 26 min
	24		STGS bkn 21.9-22.3;			RAN —
			23.5-24.2 & 25.6-26.6			REC 8.6
	25		; SS LAM 27.8-28.0			LOSS 0.9
			; 0.9 LC btwn 18.5 &		25.0	UNACC 0.9
	26		28.0 (PROB AT TOP)			
					Box 8	
	27					
468.7	28					T/DEP 28
			ICL			DEP 28.9
	29					PULL #5
			R. br, s.m.h, slk		29.4	
	30					START 9:16
			bkn ±os w/slk			END 9:50
	31				Box 9	TIME. 24 min
			Btwn 28.0 & 37.7			DRL 24 min
	32					RAN —
						REC 9.7
	33					LOSS 0
					33.2	UNACC 0
	34					
					Box 10	
	35					
	36					
	37				37.0	
459.0					Box 11	T DEP 37.5
	38				37.7	
						DEP 37.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1969 OP—329-243 | PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. L-12/1

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-12 STA 7+12.8
3. DRILLING AGENCY: W.G. HAGUES
4. HOLE NO. (As shown on drawing title and file number): L-12/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☐ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.4
8. DEPTH DRILLED INTO ROCK: 38.4
9. TOTAL DEPTH OF HOLE: 458.0
10. SIZE AND TYPE OF BIT: 4" X 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/13/89; COMPLETED 1/13/89
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 38.4 %
19. SIGNATURE OF INSPECTOR: JMP

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4	1–5		SAND STONE m.-c.g., m.h. m.gr lea. it.gr. 1.0-2.5; ang cont		Box 1	PULL #1 START 4:45 END 4:50 TIME 5 min DRL 5 min RAN 4.9 REC 4.9 LOSS — UNACC — DEP 4.9
491.2					3.8	
	5–8		CLS m.gr., s-m.h. 0.1 s.gr.cl @ 5.2 s.gr.cl @ 6.0; grading		Box 2	PULL #2 START 5:05 END 5:35 TIME 40 min DRL 40 min RAN 9.9 REC 9.8 LOSS 1.0 UNACC 1.0
488.0					7.6	
	9–15		SANDSTONE sly, f.g., m.h., m.gr. ve. sly. 8.4-9.4; hor sly PTG @ 11.6; crushed CLS LEN 13.9-14.2; ANG (30°) PTG @ 15.8.		Box 3	
					11.1	
					Box 4	
					11.8	DEP 14.8 TD 14.9
480.6	16–20		SLS SA., s.m.h., m-dk gr. w/occ. ANG. ss LENSES & LAM; PTGS AT LAM 17.0; 17.3; ANG. (30°) SLK PTG @ 18.7; PTGS @ 19.3, 19.6; SS 15.6-20.5 (CONT)		Box 5	PULL #3 START 5:55 END 6:20 TIME 25 min DRL 25 min RAN 9.1 REC 10.6
					18.7	
					Box 6 (CONT)	CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-12/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.4 — Hole No. L-12/2

PROJECT: GALLIPOLIS Lock & DAm — INSTALLATION: ORH-CD — SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.9	20		SLS		Box 6	- Pull #3
	21		CLS			Loss 0
	22		SLY, S. M.h., M.dk.			UNACC 0
	23		gR. Occ. SLK., bKN		22.5	
	24		MECH 20.8-21.1 &		Box 7	
	25		21.8-23.5 gRADING			DEP 23.9
470.5	26					T/DEP 24.5
	27		ICL		25.9	Pull #4
	28		GREEN ISL gR. - R. bR		Box 8	START 7.20
	29		S. - M.h. SLK. 1.9 L.C.			END 7.40 UNACC 0
	30		6TWN 29.1 & 34.9			TIME 20 min
	31		1.0 L.C. 6TWN			DRL 20 min
	32		34.9 & 38.4			RAN 5.1
	33				29.1	REC 4.6
	34				Box 9	Loss 0
	35					DEP/T/DEP 29.0
	36					Pull #5
	37					START 8.35
458.0	38		Bottom HOLE			END 9.30
	39				32.7	TIME 55 min
	40				Box 10	DRL 25 min
	41					RAN —
	42					REC 3.9
	43					Loss 1.9
	44			38.4		UNACC 1.9
						DEP/T/DEP 34.9
						Pull #6
						START 9.55
						END 10.28
						TIME 33 min
						DRL 33 min
						RAN —
						REC 2.5
						Loss — T/DEP 38.4
						UNACC —
						DEP 39.7

ENG FORM 1836-A JUN 67 — GPO: 1968 O-329-243 — PROJECT GALLIPOLIS Lock & DAm — HOLE NO. L-12/2

Hole No. L-13/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORN-EP	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8" L	
2. LOCATION (Coordinates or Station) MONO L-13 STA 7+07A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL CP-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-13/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER		14. TOTAL NUMBER CORE BOXES 11	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN @ 497.0		16. DATE HOLE: STARTED 11/13/89; COMPLETED 11/13/89	
8. DEPTH DRILLED INTO ROCK 37.9		17. ELEVATION TOP OF HOLE 497.0	
9. TOTAL DEPTH OF HOLE 459.1		18. TOTAL CORE RECOVERY FOR BORING 37.6 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE LT.GR., H, M-C.GR. BKN			PULL #1 START 11.06
	2		PN W/0.2 SPACE		1	END 11.19 TIME 8min DRL 8min RAN —
493.9	3				3.5	REC 4.7 LOSS 0 UNACC 0
	4		CLS gr. S, Sh, MOTTLED W/R-BR BELOW 4.7, BKN 3.1-3.5, 42-47 MECH			DEP 4.8 T/DEP 4.7
491.6	5					PULL #2
	6		SLS gr., S-M.H., SA, MOTTLED		2	START 11.25 END 11.40 TIME 15min
	7		W/R-BR., OCC FRAC. W/		7.4	DRL 15min RAN —
	8		SLK 5.4-5.9, SCUFFLY BKN			REC 9.0 LOSS 0.2 UNACC 0.2
	9		W/0.2 LC. 7.9-8.9, ANGLE		3	T/DEP 8.9 DEP 8.9
	10		PN 45° W/SLK 9.1-9.9			
	11		GRADATIONALLY, INTERBDD		11.0	PULL #3
	12		W/ VF. FGR SS 10.7-13.6			
	13		14.6 -, CLAY COATED PN		4	START 12:35 END 1:00 TIME 25min DRL 25min
	14		15.5 & 15.6		14.6	RAN — REC 9.7 LOSS 0 UNACC 0
481.9	15					
	16		SANDSTONE LT.GR., M-H. M-F.GR.		5	
	17		OCC SLS FRAC 19.2-21.0			
	18		SH SEAM 15.0-15.1, CAL		18.3	T/DEP 18.6
	19		CEM. BELOW 21.0		6	DEP 18.9
	20		(CONT)		(CONT)	PULL #4 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK + DAM HOLE NO. L-13/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-13/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21					START 1:10
	22				21.8	END 1:36
479.3						TIME 26 min
	23		SLS			DRL 26 min
			gg, S-M.H., sh, scvcely			RAN —
	24				7	REC 9.2
						LOSS 0.2
	25		BKN 27.0-27.2, 27.5-27.6,			UNACC 0.2
			27.9-28.0		25.5	
	26					
	27				8	
469.0	28					T/DEP 28.0
			TCL			DEP 28.9
	29		R.-BR., S, CLAYEY, occ.		29.0	PULL #5
	30		mottled, w/GR-GY GR,			START 1:50
	31		vcm FRAC, w/SLT		9	END 2:20
	32		dk GR ABOVE 30.0			TIME 30 min
	33		scvcely BKN 28.7-29.0, 29.9-		32.7	DRL 30 min
	34		29.6, 30.4-30.5, 30.8-30.1			RAN —
	35		33.4-33.6, 34.7-34.9, 37.3		10	REC 9.6
	36		37.6			LOSS Ø
	37				36.6	UNACC Ø
459.9			ROTARY HOLE		11	
	38				37.6	T/DEP 37.6
	39					DEP 37.9
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-328-603 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-13/1

Hole No. L-13/2

DRILLING LOG	Division: ORD	Installation: ORH-CD	Sheet 1 of 2 sheets
1. Project: GALLIPOLIS LOCK + DAM		10. Size and type of bit: 4x5½	
2. Location (Coordinates or Station): MONO STA 6+69.8		11. Datum for elevation shown (USGS or MSL): M.S.L.	
3. Drilling agency: W. G. JAQUES		12. Manufacturer's designation of drill: B-57 - MOBILE	
4. Hole No. (As shown on drawing title and file number): L-13/2		13. Total no. of overburden samples taken: Disturbed N/A; Undisturbed N/A	
5. Name of driller: DOWELL NORRIS		14. Total number core boxes: 11	
6. Direction of hole: ☑ Vertical ☐ Inclined ____ deg. from vert.		15. Elevation ground water: N/A	
7. Thickness of overburden: 0'	496.3	16. Date hole: Started 11/13/89; Completed 11/16/89	
8. Depth drilled into rock: 38.5		17. Elevation top of hole: 496.3	
9. Total depth of hole: 457.8		18. Total core recovery for boring: 37.7'	
		19. Signature of inspector: JMD	

Elevation (a)	Depth (b)	Legend (c)	Classification of Materials (Description) (d)	% Core Recovery (e)	Box or Sample No. (f)	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.3	1		SANDSTONE			PULL #1
			LT.GR., H., M-C.GR.			START 10:55
	2		SH SEAM 0.0-0.1		1	END 11:05
						TIME 10 MIN
	3		CAL CEM 3.0-4.5			DRL 10 MIN
						RAN 4.5
	4				3.6	REC 4.4
						LOSS 0.1
491.3	5					UNACC 0.1 T/DEP 4.5
	6		CLS		2	
			GR, S., SH, SEVERLY BK			
			5.6-5.8, ANGLPN, 45° SLK,			
489.2	7		6.2-6.4		7.0	
						DEP 7.9
	8		SLS			PULL #2
			GR., S-M.H., GRADATIONAL		3	START 7:30
	9		W/SH @ TOP TO SA BOTTOM			END 8:03
			BEN 8.1-8.3			TIME 33 MIN
	10				10.6	DRL 33 MIN
						RAN —
	11					REC 10.1
						LOSS 0
	12				4	UNACC 0
483.4						
	13		SANDSTONE			
			GR., M-H., VEF. TO FGR			PULL #3
	14		HIGH ANG FRAC 13.3-13.8,		14.0	START 8:30
			BEN W/ANG PN 13.6-13.8			END 8:41 T/DEP 14.6
	15		SH SEAM 16.5-16.6			DEP 19.9
						TIME 11 MIN
	16				5	DRL 11 MIN
						RAN —
	17					REC 9.3
						LOSS 0
	18				17.6	UNACC 0
477.4					6	
	19		SLS		(CONT)	DEP 18.9 T/DEP 19.1
476.3	20		GR., M-H. SC			PULL #9 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. L-13/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. L-13/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
	21		LT.GR., M. F-M.gr., CAL.cem.,		21.1	START 9:08
	22		mic Above 20.5, NUM SMALL			END 9:21
473.9			CLAY STRINGERS 20.7-20.8, 21.1			TIME 13. min
	23		21.2			DRL 13min
			SLS		7	RAN —
	24		GR, S, Sh, CLS. gr. S. 25.6-25.8			REC 5.2
471.6			severely BKN mech bkn			LOSS Ø
	25		25.8-24.1			UNACC Ø
						DEP 29.9 T/DEP 29.2
	26		ICL		29.7	PULL #5
						START 9:47
	27		R-BR, S. occ mottled, w/GR			END 10:15
					8	TIME 28 min
	28		To GN.GR., NUM. FRAC. W/			DRL 28min
						RAN —
	29		SLK.			REC 5.2
					28.2	LOSS Ø
	30					UNACC Ø
						DEP 29.9 T/DEP 29.3
	31					PULL #6
					9	
	32					START 10:35
						END 11:35
	33				31.9	TIME 60 min
						DRL 60 min
	34					RAN —
					10	REC 7.4
	35					LOSS 1.0
						UNACC 1.0
	36				35.5	
	37				11	
458.6			BOTTOM HOLE		37.7	T/DEP 37.7
	38					DEP 38.5
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-13/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORN-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-14 STA 6+59.8
3. DRILLING AGENCY: W. B. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-141
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.4
8. DEPTH DRILLED INTO ROCK: 37.5
9. TOTAL DEPTH OF HOLE: 459.9
10. SIZE AND TYPE OF BIT: 4 x 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/13/89; COMPLETED 11/13/89
17. ELEVATION TOP OF HOLE: 497.4
18. TOTAL CORE RECOVERY FOR BORING: 37.5
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.4	0–1–2		SANDSTONE m.-c.g., m.h., m.gr. UE bKN. 0.0-2.7 w/0.1 L.C		Box 1	PULL #1 START 3:59 END 4:15 TIME 16 min DRL 16 min RAN 5.0 REC 3.9 LOSS 1.0 UNACC 1.0
494.7	2–3–4		ICL R.br., s.-m.h., bKN, SLK 0.1 gr. CL 2.7-2.8		3.6	DEP 5.0 T/DEP 4.9
492.9	4–5–6–7–8–9		CLS s.-m.h., m.-dk.gr., SLK.-CLOSELY SPACED SLK ptgs		Box 2	PULL #2 START 4:29 END 4:40 TIME 11min DRL 11min RAN 4.8 REC 4.8 LOSS — UNACC —
487.5	9–10–11–12–13–14		SS/SLS Inter Bedd. CLS 18A 11.1-11.8 ptg AT CLS LEN 13.0-13.1 CORE SPUN CONTACT		7.9 Box 3 11.1 Box 4	DEP 9.8 T/DEP 9.7 PULL #3 START 4:49 END 5:17 TIME 28 min DRL 28 min RAN 8.8 REC 9.2 LOSS — UNACC —
482.7	14–15–16–17–18–19		SLS s: m.h., m-. dk.gr. occ SA.		15.2 Box 5	DEP 18.6 T/DEP 18.9
478.5	19–20		SANDSTONE (CONT)		18.9 Box 6 (CONT)	PULL #4 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-141

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.4 | Hole No. L-14/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	PULL #4
	21		SLY., A.g. M.h., M.gR			START 5:00
	22					END 6:07
	23					TIME 67 min
473.6					23.8	DRL 67 min
	24		CLS			RAN 10.1
	25		M.-dk.gR. S.-M.h M.- SPACED HOR SLY PTGS. OCC. W/ †R, gR. CL. COA.		Box 7	REC 10.8
	26		GRADING			LOSS —
470.7						UNACC —
	27		ICL		27.7	
	28		GREENISH GR.-R.BR.,		Box 8	DEP 28.7
	29		S.-M.h., SLK VE. BKN			T/DEP 29.7
	30		27.0 - 29.7 BKN, R.BR.			PULL #5
	31		31.0 - 37.5 W/0.7 LC.		34.0	START 6:30
	32				Box 9	END 7:10
	33					TIME 40 min
	34					DRL 40 min
	35				34.9	RAN 8.9
	36				Box 10	REC 7.1
	37					LOSS —
459.9			BOTTOM HOLE		37.5	UNACC —
	38					DEP 37.6 T/DEP 37.5
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO: 1969 OP—329-243

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-14/1

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-14 STA 6+21B
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-14/2
5. NAME OF DRILLER: Dowell Boris
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 493.3
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 455.3
10. SIZE AND TYPE OF BIT: 4 1/5 1/2 "
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/16/89; COMPLETED 1/16/89
17. ELEVATION TOP OF HOLE: 493.3
18. TOTAL CORE RECOVERY FOR BORING: 38.0 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
493.3	1–4		SANDSTONE M.-C.g., M.h., M.gR. BKN into APPROX 0.3 PIECES.		Box 1	PULL #1 START 4:20 END 4:35 TIME 15min DRL 15min RAN 4.9 REC 4.7 LOSS - UNACC - DEP 4.9 T/DEP 4.7
489.0					3.9	
	5–6		ICL Mottled R-BR., S-M.h., SLK VE.S.gR. Cl 4.3-5.0 VE BKN 5.0-6.4: GRADING		Box 2	PULL #2 START 4:40 END 5:15 TIME 35 min DRL 35min RAN 9.9 REC 8.1 LOSS 0 UNACC 0
486.4					7.3	
	7–20		SLS/CLS M.dK.gR., S.-M.h, occ SA BKN. Along hA, IAR fRAL 7.1-8.0 w/TR gR. Cl.: SA ZONE 10.2 -10.5: CLS. 10.5, 12.8: SLS 12.8-17.4. SS. LCM 17.4-17.4: SLI, SA. SLS below 17.4 BKN (mod) 22.0-23.0. SS LENS 22.6 -25.4; VE BKN w/PASS 1.1 L.C		Box 3.	
					10.9	
					Box 4.	
					14.2	
					Box 5	DEP 14.8 T/DEP 14.7 PULL #3 START 5:55 END 6:45 TIME 50 min DRL 50 min RAN 9.2 REC 10.3 LOSS 0 UNACC 0
					17.9	
					Box 6	
					CONT	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-14/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 493.8 | Hole No. L-14/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20				Box 6	PULL #3
	21				21.6	
	22					
	23				Box 7	T/DEP 23.1
	24					DEP 24.0
	25					PULL #4
467.8					25.4	START 7:15
	26		CLS			END 7:50
			S.-M.h, m.-dk.gR, shy			TIME 40 min
466.3	27		GRADING into			DLL 40 min
			ICL		Box 8	RAN 5.9
	28					REC 5.8
			GREENISH GL-R.BR.			LOSS —
	29		S, M.h. MED SPACED			UNACC —
			ANG SLKPTS. O.C			
	30		LC BTWN. 30.0 & 38.0		30.0	DCP 30.0 T/DCP 29.9
	31					PULL #5
					Box 9.	
	32					START 8:40
						END 9:40
	33					TIME 60 min
						DRL 30 min
	34					RAN 8.1
					33.9	REC 7.5
	35					LOSS 0.5
						UNACC 0.5
	36				Box 10.	
	37					
455.3	38		Bottom HOLE		38.0	DEP & T/DCP 38.0
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO 1969 O-329-243 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-14/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MOND L-15 STA 6+11.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-15/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.7
8. DEPTH DRILLED INTO ROCK: 38.0
9. TOTAL DEPTH OF HOLE: 459.7
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/13/89; COMPLETED 1/16/89
17. ELEVATION TOP OF HOLE: 497.7
18. TOTAL CORE RECOVERY FOR BORING: 38.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.7	1		SANDSTONE m.h., m.-c.g., m.g.r. bkn into s. pieces (max 0.2)		Box 1	PULL #1 START 8:55 END 9:00 TIME 5 min DRL 3 min RAN 5. REC 3.9 LOSS — UNACC —
495.6	2					
	3		ICL greenish-gr-r.b.s-m.b slk ve. s. gr 2.2-2.4: bkn 5.0-5.5 ve.s., pat gr. cl 6.2-6.7		3.6	DEP + T/DEP 3.9
	4				Box 2	PULL #2 START 9:15 END 9:25 TIME 15 min DRL 15 min RAN 3.4 REC 4.1 LOSS — UNACC — T/DEP 8.0 DEP 8.4
491.0	5				6.7	
	7		SLS m-dk.gr., sa., s-m.-h. ha., o., irr, it. 7.1-7.5 m. spaced hor. sky ptg.		Box 3	PULL #3 START 9:37 END 9:52 TIME 15 min DRL 15 min RAN 7.9 REC 4.1 LOSS — UNACC — T/DEP
	8					
	9					
487.2	10				10.3	
	11		CLS slv. s.-m.h, m.-dk. gr ve. bkn (Prob mech) 10.7-13.7 w/l. & l.c.		Box 4	PULL #4 START 10:06 END 10:28 TIME 22 min DRL 22 min RAN 6.4 REC 4.0 LOSS 1.4 UNACC 1.4
	12					
484.0	13				13.6	
	14		SLS/SS Interbdd.; SLS-sa, m dk.gr., m.h. SS.-slv. pig., m.gr. m.h. Hor. ptg. @ 14.5: bkn SS. zo (mech) 16.6-17.2 SS. zo. INCREASING wid/pth bkn. w/core spins 17.5-17.9 hor ptgs @ 18.5, 19.0 & 19.2 SS. 19.2-21.0		Box 5	
	15					
	16					
	17				17.5	T/DEP 17.5 DEP 17.7
	18				Box 6	PULL #5 START 10:45 END 10:58 TIME 13 min
	19					
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-15/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. L-15/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/SS		Box 6	DRL 13min
476.7	21		Interbdd.		21.1	RAN 3.3 T/DEP 21
	22		SS/CLS. VE bKn. CLS 21.3-21.5 & 21.9-22.4 : S.gr.cl. COA PTS @ 22.9 closely spaced PTS btwn SS/CLS (MAX-0.8) 22.9-26.6		Box 7	REC 5.4 LOSS — UNACC — DEP 22.9
	23					Pull #6
	24					START 11:11
	25					END 11:34
	26				24.8	TIME 23min
471.1						DRL 23min
	27		ICL		Box 8	RAN 7.5
	28		GREENISH gr.-R. br,			REC 4.7
	29		SLK. S.-M.A. bKn			LOSS — UNACC — DEP+T/DEP 27.5
	30		27.5-29.3 w/o.4 L.C.			Pull #7
	31		bKn 29.3-32.7 w/o.8		28.0	START 7:35 RAN — END 7:48 REC 1.3 TIME 13min LOSS 0.4 DRL 13min UNACC 0.4
	32		L.C bKn to bottom			DEP 29.4 T/DEP 29.4
	33		OF HOLE		Box 9	Pull #8
	34					START 8:03
	35					END 8:18
	36					TIME 15min
	37				31.8	DRL 15min
	38				Box 10	RAN —
459.4			Bottom HOLE			REC 2.6 T/DEP 37.7
	39					LOSS 0.8
	40					UNACC 0.8 DEP 39.1
	41					Pull #9
	42					START 8:30
	43					END 8:55
	44				37.9	TIME 25min
					Box 11	DRL 25min
						RAN —
						REC 5.6 T/DEP 37.9
					38.3	LOSS 0
						UNACC 0 DEP 38.8

ENG FORM 1836-A JUN 67 | GPO 1969 O-328-243 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-15/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-15 STA 5173B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-15/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 497.2
8. DEPTH DRILLED INTO ROCK: 37.6
9. TOTAL DEPTH OF HOLE: 459.6
10. SIZE AND TYPE OF BIT: 4" X 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/16/89; COMPLETED 11/17/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 37.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	0–3		SANDSTONE m.-c.g., m.h, m.gr bKN into sm SEQ mcnds IRR, ANG CONTACT		Box 1	PULL #1 START 7:05 END 10:45 TIME 20 min DRL 20 min RAN 4.9 REC 4.9 LOSS 0 UNACC 0 DEP+T/DEP 4.9
493.4					3.9	
492.3	4		CLAY S. - m.h., m.-dk. gr., WEA VFS 3.8-4.9			
	5–8		ICL/CLS greenish-gr-r-br SLK, S. m. h. bKN. 4.9-6.9.		Box 2	PULL #2 START 10:35 END 11:30 TIME 55 min DRL 55 min RAN — REC — LOSS — UNACC — T/DEP 10.1
488.8					7.4	
	9–15		SLS SA, S. m.h., m.-dk.gr IRR PTG @ 10.0 grading SLY @ 12.2 hor. PTGs @ 13.4 & 14.4		Box 3	
482.1					11.1	
	16–20		SANSTONE SLY, f.g., m.h., m.gr. hor. ptg (mech) @ 16.7; VERT FRAC @ 17.9-18.2; 0.1 clr. gr. CLS LEN 18.2-18.3 HOR PTG ALONG SLY LAM. @ 19.1; IRR, 0.1 (CONT)		Box 4	DEP 14.9
					14.8	
					Box 5	PULL #3 START 7:10 END 7:34 TIME 24 min DRL 24 min RAN — REC 4.9 LOSS 0 UNACC 0
					18.3	
					Box 6	
					(CONT)	DEP+T/DEP 20.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-15/2

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 497.2 — Hole No. L-15/2

PROJECT: GALLIPOLIS LOCK & DAM — INSTALLATION: ORH-CD — SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.9	20		SANDSTONE SA. CLS LENS @ 19.7 AB W/TRACE OF CRUSHING MOVEMENT		Box 6	PULL #4
	21		CLS/SLS S.-m.h, m-dk.gy, sly closely spaced hor ptgs @ 21.9-22.9 & 24.4-24.6			START 7:50
	22				21.9	END 8:22
	23					TIME 32 min
	24				Box 7	DRL 32 min
	25		Reading UE, sly @ 25.5			RAN —
						REC 9.4
						LOSS 0.6
						UNACC 0.6
	26				25.4	
469.8	27				Box 8	
	28		ICL			
	29		R-.BR. S.m.h.		28.9	T/DEP 29.6
	30		SLK UE. BKN (mech)			DEP 30.0
	31		28.9-30.0 w/0.6 L.C.		Box 9	PULL #5
	32		BKN 30.0-37.6			START 8.45
	33		w/. 7 L.C.			END 10:03
					32.9	TIME 18 min
	34					DRL 18 min
					Box 10	RAN
	35					REC 6.9
						LOSS 0.7
	36					UNACC 0.7
					36.4	
459.6	37		BOTTOM HOLE	37.6		T/DEP 37.6
	38					DEP 38.1
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 — GPO 1969 OF—328-243 — PROJECT GALLIPOLIS LOCK & DAM — HOLE NO L-15/2

Hole No. L-16/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO L-16 STA 5+63 R
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-16/1
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 497.0
8. DEPTH DRILLED INTO ROCK: 37.9
9. TOTAL DEPTH OF HOLE: 459.1
10. SIZE AND TYPE OF BIT: 4 x 5 1/2"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/16/69; COMPLETED 11/16/69
17. ELEVATION TOP OF HOLE: 497.0
18. TOTAL CORE RECOVERY FOR BORING: 37.1 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SAND STONE gr. M. m-cgr. BKN 0.0- 0.5, 1.3-1.5			PULL #1 START 9:40 END 9:54 TIME 14 min DRL 14 min RAN —
495.0	2		FCL CLY, R.BR., S, MICTHCD, W/GRT GNGR OCC DN W/SKL, SCOEALY BKN 3.4-3.7, CLS, GR. 2.0-2.2		1	REC 5.0 LOSS Ø UNACC Ø DEP 5.0 T/DEP 4.8
493.3	3				3.7	
492.0	4		CLS GR. S. SH.			
	5					
	6		SLS GR, S, M-H, Sa Intcalth		2	PULL #2 START 10:01 END 10:18 TIME 17 min DRL 17 min RAN — UNACC Ø
	7		W/ VF. GR SS., BKN		7.2	
	8		mech 5.0-5.1, mech 15.6			REC 3.7
	9		15.8, ANG. DN. 30°		3	LOSS Ø T/DEP + DEP 9.3
	10		6.2-6.3, SH below 21.0			PULL #3
	11		VF, F. GR SS. 14.0-15.6, 17.7		10.4	START 10:23 END 10:45 TIME 22 min DRL 22 min
	12		-19.9, 19.9-20.4, CAL 19.7.			DEP 11.8
	13		19.9, BKN, DN. @ SPACING		4	RAN — PULL #4 REC 2.8 START 10:45
	14		0.2 below 21.6 w/bcc			LOSS Ø END 11:18 UNACC Ø TIME 33 min
	15		clay coating, CLAY, SCHM		13.9	DRL 33 min RAN —
	16		.05 @ 23.9			REC 4.3 LOSS Ø UNACC Ø
	17				5	DEP + T/DEP 15.8
	18					PULL #5
	19				17.3	START 11:30 END 1142
	20		(CONT)		6 (CONT)	TIME 12 min DRL 12 min RAN — UNACC Ø REC 4.0 LOSS Ø T/DEP 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK+DAM. | HOLE NO. L-16/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. L-16/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #5
	21				21.0	DEP 20.8
	22					PULL #6
	23				7	START 12:30
						END 1:12
						TIME 42min
	24					DRL 42min
						RAN —
						REC 8.4
	25				24.7	LOSS 0.3
						UNACC 0.3
	26				8	
470.2						
	27		ICL			
	28		R. BR., S, CLAY, NUM,		28.1	
						T/DEP 28.4
	29		FRAC. W ISLK, DKGR			DEP 28.9
						PULL #7
	30		ABOVE 30.0, SEVERLY BKN			START 1:27
					9	END 1:48
	31		27.6 - 27.8, MECH 28.4 - 28.6			TIME 21min
						DRL 21min
	32		31.0 - 31.2, MECH 32.0 - 32.3			RAN —
					32.0	REC 3.0
	33		32.5 - 32.8, MECH 36.7 - 37.1			LOSS 0.9
						UNACC 0.9
	34				10	PULL #8
	35					START 1:58
						END 2:20
	36				35.5	TIME 22min
					11	DRL 22min
						RAN —
459.9	37		BOTTOM HOLE		37.1	REC 5.1
						LOSS 0
	38					UNACC 0
	39					
	40					
	41					
	42					
	43					
	44					

T/DEP 32.0
DEP 32.3
T/DEP 37.1
DEP 37.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1990 OF - 626 - 603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-16/1

Sheet No. L-16/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS Lock + DAM		10. SIZE AND TYPE OF BIT 4"XSW"	
2. LOCATION (Coordinates or Station) MONO L-16 STA 5+25 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. 6. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-16/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER DAVID HARPER		14. TOTAL NUMBER CORE BOXES 11	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN 0	496.8	16. DATE HOLE STARTED 11/17/89; COMPLETED 11/17/89	
8. DEPTH DRILLED INTO ROCK 36.9		17. ELEVATION TOP OF HOLE 496.8	
9. TOTAL DEPTH OF HOLE 459.9		18. TOTAL CORE RECOVERY FOR BORING 36.9 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE m:cg., m.h. m.gr. cl.sd. cmax .3) PTgs 0.0 - 1.8 : 45° ANG		Box 1	PULL #1 START 8:35 END 8:55 TIME 20 min DRL 20 min RAN — REC 4.3 LOSS 0 UNACC 0
494.3	2		contact			
492.3	3		ICL motted R.br., S.-m.h SLK		3.8	T/DEP 4.5 DEP 5.0
	4					
	5		CLS m. dk. gr, s. m.h, occ SLK 0.4 LC (MECH) 4.5-4.9 grading sly @ 6.1		Box 2	PULL #2 START 9:05 END 9:25 TIME 20 min UNACC 0.4 DRL 20 min RAN — REC 4.2 LOSS 0.4
	6					
	7				7.3	
	8				Box 3	DEP/T/DEP 9.1
487.7	9					
	10		SS/SLS Interbdd SS. - fig., sly m.h., m.gr. SLS - m-dk. gr., s.-m.h. 25°, O.J.T. 13.6 - 14.2 in 5' 20.		10.8	PULL #3 START 9:35 END 10:08 TIME 33 min DRL 33 min RAN — REC 9.0 LOSS 0.2 UNACC 0.2
	11					
	12				Box 4	
	13					
	14				14.6	
481.7	15				Box 5	
	16		CLS m-dk gr, s-m.h. occ sly pTs sly. w/occ gr. cl. LEN CL coa pTg @ 15.8. BKN. 16.1-16.7 w/0.2 LC sly pTg @ 17.6 ; closely spaced, hor pTgs (MAX 0.6) (CONT)			
	17					
	18				18.3	T/DEP 18.3
	19				Box 6	DEP 18.9
	20				(CONT)	PULL #4 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-16/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. L-16/2

PROJECT: GALLIPOLIS Lock & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS (cont)		Box 6	PULL #4
	21				21.1	START 10:25
			18.3-25.7 : SLY 25.7-27.3			END 11:25
	22					TIME 1 hr
						DRL 1 hr
	23				Box 7	RAN —
						REC 9.0
	24					LOSS 0
						UNACC 0
	25					
					25.9	
	26					
	27				Box 8	
468.9	28		ICL			
	29				29.3	T/DEP 27.3
			MOTTLED - R. BR, SLK			DEP 27.9
	30		S. - M.H BRN			PULL #5
			0.3 L.C. btwn 27.3 &			START 11:36
	31		32.9		Box 9	END 12:05
						TIME 29 min
	32					DRL 29 min
						RAN —
	33					REC 5.3
					32.9	LOSS 0.3 T/DEP 32.9
						UNACC 0.3
	34				Box 10	DEP 33.9
						PULL #6
	35					START 12:45
						END 1:05
	36					TIME 20 min
						DRL 20 min
					36.5	RAN —
459.9			Bottom HOLE	Box 11.	36.9	REC 4.0 T/DEP 36.9
	37					LOSS 0
						UNACC 0 DEP 37.9
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 GPO 1968 OP—329-243

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. L-16/2

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	ORD	ORN-LD	

1. PROJECT	GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station)	MONO L-17 STA 5+15 B
3. DRILLING AGENCY	W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number)	L-17/1
5. NAME OF DRILLER	DAVID HARDER / STEVE FRY
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	@ 496.9
8. DEPTH DRILLED INTO ROCK	37.2
9. TOTAL DEPTH OF HOLE	459.7
10. SIZE AND TYPE OF BIT	4 5/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL	B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES	10
15. ELEVATION GROUND WATER	N/A
16. DATE HOLE	STARTED 1/16/89; COMPLETED 1/16/89
17. ELEVATION TOP OF HOLE	496.9
18. TOTAL CORE RECOVERY FOR BORING	37.2 %
19. SIGNATURE OF INSPECTOR	JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1		SANDSTONE m.-c.g., m.h., m.gr. sm. pieces (MAX 0.3)		Box 1	PULL #1 START 2:45 END 2:55 TIME 10 min DRL 10 min RAN — REC 3.5 LOSS 0 UNACL 0 T/DEP 4.0 DEP 5.0
494.2	2					
	3		ICL m.gr - r.br, s.m.h, slk ve. s. gr. cl. 2.7-2.9; vl brn 3.5-7.3		3.5	
	4					
	5				Box 2	
	6					PULL #2 START 3:00 END 5:15 TIME 15min DRL 15min RAN — REC 4.9 LOSS 0 UNACL 0 DEP/T/DEP 8.4
489.6	7				7.3	
	8		SLS sa, m-dk.gr, s.m.h, shy		Box 3	PULL #3 START 3:45 END 4:15 TIME 30 min DRL 30 min RAN — REC 7.7 LOSS 1.1 UNACL 1.1
486.5	9					
	10				10.6	
	11		CLS/SS Interbdd ss. @ 12.9-13.5 vf brn CLS 13.5-15.4 w/1.1 (?) L.C.			
	12				Box 4	
	13					
	14				14.6	
481.5	15					
	16		SLS sa, s-m.h, m.dk.gr med spaced hor pTgs		Box 5	T/DEP 16.1
478.9	17					DEP 18.
	18		SANDSTONE slty, f-g, m.h, m.gr. 0.1 L.C. btwn 18.0 & 27.2 Prob @ 18.-18.1 (BRN) ANGLE CONTACT		18.9 Box 6 CONT	PULL #4 (CONT)
	19					
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT GALLIPOLIS LOCK / DAM HOLE NO. L-17/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. L-17/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #4
	21		SLY M-DK.GR, S.M.H.			
	22		PTG SHY; MED SPACED			START 4:33
			PTGS (MAY 1.0 pieces)			END 5:00
						TIME 25 min
	23				22.8	DRL 25 min
						RAN 11.9
	24				Box 7	REC 9.1
						LOSS 0.1
	25					UNACC 0.1
	26				26.2	
469.7	27					T/DEP 27.2
			ICL		Box 8	
	28					DEP 28.0
			R.BR., S-M.H, VE BKN			PULL #5
	29		SLK 27.2-35.9 W/O			
			0.7 L.C			START 5:25
	30				29.9	END 6:10
						TIME 45 min
	31					DRL 45 min
					Box 9	RAN 8.0
	32					REC 8.7
						LOSS 0.7
	33					UNACC 0.7
					33.7	
	34					
	35				Box 10	
	36					T/DEP 35.9 DEP 36.0
						PULL #6
459.7	37		BOTTOM HOLE		37.2	START 7:15
						END 7:30
						TIME 15 min
	38					DRL 15 min T/DEP 37.2
						RAN 2.2
	39					REC 1.3
						LOSS 0
	40					UNACC 0 DEP 38.2
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 | GPO: 1968 OF—329-343 | PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-17/1

Hole No. L-17/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MAND L-17 STA 4+85.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-17/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 496.6
8. DEPTH DRILLED INTO ROCK: 37.3
9. TOTAL DEPTH OF HOLE: 459.3
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-37 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/26/69; COMPLETED 1/27/69
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 37.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE			PULL #1
	2		m.-c.g., m.h, m.gr., thin			START 8.43
494.2			m. bdd			END 9.16
			CL		1	TIME 33 min
494.0	3		gr. s., AAT			DRL 33 min
	4		CLS			RAN 4.1
	5		s.-m.h, m.-d.gr s. to 4.6			REC 4.1
	6		1.6 KN 3.8-4.6' s. gr. cl		3.8	LOSS Ø
	7		Fld. pts @ 7.0: ve bkn			UNACC Ø T/DEP 9.1
	8		7.8-8.9 w/core spin @			DEP 5.1
	9		8.4: ve. s. 10.7-11.5 w/a		2	PULL #2
	10					START 10.19
	11					END 10.58
485.1						TIME 39 min
	12		TRANS 20.			DRL 18 min
484.4			11.5-12.7 (BKN)		7.3	RAN —
	13		SANDSTONE			REC 3.7 T/DEP 2.8
			sly p.g., m.h, m.gr			LOSS Ø
	14				3	UNACC Ø DEP 9.1
482.2			Ang. smooth contact			PULL #3
	15		CLS			START 11.05 T/DEP 9.4
	16		s.-m.h, m.-dk.-gr.			END 11.30
	17		Interbdd w/ m-dk.gr			TIME 25 min
	18		SLS. m. spaced hor,		12.7	DRL 25 min DEP 10.9
	19		cl. coz pts hvy cl.			RAN — PULL #4
	20		(CONT)			REC 2.2 START 8.20
					4	LOSS Ø END 9.20 DEP 12.1
						UNACC Ø TIME 1 HR
						DRL 1 HR
						RAN —
					14.4	REC 1.3
						LOSS 0.2 UNACC 2.2
						PULL #5
						START 9.30
					5	END 10.40
						TIME 1 HR 10 min
						DRL 1 HR 10 min
						RAN —
					18.1	REC 7.9
					6	LOSS Ø
						UNACC Ø T/DEP 13.0
						DEP 8.5
					(CONT)	PULL #6 (CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-17/2

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.6 | Hole No. L-17/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		6	PULL #6
	21		COQ. PTS @ 15.0 & 15.4			START 10:50
	22		W/SLK ANG PTS @ 15.7		21.7	END 12:04
	23		& 15.8, 16.7 & SS. LENS			TIME 1 HR 14 MIN
	24		19.7 - 20.8 & M, SPACED		7	DRL 1 HR 14 MIN
	25		HOR. PTS 20.6 - 20.4		25.5	RAN —
	26					REC 10.2
	27					LOSS 0
468.2	28				8	UNACL 0
	29		JCL		29.3	DEP 29.6
	30		L. GR, SAND & SLT			PULL #7
	31		GRN 4.2 L.C BTWN 29.6		9	START 12:40
	32		37.3			END 14:45
	33				32.9	TIME 2 HR 5 MIN
	34					DRL 2 HR 5 MIN
	35					RAN — T/DEP 32.7
	36				10	REC 3.5
459.3	37		BOTTOM HOLE		37.3	LOSS 4.2
	38					UNACL 4.2
	39					DEPT T/DEP 37.3
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OP - 628 - 603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-17/2

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONG L-18 STA 4+75B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-181
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 39.6
9. TOTAL DEPTH OF HOLE: 457.0
10. SIZE AND TYPE OF BIT: 4" X 5½"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/16/89; COMPLETED 11/17/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 39.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1–2		SANDSTONE m-c.g., m.h., gr. STH. br bKN w/0.4 LCC (med.) 0.2 S. gR, cL. 2.5-2.7		Box 1	PULL #1 START 8:25 END 8:40 TIME 15 min DRL 15 min RAN 5.1 REC 4.7 LOSS 0.4 UNACC 0.4 T/DEP 4.6
499.1					3.5	DEP 4.9
	3–6		CLS S-m.h., m.-dk. gR, occ SLK gRading. Sky w/ depth 25° AVG. Contact w/gr. cl. coa		Box 2	PULL #2 START 8:47 END 8:59 TIME 12 min DRL 12 min RAN 5.1 REC 5.0 LOSS – UNACC – T/DEP 9.6
490.0					7.4	DEP 10.0
	7–11		SLS S. m.h, m.-dk. gR, occ. Sky.		Box 3	PULL #3 START 9:07 END 9:21 TIME 14 min DRL 14 min RAN 4.3 REC 3.9 LOSS .5 UNACC .5 T/DEP 13.9
485.2					11.1	DEP 14.3
	12–20		SS / CLS Inter bdd: SS. - f'g., m.h. m. gR. CLS. S, m.h. - m-dk gR. 0.5 LC (Problem rock) btwn 9.6 & 11.4; SS - 11.4 - 12.6; V.S. CLS lcl 12.6 - 12.9; CLS 12.9-13.1; SS. - 13.1 - 13.5; CLS 13.5 14.6 w poss 0.2 L.C.; SS 14.6 - 15.2; CLS/SLS 15.2 - 17.1 w/ V. bKN 20. @ 16.6 - 17.1 - Sly-SS. 17.1 - 20.4: SRading into (CONT)		Box 4	PULL #4 START 9:31 END 9:47 TIME 16 min DRL 16 min RAN 5.0 REC 5.3 LOSS .2 UNACC .2 T/DEP 19.2
					15.2	DEP 19.3
					Box 5	PULL #5 (CONT)
					18.5	
					Box 6	
					(CONT)	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-181

DRILLING LOG (Cont Sheet) — ELEVATION TOP OF HOLE 496.6 — Hole No. L-181

PROJECT: GALLIPOLIS LOCK & DAM — INSTALLATION: ORH-CD — SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.2	20				Box 6	PULL #5 START 10:00 END 10:13 TIME 13 min UNACC 0 DRL 13 MIN RAN 4.3
	21		CLS S.-M.h., m.-dk.gr.		22.1	REC 4.3
	22		PTS. Shy. 0.1 L.C. 6TWN		Box 7	LOSS 0
	23		20.4 + 23.7 (MECH)			DEP 23.7 T/DEP 23.4
	24		0.7 L.C.(?) 6TWN 23.7'			PULL #6
	25		27.6 grading into			START 10:27
	26		ICL		25.5	END 10:43 TIME 16. MIN
469.0	27				Box 8	DRL 16. MIN RAN 4.9 REC 3.1 LOSS 0.7 UNACC 0.7
	28		ICL			DEP 28.5 T/DEP 29.0
	29		R.6z-greenish			PULL #7
	30		gr., bKn; s.-m.h.		29.8	START 11:05 END 11:15 UNACC .3 TIME 10 min
	31		SLK.		Box 9	DRL 10 MIN RAN 3.4
	32		0.3 L.C. 6TWN 27.6'			REC 3.1 LOSS .3
	33		32.0 . 0.3 L.C. 6TWN			DEP 32.4 T/DEP 32.0
	34		32.0 L.C. 6TWN 32.0			PULL #8 T/DEP 32.8
	35		' 39.6		33.6	START 7:25 RAN 1.7 END 7:45 REC 1.7 TIME 20 min LOSS 0 DRL 20 min UNACC 0 DEP 33.3
	36				Box 9	PULL #9 START 8:00
	37					END 8:12 TIME 12 min DRL 12 min RAN T/DEP 36.9
	38					REC 2.9
	39					LOS 0.3 UNACC 0.3
457.0			BOTTOM HOLE		39.6	DEP 39.3
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 — GPO: 1968 OP—328-843 — PROJECT: GALLIPOLIS LOCK & DAM — HOLE NO. L-181

Hole No. L-18/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-18 STA 4+90.8
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-18/2
5. NAME OF DRILLER: Dowell Norris
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.47
8. DEPTH DRILLED INTO ROCK: 38.5
9. TOTAL DEPTH OF HOLE: 457.97
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/27/89; COMPLETED 1/30/89
17. ELEVATION TOP OF HOLE: 496.47
18. TOTAL CORE RECOVERY FOR BORING: 38.5'
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.47	1		SANDSTONE LT.GR., M-H., M-C.GR FLAKEY Bd BRK PNS, 3 SPACING FE STAINED 0.0-0.7		1	PULL #1 START 4:29 END 4:40 TIME 16 min DRL 16 min RAN — REC 1.3 LOSS 0.7 UNACC 0.7 DEP 2.0
493.77	2					
	3		CLS GR., S., SH, CLAYEY @ TOP TO SLT @ BOTTOM		3.6	PULL #2 START 4:47 END 5:00 TIME 10 min DRL 10 min RAN REC 3.7 LOSS 0 UNACC 0 T/DEP 4.9
	4					
	5					
490.77	6		SLS GR, S-M.H., SA, SCURELY BEN Mech 6.7-6.9, 14.2 14.6, 15.0-15.4, 17.7-18.1 CLAYEY 6.9-7.4, 13.3-13.6 CLS, GR. S. SH, 9.2-9.8		2	PULL #3 START 5:29 END 6:00 TIME 31 min DRL 31 min RAN 4.1 REC 4.1 LOSS 0 UNACC 0 T/DEP + DEP 9.8
	7				6.9	
	8				3	
	9					
	10				10.5	PULL #4 START 18.30 END 19.00 TIME 30 min DRL 30 min RAN 5.2 REC 5.2 LOSS 0 UNACC 0 T/DEP 19.9 DEP 19.7
	11				4	
	12					
	13					
	14					
	15				19.3	
	16				5	PULL #5 START 19.25 END 19.45 TIME 20 min DRL 20 min RAN 5.3 REC 5.3 LOSS 0 UNACC 0 T/DEP 19.9 DEP 19.8
	17					
478.37	18				17.9	
	19		SANDSTONE GR M-H F.-UCF. GR, SLT (CONT)		6 CONT	
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-18/1

DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE 496.47 **Hole No.** L-18/2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.87	20		SANDSTONE		6	PULL #6
	21		SLT			START 21:00
			GR., S-M.H., Sa, clayey		21.3	END 21:20
	22					TIME 20min
			23.8 - 25.6		7	DRL 20min
	23					RAN 4.5
	24					REC 4.5
						LOSS Ø
	25					UNACC Ø
					25.1	DCP 29.8
	26					PULL #7
					8	START 21:30
	27					END 22:00
						TIME 30min
468.37	28					DRL 30min
			CLS			RAN 5.6
			GR., S, SA.			REC 5.6
467.17	29				28.9	LOSS Ø
						UNACC Ø
	30		ICL			DCP 29.7
			R.BR, S, SH, OCC M:OTHld			PULL #8
	31				9	START 22:35
			W/GR + GN.GR., occ SLK			END 23:15
	32					TIME 40min
			SCUCELY bKN 29.5 - 29.7			DRL 40min
	33					RAN 4.9
			BKN W/NUM. SLK 33.5 - 39.6			REC 4.9
	34				33.5	LOSS Ø
						UNACC Ø
	35					DCP 34.6
						PULL #9
	36				10	START 7:45
						END 8:09
459.27	37					TIME 24min
			SLS		37.2	DRL 24min
			GR - GN.GR., S, SA		11	RAN 3.9
457.97	38					REC 3.9
			BOTTOM HOLE		38.5	LOSS Ø
	39					UNACC Ø
						DCP 39.5
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OP-628-603

PROJECT GALLIPOLIS LOCK+DAM, | HOLE NO. L-18/2

Hole No. L-19/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT: 4 7/8	
2. LOCATION (Coordinates or Station): MONO L-19 STA 9+30 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): L-19/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRY		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.6		16. DATE HOLE: STARTED 11/26/89; COMPLETED 11/26/89	
8. DEPTH DRILLED INTO ROCK: 37.9		17. ELEVATION TOP OF HOLE: 496.6	
9. TOTAL DEPTH OF HOLE: 458.7		18. TOTAL CORE RECOVERY FOR BORING: 36.6'	
		19. SIGNATURE OF INSPECTOR: LMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE			PULL #1
	2		LT. GR. M-H. - N., M. GR.			START 5:33
			PLAGGY bd bkn pn 0.1		1	END 5:40
	3					TIME 7min
493.2			SPACING 0.0 - 1.1			DRL 7min
	4		CLS			RAN 4.9
			GR., S., Sh.,		3.9	REC 4.9
	5					LOSS Ø
491.2						UNACC Ø
						T/DEP AND DCP 4.9
	6		SLS			PULL #2
			GR. M-H. - S., Sa		2	START 5:55
	7					END 6:10
						TIME 15min
	8				7.6	DRL 15min
						RAN —
	9					REC 3.6
						LOSS 0.9
	10				3	UNACC 0.9 T/DCP 9.9
486.3						DCP 9.5
	11		SLS/CLS			PULL #3
			GR, S, Sh, w bkn pn 0.1			START 6:22
	12		SPACING 10.3 - 12.1		12.0	END 6:52
484.5						TIME 30min
	13		SLS			DRL 30min
			GR., M - S.H. Sa			RAN —
	14				4	REC 8.5
482.6						LOSS Ø
	15		SLS /CLS			UNACC Ø
			Sh, interbdd w/CLS, GR, S. Sa			
	16		w/ BKpin 14.0 - 16.5 0.1		15.7	
			SPACING			
	17				5	
	18					T/DCP 17.5
	19					
	20		(CONT)		(CONT)	DCP 19.9
						PULL #4

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PROJECT: GALLIPOLIS LOCK+DAM HOLE NO. L-19/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. L-19/1

PROJECT GALLIPOLIS LOCK+DAM | INSTALLATION ORH-LD | SHEET 2 OF 4 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS		3 20.9	PULL #9
	21					START 7:07
	22					END 7:31
	23					TIME 24 min
	24					DRL 24 min
	25					RAN 9.3
	26				25.9	REC 8.8
469.9	27					LOSS 0.5
						UNACC 0.5
						T/DEP 27.2
						DEP 27.5
	28		ICL			PULL #5
	29		R. BR., S-M.H. occ		28.6	
	30		mottled w/SLK, gr-gn.			START 7:51
	31		gr, occ SLK, SH			END 8:22
	32					TIME 31 min
	33		Scurcly BKN 28.6-30.1			DRL 31 min
	34					RAN 9.4
	35		33.1-33.5		31.9	REC 6.7
	36					LOSS 2.7
460.0			BOTTOM HOLE		36.6	UNACC 2.7
	37					DEP 36.6
	38					DEP 37.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-625-603

PROJECT GALLIPOLIS LOCK+DAM | HOLE NO. L-19/1

Hole No. L-19/2

DRILLING LOG	Division: ORD	Installation: ORN-CD	Sheet 1 of 2 sheets
1. Project: GALLIPOLIS LOCK & DAM		10. Size and type of bit: 4 7/8"	
2. Location (Coordinates or Station): MONO L-19 STA. 3490B		11. Datum for elevation shown (USGS or USC): M.S.L.	
3. Drilling agency: W. G. JAQUES		12. Manufacturer's designation of drill: B-57 MOBILE	
4. Hole No. (As shown on drawing title and file number): L-19/2		13. Total no. of overburden samples taken: Disturbed N/A; Undisturbed N/A	
5. Name of driller: DOWELL NORRIS		14. Total number core boxes: 11	
6. Direction of hole: ☒ Vertical ☐ Inclined ____ deg. from vert.		15. Elevation ground water: N/A	
7. Thickness of overburden: 0	496.3	16. Date hole: Started 1/30/89; Completed 1/30/89	
8. Depth drilled into rock:	38.3	17. Elevation top of hole: 496.3	
9. Total depth of hole:	458.0	18. Total core recovery for boring: 38.3'	
		19. Signature of inspector: JMD	

Elevation (a)	Depth (b)	Legend (c)	Classification of Materials (Description) (d)	% Core Recovery (e)	Box or Sample No. (f)	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) (g)
496.3			SANDSTONE			PULL #1
	1		m.-c.g., m.h., m.gr. thin			START 8:10 RAN —
			bdd. bKN 0.0-2.1 w/1.0			END 9:22 REC 1.1
	2		L.C			TIME 72 min LOSS 1.0
					Box 1	DRL 72min UNACC 1.0
493.6						T/DEP + DEP 2.1
493.3	3		CL-GR. S. FAT			PULL #2
			SLS			START 12:57
	4		sa, s.-m.h., m-dk.gr			END 1:10
			w/sm. ss. incl.		4.3	TIME 13min
	5					DRL 13min UNACC 0
			GRADING INTO			RAN —
	6				Box 2	REC 4.6
489.6						LOSS 0
						T/DEPT DEP 6.7
	7		CLS			PULL #3
						START 1:15
	8		sly, s-m.h, m-dkgr.		8.0	END 2:00
						TIME 45min
	9		SLI, Shy Sa - 11.0		Box 3	DRL 45min
						RAN —
	10		SLS/SS Interbdd			REC 5.2
						LOSS 0
	11					UNACC 0
					11.5	
	12					T/DEP + DEP 11.9
						PULL #4
	13				Box 4	START 2:20
						END 2:30
477.2	14					TIME 10min
						DRL 10min
	15		SLS			RAN —
			sa, s.-m.h., m.-dk.gr		13.3	REC 4.4
	16		IRR, UCRT, 0 FRAC			LOSS 0.3
			14.5 -15.0 SLy SS. 16.6			UNACC 0.3
	17		-18.2 UE. S GR. CL		Box 5	T/DEP + DEP 16.6
			19.6 -19.9			PULL #5
	18					START 3:00
						END 3:20
	19				18.8	TIME 20min
476.8					Box 6	DRL 20min
	20		CLS (CONT)		CONT	RAN — (CONT)

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PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-19/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.3 | Hole No. L-19/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL #5
	21		S-M.h, m.-/KgR., SAY			REC 5.1 UNACC 0
	22		W/SLK on pgs			LOSS 0
	23		VE. BRK W/SLK 23.1			T/DEP + DEP 21.4
	24		23.8 25.3-26.6			PULL #6
	25				22.4	START 4:10
	26				Box 7	END 9:25
468.8	27					TIME 15min
	28		ICL			DRL 15min UNACC 0
	29		F. BR, S.-M.h, bKN, SLK			RAN 4.2
	30				27.9	REC 4.2
	31					LOSS 0
	32				Box 9	T/DEP 25.6
	33					DEP 26.6
	34				33.2	PULL #7
	35					START 5.05
	36				Box 10	END 5:25
	37					TIME 20 min
458.0	38		BOTTOM HOLE		36.9	DRL 20 min
	39				Box 11	RAN 5.9
	40					REC 4.9
	41				38.3	LOSS 1.0
	42					UNACC 0
	43					T/DEP + DEP 31.5
	44					PULL #8
						START 5:45
						END 6:10
						TIME 25 min
						DRL 25 min
						RAN 5.7
						REC 5.7
						LOSS 0
						UNACC 0
						DEP + T/DEP 37.2
						PULL #9
						DEP 38.3
						START 6:45
						END 7:05 LOSS 0
						TIME 20min UNACC 0
						DRL 20min
						RAN —
						REC 1.1
						DEP 91.7

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-19/2

Hole No. L-20/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORN-CO	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-20 STA 3+80 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-20/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.8
8. DEPTH DRILLED INTO ROCK: 40.6
9. TOTAL DEPTH OF HOLE: 456.2
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/26/89; COMPLETED 11/27/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 38.0'
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		m.-c.g., m.h., m.gr		Box 1	START 9:40
						END 9:53
	2		Thin bdd to 2.0			TIME 13 min
						DRL 13 min
	3					RAN -
						REC 4.7
	4					LOSS Ø
					3.8	UNACL Ø
491.7	5					TOP 4.7 DEP 9.7
491.5			CL SR, S, FAT		Box 2	PULL #2
	6		CLS/SLS			START 9:58
						END 10:12
	7		Interbdd, shy S; m.h.,			TIME 14 min
						DRL 14 min
	8		m.-dk.gr, shy w/ltr.gr		7.4	RAN 5.3
						REC 5.1
	9		CL coz cvl HOR pts			LOSS 0.2
					Box 3	UNACL 0.2
	10		0.2 LC btwn 5.3' & 10.0			DEP 9.9 TOP 10.0
					10.2	
	11		MED- CLOSELY SPACED			PULL #3
	12		HOR PTS THROUGHOUT		Box 4	START 10:20
						END 10:48
	13					TIME 28 min
						DRL 28 min
	14					RAN 10.1
					17.7	REC 10.1
	15					LOSS Ø
						UNACL Ø
	16				Box 5	
	17					
478.9	18				18.4	
					Box 6	
	19		SANDSTONE			
			shy. F.g., m.h, m.gr			
	20		(cont)		CONT	DEP 20.0

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-20/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. L-20/1

PROJECT GALLIPOLIS LOCK & DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		Box 6	T/DEP 20.1
475.3	21					PULL #9
	22		CLS		22.1	START 10:56
	23		S.-m.h, m-dk.gr.,			END 11:32
	24		shy w/grcl lenes		Box 7	TIME 36 min
	25		& lam ckn (mecl)			DRL 36 min
	26		24.1-26.6 w/1.7LC:		25.7	RAN 9.7
	27		core spun @ 26.6: hvy		Box 8	REC 9.7
	28		gr. cl coa pTgs 27.5-			LOSS Ø
	29		29.2			UNACC Ø
467.0	30		ICL			DEP T/DEP 27.8
	31		R. br, s.-m.h, ckn			PULL #5
	32		slk		30.9	START 7:50
	33				Box 9	END 8:25
	34					TIME 35 min
	35				34.4	DRL 35 min
	36				Box 10	RAN —
	37					REC 3.3
458.8	38		Bottom Hole		38.0	LOSS Ø T/DEP 33.1
	39					UNACC Ø
	40					DEP 33.9
	41					PULL #5
	42					START 9:00
	43					END 9:25
	44					TIME 25 min
						DRL 25 min
						RAN —
						REC 4.9
						LOSS Ø T/DEP 38.0
						UNACC Ø
						DEP 40.6

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-20/1

Hole No. L-20/2

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-20 STA 3+40A
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-20/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.7
8. DEPTH DRILLED INTO ROCK: 37.7
9. TOTAL DEPTH OF HOLE: 459.0
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/27/89; COMPLETED 1/27/89
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 37.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7			SANDSTONE			PULL #1
	1		LT. GR. M.-H., M-C. GR, FE			START 6:42
	2		STAINED 0.0-2.0, SLIGHT to			END 6:48
	3		mod bkd 0.0-2.0		1	TIME 6 min
493.0						DRL 6 min
	4		CLS			RAN —
			GR, S, SH, CL SEAM .05 @ 3.7 & 4			REC 4.7
491.5	5		BKN 3.7-3.8, 4.9-5.2		3.8	LOSS 0.2
						UNACC 0.2
						DEP 5.0 T/DEP 4.9
			SLS			PULL #2
	6		GR., S-M.H., SH, BKN		2	START 6:59
	7		PW 0.4 SPACING, OCC			END 7:08
	8		INTERBDD CLS, SEVERLY		7.5	TIME 9 min
						DRL 9 min
	9		BKN 7.5-7.6, 11.0-11.3			RAN —
	10		14.0-14.7, 15.1-15.3, 18.2-		3	REC 3.6
						LOSS 0.9 T/DCP 8.8
	11		18.8, CLS, S, GR, SL, 8.3-7.6, 11.3-			UNACC 0.9
						DEP 9.9
	12		12.2, 13.5-14.0, SA 15.5-16.7			PULL #3
	13		BKN W/CL COATING 16.7-		11.3	START 7:22
	14		17.0			END 7:45
						TIME 23 min
	15				4	DRL 23 min
	16					RAN —
						REC 8.9
	17					LOSS 1.0
	18				15.1	UNACC 1.0
477.5	19					
					5	
					18.8	T/DCP 18.8
					6 (CONT)	DEP 19.6
	20		SANDSTONE GR. M-H, V.F.-F.GR. SLT			PULL #4

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK & DAM | HOLE NO. L-20/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. L-20/2

PROJECT GALLIPOLIS LOCK + DAM | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SANDSTONE		6	PULL #4
475.3	21					START 8:51
	22		SLS			END 9:23
	23		gr., s., sh, BLN. PN. 0.3		22.6	TIME 32
	24		SPACING, BKN 21.6-21.7			DRL 32
	25		23.1-23.6, 26.5-27.8		7	RAN —
	26					REC 10.3
	27				26.3	LOSS 0
468.3	28				8	CAVE 0
	29		ICL			T/DEP 29.1
	30		R-br, s, sh, NUM. SLK		29.8	D DEP 29.9
	31		GRAY ABOVE 32.0			PULL #5
	32		BKN 29.7-31.0		9	START 9:41
	33		CLAYEY 32.5-33.3			END 10:06
	34				33.5	TIME 25min
	35					DRL 25min
	36				10	RAN —
	37					REC 8.4
459.0			BOTTOM HOLE		37.7	LOSS 0.2
	38					CAVE 0.2
	39					T/DEP + DEP 37.7
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1960 OF-628-603

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. L-20/2

Hole No. L-21/1

DRILLING LOG	DIVISION: ORD	INSTALLATION: ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT: 4 X 5½	
2. LOCATION (Coordinates or Station): MONO L-21 STA 3+30 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.	
3. DRILLING AGENCY: W.G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B.53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): L-21/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: DAVE HARPER		14. TOTAL NUMBER CORE BOXES: 10	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: Ø 496.7		16. DATE HOLE: STARTED 1/27/89; COMPLETED 1/27/89	
8. DEPTH DRILLED INTO ROCK: 37.9		17. ELEVATION TOP OF HOLE: 496.7	
9. TOTAL DEPTH OF HOLE: 458.8		18. TOTAL CORE RECOVERY FOR BORING: 37.9	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE			PULL #1
			LT.GR., M.H. -H, M-C.GR.,			START 10:00
	2		BKN PN, 2 SPACING 0.0 - 2.6			END 10:13
			Fe SURFACE STAIN 0.0 - 0.6		1	TIME 13 min
			F. GR. 2.0-3.1,			DRL 13 min
493.6	3		-			RAN 4.5
					3.4	REC 4.5
	4		SLS			LOSS Ø
			GR, M-H, Sa			UNACC Ø T/DEP 4.5
492.2						DEP 5.0
	5		SANDSTONE			
			LT GR. M.H-H, M-C GR.		2	PULL #2
	6		FE STAINED SURFACE			START 10:20
						END 10:33
489.4	7				7.1	TIME 13 min
						DRL 13 min
	8		SLS/CLS			RAN -
						REC 3.7 T/DEP 8.5
	9		70% SLS, 30% CLS, BKN		3	LOSS Ø
						UNACC Ø DEP 9.3
	10		PN 0.4 SPACING, SLS			PULL #3
					10.6	START 10:40
	11		GR., S.-M.H., SH, CLS			END 11:17
						TIME 37 min
	12		GR, S, SLS; 8.1-9.0, 13.7-			DRL 37 min
					4	RAN -
	13		14.9, 15.9-16.2, CLAYEY,			REC 6.4
						LOSS 1.0
	14		OS @ 7.3, Sa 9.5-10.2			UNACC 1.0
					14.3	
	15					
					5	T/DEP 15.6
	16					
	17					
						DEP 17.7
	18					PULL #9
					18.9	
477.5	19				6	START 11:35
					(CONT)	
	20		SANDSTONE (CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK+DAM HOLE NO. L-21/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. L-211

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					PULL #4
	21		SANDSTONE gr., m.H., F- VF gr., high ANGLE FRAC. 20.7-21.3		6	END 12:07
476.6	22					TIME 32 min
						DRL 32 min
			SLS		22.6	RAN —
	23		gr, s.- m.H, sh, BLN			REC 9.5
	24		PNS 0.3 SPACING, BLN			LOSS 0.3
						UNACC 0.3
	25		micch 25.2-25.4, 27.0-27.2		7	
	26					DEP of T/DEP 25.9
						PULL #5
	27				26.2	START 12:46
	28					END 1:28
467.7	29					TIME 42 min
			ICL		8	DRL 42 min
	30					RAN —
			R.br. - s.- m.H., sh, occ			REC 3.4
	31					LOSS 1.3
			SLK, occ m.s.+thcf, w		30.0	UNREC 1.3
	32					
			gr. + gn. gr., gr ABOVE		9	T/DEP 32.1
	33					DEP 32.9
			33.0, scurfy, BLK 32.0			
	34					PULL #6
			32:1, 33.3-33.4, 33.9-34.1			START 1:40
	35				34.7	END 2:10
						TIME 30 min
			37.7-37.5			DRL 30 min
	36				16	RAN —
						REC 5.0
	37					LOSS Ø
458.8						UNREC Ø T/DEP 37.9
	38		BOTTOM HOLE		37.9	DEP 37.9
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-211

Hole No. L-21/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-21 STA 2+84.8
3. DRILLING AGENCY: W. G JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-21/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 — 496.2
8. DEPTH DRILLED INTO ROCK: 37.2
9. TOTAL DEPTH OF HOLE: 459.0
10. SIZE AND TYPE OF BIT: 4X55"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/27/89; COMPLETED 1/30/89
17. ELEVATION TOP OF HOLE: 496.2
18. TOTAL CORE RECOVERY FOR BORING: 37.2
19. SIGNATURE OF INSPECTOR: TMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2	0		SAND STONE			PULL #1
	1		m-c.g., m.h., m.gr			START 10:30
	2		bKN to 2.0		Box 1	END 10:37
	3					T.ME 7min
	4					DRL 7min
						RAN —
					3.8	REC 5.2
						LOSS 0.3
						UNACC 0.3
491.0	5					DEP+T/DEP 5.0
			CL		Box 2	PULL #2
490.0	6		gr., s., FNT			START 10:29
	7		CLS			END 10:54
	8		s:m.h., m.-dk.gr., shy.			T.ME 34min LOSS 0.3
					7.3	DRL 34min UNACC 0.3
			w/closely spaced gr.cl.			RAN -
	9					REC 4.6
			Coal/ALd, hor pTgs 0.3		Box 3	DEP-9.0
486.1	10		LC brwn 5.2 & 10.1			T/DEP 10.1
			CLS/SLS			PULL #3
	11		Int-rbdd, occ-SA, m-dk		11.0	START 23:21
	12		gr. shy, occ hvy GR CLSE			END 23:30
						T.ME 9min
	13				Box 4	DRL 9min
482.7						RAN 4.3
						REC 3.9
	14		SS/CLS			LOSS 0.9
481.8			Depositional Breccia, Brn w/0.9 LC 14.0-14.9			UNACC 0.9
	15		SLS		14.9	
	16		s.-m.h., SA, , m-dk.gr, shy			
					Box 5	
			VE 6KN (MECH.) 14.4-15.4			
	17					
			w/0.5 L.C. SA 16.0-18.0			
	18					
477.6			CLS s.-m.h. m-dk.gr		18.4	DEP+T/DEP 18.4
	19		CLS		Box 6	PULL #4
			s.m.h, m-dk.gr			START 7:50 RAN —
	20		(CONT)			END 8:13 REC 5.2
						T.ME 23min LOSS 0.5
					(CONT)	DRL 23min UNACC 0.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-21/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.2 | Hole No. L-21/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #4 T/DEP 20.1
475.4	21				Box 6	DEP 20.7
			SANDSTONE			PULL #5
474.2	22		SHY, F.g. m.h., m.gk			START 8:25
			CLS		22.6	END 9:04
	23					TIME 39 min
	24		S.-m.h., m.-dk.gR.shy.w			DRL 39 min
			gk.cl-SE & coa pfgs			RAN —
	25				Box 7	REC 9.0
						LOSS 0.1
	26					UNACC 0.1
					26.4	
	27					
					Box 8	
	28					
467.5						
	29		ICL			T/DEP 29.2
			M-dk.gR-R.br, S-m.h.		29.7	DEP 29.5
	30					PULL #6
			IRR SLK PTGS TO 33.5		Box 9	START 9:17
	31					END 9:45
			W/0.1 LC BTWN 28.7 &			TIME 28 min
	32					DRL 28 min
			29.2 BECOMING R.BR			RAN —
	33				33.5	REC 8.0
			@ 33.5			LOSS 0
	34				Box 10	UNACC 0
	35					
	36					
459.0	37		BOTTOM HOLE		37.2	T/DEP 37.2
						DEP 37.5
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-21/2

Hole No. L-22/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-22 STA 2+79B
3. DRILLING AGENCY: W. 6. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-22/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.9
8. DEPTH DRILLED INTO ROCK: 40.2
9. TOTAL DEPTH OF HOLE: 456.2
10. SIZE AND TYPE OF BIT: 4 7/8
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/27/89; COMPLETED 1/27/89
17. ELEVATION TOP OF HOLE: 496.9
18. TOTAL CORE RECOVERY FOR BORING: 39.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	1–4		SANDSTONE LT.GR., M.H.-H m-cgr. occ thin clayey stainings FINE grained 0.5-0.8 LT. FE. STAIN 3.0-3.8 + FLAGGY		1 3.8	PULL #1 START 2:30 END 2:42 TIME 12min DRL 12min RAN 4.7 REC 4.7 LOSS Ø UNACC Ø T/DEP 4.7 DEP 5.0
491.7						
	5–7		SLS GR, S., SH, CLS 6.1-6.5 GR. S. SL.		2 7.1	PULL #2 START 2:50 END 3:10 TIME 20min DRL 20min RAN 4.1 REC 3.6 LOSS 0.5 UNACC 0.5 T/DEP 8.8 DEP 9.8
488.8						
486.8	8–9		SANDSTONE GR., M.H. / F.-UE.F. GR High ANG FRAC 8.2-8.8		3 10.9	PULL #3 START 3.51 END 4:05 TIME 19min DRL 19min RAN 5.9 REC 5.0 LOSS 0.9 UNACC 0.9 T/DEP + DEP 19.2
	10–20		SLS/CLS INTER bdd. SLS. GR. M.H-S., SH., 9.6-13.1 14.2-15.2-15.3-17.2 18.0-20.0, CLS GR.S.SL 13.1-14.2, 15.2-15.3, 17.2- 18.0-20.0-21.1, BKN 9.6- 9.8, 16.9-17.2 CL SHAM, .05 @ 19.0 + 14.1, .03 @ 20. + 20.3 (CONT)		4 18.7 5 18.0 6 (CONT)	PULL #4 START 4:10 END 4:19 TIME 31min DRL 31min RAN — REC 9.2 LOSS 0.9 UNACC 0.9 CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-22/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. L-22/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLSKLS			PULL #4
475.3	21		.05 @ 21.0		6	
	22		SANDSTONE		21.7	
	23		LT.GR.-GR, M-H, VF.-F.GR.			
			CAL. CEM., below 23.6			
472.1	29				7	DCP 29.9 T/DCP 29.3
	25		CLS			PULL #5
			GR, S, SH BLN THROUGHOUT			
470.1	26				25.9	START 4:58
	27		ICL			END 5:10
			R. BR. M-H-S, SH, OCC			TIME 12 min
	28		MOTTLED, W/GR + GN.-GR		8	DRL 12 min
	29		OCC SLK, SR & CLAYEY			PEN 9.5
	30		ABOVE 29.0, SEVERLY		27.5	REC 5.6
	31		BLN 28.2-32.9			LOSS 2.9
	32					UNREC 2.9
						DCP 32.6
	33				9	T/DCP 32.8
	34					PULL #6
	35					START 5:41
						END 6:12
	36				35.8	TIME 31 min
	37					DRL 31 min
						PEN 6.9
	38				10	REC 5.2
	39					LOSS 1.7
456.7			CAT HOLE		39.7	UNREC 1.7
	40					T/DCP 39.7
	41					DCP 40.2
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-620-602

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-22/1

Hole No. L-22/2

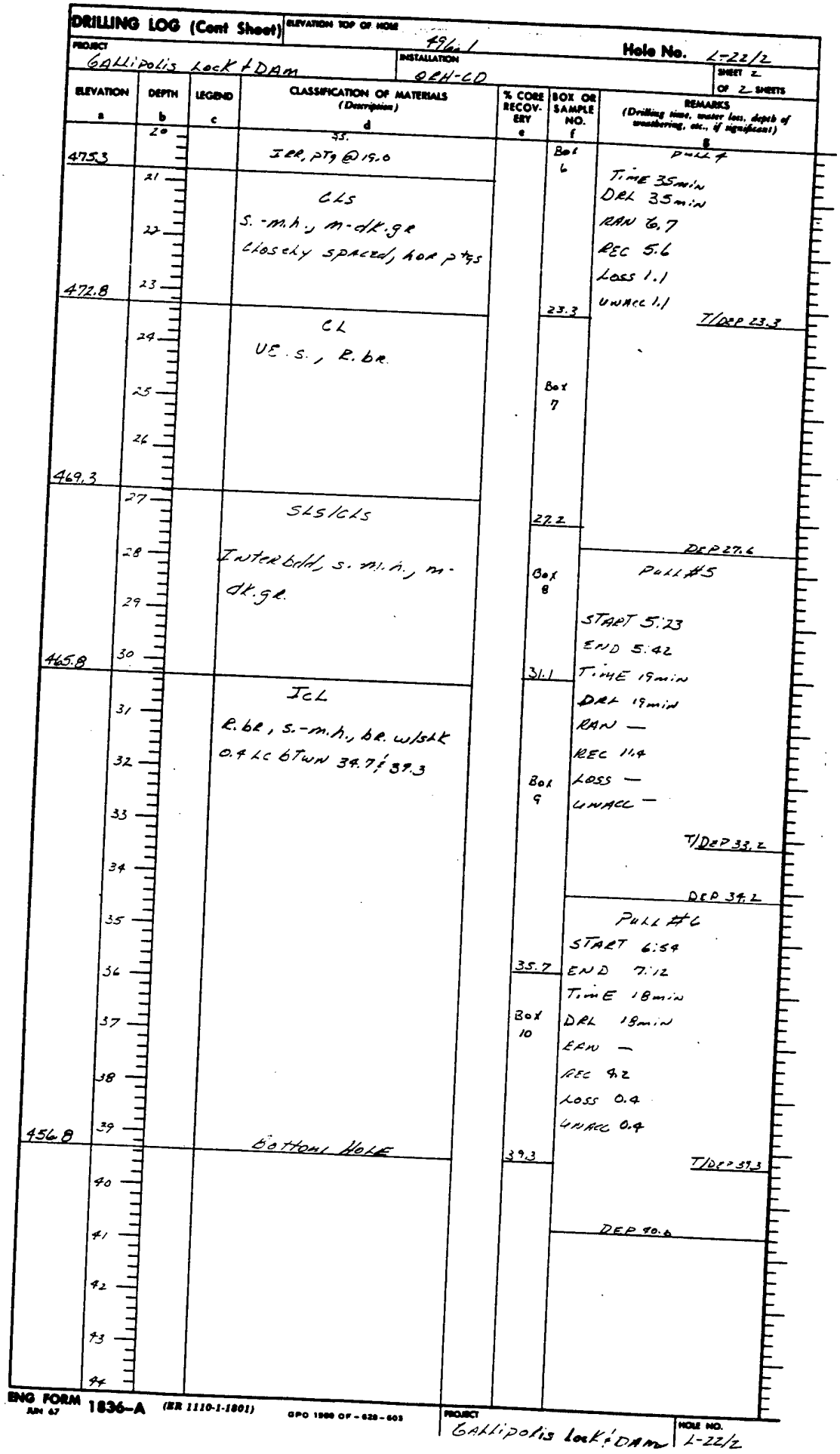
DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS Lock & DAM
2. LOCATION (Coordinates or Station): MONO L-22 STA 2+40 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-22/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.1
8. DEPTH DRILLED INTO ROCK: 39.3
9. TOTAL DEPTH OF HOLE: 456.8
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/30/89; COMPLETED 1/30/89
17. ELEVATION TOP OF HOLE: 496.1
18. TOTAL CORE RECOVERY FOR BORING: 39.3 %
19. SIGNATURE OF INSPECTOR: JMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1			SANDSTONE			PULL #1
	1		m- c.g., m.h., m.gr		Box 1	START 2:36
	2		0.2 L.C. 4.3-4.5			END 2:47
	3					TIME 11min
						DRL 11min
						RAN —
					3.7	REC 4.6
491.8	4					LOSS 0.2
						UNACC 0.2
						T/DEP 4.8
						DEP 5.0
	5		SLS/cLS		Box 2	PULL #2
	6		Interbdd, m-dk.gr,			START 2:58
	7		s-m.h., shy. 0.4 LC.			END 3:15
						TIME 17min
					7.3	DRL —
	8		btwn 7.3 & 8.2 (mech)			RAN 3.0
						T/DEP 8.2
	9		Closely spaced hor			REC 0.4
					Box 3	LOSS 0.4
	10		cl coq lam pkgs,			UNACC DEP 9.6
						PULL #3
			10.0-17.7 w/1.6 L.C.			
	11				11.2	START 3:52
						END 4:15
	12					TIME 13min
						DRL 13min
	13				Box 4	RAN 9.5
						REC 7.9
	14					LOSS 1.6
						UNACC 1.6
					19.8	
	15					
	16					
	17				Box 5	
						DEP 17.9 T/DEP 17.2
	18					PULL #4
477.2						START 4:30
	19		SANDSTONE			END 5:05
			shy, F-g., m.h, m.gr, slt,		19.8 cont	(CONT)
	20		CONT			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS Lock & DAM | HOLE NO. L-22/2


DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 496.1
PROJECT GALLIPOLIS LOCK & DAM
INSTALLATION ORH-CO
Hole No. L-22/2
SHEET 2 OF 2 SHEETS
ELEVATION a
DEPTH b
LEGEND c
CLASSIFICATION OF MATERIALS (Description) d
% CORE RECOVERY e
BOX OR SAMPLE NO. f
REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
475.3
IER, PTY @ 19.0
Box 6
PULL #4
TIME 35min
DRL 35min
RAN 6.7
REC 5.6
LOSS 1.1
UNACC 1.1
23.3
T/DEP 23.3
472.8
CLS
S.-m.h., m-dk.gr
closely spaced, hor ptgs
CL
VE. S., R. br.
Box 7
469.3
27.2
DEP 27.6
SLS/CLS
Interbdd, s. m.h., m-dk.gr.
Box 8
PULL #5
START 5:23
END 5:42
TIME 19min
DRL 19min
RAN —
REC 11.4
LOSS —
UNACC —
465.8
31.1
ICL
R. br, s.-m.h., br. w/blk
0.4 LC bTWN 34.7 & 39.3
Box 9
T/DEP 33.2
DEP 34.2
PULL #6
START 6:54
END 7:12
TIME 18min
DRL 18min
RAN —
REC 4.2
LOSS 0.4
UNACC 0.4
35.7
Box 10
456.8
BOTTOM HOLE
39.3
T/DEP 39.3
DEP 40.6
ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1966 OF - 626 - 603
PROJECT GALLIPOLIS LOCK & DAM
HOLE NO. L-22/2

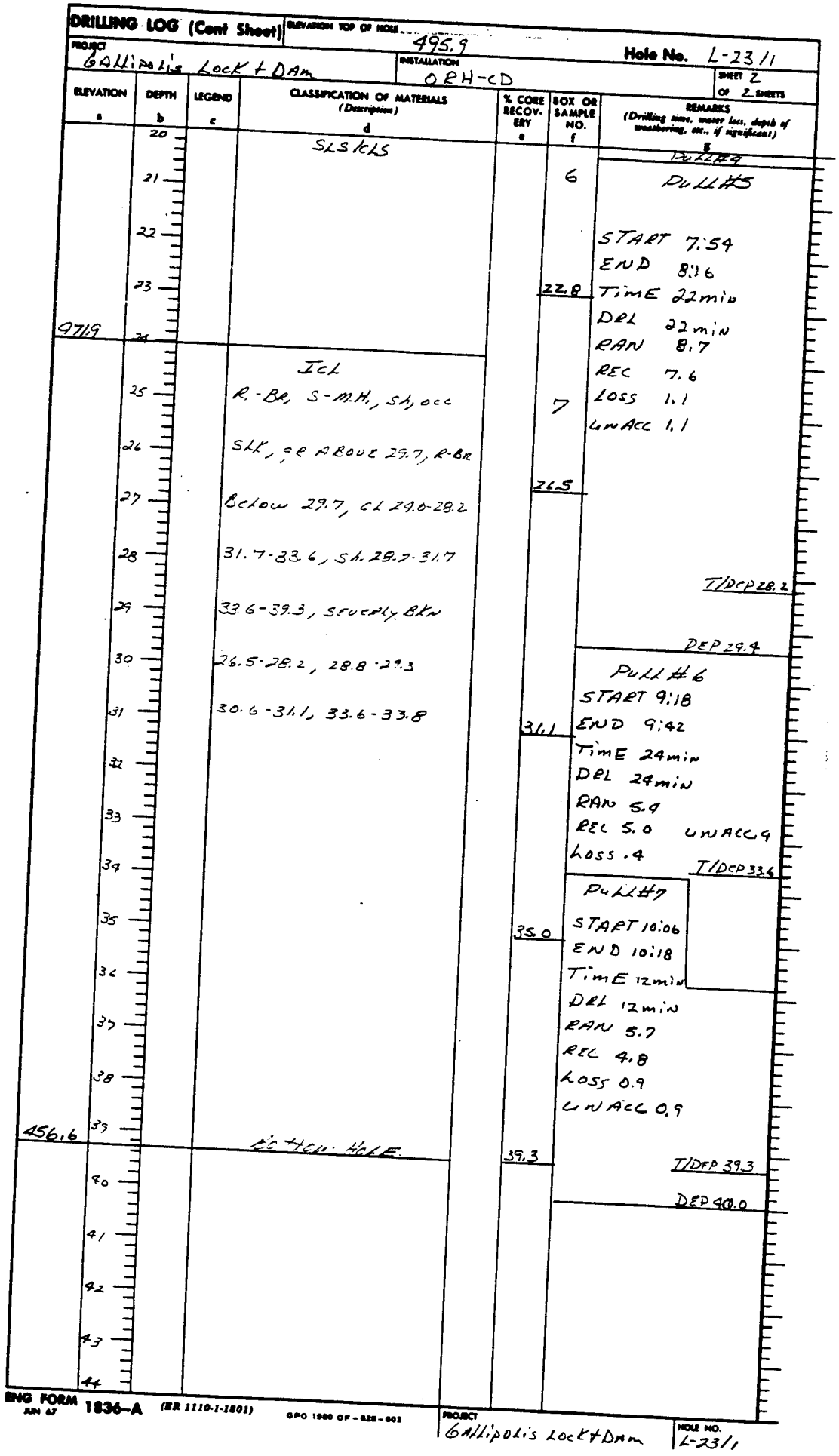
Hole No. L-23/1

DRILLING LOG	DIVISION OED	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8 V 2"	
2. LOCATION (Coordinates or Station) MONO L-23 STA 2+30 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. 6. JAMES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-23/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY		14. TOTAL NUMBER CORE BOXES 10	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 495.9		16. DATE HOLE STARTED 1/31/89; COMPLETED 1/31/89	
8. DEPTH DRILLED INTO ROCK 40.0		17. ELEVATION TOP OF HOLE 495.9	
9. TOTAL DEPTH OF HOLE 455.9		18. TOTAL CORE RECOVERY FOR BORING 39.3 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
495.9			SANDSTONE			PULL #1
	1		LT.GR., M-H, M-C GR.			START 5:50
						END 6:00
	2		BKN @ SURFACE 0.0-0.8		1	TIME 10 min
						DRL 10 min
	3		FE STAIN 0.0-3.0			RAN 4.7
						REC 4.7
					3.8	LOSS Ø
455.7	4					UNACC Ø T/DEP 4.5
			CLS			DEP 5.0
	5		LT GR., S, SH, BKN 5.0-5.5		2	PULL #2
490.4						START 6:12
	6		SANDSTONE			END 6:20
			GR, M-H, F-VF GR.		6.9	TIME 8 min
	7		SLS GR, M-H, SA. 6.0-6.7			DRL 8 min
			SH SEAM BKN 7.6-7.9		3	RAN 4.1
	8		CAL-CCM 6.8-7.4			REC 4.1 T/DEP 8.6
487.2						LOSS Ø
	9		SHS/CLS			UNACC Ø
			70% SLS, 30% CLS,			DEP 10.0
	10				10.3	PULL #3
			GR, S-M.H, SH, FLAGGY			START 6:46
	11					END 6:55
			BKS, PN., 0.2 SPACING		4	TIME 9 min
	12					DRL 9 min
			OCC CL COATING ON PN			RAN 2.9
	13					REC 2.5 DEP 13.5
			MECH BKN 11.7-12.0, CL STAIN			LOSS .4
	19				19.2	UNACC .4
			0.03 @ 15.2, .01 @ 12.6			
	15					
			SA. SLT BELOW 15.4		5	PULL #4
479.6	16					START 7:21
			SANDSTONE			END 7:36
478.6	17		GR, M-H., F-VF GR.,			TIME 15 MIN
			SLS/CLS			DRL 15 min
	18				17.7	RAN 7.8
			70% SLS 30% CLS			REC 6.2
	19		GR, M-H., SHALY, FLAGGY		6	LOSS 1.6
			.03 @ 21.0		(CONT)	UNACC 1.6 T/DEP 19.5
	20		(CONT)			(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK + DAM | HOLE NO. L-23/1



DRILLING LOG (Cont Sheet)
ELEVATION TOP OF HOLE 495.9
PROJECT Gallipolis Lock + Dam
INSTALLATION ORH-CD
Hole No. L-231
SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS			PULL #5
	21				6	PULL #5
	22					START 7:54
	23					END 8:16
					22.8	TIME 22 min
471.9	24					DRL 22 min
						RAN 8.7
	25		ICL			REC 7.6
			R-Br, S-M.H., SA, occ		7	LOSS 1.1
	26		SLK, GR ABOVE 29.7, R-Br			UNACC 1.1
					26.5	
	27		Below 29.7, CL 29.0-28.2			
	28		31.7-33.6, SA. 29.7-31.7			T/DCP 28.2
	29		33.6-39.3, SEVERELY BKN			DEP 29.9
	30		26.5-28.2, 28.8-29.3			PULL #6
	31		30.6-31.1, 33.6-33.8			START 9:18
					31.1	END 9:42
	32					TIME 24 min
	33					DRL 24 min
						RAN 5.9
	34					REC 5.0 UNACC 0.9
						LOSS .4
	35					T/DCP 33.6
						PULL #7
	36				35.0	START 10:06
	37					END 10:18
						TIME 12 min
	38					DRL 12 min
						RAN 5.7
456.6	39		25 FOOT HOLE			REC 4.8
						LOSS 0.9
	40					UNACC 0.9
					39.3	
	41					T/DEP 39.3
	42					DEP 40.0
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603
PROJECT Gallipolis Lock + Dam
HOLE NO. L-231

Hole No. L-23/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORN-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-23 STA 1+85.8
3. DRILLING AGENCY: W.G JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-23/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.6
8. DEPTH DRILLED INTO ROCK: 38.6
9. TOTAL DEPTH OF HOLE: 458.0
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/30/89; COMPLETED 1/30/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 38.6 %
19. SIGNATURE OF INSPECTOR: LMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	0		SANDSTONE m.-c.g., m.h. STR.BR.			PULL #1 START 10:20
	1				Box 1	END 10:30
	2					TIME 10MIN
	3					DRL 10MIN
						RAN —
						REC 4.6
492.7	4				3.8	LOSS 0.1
			CL			UNACC 0.1
491.9			GR.S. FAT CL			T/DEP 4.7 DEP 5.0
	5		CLS/SLS		Box 2	PULL #2
	6		Interbdd, s-m.h, m-dk.gr			START 10:38
			sly: closely spaced sly			END 10:53
489.3	7		PTGS w/TR.GR. CL. COA			TIME 15MIN
			4.7-7.3 w/0.7 LC (CMEOL)		7.3	DRL 15MIN
	8		SANDSTONE			RAN —
			sly., v.g. m.h., m.gr			REC 4.2
	9				Box 3	LOSS 0.7
			VC bkn 9.6-10.3			UNACC 0.7 T/DEP 9.4 DEP 9.8
486.3	10					
			CLS/SLS			PULL #3
	11		Interbdd s.-m.h.,			START 11:04
			m. dk.gr, occsly		11.2	END 11:38
	12		bkn w/TR.gr. CL.			TIME 34MIN
			COA on hol sly 13.0-		Box 4	DRL 34MIN
	13		15.0 w/0.4 L.C. (CMEOL)			RAN —
						REC 7.4
	14		bkn 23.4-25.4 w/			LOSS 0.4
			0.9 L.C.			UNACC 0.4
	15				15.0	
	16					
					Box 5	
	17					T/DEP 17.4
	18					
					18.8	
	19				Box 6	DEP 19.4
						PULL #4
	20		(CONT)		(CONT)	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-23/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. L-23/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS		Box 6	PULL #4
	21					START 12:20
	22					END 12:55
	23				23.7	TIME 35 min
	24				Box 7	DRL 35 min
	25					RAN —
	26					REC 8.5
469.8					26.8	LOSS 0.9
	27		ICL			UNACC 0.9
	28		R. bc., s.-m.h., w LSLT		Box 8	TDEP 26.8
	29		PTgs 0.3 L.C. btwn			DEP 27.4
	30		26.8 & 34.4			PULL #5
	31				30.6	START 1:07
	32				Box 9	END 1:43
	33					TIME 36 min
	34					DRL 36 min
	35				34.4	RAN —
	36				Box 10	REC 7.3
	37					LOSS 0.3
	38					UNACC 0.3
458.0			BOTTOM HOLE.		38.6	TDEP 34.4
	39					DEP 34.9
	40					PULL #6
	41					START 1:55
	42					END 2:14
	43					TIME 19 min
	44					DRL 19 min
						RAN —
						REC 3.8
						LOSS 0.4
						UNACC 0.4
						TDEP 38.6
						DEP 37.4

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-23/2

Hole No. L-29/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-29 STA 1+75 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-29/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.7
8. DEPTH DRILLED INTO ROCK: 39.9
9. TOTAL DEPTH OF HOLE: 457.3
10. SIZE AND TYPE OF BIT: 4 7/8" 11
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/30/69; COMPLETED 1/30/69
17. ELEVATION TOP OF HOLE: 496.7
18. TOTAL CORE RECOVERY FOR BORING: 39.4 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.7	1		SANDSTONE LT.GR., M.H.-H, M-C.GR BKN, PN. 0.2 SPACING FLAGGY 0.0-2.8, ltcw occ CLAYEY STRINGERS & FRAG THROUGHOUT		1	PULL #1 START 7.47 END 7.58 TIME 11min DRL 11min RAN 4.9 REC 4.9 LOSS 0 UNACC 0 DEP+T/DEP 4.9
490.7	6			3.8		
487.5	9		SANDSTONE LTGR.-GR, M.H., F-UEF.GR. CLS, GR S.SH 6.0-6.9 SLT ABOVE 7.0', ANG PN W CL COATING 46° (JOINT) 8.2-8.4		2	PULL #2 START 8:05 END 8.19 TIME 19min DRL 19min RAN 4.7 REC 4.3 LOSS 0.4 UNACC 0.0 DEP 9.0 T/DEP 9.6
485.0	11		SLS GR, S-M.H, SH, ANG, PN, 30° W/SLK 7.9-10.0, 10.1-10.3		3	PULL #3
483.2	13		CLS GR., S, SH., SCURRLY BKN 12.9-12.7 W/LC.		4	START 8:56 END 9:30 TIME 34min DRL 34min RAN 9.7 REC 8.7 LOSS 1.0 UNACC 1.0
479.7	17		SLS GR. S-M.H., SH, BKN PN. 3 SPACING, SCURRLY BKN 14.2-14.5 15.1-15.3, CLS 16.6-17.0 GR, S.SH.		5	
477.7	19		SANDSTONE GR, M.H., F-UEF.GR. SH SEAM			DEP 19.5 T/DEP 19.3
	20		SLS CL		19.7 6	PULL #4

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-29/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.7 | Hole No. L-29/1

PROJECT: GALLIPOLIS LOCK+DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #4
	21		gr. S-MH., Sh, bkn. pn.,			START 9:40
	22		0.3 SPACING		6	END 10:10
473.5	23					TIME 30 min
			CLS			DRL 30 min
	24		gr. S. Sh, severly bkn			RAN 10.0
	25		25.2 - 25.6		23.6	REC 9.7
470.6	26				7	LOSS 0.3
			ICL			UNACC 0.3
	27		L-BP, S-MH., occ ANT		27.3	
	28		PN w/ SLK, Sh, occ			
	29		MOTTLED w/ GR + GN; GR.			DCP 29.2
	30		GR + CLAYEY ABOVE 27.3		8	T/DCP 29.3
	31		severly BKN 27.3-27.9		31.1	PULL #5
	32		28.2 - 28.3, 30.9 - 31.0			START 10:30
	32					END 11:12
	33					TIME 42 min
	34					DRL 42 min
	35				9	RAN 6.8
	36					REC 6.0
	37					LOSS 0.8
	38					UNACC 0.8
	39				39.9	
457.3			BOTTOM HOLE			DEPT T/DCP 36.1
	40					PULL #6
	41					START 23:30
	42					END 23:51
	43					TIME 21 min
						DRL 21 min
						RAN 3.3
					39.9	REC 3.3
						LOSS 0
						UNACC 0

DCP 39.9

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-620-603

PROJECT: GALLIPOLIS LOCK+DAM | HOLE NO. L-29/1

Hole No. L-29/2

DRILLING LOG | DIVISION OED | INSTALLATION ORH-CO | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-24 STA 1+40B
3. DRILLING AGENCY: W. G JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-29/2
5. NAME OF DRILLER: DOWELL NORRIS
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 – 496.5
8. DEPTH DRILLED INTO ROCK: 40.3
9. TOTAL DEPTH OF HOLE: 456.2
10. SIZE AND TYPE OF BIT: 4 x 5.5"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 11/30/89; COMPLETED 11/30/89
17. ELEVATION TOP OF HOLE: 496.5
18. TOTAL CORE RECOVERY FOR BORING: 40.3 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.5	1		SANDSTONE m-c.g, m.h., m.gr		Box 1	PULL #1+2 START 20:55 END 21:20 TIME 25min DRL 25min RAN 7.8 REC 6.3 LOSS 1.5 UNACC 1.5
493.0	3				3.6	
	4		CLS m.-dk.gr, s-m.h, shy		Box 2	
	5		bkn w/tr.gr cl 3.5			
	6		ss.lens 5.2-5.4 v bkn			
	7		w/tr.gr cl coa & lsl-c			
488.5	8		5.4-7.8		8.3	DEP 7.8
	9		SANDSTONE shy, f.g. s.-m.h, m.dk gr grading into		Box 3	PULL #3 START 21:45 END 22:00 TIME 15min DRL 15min RAN 12.4 REC 4.5 LOSS 0 UNACC 0
486.3	10				11.9	DEP 12.4
	11		CLS s.-m.h, m-dk.gr w/		Box 4	PULL #4 START 22:00 END 22:15 TIME 15min DRL 15min RAN 17.6
	12		slsmode incls, tr			
	13		cl. coa @ 10.2 bkn 11.3			
	14		11.7 w/o.1 l.c bkn.w/slk			
	15		12.0-13.0 m.h.sls. se. @ 14.2		15.3	REC 5.2 LOSS 0 UNACC 0
	16		14.6 ss lens 15.3-15.9		Box 5	
479.3	17		uc bkn w/slk. 16.3-17.2			DEP 17.6
	18		SANDSTONE shy, f.g. m.h, m.gr hd. sli wea, jt. 17.6-18.6			PULL # START 22:30 END 22:45 TIME 15min
	19		gr.el. coa, near hor.pty. @ 18.9 vert. open pty 19.0		18.9 Box 6 CONT	(CONT)
476.7	20		19.9 bkn. cl coa hor			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-29/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.5 | Hole No. L-24/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		DT 9 @ 19.4: 6KN, TRANS			PULL #4
	21		to 19.4-20.1		Box 6	DRL 15 min
			CLS/SLS			RAN 22.9
	22		INTERBDD, m.-dk.gr.s			REC 5.3 UNACC 0
					22.4	LOSS 0
	23		m.H occ sh,			DEP 22.9
						PULL #5
	24				Box 7	START 23:09
						END 23:20
	25					TIME 15 min
						DRL 15 min
470.5	26					RAN 28.1
			ICL			REC 5.2
	27					LOSS 0
			S-m.-, gr.-f.gr.		Box 8	UNACC 0
	28					DEP 28.1
			occ blk. w/SLK			PULL #6
	29					START 7:40
					29.7	END 7:55
	30					TIME 15 min
					Box 9	DRL 15 min
	31					RAN 32.6
						REC 4.5
	32					LOSS 0
						UNACC 0
	33				32.6	DEP 32.6
						PULL #7
	34					START 8:05
						END 8:25
	35					TIME 20 min LOSS 0
					Box 10	DRL 20 min UNACC 0
						RAN 35.4
						REC 2.8
						DEP 35.4
						PULL #8
	37				36.1	START 8:40
						END 9:14
	38					TIME 34 min
					Box 11	DRL 34 min
	39					RAN 40.3
						REC 4.9
						LOSS 0
456.2	40		BOTTOM HOLE			UNACC 0
					40.3	DEP 40.3
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-24/2

Hole No. L-25/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-25 STA 1+23.8
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-25/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 – 496.6
8. DEPTH DRILLED INTO ROCK: 39.5
9. TOTAL DEPTH OF HOLE: 457.1
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (USGS or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/31/89; COMPLETED 1/31/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 39.5 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE m-c.g., m.H., m.gr, T Bdd. Closely spaced pTgs w/o.1 L.C			PULL #1 START 1:00
494.7	2				1	END 1:14 TIME 14min DRL 14min RAN — REC 4.2 LOSS 0.1 UNACC 0.1 T/DEP 4.3
	3		ICL Motted R.b., S.-M.h. V.S. gR.Cl. 1.9-2.4. o5 LC GRADING INTO		3.6	DEP 5.0
492.8	4		CLS m.DK.gr., S.-M.h bKN 4.3-5.1 w/o.1 L.C			PULL #2
491.5	5				2	START 1:36 END 1:43 TIME 13min DRL 13min UNACC 0.1 RAN — REC 4.2 LOSS 0.1 T/DEP 8.3
	6		SLS m.dk.gr., S.-M.h. grading CLY-SA grading into		7.3	DEP 9.0
489.8	7		SANDSTONE CLY, F.g., m.H, M.gr.			PULL #3
487.7	8				3	START 1:53
	9		SLS Sa. S-M.H, m-dk.gr., PTs SHY GRADING		10.9	END 2:27 TIME 34min DRL 34min RAN — REC 8.9 LOSS 0.3 UNACC 0.3
486.6	10		CLS/SLS			
	11		SHY interbdd, S.-M.H., m.-dk.gr., w/thin gR.Cl. SE: Closely.			
	12		SPACED, HOR. PTs. w/ occ TR.gR.Cl. coal?		4	
	13		Fld. 0.3 L.C. btwn 10.5'-16.2			
	14				14.6	
	15					
480.4	16				5	T/DEP 17.7
	17		SLS S-m.H, m.gr. grading			
479.6			SANDSTONE			
478.9	18		SHY, F.g., m.H., m.gr TR. gr. Cl. coq HOR CONTACT @17.0		18.4	DEP 18.4
	19		SLS Interbdd w/CLS.: (CONT)		6 CONT	PULL #4 START 2:42 END 3:18 (CONT)
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-25/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. L-25/1

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #4
	21		S-M.H., SLY M.DK.GR, OCC, GR.CL. COA & FLA HOR. PTG: MOSS. SLS 22.8-24.1: GRADING		6	TIME 36 MIN DRL 36 MIN RAN —
	22				22.4	REC 9.4
	23					LOSS 0
	24					UNACC 0
	25				7	
471.5			ICL		26.1	T/DEP 27.1 DEP 27.4
	26		MOTTED - R.BR., S.-M.-H,			
	27					
	28		BKN. W/ SLK. R.BR.		8	PULL #5
	29		STARTING @ 29.0 1.2			START 3:50
	30		L.C. BTWN 27.1 & 36.8		29.8	END 4.32 TIME 42 MIN
	31					DRL 42 MIN
	32				9	RAN 9.7 REC 8.5 LOSS 1.2
	33					UNACC 1.2
	34				33.5	
	35					
	36				10	
	37					DEP 36.7 T/DEP 36.8
	38				37.8	PULL #6
	39				11	START 5:15 END 5:32 TIME 17 MIN
457.1			BOTTOM HOLE		39.5	DRL 17 MIN T/DEP 39.5 DEP 39.7
	40					RAN 2.7
	41					REC 2.0
	42					LOSS 0.7
	43					UNACC 0.7
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-25/1

Hole No. L-25/2

DRILLING LOG

DIVISION: ORD

INSTALLATION: ORH-CD

SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): Mons L-25 STA 1820B
3. DRILLING AGENCY: W. G. TAGUES
4. HOLE NO. (As shown on drawing title and file number): L-25/2
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.4
8. DEPTH DRILLED INTO ROCK: 40.4
9. TOTAL DEPTH OF HOLE: 456.0
10. SIZE AND TYPE OF BIT: 4 7/8" S
11. DATUM FOR ELEVATION SHOWN (MSL or USL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 10
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/31/89; COMPLETED 1/31/89
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 40.4 %
19. SIGNATURE OF INSPECTOR: EMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.4	0					PULL#1 START 9:40 END 9:55 TIME 15min DRL 15min RAN — REC 1.6 LOSS 0.4 UNACC 0.4
	1		SANDSTONE m.-c.g., m. h., m.g.r. BKN 0.0-2.0 w/10.9 L.C (mech)		1	DEP 1/T/DEP 2.0
	2					PULL#2 START 10:00 END 10:20 TIME 20min DRL 20min RAN — REC 5.2 LOSS 0 UNACC 0
	3				3.8	
492.6	4		SLS s:m.h, SA, m.dkgy w/Rs SLY ss. LAM & INCLS: BKN W/SLK 3.8-9.5: BKN/ABAC SS IN SLS MINTR/Y 4.5-5.5			
490.9	5				2	
	6		CLS s.-m.h, m dk.gy, SLK			
489.2	7				7.2	T/DEP 7.2 DEP 7.4
	8		SS/SL depositional breaks. SS BKN w/CA. , 0 FRAC SLS BKN SLK 7.2-9.0, SA 9.0-9.5			PULL#3 START 10:30 END 10:50 TIME 20min DRL 20min RAN — REC 2.7 LOSS 0 UNACC 0
486.9	9				3	T/DEP 9.9
	10		CLS/SLS s: m.h., m.dk.gy., mass-		10.5	DEP 11.0
	11		m-brkd. w/occ SHY PTG.			PULL#4 START 11:00 END 11:20 TIME 20min DRL 20min RAN — REC 2.4 LOSS 0 UNACC 0
	12				4	T/DEP DEP 12.4
	13					T/DEP 13.2 PULL#5
	14				13.5	START 11:30 END 11:57 TIME 27min DRL 27min RAN — REC 0.9 LOSS 0 UNACC 0
	15					
	16				5	DEP 17.0
479.5	17		SLS SA, f.g., m.h, m dk.gy. w/m. SPACED. HOR PTGS CORE			PULL#6
	18		Spin @ 16.2 Grading into		17.5	T/DEP 17.5 START 0:36 END 0:18 TIME 39min DRL 39min RAN — REC 9.3 LOSS 0 UNACC 0
477.4	19		SLS		6 (CONT)	DEP 18.1
	20		s.-m.h., m. dk.gy, SHY occ (CONT)			PULL#7 START 13:20

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-25/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. L-25½

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS (cont)		6	END 13:40 TIME 20 min DRL 20 min
	21		S/S. LENS @ 20.5.		21.3	RAN — REC 4.3 LOSS 0
	22					T/DCP 21.8 UNACC 0 DEP 22.4
	23				7	PULL #8 START 13:50 END 14:15 TIME 25 min DRL 25 min
	24					RAN —
470.9	25				25.0	REC 4.2 LOSS 0 UNACC 0
	26		ICL			T/DEP 26.0 DEP 26.3
	27		S. - m.h, m.gr. - R.br.		8	PULL #9 START 14:30
	28		SLK. : bEN to 28.0			END 14:50 TIME 20 min DRL 20 min
	29		becoming R.br @ 28.		28.7	RAN — REC 5.7 LOSS 0
	30		bkn throughout I. & LC.			UNACC 0
	31		btwn 13.7 & 30.4		9	T/DCP 31.2 DEP 31.4
	32					PULL #10
	33				32.3	START 22:50 END 23:15 TIME 25 min DRL 25 min
	34					RAN 9.2
	35				10	REC 7.8 LOSS 1.4 UNACC 1.4
	36				36.0	
	37					
	38				11	
	39					
456.0	40		BOTTOM HOLE		40.4	DEP & T/DEP 40.4
	41					
	42					
	43					
	44					

ENG FORM 1836-A (ER 1110-1-1801) GPO 1966 OF-626-603 | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-25½

Hole No. L-26/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-26 STA 0+80 B
3. DRILLING AGENCY: W. 6. JAGUES
4. HOLE NO. (As shown on drawing title and file number): L-26/1
5. NAME OF DRILLER: STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0 496.6
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 463.2
10. SIZE AND TYPE OF BIT: 4 15/16
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B. - 53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/1/89; COMPLETED 2/2/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 32.7
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE m-cg., m.h, m.gr. thin bdd		Box 1	PULL #1 START 9:45 END 9:55 TIME 10 min DEL 10 min RAN — REC 5.0 LOSS 0 UNACC 0
495.3					3.7	
	2		ICL motted - R. br, s - m.h,			
	3		slk ve.s @ contact			
	4					
	5				Box 2	DEP 5.0 TIDEP 9.2 PULL #2
491.0						
	6		SANDSTONE sly, m.h, m.gr, f.g.			START 10:05 END 10:18 TIME 13 min DEL 13 min RAN —
	7		mass grading into			TIDEP 7.2
	8				7.8	REC 7.4 LOSS 0 UNACC 0
487.7					Box 3	
	9		CLS/SLS			DEP 10.2
	10				10.7	PULL #3
	11		Interbdd, s. - m.h., m-dk.gr.; closely spaced			
	12		hor sly ptgs w/ fr gr. cl. coa f se.		Box 4	START 10:31 END 11:00 TIME 29 min DEL 29 min RAN —
	13		sly 8.9-10.2 ; btw w/slk			
	14		11.7-12.3 ; 0.6 LC BTWN			REC 8.8
	15		10.7 & 16.0 sa lens 16.9-		18.5	LOSS 0.6 UNACC 0.6
	16		17.8, mostly CLS below			
	17		17.8 ; R. br ICL LENS		Box 5	
	18		20.2-20.7 ; 21.6-21.9			TIDEP 16.8 DEPTH 0
	19		0.7 LC btwn 22.9 & 25.0			PULL #4
	20		w/core spin @ 23.0		18.4	START 23:15
					Box 6	END 23:35
						TIME 20 min
					CONT	(CONT)

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-26/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. L-26/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS			PULL #4
	21				6	
	22					DRL 20 min
					22.1	PAN —
	23					REC 2.3
	24					LOSS 0.9
						LNACC 0.9
471.6	25				7	T/DEP+DEP 25.0
			ICL			PULL #5
	26		gr. br. - r. br, s - m. h, slk			
					26.3	START 7:25
	27		1.1 L.C BTWN 25.0 & 32.7			END 8:25
						TIME 60 min
	28				8	DRL 60 min
						RAN 8.7
	29					REC 6.6
						LOSS 1.1
	30				29.8	LNACC 1.1
	31					
					9	
	32					
463.9			Bottom Hole		32.7	T/DEP 32.7
	33					DEP 33.4
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. L-26/1

Hole No. L-26½

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8 V2	
2. LOCATION (Coordinates or Station) MONO L-26 STA 0+81A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B.-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-26½		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER DAVE HARPER		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE: STARTED 2/1/89; COMPLETED 2/1/89	
7. THICKNESS OF OVERBURDEN Ø 496.9		17. ELEVATION TOP OF HOLE 496.9	
8. DEPTH DRILLED INTO ROCK 33.9		18. TOTAL CORE RECOVERY FOR BORING 32.8 %	
9. TOTAL DEPTH OF HOLE 462.5		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SANDSTONE			PULL #1
	1		GR, M.H, M.C.GR., BRN PN			START 7:30
			.2 SPACING, ARGGY, Fe STAIN			END 7:45
	2		0.0-1.1, NUM CLAYEY		1	TIME 15 min
493.7			THIN STRINGERS 2.7-2.5			DRL 15 min
	3		CLS			RAN 3.6
			GR. S, SA, VES. FATTY, CL.		3.6	REC 3.1 T/DP 3.6
	4		2.5-2.6, MOD BRN 3.6-3.8			LOSS 0.5
491.9						UNACC 0.5
	5		SANDSTONE			DCD 5.0
			GR, M.H., F-VF.GR		2	PULL #2
	6		SLT CNL CEM 7.7-7.7			START 7:57
						END 8:11
	7					TIME 14 min
488.7					7.7	DRL 14 min T/DP 7.7
	8		SLS			RAN 4.1 DCD 8.2
						REC 3.5
	9		GR, S-M.H., SA BRN PN		3	LOSS 0.6
						UNACC 0.6
	10		0.3 SPACING, OCC CLAYEY			
						PULL #3
	11		REDRILLED ARCH CSM		11.5	START 8:23
						END 9.07
	12		CORE DIA: 8.5-8.6			TIME 44 min
					4	DRL 44 min
	13		CL: 8.0-8.3, 9.9-10.3			RAN -
						REC 11.0
	14		SA 15.7-16.3			LOSS 0.5
						UNACC 0.5
	15				15.2	T/DP 15.2
						DCD 15.6
	16					PULL #4
					5	START 9.20
	17					END 9.37
						TIME 17 min
	18					DRL 17 min
					18.8	RAN 3.6 T/DP 18.6
	19				6 CON	REC 3.6
						LOSS Ø DCD 19.9
	20		(CONT)			UNACC Ø

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT GALLIPOLIS LOCK+DAM HOLE NO. L-26½

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. L-26/2

PROJECT Gallipolis Lock + Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Descriptions) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS			PULL #5
	21				6	
479.2	22					START 10:05
						END 10:38
					22.6	TIME 33 min
	23		CLS			DRL 33 min
						PAN 8.7
	24		gr, S, Sh, BKN pln			REC 8.7
					7	LOSS 0
	25		0-2 SPACING			UNACC 0
471.1						
	26		ICL			
					26.5	
	27		scc mottled, w/ gn. gy & gr.			
						T/DEP 27.5
	28		dk. gy above 28.0, k-bk		8	DEP 27.9
						PULL #6
	29		below, Cl above 30.3			START 10:59
						END 11:23
	30		Sh below 30.5 scarcely Bkn			TIME 24 min
					30.2	DRL 24 min
	31		25.6-26.0, 27.5-28.3, 28.7			PAN 5.3
					9	REC 5.3
	32		28.9, 29.9-29.6, 30.2-30.3, 32.5 - 32.8			LOSS 0
						UNACC 0
463.6			BOTTOM HOLE		32.8	T/DEP 32.8
	33					
						DEP 33.9
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1980 OF-629-603

PROJECT Gallipolis Lock + Dam | HOLE NO. L-26/2

Hole No. L-2711

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT 4 7/8"	
2. LOCATION (Coordinates or Station) MON 6 L-27 STA 0+52B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L	
3. DRILLING AGENCY W.G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-2711		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE STARTED 2/1/89 COMPLETED 2/1/89	
7. THICKNESS OF OVERBURDEN 0 496.2		17. ELEVATION TOP OF HOLE 496.2	
8. DEPTH DRILLED INTO ROCK 32.6		18. TOTAL CORE RECOVERY FOR BORING 32.4	%
9. TOTAL DEPTH OF HOLE 463.6		19. SIGNATURE OF INSPECTOR LMD	

ELEVATION 496.2 a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.2			SANDSTONE m-C.g., m.H, m.gR			PULL #1
496.1	1		ICL			START 4:53
			S. Rb - motted, w/SLK			END 5:07
493.9	2				1	TIME 14 min
			SANDSTONE			DRL 14 min
	3		m.-C.g, m.h, m.gR. thin			RAN —
			bdd.			REC 5.1
491.1	4					LOSS —
			ICL			UNACC —
	5		S, RBR, UEbkn, w/SLK		3.8	T/DEP 4.8
						DEP 5.1
	6		UE. S 5.1 - 8.2			PULL #2
					2	START 5.35
	7					END 5.45
					7.3	TIME 10 min
488.0	8					DRL 10 min
487.7						RAN
			CL			REC 4.8
	9		S.gR		3	LOSS 0
			CLS			UNACC 0
	10		m-dk.gR, S-m.h. : sa.			T/DEP 9.6
			LENS @ 9.6-9.8 & 9.9-10.1			DEP 9.8
	11		R.br w/SLK 10.8-11.6		10.8	PULL #3
			grading SLY w/DEPTH			
	12		w/closely SPACED			START 6.21
			SLY, hor ptgs w/occ TR.			END 6.50
	13		OF gR. CL coq : SLi sa		4	TIME 29 min
			13.0 - 13.7, bkn along			DRL 29 min
	14		hA, IRR FRAC 13.0 - 13.6:			RAN —
			grading into			REC 8.2
	15				14.6	LOSS —
480.6						UNACC —
	16		SANDSTONE		5	PULL #4
			SLY, F.g. m.h, m.gR. UE,			START 7.10
	17		SLY LEN 16.1 - 16.6 grading			END 7.25
478.8			into			TIME 15 min
			SLS			DRL 15 min
478.1	18		CLY - S.-m.h., m.-dk.gR			DEP 17.9
			PTS SLY.		18.1	RAN —
			CLS/SLS		6	REC 3.1
	19		Interbdd, S-m.h., m		(CONT)	LOSS —
			dk.gR. w/closely SPACED			UNACC —
	20					CONT

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PROJECT GALLIPOLIS LOCK & DAM HOLE NO. L-2711

DRILLING LOG (Cont Sheet)

ELEVATION TOP OF HOLE: 496.2

PROJECT: GALLIPOLIS LOCK & DAM

INSTALLATION: ORH-CD

Hole No. L-271

SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20					
	21		CLS/SLS HOR, sky pts, occ w/Tr		4	T/DEP & DEP 21.0
	22		gr cl coa / fold		21.4	PULL #5
473.0	23					START 8:20
	24		ICL		7	END 8:46
	25		R. br, s.-m.h., bkn. w/			TIME 26 min
	26		SLK 1.7 L.C. bTwn			DRL 26 min
	27		21.0 & 29.6 0.8 LC			RAN —
	28		bTwn 29.6 & 32.4		25.2	REC 6.9
	29					LOSS 1.7
	30				8	UNACC 1.7
463.8	31					DEP 29.0
	32		Bottom Hole			PULL #6 T/DEP 29.6
	33				30.2	START 9:08
	34					END 9:20
	35					TIME 12 min
	36				9	DRL 12 min
	37					RAN —
	38				32.4	REC 2.0 T/DEP 32.4
	39					LOSS 0.8 DEP 32.6
	40					UNACC 0.8
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. L-271

Hole No. L-27/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CP	SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): MONO L-27 STA 0+98 B
3. DRILLING AGENCY: W.G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-27/2
5. NAME OF DRILLER: DAVE HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø 496.4
8. DEPTH DRILLED INTO ROCK: 33.9
9. TOTAL DEPTH OF HOLE: 462.5
10. SIZE AND TYPE OF BIT: 4 X 5 V_L
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/2/89; COMPLETED 2/2/89
17. ELEVATION TOP OF HOLE: 496.4
18. TOTAL CORE RECOVERY FOR BORING: 32.6 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9	0		SANDSTONE			PULL #1
	1		LT. GR, M-H.H, M-C.GR.			START 8:45
	2		BKN PN. 0.3 SPACING, OCC THIN		1	END 8:55
	3		CL STRINGERS 2.9-3.2, F.G.L.			TIME 10 min
492.8			below 3.2, BKN 0.0-0.3		3.6	DRL 10 min
	4		CLS			RAN 4.3
491.5	5		GR. S. SA.			REC 4.2
			SLS			LOSS 0.1
	6		GR M.H., SA., SS. SEAM, M.H.,		2	UNACC 0.1 T/DCP 9.3
489.6			F.GR. 4.9-5.3 ANG. FRAC,			DCP 5.0
	7		45° 5.4-5.7 SCURALI, BKN			PULL #2
488.1	8		6.3-6.8		6.8	START 9:04
			SANDSTONE			END 10:13
	9		GR, M.H, F.GR, SLT, CALCAR.			TIME 69 min
	10		below 7.6			DRL 69 min
			CLS			RAN 5.6
	11		GR-MGR., S.H, SA.		3	REC 5.0
	12		GR. 8.3-9.3, 11.6 LTS/MTGR			LOSS Ø DCP +
483.9			MOTTLED w/ P-BR + GN GR.			UNACC Ø T/DCP 9.3
	13		9.3-11.6, CL ABove 9.3		10.4	
	14		SCURALI BKN, NICK 9.3-			PULL #3
	15		9.6, 10.8-11.3		4	
	16		SLS			START 10:20
	17		GR, S, SA, SCURALI			END 11.07
	18		BKN 18.8-19.3-20.6-20.8		14.1	TIME 47 min
	19		CLS GR. S. SA 19.3-20.0			DRL 47 min
	20		21.2-21.5			RAN 6.8
			(CONT)			REC 6.7
						LOSS 0.7
					5	UNACC 0.7
					18.2	
					6 CONT	DCP 18.9
						PULL #4
						(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-27/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.4 | Hole No. L-27/2

PROJECT GALLIPOLIS Lock+DAm | INSTALLATION ORD-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS		6	PULL #4
	21					START 11:18
	22				21.7	END 11:47
473.5	23					TIME 29min
						DRL 29min
						RAN 8.9
	24		CLS		7	REC 8.5
			SE., S., SH.,			LOSS 0.9
	25					UNACC 0.9
471.1					25.3	T/DCP 25.1
						D<P 25.9
	26		ICL			PULL #5
			R. BR, S-M.N, SH,			START 12:35
	27				8	END 13:10
			OCC SLK, DKABOVE			TIME 35min
	28					DRL 35min
			29.0, R-BR BELOW 29.0			RAN 7.5
	29				29.0	REC 6.5
						LOSS 1.0
	30					UNACC 1.0
					9	
	31					
	32					
463.8			BOTTOM HOLE		32.6	T/DCP 32.6
	33					
						D<P 33.9
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OP-928-603

PROJECT GALLIPOLIS Lock+DAm | HOLE NO. L-27/2

Hole No. L-28/1

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO L-28 STA 0+25.8
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): L-28/1
5. NAME OF DRILLER: DAVE HARDER / STEVE FRY
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 6 496.6
8. DEPTH DRILLED INTO ROCK: 33.3
9. TOTAL DEPTH OF HOLE: 463.3
10. SIZE AND TYPE OF BIT: 4X5½
11. DATUM FOR ELEVATION SHOWN (MSL or MLW): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/1/89; COMPLETED 2/1/89
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 33.3 %
19. SIGNATURE OF INSPECTOR: LMN

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE m.c.g., m.h., m.gr. Thin bdd			PULL #1 START 13.00 END 13:15 TIME 15min DRL 15min RAN — REC 4.1 LOSS 0.6 UNACC 0.6 TDEP 4.7 DEP 5.0
495.3	2		CLS s.-m.h., m. dk.gr., sly occ. sly, o.l.cl. 1.3-1.9 ; ve bkn 3.2-4.7 w/o.6 L.C. ; PTGS. occ SLK. ha bkn SLK. FRACES 4.7-6.3		Box 1	
	3					
	4				3.9	
	5					
490.3	6					PULL #2
	7		ICL s.-m.h., R.br. occ. ve. bkn, SLK 0.5 L.C btwn 6.3 & 8.8 ; S.20. 10.2-10.5 becoming gr @ 11.0		Box 2	START 13.28 END 13:37 TIME 9min DRL 9min RAN — REC 3.6 LOSS 0.5 UNACC 0.5 TDEP 8.8 DEP 9.3
	8				8.0	
	9					
	10				Box 3	PULL #3
	11					START 13.50 END 14.20 TIME 30min DRL 30min RAN — REC 6.6 LOSS 0.6 UNACC 0.6
489.0	12				12.1	
	13		CLS sly s.-m.h., m-dk.gr. 0.4 s gr.cl. 12.6-13.0. ve bkn 13.0-16.0 w/o.6 L.C. ; sa 16.5-16.8 ; vc sly 16.8-19.5, g radlin into			
	14					
	15				Box 4	
	16				16.0	TDEP 16.0
	17					
	18				Box 5	
477.1	19					DEP 18.9 PULL #4
	20		CLS/SLS (CONT)		19.9	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-28/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. L-28/1

PROJECT Gallipolis Lock & Dam | INSTALLATION OH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS/SLS			PULL #4
	21		INTERBDD, S-M.H, M-DK		Box	START 14:39
	22		GR. CLOSELY SPACED HOR		6	END 15:00
	23		SHY PTGS, OCC GR. CL CON			TIME 26 MIN
	24		ISE: HVY (1/2) GR. CL. SE			DRL 26 MIN
	25		STARTING @ 23.9 HVY GR			RAN —
			CL 25.3 - 25.6		23.4	REC 9.6
471.0						LOSS 0
						UNACC 0
					Box 7	
						T/DEP 25.6
						DEP 25.9
	26		ICL			PULL #5
	27		S. - M.H, SLK, R. BR, DK-		27.0	START 3:31
	28		BR 25.6 - 27.0. UE BKN			END 3:58
	29		25.6 - 26.3, 0.9 L.C. BKN			TIME 27 MIN
	30		25.6 - 33.3.		Box 8	DRL 27 MIN
	31					RAN —
	32					REC 7.0
						LOSS —
					30.7	UNACC —
					Box 9	
463.3	33		BOTTOM HOLE		30.3	DEP+T/DEP 33.3
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JAN 67 (ER 1110-1-1801) GPO 1968 OF - 625 - 603

PROJECT Gallipolis Lock & Dam | HOLE NO. L-28/1

Hole No. L-28/2

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK+DAM
2. LOCATION (Coordinates or Station): MONO L-28 STA 0+21.8
3. DRILLING AGENCY: W.G. JAMES
4. HOLE NO. (As shown on drawing title and file number): L-28/1
5. NAME OF DRILLER: DAVE HARPER / STEVE FRY
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 496.8
8. DEPTH DRILLED INTO ROCK: 33.4
9. TOTAL DEPTH OF HOLE: 463.4
10. SIZE AND TYPE OF BIT: 4 7/8"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L
12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 9
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 2/2/89; COMPLETED 2/2/89
17. ELEVATION TOP OF HOLE: 496.8
18. TOTAL CORE RECOVERY FOR BORING: 33.4'
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8			SANDSTONE			PULL #1
	1		m.-cg., m.H, m.gr Thin		Box 1	START 13:37
	2		bdd 0.0-2.0 0.3 LC btwn			END 13:50
	3		0.0+2.0			TIME 13 min
493.1					3.6	DRL 13 min
492.8	4		CLS			RAN —
			S-m-A m-dk gr, SLK PTGS : VE.S. SANDSTONE			REC 9.2
	5		SLY, F.g., m.h, m.gr. bkn (mech 9.5-5.5)		Box 2	LOSS 0.3
491.3						UNACC 0.3 T/DEP 9.5
	6		SLS/SS			DEP 5.0
			IN TCR bdd, S-m.h, m-dk gr. VE bkn 5.5-9.2 w/0.4 L.C. : Sa 7.6-8.4			PULL #2
	7					START 13:56
	8				7.2	END 14:06
						TIME 10 min LOSS 0.4
487.6	9				Box 3	DRL 10 min UNACC 0.4
						RAN —
	10		CLS/SLS			REC 9.3
			S-m.h., m.-dk.gr bkn			T/DEP + DEP 9.2
	11		10.8-11.2 w/0.3 LC.		10.9	PULL #3
	12		Sa LCNS 11.2-11.8 m-clasely spaced, hor PTGS w/TR. Lwy. gr. cl. Sld			START 14:15
	13					END 14:45
	14				Box 4	TIME 30 min
	15					DRL 30 min
			12.3-17.0			RAN —
	16					REC 9.3
479.8	17				14.8	LOSS 0.3
			SANDSTONE			UNACC 0.3
	18		Shy, A.g., m.H, m.gr.			
478.0					18.5	DEP 18.9 T/DEP 18.8
	19		CLS		Box 6	PULL #4
	20		(CONT)		CONT	CONT

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. | PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-28/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. L-28/2

PROJECT: GALLIPOLIS LOCK & DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	PULL#4 START 14:55
	21		occsly, s.-m.h., m.-dk.gr			END 15:15
	22		closely spaced hor. shy pTgs		21.8	TIME 20min DRL 20min RAN —
	23		w/tr. gr. cl. coa / Alt slt		Box 7	REC 6.0 LOSS 0.2 UNACC 0.2
	24		pTgs 19.2-19.7 : lt.gr ICL Lens			
471.6	25		22.1-22.5 0.1 ILC btwn 22.5 & 25.0			DEP+T/DEP 25.0
	26		ICL		25.5	PULL#5
	27		lt. br, br, gr, s-m.h., slt		Box 8	START 15:45 END 16:18 TIME 33min DRL 33min RAN —
	28					REC 8.4
	29				29.3	LOSS 0
	30					UNACC 0
	31				Box 9	
	32					
	33					
463.9			BOTTOM HOLE		33.4	T/DEP+DEP 34.4
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF - 628 - 603

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO. L-28/2

Hole No. L-29/1

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-CP	SHEET 1 OF 2 SHEETS
1. PROJECT GALLIPOLIS LOCK + DAM		10. SIZE AND TYPE OF BIT 4 7/8 1/2"	
2. LOCATION (Coordinates or Station) MONO L-29 STA 073 A		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) M.S.L.	
3. DRILLING AGENCY W. 6. JAGUES		12. MANUFACTURER'S DESIGNATION OF DRILL B-53 - MOBILE	
4. HOLE NO. (As shown on drawing title and file number) L-29/1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER STEVE FRY		14. TOTAL NUMBER CORE BOXES 9	
6. DIRECTION OF HOLE ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
7. THICKNESS OF OVERBURDEN Ø 496.1		16. DATE HOLE: STARTED 2/6/89; COMPLETED 2/6/89	
8. DEPTH DRILLED INTO ROCK 33.3		17. ELEVATION TOP OF HOLE 496.1	
9. TOTAL DEPTH OF HOLE 462.8		18. TOTAL CORE RECOVERY FOR BORING 32.9 %	
		19. SIGNATURE OF INSPECTOR JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.1			SLS			PULL #1
495.1	1		GR. S., M.H. SH BRN, SA ABOVE. 7 + CLAYEY BELOW. 7			START 3.47
			SANDSTONE		1	END 4.07
	2		GR. M.H, F. VERT. GR, HIGHAMP.			TIME 20 MIN
			FRAC 1.7-2.1 CALCEMENT			DRL 20 MIN
493.1	3		1.6-2.5			RAN 4.6
			SLS/CLS		3.6	REC 4.6
	4					LOSS Ø
			INTERBED: SLS, GR. S. SH,			UNACC Ø T/DCP 4.6
	5		3.0-5.3, 6.5-10.3, 10.5-			DEP 4.9
					2	PULL #2
	6		11.2, 11.9-12.6 13.2-18.			START 4.17
	7					END 4.32
			CLS, GR. S. SH, 5.3-6.5		7.2	TIME 15 MIN
	8					DRL 15 MIN
			10.3-10.5, 11.2-11.9 12.6			RAN 9.3
	9				3	REC 9.3
			13.2, 14.8-15.0, BRNPN			LOSS Ø T/DCP 8.9
	10					UNACC Ø
			0.2 SPACING BELOW 9.6			DEP 9.8
	11				10.8	PULL #3
			OCC CL COATING, BRN MOT			START 4.50
	12					END 5:20
			4.6-5.0, 5.6-5.7, 8.3-8.6, 9.3-9.6		4	TIME 30 MIN
	13					DRL 30 MIN
			9.3, -14.6 CL COATING 8.2-9.1			RAN 10.2
	14					REC 10.2
			LTR-BR. TENT 10.0-11.3			LOSS Ø
481.1	15				14.6	UNACC Ø
			SLS			
	16		GR. S. - M.H, SH (15.0-17.6)		5	
	17		CLS SEAM 17.9-18.0			
	18		CL BELOW 18.0		18.3	
	19				6 (CONT)	T/DCP 19.1
476.5						DEP 19.9
	20		CLS (CONT)			

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Gallipolis Locks + Dam HOLE NO. L-29/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.1 | Hole No. L-29/1

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS			PULL #9
	21		GR. S. SH, 19.6-22.7, BRN		6	
	22		PN OCCGL COATING, W/SPK			START 5:39
473.9			0.1 ft. 6-20.3, 20.8-22.7		22.7	END 6:06
	23		SLS			TIME 32 min
472.9			GR, S, SH. (22.7-23.7) R. BR			DRL 32 min
	24		BELOW 23.9			PAN 10.5
			ICL		7	REC 10.5
	25					LOSS 0
			DK. GR - R.BR., S. SH			UNREC 0
	26				26.6	
			TO CLAYEY, OCC SLT			
	27					
			DK. GR. ABOVE 26.6 - R. BR		8	
	28					
			BELOW			FAILED
	29					START 6:35
					29.6	END 6:51 DEPT TIDEP 29.6
	30					TIME 16 min
						DRL 16 min
	31				9	PAN 2.8
						REC 0
	32					LOSS 0
463.7			BOTTOM HOLE		32.9	UNREC TIDEP 32.9
	33					DEP 33.3
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1968 OF-629-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-29/1

Hole No. L-29/2

DRILLING LOG

DIVISION: ORD	INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS	
1. PROJECT: GALLIPOLIS LOCK+DAM	10. SIZE AND TYPE OF BIT: 9 X 5 B"
2. LOCATION (Coordinates or Station): MONO L-29 STA 0+1A	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
3. DRILLING AGENCY: W. 6. JAQUES	12. MANUFACTURER'S DESIGNATION OF DRILL: B-53 MOBILE
4. HOLE NO. (As shown on drawing title and file number): L-29/2	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
5. NAME OF DRILLER: STEVE FRY	14. TOTAL NUMBER CORE BOXES: 9
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: N/A
7. THICKNESS OF OVERBURDEN: Ø 496.8	16. DATE HOLE: STARTED 2/6/89; COMPLETED 2/6/89
8. DEPTH DRILLED INTO ROCK: 33.5	17. ELEVATION TOP OF HOLE: 496.8
9. TOTAL DEPTH OF HOLE: 463.3	18. TOTAL CORE RECOVERY FOR BORING: 33.5
	19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.8	1		SANDSTONE LTGR, M. H, M-C.GR. FLAGGY BD, BKN DN. 0.1 SPACING FE SURFACE STAIN 0.0-0.9		1	PULL #1 START 20:50 END 21:00 TIME 10min DRL 10min RAN 5.0 REC 4.8 LOSS 0.2 UNACC 0.2 DEP+T/DEP 5.0
499.9	2				3.7	
	3		CLS		2	PULL #2 START 21:10 END 21:27 TIME 17min DRL 17min RAN 5.1 REC 4.2 LOSS 0.9 UNACC 0.9 DCP 8.9 T/DCP 8.8
	4		dk gr-gr, S, SH		3	
	5		dk gr., 3.0-6.0; gr. 2.9-3.0			
	6		6.0-6.8, gr w/occ mottled			
	7		gy. gr. Below 6.8, BKN		7.3	
	8		w/az Loss 3.7-5.0, 8.8-9.0			
	9		SLK 6.2, 6.4 6.7 and 7.1-			
486.5	10		7.3 @ 45°			
	11		SLS / CLS		11.4	PULL #3 START 21:35 END 22:15 TIME 40min DRL 40min RAN 10.0 REC 9.9 LOSS 0.1 UNACC 0.1
	12		Interbdd. SLS, gr S. SH.		4	
	13		w/occ CL coating, BKN			
	14		PN. 8 spacing, BKN 14.6-			
	15		14.8. scarcely w/CL coating		15.2	
	16		29.2-29.6, CLS, GR.S., SH.,		5	
	17		11.9-13.2, 18.1-18.7, 22.0			
	18		23.5, Sa 16.7-17.3			
	19				19.0	
	20		(CONT)		6 (CONT)	DCP+T/DEP 19.9

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS Lock+Dam HOLE NO. L-29/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.8 | Hole No. L-29/2

PROJECT: GALLIPOLIS LOCK + DAM | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS/CLS			PULL #4
	21		bkn pns ~0.1 w/thin		6	START 22:30
	22		CL coating 18.9-22.0, 12.8			END 22:57
	23		13.2		22.6	TIME 27min
	24					DRL 27min
472.2						RAN 9.9
	25		ICL			REC 9.9
	26		R. BR - dkgr, S, clayey,		7	LOSS 0
	27		occ sh, occ. slk,			UNACC 0
	28		R. BR. 24.6-25.2 + Below		26.4	
	29		29.9, dkgr. 25.2-29.9		8	PULL #5
	30		BKN w/poss Loss			START 23:16
	31		25.8-26.1, mech 29.9-33.8			END 23:33
	32		30.8-31.1, 32.1-32.3		29.8	TIME 17min DCP + T/DCP 29.8
	33					DRL 17min
463.3			BOTTOM HOLE		9	RAN 3.7
	34					REC 3.2
	35					LOSS 0.5
	36					UNACC 0.5
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44				33.5	DCP + T/DCP 33.5

ENG FORM 1836-A JUN 67 (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT: GALLIPOLIS LOCK + DAM | HOLE NO. L-29/2

Hole No. UMGS/1

DRILLING LOG | DIVISION: OCD | INSTALLATION: ORN-ED | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MONO UMGS 2 STA 2+59.6 B
3. DRILLING AGENCY: W. G. JAQUES
4. HOLE NO. (As shown on drawing title and file number): UMGS/1
5. NAME OF DRILLER: DAVID HARPER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0
8. DEPTH DRILLED INTO ROCK: 496.6 – 463.8 = 32.8
9. TOTAL DEPTH OF HOLE: 463.8
10. SIZE AND TYPE OF BIT: 4 15/16"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOD. LE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 8
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/31/69; COMPLETED 1/31/69
17. ELEVATION TOP OF HOLE: 496.6
18. TOTAL CORE RECOVERY FOR BORING: 32.8 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.6	1		SANDSTONE M.C.G., M.H., M.GR.		Box 1	PULL #1 START 8.00
	2		THIN bdd 0.0-1.5'			END 8:13 TIME 13 MIN
	3					DRL 13 MIN RAN —
					3.5	REC 4.9
492.3	4					LOSS 0
491.8			CL S.; GR.; FAT			UNACC 0 DEP 5.0 T/DEP 4.9
	5		CLS		Box 2	PULL #2
	6		S-M.H., M-dk.GR W/SLK SLY.PTGS: 33 LCNS 6.5-6.7			START 8:20
489.3	7		S. GR. CL @ CONTACT		7.2	END 8:34 TIME 14 MIN
	8		SANDSTONE			DRL 14 MIN RAN —
	9		SLY, A.G., M.H., M.GR.,		Box 3	REC 4.3 LOSS 0
	10		MASS CARB. PTG @ 10.7 T 11.0			T/DEP 9.2 UNACC 0 DEP 9.6
484.7	11		SMOOTH, SLI COA, HOR PTG @ 11.9			PULL #3
	12				10.7	START 8:45
	13		CLS			END 9:00
	14		SLY, S-M.H, M-dk.GR W/M-CLOSELY SPACED		Box 4	TIME 15 MIN DRL 15 MIN
	15		HOR PTGS OCC CL COA; COREPUN @ 13.6 & 15.1			RAN — REC 4.0 T/DEP 13.2
	16		& L.L.C BTWN 13.2 & 17.0			LOSS 0
479.6	17				14.3	UNACC 0 DEP 16.0
	18		SANDSTONE			PULL #4
	19		UC. SLY, A.G., M.H., M.G.,			START 9:12
			PTG ALONG HOR. SLY		Box 5	END 9:30
			LAM @ 18.7 IRR, UC, SLY			TIME 18 MIN DRL 18 MIN
			FRAC 18.7-19.0 GRADING			RAN —
476.8	20		INTO CL.S		18.1	REC 6.5
					Box 6	LOSS 1.1
						UNACC 1.1
					CONT	(CONT)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: UMGS/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.6 | Hole No. 4MGS/1

PROJECT Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		CLS		Box 6	DEP+T/DEP 20.8
	21		Shy, s.-m.h., m.-dkgr.			PULL #5
	22		w/occ. SLS LENS & LAM			START 9:50
	23		Tr.gr.CL. coa.&LENS		22.8	END 10:33
	24		GRADING INTO		Box 7	TIME 43 min
	25					DRL 43 min
	26					RAN —
	27				26.5	REC 6.1
	28				Box 8	LOSS 2.9
468.1						UNACC 2.9
	29		ICL			T/DEP 29.3
	30		R, br, s-m.h., slk			DEP 29.9
	31		6kn 28.5-29.3 w/2.4			PULL #6
	32		L.C, 6kn 29.3-32.8			START 11:10 RAN —
463.8			w/0.7 L.C.		32.8	END 11:33 REC 4.2
	33					TIME 23 min LOSS 0.7
	34					DRL 23 min UNACC 0.7
	35					T/DEP 32.8
	36					DEP 32.9
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

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PROJECT Gallipolis Lock & Dam | HOLE NO. 4MGS/1

Hole No. DMGS/1

DRILLING LOG	DIVISION: ORD	INSTALLATION: ORH-CD	SHEET 1 OF 2 SHEETS
1. PROJECT: Gallipolis Lock & Dam		10. SIZE AND TYPE OF BIT: 4 7/8	
2. LOCATION (Coordinates or Station): Mono STA 9+25.61 "B"		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL	
3. DRILLING AGENCY: W. G. LaRues Co		12. MANUFACTURER'S DESIGNATION OF DRILL: B-57	
4. HOLE NO. (As shown on drawing title and file number): DMGS/1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED NA; UNDISTURBED NA	
5. NAME OF DRILLER: Wayne Tice		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: NA	
		16. DATE HOLE: STARTED 1-16-89; COMPLETED 1/16/89	
7. THICKNESS OF OVERBURDEN: 496.9		17. ELEVATION TOP OF HOLE: 496.9	
8. DEPTH DRILLED INTO ROCK: 32.9		18. TOTAL CORE RECOVERY FOR BORING: 32.9 ft	
9. TOTAL DEPTH OF HOLE: 32.9		19. SIGNATURE OF INSPECTOR: JET	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
496.9			SS. ltg. hd., med to c.g., occ. mic., Cal. Cem. num. thin Cl stringers : 4.0-4.1		1	Pull #1 START 13.20 End 13.28 Time 8 Drl 8 Ran 4.7 Rec 4.7 Loss 0 Unacc 0
	1					
	2					
	3					
	4				3.8	
	5					TI & TP 4.7
	6					Pull #2
	7				2	START 13.57 End 14.00 Time 23 Drl 23 Ran 10 Rec 9.7 Loss 0.3 Unacc 0.3
488.9	8				7.4	
	9		SLS. g med. hd. s grad. int. bdd. w/ f. gn. ss throughout bk.n. w/ cl. coating 8.0. 8.1, 8.6. 8.7 v.f. g. SS. 8.2-9.6 12-7 - 13.7 - 15.9, 17.1. 18.4. 19.6		3	
	10					
	11				11.0	
	12					
	13				4	
	14					
	15				14.7	TI & TP 14.7
	16					Pull #3
	17				5	START 14.20 End 14.40 Time 20 End 20 Ran 9.9 Rec 9.9 Loss 0 Unacc 0
	18				18.4	
	19				6 (CONT)	(CONT)
477.3						

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Gallipolis Lock & Dam HOLE NO.: DMGS/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 496.9 | Hole No. DMGS 11

PROJECT: Gallipolis Lock & Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	21				6	
	22				22.3	
	23					
	24				7	IP 24.2
	25					TI 24.7
	26				26.0	Pull #4 START 15.30 End 15:40 Time 10 Drl 10 Ran 8.9 Rec 8.9 Loss 0 unacc
	27					
	28				8	
	29					
466.9	30				29.7	
	31		SS. ltgn. mod.hd, f. to med. g, mic. Cal. Cemented: 21.9 - 23.8 few, thin small, cl. Str. 21.9 - 22.1 sh. scam 26.6 - 26.7, 29.4, 29.6-29.7 29.8.			
	32				9	
	33				33.5	IP 33.5
463.0	34					
	35		ICL. dr. gr. s, cl, num. frac, w/slk. r. br. below 32.7			TI 34.7
	36					
	37					

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PROJECT: Gallipolis Lock & Dam | HOLE NO. DMGS 11

TROIS RIVS. DLBS/1

DRILLING LOG | DIVISION ORD | INSTALLATION ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): MOVE DLBS-2 /STA 5+25.6 OFFSET 13'
3. DRILLING AGENCY: W. G. JAGUES
4. HOLE NO. (As shown on drawing title and file number): DLBS/1
5. NAME OF DRILLER: WAYNE TICE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: @ 497.2
8. DEPTH DRILLED INTO ROCK: 34.7
9. TOTAL DEPTH OF HOLE: 462.5
10. SIZE AND TYPE OF BIT: 4" ISS"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: B-57 MOBILE
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 11
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 1/16/89; COMPLETED 1/16/89
17. ELEVATION TOP OF HOLE: 497.2
18. TOTAL CORE RECOVERY FOR BORING: 34.7 %
19. SIGNATURE OF INSPECTOR: JMD

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.2	0		SANDSTONE		Box 1	PULL #1
	1		m. c. g., m. h., m. gr			START 9:15
	2					END 9:30
	3					TIME 15 min
	4					DRL 15 min
	5					RAN 5.0
					3.5	REC 4.8
						LOSS 0
						UNACC 0
491.7					Box 2.	DEP 5.0 T/DEP 4.8
	6		CLS			PULL #2
490.5			m.-DK. gr, s.-mh., shy			START 9:40
	7					END 10:03
					7.0	TIME 23 min
	8		ICL		Box 3.	DRL 23 min
			r. br., s-m.h., ve. bkn.			RAN —
	9					REC 2.9
			0.1 L.C. btwn 6.7 + 9.4			LOSS 0.1
	10					UNACC 0.1
			gRADING into CLS @			DEP AT/DEP 9.4
	11				10.2	PULL #3
			11.2 . 0.4 LC btwn 9.4 f			START 10:12
	12					END 10:27
			12.7			TIME 15 min
484.4					Box 4	DRL 15 min
	13					RAN —
			SANDSTONE / SLS			REC 2.9
	14					LOSS 0.4
			Interbdd. sly, fig.,			UNACC 0.4 T/DEP 12.7
	15					
			m.h., m.gr., occ., PTS		14.1	DEP 14.3
	16					PULL # 4
			shy in sly AREA		Box 5.	START 10:39
	17					END 10:56
			0.1 LC. btwn 12.7 & 20.3			TIME 17 min
	18					DRL 17 min
			gRADING more sa w/dep			RAN —
	19				17.7	REC —
					Box 6	LOSS . /
	20		(CONT)		(CONT)	UNACC . /

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PROJECT: GALLIPOLIS LOCK & DAM | HOLE NO.: DLBS/1

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.7 | Hole No. DLBS/1

PROJECT: Gallipolis Lock + Dam | INSTALLATION: ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
476.9	20				Box 6	DEP + T/DEP 20.4
	21		SANDSTONE		21.1	PULL #5
	22		Sly, Pig, m.h., m.gr.		Box 7	START 11:10
	23		w/thin dk. gr sly LAM.			END 11:35
	24		occ PTg ALONG Sly, LAM.			TIME 25 min
	25				24.8	DRL 25 min
	26				Box 8	RAN —
	27					REC 9.5
	28				28.2	LOSS 0
	29				Box 9	UNACC 0
	30					DEP + T/DEP 29.9
	31					PULL #
	32				32.2	START 11:45
	33					END 12:16
	34				Box 10	TIME 31 min
	35					DRL 31 min
	36				36.0	RAN —
	37				Box 11	REC 8.4
	38					LOSS 0
458.5			Bottom Hole		38.7	UNACC 0
	39					DEP + T/DEP 38.7
	40					
	41					
	42					
	43					
	44					

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PROJECT: Gallipolis Lock + Dam | HOLE NO. DLBS/1

Hole No. DLBS/2

DRILLING LOG	DIVISION ORD	INSTALLATION ORH-LD	SHEET 1 OF 2 SHEETS
1. PROJECT: GALLIPOLIS LOCK & DAM		10. SIZE AND TYPE OF BIT: 4 7/8"	
2. LOCATION (Coordinates or Station): MONO DLBS STA 0+63.5 B		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L	
3. DRILLING AGENCY: W. G. JAQUES		12. MANUFACTURER'S DESIGNATION OF DRILL: B.-53 MOBILE	
4. HOLE NO. (As shown on drawing title and file number): DLBS/2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A	
5. NAME OF DRILLER: STEVE FRY / DAVE HARPER		14. TOTAL NUMBER CORE BOXES: 9	
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.		15. ELEVATION GROUND WATER: N/A	
7. THICKNESS OF OVERBURDEN: 4.97		16. DATE HOLE: STARTED 11/25/89; COMPLETED 11/25/89	
8. DEPTH DRILLED INTO ROCK: 33.3		17. ELEVATION TOP OF HOLE: 497.0	
9. TOTAL DEPTH OF HOLE: 463.7		18. TOTAL CORE RECOVERY FOR BORING: 33.3 ft	
		19. SIGNATURE OF INSPECTOR: JMD	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
497.0	1		SANDSTONE M.H., gr BRN, QTZ CLS - s m H, gr. BRN. SL.		Box 1	PULL #1 START 12:40 END 12:55 TIME 15 min DRL 15 min RAN — REC 3.4 LOSS 0 UNACC 0
493.6	2				3.5	T/DEP 4.9
	3					
	4		SANDSTONE M.H., gr, Py. HA, IRR, FRX 3.5 - 4.2 0.1 LOSS 3.4 - 4.2		Box 2	DEP 5.0 PULL #2 START 13:05 END 13:15 TIME 10 min DRL 10 min RAN — REC 2.7 LOSS 0.1 UNACC 0.1
490.5	5					T/DEP 6.2
	6				6.8	
	7		CLS M.H. gr, sh, SL. w/ INTERBD SLS LENS MECH, grinding 1.5 CORE LOSS (1.8) FROM 6.2 - 14.5 MACH grinding 7.7 TO 9.0		Box 3	DEP 8.8 PULL #3 START 13:27 END 13:55 TIME 28 min DRL 28 min RAN — REC 6.8 LOSS 1.5 UNACC 1.5
	8					
	9					
	10				10.7	
	11					
	12				Box 4	
	13					
482.3	14					T/DEP 14.5
	15		SLS SH w/SLS / CLS. ZONE M.H. gr, / MASS GRADES MORE CLW DEPTH S. BRN ZO 0.2 @ 21.6 GRAD CONTACT		15.7	DEP 16.2
	16					PULL #4
	17				Box 5	START 14:06 END 14:25 TIME 19 min DRL 19 min RAN — REC 4.9 LOSS 0
	18					
	19				19.4	UNACC 0
	20		(CONT)		Box 6 (CONT)	DEP + T/DEP 19.4

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PROJECT GALLIPOLIS LOCK & DAM

HOLE NO. DLBS/2

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 497.0 | Hole No. DLBS/2

PROJECT Gallipolis Lock+Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	20		SLS (cont)		Box 6	PULL #5
	21					START 14:35
	22					END 15:10
	23					TIME 35 min
						DRL 35 min
					23.1	RAN —
						REC 7.5
472.9	24					LOSS 1.0
			ICL		Box 7	UNACC 1.0
	25		gr-red-s-slt			
	26		red below 26.9			
			0.8 Loss 26.5-32.5		26.6	
	29					T/DEP 27.6
					Box	DEP 27.9
	28				8	PULL #6
	29					START 3:30
						END 3:40
	30				29.7	TIME 10 min
						DRL 10 min
	31				Box	RAN —
					9	REC 4.6
	32					LOSS 0.8 DEP 31.7
464.5			Bottom HOLE		32.5	UNACC 0.8
	33					T/DEP 33.0
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					

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PROJECT Gallipolis Lock+Dam | HOLE NO. DLBS/2

HOLE NO. EXPI

DRILLING LOG | DIVISION: ORD | INSTALLATION: ORH-CD | SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK & DAM
2. LOCATION (Coordinates or Station): Z+80.08 AUX LOCK FLOOR PAVEMENT
3. DRILLING AGENCY: HAYWARD BAKER
4. HOLE NO. (As shown on drawing title and file number): EXPI
5. NAME OF DRILLER: STEVE FRYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED ∅ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: ∅
8. DEPTH DRILLED INTO ROCK: 19.94'
9. TOTAL DEPTH OF HOLE: 29.5'
10. SIZE AND TYPE OF BIT: 3" x 5 4/
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
12. MANUFACTURER'S DESIGNATION OF DRILL: ACKOR
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 7
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10/8/91; COMPLETED 10/8/91
17. ELEVATION TOP OF HOLE: 486.00
18. TOTAL CORE RECOVERY FOR BORING: 99.95 %
19. SIGNATURE OF INSPECTOR: Larry M Brown

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
486.00	1		CONCRETE 486.00 TO 481.44	100% 4.15'	Box 1	PULL #1 START 0712 RAN 16" TL 16" END 0731 REC 16" TP 16" TIME 19min LOSS ∅ DWR good DRL 17min UNACC ∅ COLOR GR
	2					PULL #2 START 0740 REC 16" END 0756 LOSS ∅ DWR good TIME 16min UNACC ∅ COLOR GR DRL 15min TL 32"
	3			100% 3.0'	3.56	RAN 16" TP 32"
481.44	4			94% 4.0'	487.44	START 0801 PULL #3 END 0833 REC 15" TL 48" TIME 31min LOSS 1" TP 48" DRL 19min UNACC ∅ DWR Good RAN 16" COLOR RBR
	5		CLAYSTONE 481.44 TO 478.89 GR/GN, Fg., S.			PULL #4 START 0834 LOSS ∅ END 0856 UNACC ∅ TIME 22min TL 6' DRL 22min TP 6'
	6			100% 6.0'	Box 2 3.45	RAN 29" DWR good REC 29" COLOR GR
478.89	7				478.99	PULL #5 START 0927 END 1005 TIME 38min DRL 30min
	8		SHALE 478.89 TO 468.23		Box 3	RAN 4'10" REC 4'6"
	9		GR/GN, Fg. HARDNESS	93%	3.6	LOSS ∅ UNACC 9"
	10		INCREASING FROM SOFT			TL 10'10" TP 10'6"
	11		TO MEDIUM W/DEPTH	10.8'	475.39	DWR good COLOR GR
	12		CL DECREASING W/DEPTH			PULL #6 START 1019
	13		: R/BR ZONE 473.74- 474.00	107%	Box 4 3.5	END 1102 TIME 42min DRL 35min RAN 4'0"
	14				471.89	REC 4'4" LOSS ∅ UNACC ∅ TL 14'6"
	15			14.9'		TP 14'10" DWR Good COLOR GR
	16				Box 5	PULL #7 START 1126
	17				4.16	END 1250 TIME 84min DRL 40min RAN 4'10"
468.23				99.83		REC 4' LOSS 10" UNACC ∅
	18		CLAYSTONE 468.23 TO 466.45 GR/GN, w/BR ZONE .5" OR LESS IN THICKNESS FG., VF.S., CORE LOSS 17% SLK .5" TO 1" IN SIZE THROUGHOUT		467.73	TL 19.67' TP 19.67'
	19				Box 6	DWR Good COLOR R/BR
466.45	20		CONT	19.7'	CONT	CONT

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PROJECT: GALLIPOLIS LOCK & DAM HOLE NO. EXPI

LOG (Cont Sheet) ELEVATION TOP OF HOLE 486.02 Hole No. EXPI

Gallipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
20'		ICL		Box 4	Pull #B
		461.95 To 461.50		4'	START 1300
21'		R/CR w/white/gray			END 1905
		VEIN OF CLAY Throughout			TIME 65min
22		Fg. 5 To M.H.			DRL 50min
					RAN 4'0"
			99.93	463.73	REC 4'6"
23				Box 5	LOSS 4'
				2.23'	UNACC 0
					TL 29.50'
24					TP 29.50'
					DWR Good
		Bottom Hole		461.50	COLOR R/BR
25					
26					
27					
28					
29					

1836-A (ER 1110-1-1801) GPO 1980 OF-628-603

PROJECT Gallipolis Lock & Dam | HOLE NO. EXPI

DRILLING LOG

DIVISION: ORD
INSTALLATION: ORH-CD
SHEET 1 OF 2 SHEETS

1. PROJECT: GALLIPOLIS LOCK + DAM
2. LOCATION (Coordinates or Station): 6+32.5B LOCK LATERAL N 5' OC.
3. DRILLING AGENCY: HAYWARD BAKER
4. HOLE NO. (As shown on drawing title and file number): EXP II
5. NAME OF DRILLER: STEVE FAYE
6. DIRECTION OF HOLE: ☑ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Ø
8. DEPTH DRILLED INTO ROCK: 21.17
9. TOTAL DEPTH OF HOLE: 24.25
10. SIZE AND TYPE OF BIT: 2"X5½'
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): M.S.L.
12. MANUFACTURER'S DESIGNATION OF DRILL: ACKER
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED N/A; UNDISTURBED N/A
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: N/A
16. DATE HOLE: STARTED 10/9/91; COMPLETED 10/10/91
17. ELEVATION TOP OF HOLE: 488.00
18. TOTAL CORE RECOVERY FOR BORING: 99.79 %
19. SIGNATURE OF INSPECTOR: Larry M Woburn

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
488.00	1		CONCRETE 488.00 TO 484.92	100% 486.7	BOX 1 3.42	START 1028 PULL #1 END 1039 REC 1.53 DWR Small TIME 11min LOSS Ø color gr DRL 11min UNACC .5 RAN 16" TL 15.5" TP 16.0"
484.92	2			99.96%		PULL #2 START 1096 LOSS 1" END 1103 UNACC Ø TIME 17min TL 385 DRL 17min TP 39.4 RAN 23" DWR Good REC 22.5 color gr
484.58	3		CLAYSTONE 484.92 TO 484.58 TOP .12 BADLY WEATHERED AND BRN gr/gn, F.g., S.	489.8	489.58	
	4		SILTSTONE 484.58 TO 476.14 gr/gn, Fg., m.H., SMALL ⅛ TO 1/16 FRACTURES TOP 2" 482.09 GROUT FILLED FRACTURE ¼" WIDE 45° ANGLE	100% 482.95	BOX 2 3.7	PULL #3 START 1110 UNACC Ø END 1129 TL 5'½" TIME 19min TP 5'½" DRL 14min DWR Good RAN 23" color gr REC 23" LOSS Ø
	5					
	6					PULL #4 START 1140 END 1245 TIME 65min DRL 35min RAN 4'10" REC 4'4½ LOSS 6 UNACC .54' TL 9.46 TP 10.0 DWR Good COLOR gr
	7				480.85	
	8			100%	BOX 3 3.27	
479.40				479.54		
	9		SANDSTONE 479.40 TO 469.75 gr/wh/TE, mTOF.g., m.H., CLAYSEAMS 479.40, 479.12, 478.53			
	10					PULL #5 START 1305 END 1329 TIME 24min DRL 20min RAN 4.92 REC 4.56 LOSS .36 UNACC Ø TL 14.25 TP 14.58 DWR Good COLOR gr
	11				479.21	
	12			100%	BOX 4 3.86	
	13					
	14			475.75	473.75	
	15			99.99%	BOX 5 4.36	PULL #6 START 1345 END 1416 TIME 31min DRL 25min RAN 4'10" REC 5'9½" LOSS .59 UNACC .99 TL 18.63 TP 19.41 DWR Good COLOR gr
	16					
	17					
469.75	18					
469.15	19		INTERTECH CLASS. S.S. white/gr, m.F., m.H. cl gr/gn Fs. UE.3. LOST 1.97' CCED 469.39 TO 467.65 CONT TCL	469.37 99.51%	469.39 BOX 6 (CONT)	PULL #7 START 1930 RAN 3' END 1951 REC 1.72 TIME 21min LOSS 1.97 DRL 20min (CONT)
	20					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: GALLIPOLIS LOCK+DAM
HOLE NO.: EXP II

LOG (Cont Sheet) | ELEVATION TOP OF HOLE 488.00 | Hole No. EYP II

ipolis Lock & Dam | INSTALLATION ORH-CD | SHEET 2 OF 2 SHEETS

DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
20		ICL		BOYL	PULL #8
21		R/BR, UE.S, LAST RUN		4.4	START 0715
22		TOTAL LOSS	Φ		END 0802
23					TIME 47 MIN
24					DRL 40 MIN
					PAN 90"
					REC 5
					LOSS 3'10"
					UNREC 1'
					TL 29.75
					TP 25.76
					DWB 6000
					COLOR R/BR
25		BOTTOM HOLE	96.25	413.75	
26					
27					
28					
29					
30					

336-A (ER 1110-1-1801) GPO 1980 OP - 626 - 603

PROJECT Gallipolis Lock & Dam 1 | HOLE NO. EYP II