

**MARCH 1989 QUARTERLY REPORT
NAS MOFFETT FIELD, CALIFORNIA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

VOLUME 4: APPENDIX I

MARCH 15, 1989

Prepared by:

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312 Directors Drive
Knoxville, Tennessee 37923

Submitted by:

Hazardous Waste Remedial Actions Program
Martin Marietta Energy Systems, Inc.
Oak Ridge, Tennessee 37931

for:

U.S. Department of Energy
Contract DE-AC05-84OR21400

Submitted to:

Department of the Navy
Western Division
Naval Facilities Engineering Command
San Bruno, California 94066-0720

MARCH 1989 QUARTERLY REPORT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 15 MARCH 1989

THIS RECORD CONTAINS MULTIPLE VOLUMES
WHICH HAVE BEEN ENTERED SEPARATELY

VOLUME 1 OF 4 IS FILED AS ADMINISTRATIVE
RECORD NO. N00296.000595

VOLUME 2 OF 4 IS FILED AS ADMINISTRATIVE
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VOLUME 3 OF 4 IS FILED AS ADMINISTRATIVE
RECORD NO. N00296.00597

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MOFFETT FIELD
SSIC NO. 5090.3

APPENDIX I – SITE MAPS, TABLES, AND
GEOLOGIC SECTIONS

MARCH 1989 QUARTERLY REPORT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 15 MARCH 1989

SITE 1
BORING LOGS ARE PRESENTED IN APPENDIX I
OF THE DECEMBER 1988 QUARTERLY REPORT

SITE 2
BORING LOGS ARE PRESENTED IN APPENDIX I
OF THE DECEMBER 1988 QUARTERLY REPORT

APPENDIX I

SECTION 3.0 – SITE 3 BORING LOGS

MARCH 1989 QUARTERLY REPORT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 15 MARCH 1989

BORING NO. GB#13								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (1SF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>Joel Hadsall</u>	COORDINATES <u>N 341.152.1</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>8/29/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>8/30/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>-2.09 ft.</u>
							DESCRIPTION:	
0							SILTY SAND; medium brown, slightly moist. Logged from cuttings.	
5	#1	0/60			SM		No recovery	
10	#2	0/60						
15	#3	24/60			CL		SANDY SILTY CLAY; light brown, moist, very stiff, moderate plasticity.	
20	#4	36/60					SANDY SILTY CLAY; light brown, moist, stiff, moderate plasticity, with mudstone fragments.	
25	#5	34/60					SANDY SILTY CLAY; light brown, moist, stiff, low plasticity, brittle, with mudstone fragments.	
30	#6	0/60			GW		SANDY GRAVEL; 80% angular lithics (mudstone), 10% calcium carbonate seashell clasts, sand is coarse.	
35	#7	14/60			CL		SANDY SILTY CLAY; light brown, moist, stiff, moderate plasticity, 30% sand.	
40	#8	18/60					SANDY SILTY CLAY; light brown, moist, stiff, moderate plasticity, mudstone fragments.	
45	#9	0/60					No recovery	
50	#10	2/60			SC		SILTY CLAYEY SAND; medium brown, moist, loose.	
55	#11	0/60			SP		SAND; fine grained. Logged from shaker.	
60	#12	0/60						
65	#13	6/60			CH		SILTY CLAY; gray brown, moist, very stiff, plastic.	
70	#14	0/60					No recovery.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB13.DWG



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

				BORING NO. GB#13				
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>Joel Hadsall</u>	COORDINATES <u>N 341.152.1</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>8/29/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>8/30/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>-2.09 ft.</u>
							DESCRIPTION	
70	#14	0/60					SILTY CLAY; gray green, moist, soft, sticky, with sand lenses.	
75	#15	30/60					SILTY CLAY; pale brown, moist, very stiff, low plasticity, 40% silt.	
80	#16	12/60					SILTY CLAY; pale to medium brown, moist, stiff, plastic.	
85	#17	18/60					SILTY CLAY; medium brown - dark yellow brown, moist, soft, low plasticity.	
90	#18	10/60					SILTY CLAY; dark yellow brown, moist, very stiff, plastic.	
95	#19	18/60					SILTY CLAY; gray green mottled brown, moist, very stiff, very plastic.	
100	#20	6/60					No recovery. Sand; 30% quartz, 50% lithics, 20% feldspar, fine grained. Logged from shaker.	
105	#21	0/60					No recovery. Silt; dark gray. Logged from shaker.	
110	#22	0/60					No recovery. Gravel; dark, subangular. Logged from shaker.	
115	#23	0/60					SILTY CLAY; gray green, moist, medium stiff, plastic, sticky.	
120	#24	0/60					SILTY CLAY; gray green, moist, very stiff, very plastic.	
125	#25	18/60					SILTY CLAY; gray green, mottled red brown, hard, brittle, moderate plasticity.	
130	#26	22/60					No recovery. Medium to coarse grained sand with 50% subangular lithics.	
135	#27	60/60						
140	#28	0/60						

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
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					BORING NO. GB#13			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>Joel Hadaall</u>	COORDINATES <u>N 341,152.1</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>8/29/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>8/30/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>-2.09 ft.</u>
							DESCRIPTION	
140	#28	0/60					CLAYEY SILT/SILTY CLAY; medium brown, medium stiff, moderate plasticity.	
145	#29	23/60			ML		CLAYEY SILT/SILTY CLAY; pale brown, stiff, moderate plasticity.	
150	#30	10/60					SILTY CLAY; gray green, moist, hard, very plastic. plasticity.	
155	#31	40/60					SILTY CLAY; gray green, moist, hard, plastic, highly fractured with slickenside surfaces.	
160	#32	48/60					SILTY CLAY; gray green, moist, hard, very fractured, with glossy slickenside surfaces.	
165	#33	48/60			CH		SILTY CLAY; medium gray, hard, plastic, ~25% slickenside surfaces, small dark gray sand lenses.	
170	#34	24/60					SILTY CLAY; medium gray, hard, plastic, small dark gray sand lenses with seashells.	
175	#35	36/60					SANDY CLAY; medium gray, moist, very stiff, plastic, 20% sand.	
180	#36	40/60					SANDY SILTY CLAY; light brown, mottled red and gray, moist, very stiff, moderate plasticity.	
185	#37	18/60					SANDY SILTY CLAY; light brown, moist, very stiff, moderate plasticity, light gray sand lenses.	
190	#38	44/60			CL		SANDY SILTY CLAY; light brown, mottled tan, hard, slightly plastic, brittle, sand lenses.	
195	#39	44/60					SANDY CLAY; light brown, mottled red, medium stiff, slightly plastic.	
200	#40	10/60					SANDY SILTY CLAY; gray, moist, hard, plastic.	
205	#41	18/60			CH		SILTY CLAY; medium brown, moist, hard, plastic.	
210	#42	20/60						

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



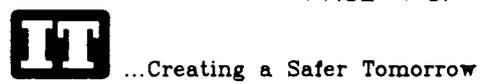
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 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
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					BORING NO. GB#13			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>Joel Hadsall</u>	COORDINATES <u>N 341,152.1</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>8/29/88</u>
210	#42	20/60				CH	DESCRIPTION:	
							SILTY CLAY; medium brown, moist, hard, plastic.	
215	#43	48/60					SILTY CLAY; gray green, moist, very stiff, plastic, mudstone fragments.	
							SILTY CLAY; medium brown, moist, stiff, plastic.	
220	#44	24/60						
225	#45	24/60						
230	#46	24/60						
235	#47	60/60				CL	SILTY CLAY; light brown, moist, hard, slightly plastic.	
240	#48	30/60					SILTY CLAY; light brown, moist, hard, plastic, large 2" dia. mudstone clast at 247 feet.	
245	#49	36/60				CH		
250	#50	48/60						
255						TOTAL DEPTH 252 FEET 4-1/2" diameter boring		
260								
265								
270								
275								
280								

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: MF-GB13.DWG



SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

				BORING NO. GB#14				
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES <u>N 339,680.7</u> <u>E 1,552,418.9</u>	
							FIELD GEOLOGIST <u>J. Hodsgill</u>	DATE BEGAN <u>8/31/88</u>
							CHECKED BY <u>S. Barling</u> DATE FINISHED <u>9/1/88</u>	
							TOTAL DEPTH <u>252 feet</u> GROUND SURFACE EL. <u>3.05 ft.</u>	
							DESCRIPTION	
0							CLAYEY SANDY LOAM; brown, moist, medium dense.	
5	#1	0/84			SM			
10	#2	8/60		0.5	CL		SANDY CLAY; medium brown, moist, soft, sticky.	
15	#3	16/60		2.0			SANDY CLAY; medium brown, moist, stiff, moderate plasticity.	
20	#4	7/60		2.75			SILTY CLAY; medium brown, moist, very stiff, plastic, sticky with mudstone fragments.	
25	#5	36/60		3.0	CH			
30	#6	12/60		2.0				
35	#7	10/60		2.0	CL		SANDY CLAY; medium brown, moist, stiff, moderate plasticity.	
40	#8	12/60		3.25	CH		SILTY CLAY; medium brown, moist, very stiff, highly plastic.	
45	#9	0/60			GW		SANDY GRAVEL; subrounded, formation took ~200 gallons of drill fluid.	
50	#10	6/60		0.5			SILTY CLAY; medium brown, moist, soft, sticky.	
55	#11	5/60		0.75			SILTY CLAY; medium brown, moist, medium stiff, sticky.	
60	#12	7/60		0.75	CL-CH		SILTY CLAY; medium brown, moist, medium stiff, plastic.	
65	#13	22/60		0.75			SANDY CLAY; moderate brown, moist, medium stiff, plastic.	
							SILTY CLAY; moderate brown, moist, medium stiff, plastic.	
70	#14	14/60		0.60			SILTY CLAY; moderate brown, moist, soft, sticky.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

PAGE 1 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: ~~409616~~
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB14.DWG

					BORING NO. GB#14			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hagsall</u>	COORDINATES <u>N 339,680.7</u>
							EDITED BY <u>D.H. Cox</u>	DATE BEGAN <u>8/31/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/1/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>3.05 ft.</u>
							DESCRIPTION	
70	#14	14/60		0.60			SILTY CLAY; medium brown, moist, soft, sticky.	
75	#15	7/60		0.50				
80	#16	3/60		0.25			SILTY CLAY; moderate brown, moist, medium stiff, sticky.	
85	#17	18/60		0.75	CL			
90	#18	5/60		0.75			SILTY CLAY; medium brown, moist, soft, sticky.	
95	#19	18/60		0.30			SILTY CLAY; medium brown, moist, soft, non-plastic..	
100	#20	28/60		0.25	SM		SILTY SAND; medium brown, moist, loose.	
105	#21	12/60		1.75			SILTY CLAY/CLAY; medium brown, moist, stiff, very plastic.	
110	#22	12/60		1.75			CLAY; gray brown, moist, stiff, very plastic.	
115	#23	12/60		1.75			CLAY; gray green, moist, stiff, very plastic.	
120	#24	14/60		1.75			SANDY SILTY CLAY; gray green mottled brown, moist, stiff, plastic.	
125	#25	4/60		1.75	CH-CL		SILTY SANDY CLAY; brown mottled gray, moist, stiff, low plasticity.	
130	#26	32/60		4.1			SILTY CLAY; gray green, mottled brown, moist, hard, plastic.	
135	#27	16/60		2.5			SILTY CLAY/CLAY; gray green, moist, very stiff, very plastic.	
140	#28	38/60		2.75			SILTY CLAY; dark brown, moist, very stiff, moderate plasticity, sea shell fragments.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#14			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES <u>N 339,680.7</u> <u>E 1,552,418.9</u>	
							FIELD GEOLOGIST <u>J. Hadsall</u>	DATE BEGAN <u>8/31/88</u>
							CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>9/1/88</u>	
							TOTAL DEPTH <u>252 feet</u> GROUND SURFACE EL. <u>3.05 ft.</u>	
							DESCRIPTION:	
140	#28	38/60		2.75			SILTY CLAY; medium dark brown, moist, very stiff, plastic.	
145	#29	19/60		3.75	CH			
150	#30	10/60		3.5	SC		CLAYEY SAND; medium brown, moist, medium dense, sticky, with angular mudstone fragments.	
155	#31	18/60		3.5			SILTY CLAY; dark gray brown, moist, very stiff, very plastic.	
160	#32	17/60		3.5-4.5	CH-CL		SILTY CLAY; gray green, moist, hard, very plastic.	
165	#33	38/60		3.5				
170	#34	48/60		2.0				
175	#35	28/60		2.5-0.5	CL		SANDY CLAY; gray, moist, very stiff, moderate plasticity.	
180	#36	22/60		2.5	ML		CLAYEY SILT; gray, moist, soft, non-plastic, subangular mudstone fragments.	
185	#37	26/60		2.75			SANDY CLAY; gray, moist, very stiff, plastic, mudstone fragments.	
190	#38	18/60		2.75	CH		SILTY CLAY; gray, moist, very stiff, plastic, grass roots.	
195	#39	23/60		3.5			SANDY CLAY; gray brown, moist, hard, moderate plasticity, grades to silty clay; brown, moist, hard, plastic.	
200	#40	19/60		4.0				
205	#41	30/60		4.25	CL-CH		SANDY CLAY; brown, moist, hard, non-plastic.	
210	#42	18/60		3.25			SILTY CLAY; brown, moist, very stiff, very plastic.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB14.DWG



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SEE LEGEND FOR LOGS AND TEST PITS
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					BORING NO. GB#14			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsgill</u>	COORDINATES <u>N 339,680.7</u>
							EDITED BY <u>D.H. Cox</u>	DATE BEGAN <u>8/31/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/1/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>3.05 ft.</u>
							DESCRIPTION	
210	#42	18/60		3.25	CH		SILTY CLAY; brown, moist, very stiff, very plastic.	
215	#43	18/60		3.25	SM		SILTY SAND; medium brown, moist, loose, fine to medium grained, 20% quartz, 40% lithics.	
220	#44	52/60		4.25			SILTY CLAY; gray brown, moist, hard, plastic.	
225	#45	44/60		3.5				
230	#46	36/60		3.0				
235	#47	60/60		4.25	CH			
240	#48	54/60		4.5				
245	#49	60/60		4.5				
250	#50	0/60		4.5				
255							TOTAL DEPTH 252 FEET 4-1/2" diameter boring	
260								
265								
270								
275								
280								

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

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BORING NO. GB#15								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES <u>N 340,339.0</u> <u>E 1,552,260.7</u>	
							FIELD GEOLOGIST <u>J. Hadsall</u>	DATE BEGAN <u>9/14/88</u>
							EDITED BY <u>D. H. Cox</u>	DATE FINISHED <u>9/15/88</u>
							CHECKED BY <u>S. Bartling</u>	GROUND SURFACE EL. <u>-0.4 ft.</u>
							TOTAL DEPTH <u>252 feet</u>	
							DESCRIPTION	
0							No recovery. SILTY SANDY CLAY; moderate brown, grass and vegetation fragments, moist, soft, sticky. Logged from shaker.	
5		0/84						
10	#1	0/60					SILTY CLAY; moderate brown, soft, sticky.	
15	#2	0/60			CL			
20	#3	3/60		0.75			SILTY CLAY; moderate brown, mottled tan, moist, stiff, low plasticity, 5% sand, increasing sand content.	
25	#4	30/60		1.5				
30	#5	0/60					No recovery. SAND and GRAVEL; subangular, coarse, 10% qtz, 90% lithics. Logged from shaker.	
35	#6	0/60						
40	#7	20/60		3.5	CH		SILTY CLAY; moderate brown, moist, very stiff, plastic.	
45	#8	0/60					No recovery.	
50	#9	14/60		0.75	CL		SILTY CLAY; moderate brown, moist, soft, sticky.	
55	#10	0/60					No recovery. SAND and SILT; sand is fine grained. Logged from shaker.	
60	#11	0/60						
65	#12	0/60						
70	#13	0/60						

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

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SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
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AutoCAD FILE: MF-GB15.DWG

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#15	
								FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,339.0</u> <u>E 1,552,260.7</u>
								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/14/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/15/88</u>
								TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>-0.4 ft.</u>
								DESCRIPTION	
70		#13	0/60					No recovery. SAND and SILT; fine grained sand. Logged from shaker.	
75		#14	23/60		0.25	CL		SANDY SILTY CLAY; medium brown, moist, soft, non-plastic, sticky.	
80		#15	0/60					No recovery. SAND and SILT; fine grained sand. Logged from shaker.	
85		#16	0/60						
90		#17	0/60						
95		#18	24/60		1.75	CH		SILTY CLAY; dark brown, stiff, moist, plastic, sticky.	
100		#19	0/60					No recovery. SAND and SILT; fine grained sand. Logged from shaker.	
105		#20	0/60						
110		#21	0/60						
115		#22	20/60		2.25	CH		SILTY CLAY; gray green, moist, very stiff, plastic.	
120		#23	0/60					No recovery. SAND and SILT; fine grained sand. Logged from shaker.	
125		#24	0/60						
130		#25	44/60		2.25	CH		SILTY CLAY; gray green, moist, very stiff, very plastic.	
135		#26	7/60		4.5			Increasing consistency.	
140		#27	50/60		4.25				

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

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SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
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Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
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AutoCAD FILE: MF-GB15.DWG

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#15	
								FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,339.0</u> <u>E 1,552,260.7</u>
140		#27	50/60		4.25	CH		DESCRIPTION SILTY CLAY; gray green, moist, very stiff, very plastic.	
145		#28	0/60					No recovery. SAND and SILT; fine grained sand. Logged from shaker.	
150		#29	0/60						
155		#30	0/60						
160		#31	0/60						
165		#32	22/60		4.25	CH		SILTY CLAY; gray brown, moist, hard, very plastic.	
170		#33	0/60					No recovery. GRAVEL; dark, angular, pea sized, with shell fragments. Logged from shaker.	
175		#34	0/60						
180		#35	4/60		2.0	GC		CLAYEY GRAVEL; gray, moist, stiff, plastic, 1/4 to 1/2" subangular gravels.	
185		#36	0/60					No recovery. SILTY SAND; fine grained. Logged from shaker.	
190		#37	60/60		3.25	CH		SANDY SILTY CLAY; moderate brown, moist, very stiff, moderate plasticity.	
195		#38	0/60					No recovery. SAND; fine grained. Logged from shaker.	
200		#39	0/60			SM			
205		#40	0/60					SAND; gray brown, silty.	
210		#41	56/60		3.75	CH		SILTY CLAY; dark gray, moist, very stiff, very plastic.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. GB#15								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,339.0</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/14/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/15/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>-0.4 ft.</u>
							DESCRIPTION	
210	#41	55/60		3.75		CH	SILTY CLAY; dark gray, moist, very stiff, very plastic.	
215	#42	6/60		3.75				
220	#43	6/60		3.75			No recovery.	
225	#44	42/60		4.5	CL		SILTY CLAY; gray brown, moist, hard, brittle.	
230	#45	48/60		4.5				
235	#46	0/60					No recovery. SAND and SILT; fine grained. Logged from shaker.	
240	#47	0/60						
245	#48	0/60						
250	#49	0/60						
255							TOTAL DEPTH 252 FEET 4-1/2" diameter boring	
260								
265								
270								
275								
280								

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB15.DWG



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#16	
								FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,212.8</u> <u>E 1,552,577.1</u>
								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/6/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/7/88</u>
								TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>0.49 ft.</u>
DESCRIPTION									
0						SM		SILTY SAND; medium dark brown, moist, medium dense.	
5						CL		SANDY SILTY CLAY; medium brown, moist, stiff, moderate plasticity.	
10	#1	0/60				SC		No recovery. SAND/SANDY CLAY; fine to medium grained sand and medium brown, stiff, clay. Logged from shaker.	
15	#2	0/60							
20	#3	10/60			0.25			SANDY CLAY; medium brown, moist, soft, low plasticity, brittle, with gravel inclusions.	
25	#4	20/60			0.25-1.0	CL		SILTY CLAY; medium brown, moist, soft, sticky, small percent sand.	
30	#5	14/60			1.0			SANDY SILTY CLAY; medium brown, moist, stiff, moderate plasticity, mudstone fragments.	
35	#6	5/60			1.0				
40	#7	0/60						No recovery.	
45	#8	48/60			1.5			SILTY CLAY/CLAY; medium brown, moist, stiff, very plastic.	
50	#9	19/60			0.75	CH			
55	#10	48/60			2.25				
60	#11	0/60						No recovery. SAND; fine grained. Logged from shaker.	
65	#12	12/60			2.5	CH		SILTY CLAY; medium to dark brown, moist, very stiff, plastic.	
70	#13	19/60			1.0				

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB16(MF17)

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SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#16			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES	
							FIELD GEOLOGIST	GROUND SURFACE EL.
							FIELD GEOLOGIST <u>J. Hadsall</u>	<u>N 340,212.8</u>
							EDITED BY <u>D. H. Cox</u>	<u>E 1,552,577.1</u>
							CHECKED BY <u>S. Bartling</u>	DATE BEGAN <u>9/6/88</u>
							TOTAL DEPTH <u>252 feet</u>	DATE FINISHED <u>9/7/88</u>
								GROUND SURFACE EL. <u>0.49 ft.</u>
							DESCRIPTION	
70	#13	19/60		1.0	CL		SILTY CLAY; medium dark brown, moist, stiff, moderate plasticity.	
75	#14	18/60		0.75			SANDY CLAY/CLAYEY SAND; medium brown, moist, soft, low plasticity.	
80	#15	20/60		.075			SILTY CLAY; gray brown, moist, medium stiff, sticky, moderate plasticity.	
85	#16	20/60		0.75				
90	#17	0/60			CH		No recovery. SAND/SILT; fine grained. Logged from shaker.	
95	#18	0/60						
100	#19	0/60						
105	#20	52/60		1.5			CLAY; gray green, moist, stiff, very plastic.	
110	#21	16/60		2.0			Increasing consistency.	
115	#22	4/60		2.5				
120	#23	10/60		1.5			SILTY CLAY; gray brown, moist, stiff, plastic.	
125	#24	18/60		2.5	Increasing silt content.			
130	#25	40/60		1.75	SILTY CLAY; gray brown, moist, stiff, plastic.			
135	#26	48/60		2.75	Increasing plasticity and consistency.			
140	#27	52/60		3.0	SILTY CLAY; dark gray brown, moist, very stiff, very plastic.			

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB16(MF17)



...Creating a Safer Tomorrow

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#16	
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE
						DESCRIPTION
140	#27	52/60		3.0	CH	SILTY CLAY; dark gray brown, moist, very stiff, very plastic.
145	#28	14/60		3.5	CL	SANDY CLAY; gray brown, moist, very stiff, non-plastic, brittle.
150	#29	3/60		0.50		SILTY CLAY; medium brown, moist, soft, sticky.
155	#30	44/60		3.0-	CH	SILTY CLAY; medium brown, moist, soft, sticky. CLAY; blue gray, moist, very stiff, very plastic.
160	#31	40/60		4.0		CLAY; brown gray, moist, hard, non-plastic, brittle, with slickensides.
165	#32	60/60		4.5	CL	
170	#33	0/60				No recovery. GRAVEL; angular to subangular, mudstone clasts (1/16-1/4") Logged from shaker.
175	#34	22/60		3.25		SILTY SANDY CLAY; gray brown, moist, very stiff, non-plastic, gravel inclusions.
180	#35	40/60		3.0		SILTY CLAY; medium brown, moist, very stiff, plastic.
185	#36	18/60		3.5	CL-CH	SILTY CLAY; gray brown, moist, very stiff, moderate plasticity.
190	#37	36/60		3.0		SANDY SILTY CLAY; tan to brown, moist, very stiff, moderate plasticity.
195	#38	0/60				No recovery.
200	#39	14/60		3.5	CH	SILTY CLAY; gray brown, moist, very stiff, plastic.
					SC	CLAYEY SAND; gray, moist, medium dense, medium grained.
205	#40	0/60				No recovery. SAND; fine to medium grained. Logged from shaker.
210	#41	0/60				

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

PAGE 3 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB16(MF17)

					BORING NO. GB#16			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hodsall</u> COORDINATES <u>N 340,212.8</u> <u>E 1,552,577.1</u>	
							EDITED BY <u>D. H. Cox</u> DATE BEGAN <u>9/6/88</u>	
							CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>9/7/88</u>	
							TOTAL DEPTH <u>252 feet</u> GROUND SURFACE EL. <u>0.49 ft.</u>	
							DESCRIPTION	
210	#41	0/60					No recovery. SAND; fine to medium grained. Logged from shaker.	
215	#42	32/60		2.75	CH		SILTY CLAY; dark brown, moist, very stiff, plastic.	
220	#43	45/60		3.5			Increasing consistency.	
225	#44	0/60			SM		No recovery. SILTY SAND; fine grained. Logged from shaker.	
230	#45	0/60			ML		CLAYEY SILT/SILTY CLAY; dark brown, moist, very stiff, sticky.	
235	#46	54/60		3.0			CLAY; gray, moist, hard, brittle.	
240	#47	44/60		3.5	CL		Increasing sand content. SANDY SILTY CLAY; tan brown, moist, very stiff, moderate plasticity, with mudstone fragments.	
245	#48	14/60		3.75				
250	#49	0/60					No recovery.	
255							TOTAL DEPTH 252 FEET 4-1/2" diameter boring	
260								
265								
270								
275								
280								

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

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SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB16(MF17)

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#17	
								FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,942.0</u> <u>E 1,552,822.9</u>
0								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/9/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/13/88</u>
								TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>0.40 ft.</u>
								DESCRIPTION	
0							CL	SANDY SILTY CLAY; dark brown/black, moist, very soft, sticky.	
5								GRAVEL; loose, angular, 1/8 to 1/4" clasts, some sand and silt (5%), multi colored, sandstone/mudstone clasts.	
10	#1	0/60					GP		
15	#2	0/60							
20	#3	0/60							
25	#4	44/60			3.25			SANDY CLAY; tan to brown, moist, very stiff, low plasticity.	
					3.75				
30	#5	10/60			1.0		CL-CH	SILTY SANDY CLAY; tan to brown, moist, medium stiff, sticky.	
35	#6	12/60			3.0			SILTY CLAY; tan to brown, moist, very stiff, plastic, sandstone inclusions.	
40	#7	8/60			2.0			SANDY CLAY; tan to brown, moist, stiff, moderate plasticity, fine grained sand, sandstone fragments.	
45	#8	0/60						No recovery. SAND/SILT; fine grained, grading to coarse sand and gravels, dark. Logged from shaker.	
50	#9	18/60			0.75		CL	SILTY CLAY; medium brown, moist, medium stiff, sticky, 10% sand.	
55	#10	0/60						No recovery. SAND and GRAVEL; coarse sand, dark, angular, predominantly sandstone and mudstone clasts, some shells. Logged from shaker.	
60	#11	0/60							
65	#12	0/60							
70	#13	0/60							

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

PAGE 1 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB17(MF17)

					BORING NO. GB#17			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u> COORDINATES <u>N 340,942.0</u> <u>E 1,552,822.9</u>	
							EDITED BY <u>D. H. Cox</u> DATE BEGAN <u>9/9/88</u> CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>9/13/88</u> TOTAL DEPTH <u>257 feet</u> GROUND SURFACE EL. <u>0.40 ft.</u>	
							DESCRIPTION	
70	#13	0/60					No recovery. SAND/GRAVEL; dark, angular, predominantly sandstone and mudstone clasts, some shells, clay seams interbedded. Logged from shaker.	
75	#14	0/60						
80	#15	0/60					Grades to sand; dark gray, fine to medium grained.	
85	#16	0/60						
90	#17	0/60						
95	#18	18/60		0.25		CL	SILTY CLAY; medium to dark brown, moist, soft, sticky, increasing consistency/plasticity with depth.	
100	#19	18/60		1.25				
105	#20	8/60		1.25		CH	SANDY SILTY CLAY; gray brown, moist, very stiff, plastic.	
110	#21	40/60		2.75			Increasing sand content.	
115	#22	24/60		1.75		CL	SILTY CLAY; medium brown, mottled gray, moist, very stiff, moderate plasticity, decreasing consistency with depth.	
120	#23	24/60		2.25				
125	#24	12/60		1.25		CH	SILTY CLAY/CLAY; gray green, moist, very stiff, plastic, increasing consistency.	
130	#25	30/60		1.5-2.75				
135	#26	22/60		4.25		CH	SILTY CLAY; gray brown, moist, stiff, plastic.	
140	#27	25/60		1.75				

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

PAGE 2 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB17(MF17)

		BORING NO. GB#17						
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,942.0</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/9/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/13/88</u>
							TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>0.40 ft.</u>
							DESCRIPTION	
140	#27	25/60		1.75			SILTY CLAY; gray brown, moist, stiff, plastic.	
145	#28	10/60		2.0	CH			
150	#29	0/60					No recovery. SAND; fine to medium grained. Logged from shaker.	
155	#30	24/60		1.5	CL		SILTY CLAY; gray brown, moist, stiff, plastic.	
160	#31	0/60					No recovery.	
165	#32	52/60		4.25			CLAY; gray, dry, hard, non-plastic, brittle.	
170	#33	42/60		4.0			SANDY CLAY; dark gray, moist, very stiff, moderate plasticity, dark gray sand inclusions.	
175	#34	24/60		2.0			SILTY CLAY; moderate brown, moist, very stiff, moderate plasticity.	
180	#35	50/60		3.75	CL		SANDY CLAY; moderate brown, moist, very stiff, brittle.	
185	#36	10/60		3.0			SANDY SILTY CLAY; gray brown, moist, very stiff, moderate plasticity.	
190	#37	10/60		2.5			SILTY CLAY; medium brown, mottled gray, very stiff, moderate plasticity.	
195	#38	50/60		4.0			SANDY CLAY; tan to brown, moist, very stiff, moderate plasticity, angular calcite cemented sandstone clasts (1/4 to 1/2"), off-white in color.	
200	#39	0/60					No recovery. SAND; fine to medium grained. Logged from shaker.	
205	#40	58/60		2.0-4.5	CL		SANDY CLAY; gray, moist, increasing consistency (stiff to hard), moderate plasticity, varying sandy zones.	
210	#41	0/60			SW		No recovery. SAND; tan and black, medium to very coarse, subangular, well graded. Logged from shaker.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

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SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. GB#17								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 340,942.0</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/9/88</u>
							DESCRIPTION	
210	#41	0/60				SW	No recovery. Logged from shaker.	
							SAND; tan and black, medium to very coarse, subangular.	
							SANDY CLAY; light gray, moist, soft, slightly plastic, with fine grained sand.	
215	#42	18/60		3.5		CL	SILTY CLAY; gray mottled olive brown, moderately moist, stiff, moderate plasticity.	
220	#43	60/60		2.8			SILTY CLAY/CLAY; dark gray, moderately moist, stiff, moderate plasticity.	
225	#44	0/60					No recovery.	
							SAND; tan and black, medium grained, subangular, well graded, with medium grained gravels.	
							Logged from shaker.	
230	#45	0/60						
						SW	No recovery.	
							SAND; black and tan, medium to coarse grained, subangular to subrounded, poorly sorted.	
235	#46	0/60					Logged from shaker.	
240	#47	0/60						
245	#48	52/60		1.5-2.0		CL	SILTY SANDY CLAY; light gray, mottled orange brown, moist, stiff, moderately plastic to plastic.	
							SILTY CLAY; less sand.	
250	#49	60/60		4.5-4.0			SILTY SANDY CLAY; orangish brown mottled gray, slightly to moderately moist, stiff, moderate plasticity, inclusions of fine to medium grained sands.	
							5 ft. of overdrill.	
255								
260							TOTAL DEPTH 257 FEET	
							4-1/2" diameter boring	
265								
270								
275								
280								

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

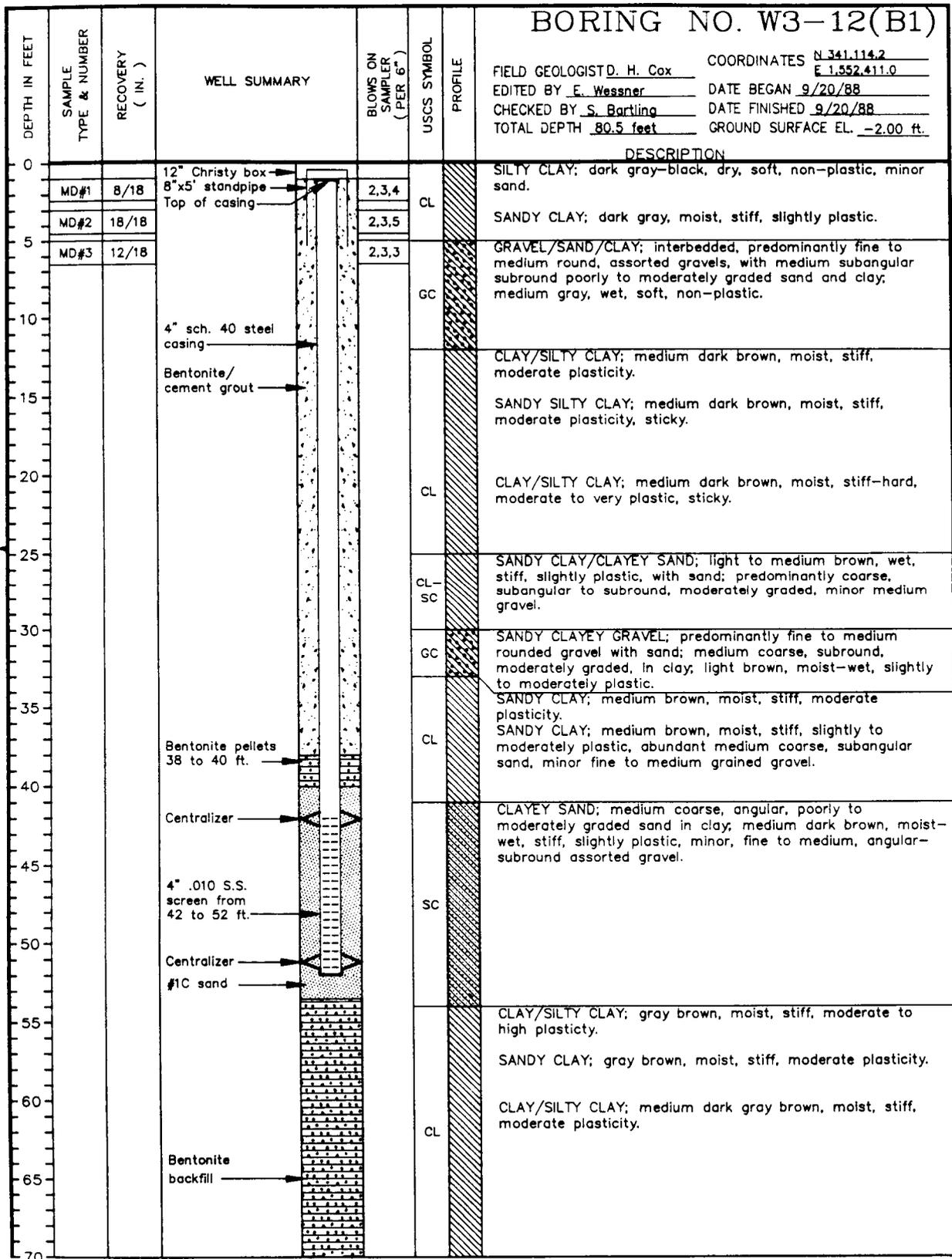
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB17(MF17)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

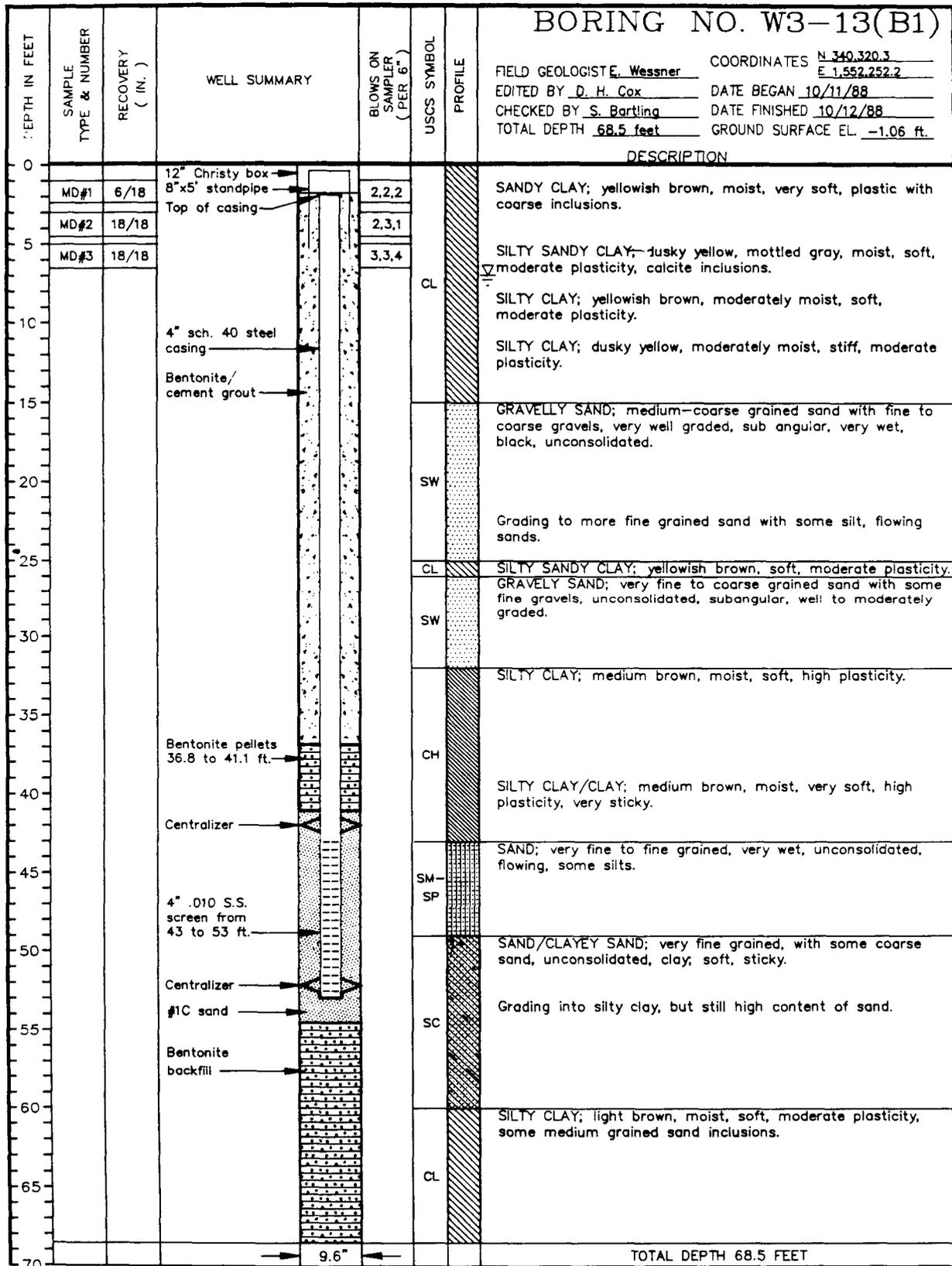
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W3-12B1(MF23)



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 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

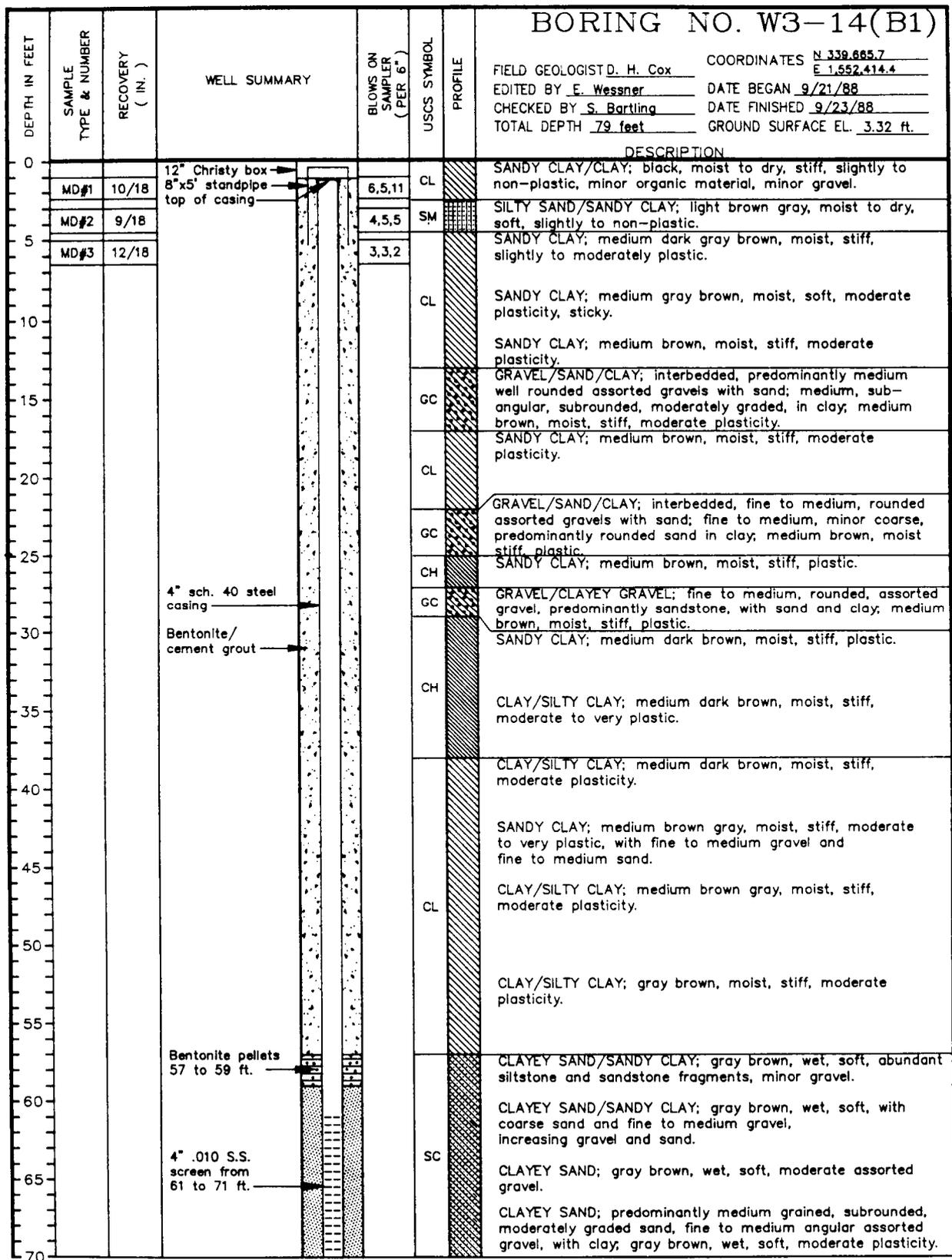
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

S/C 1 = SAND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

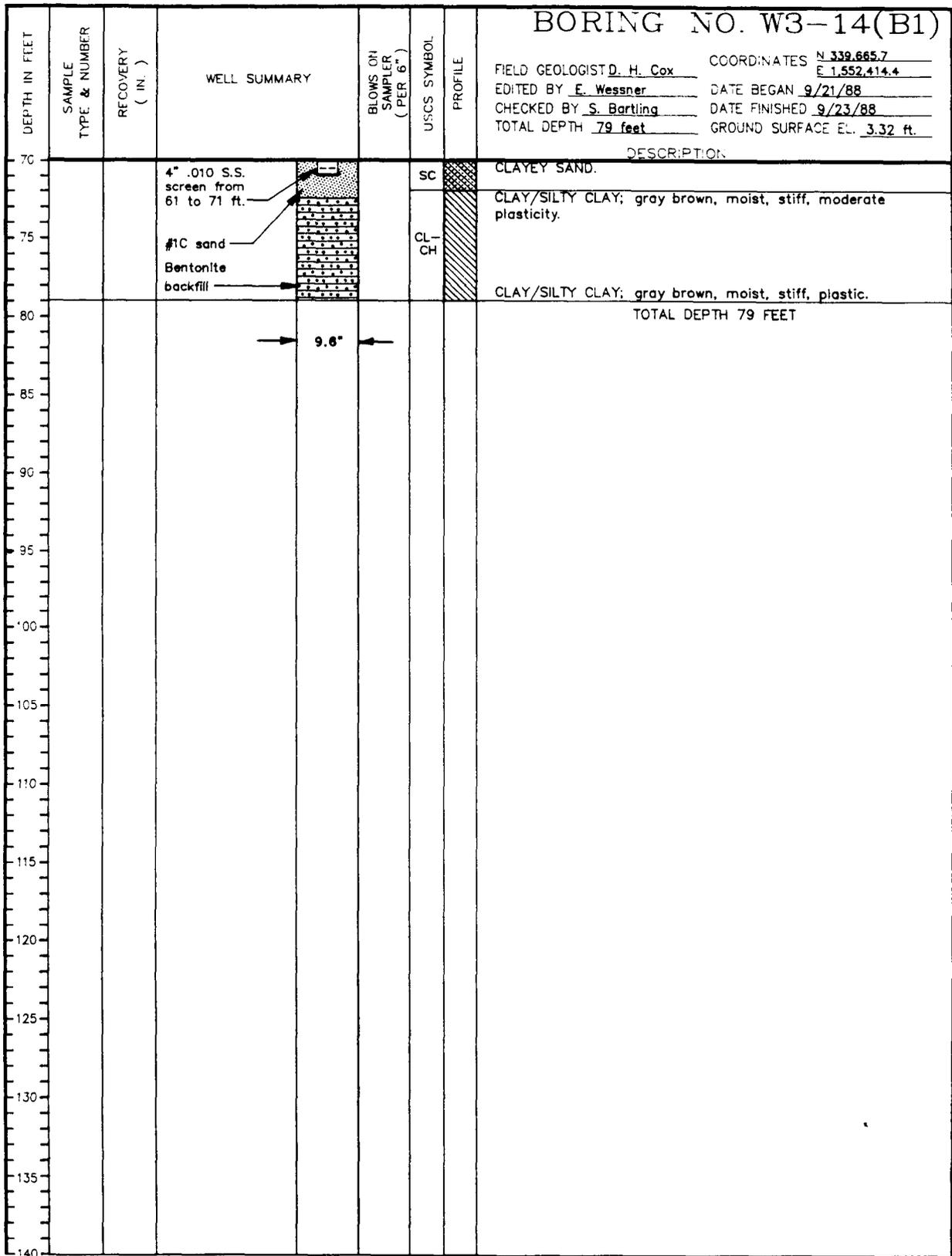
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

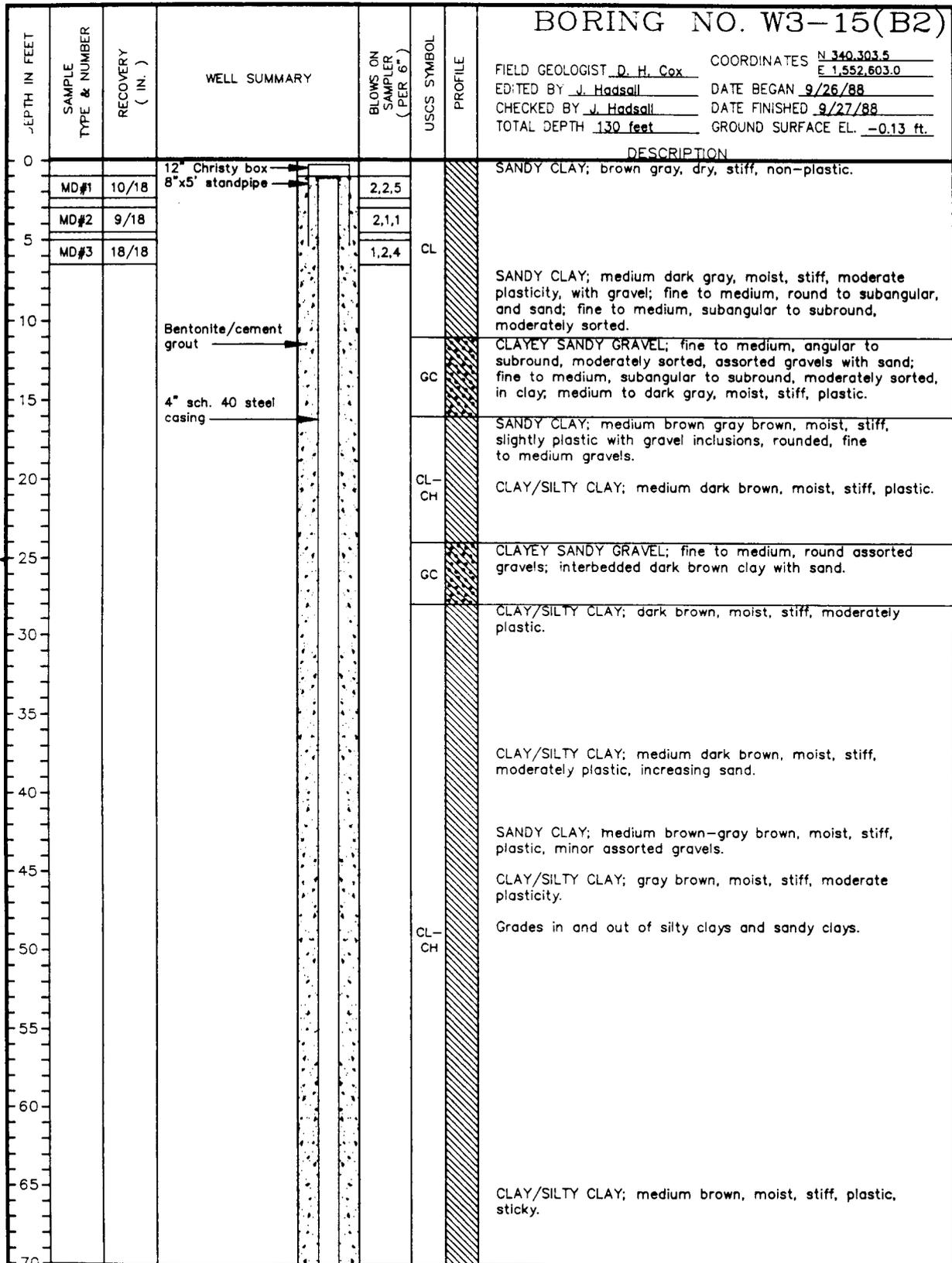
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W3-1481(MF23)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

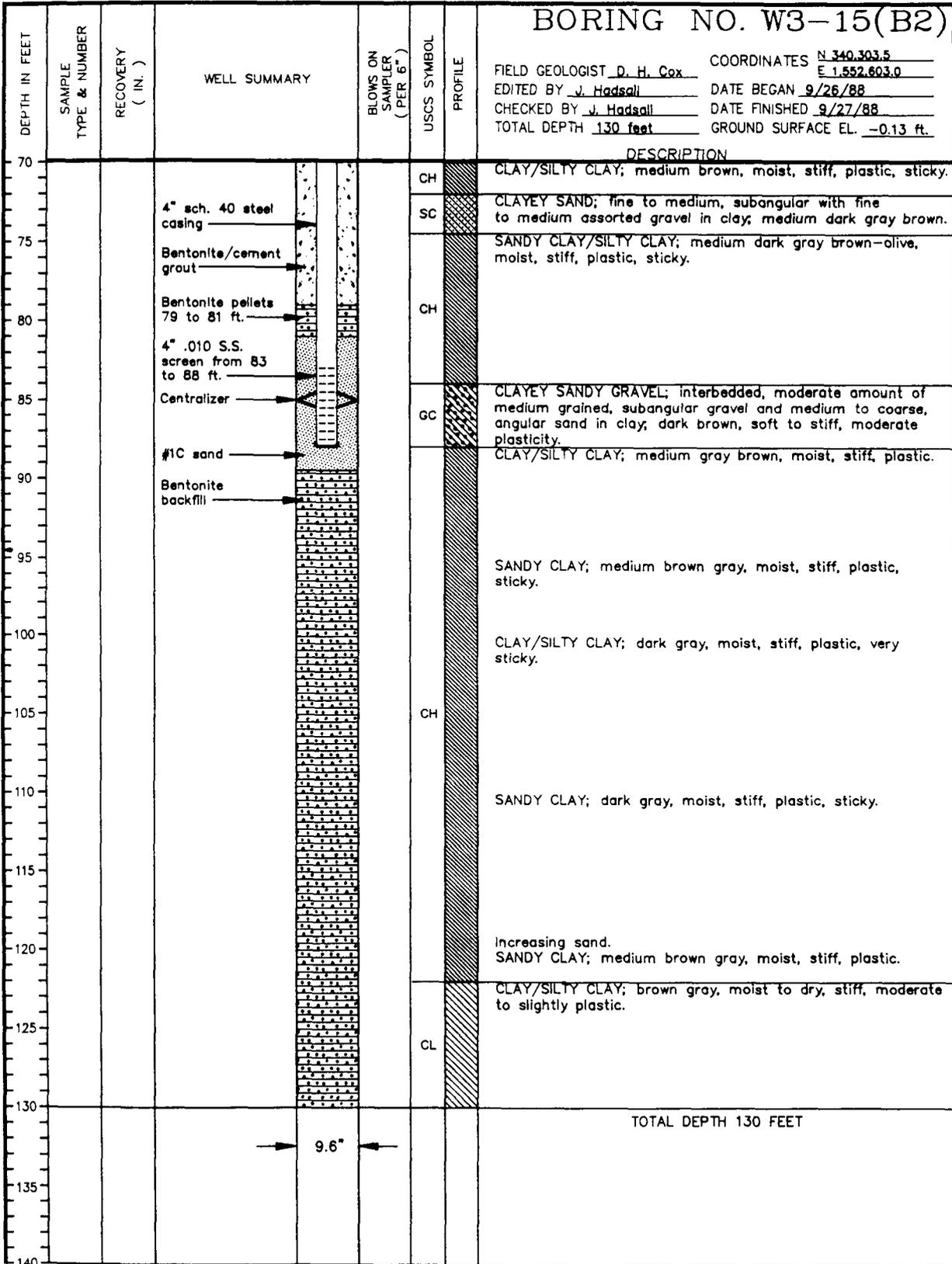
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

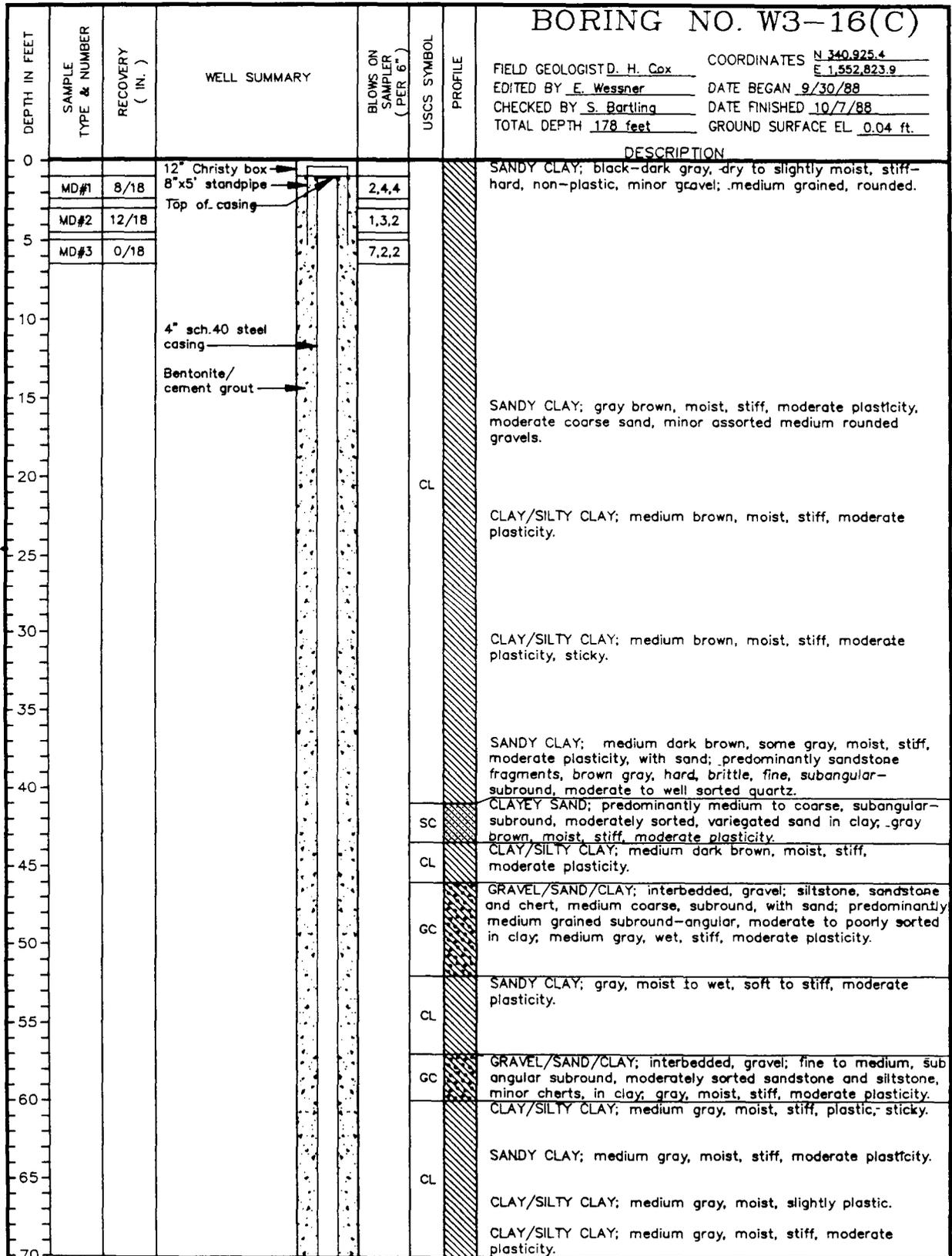
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W3-16C(MF23)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. W3-16(C)			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	BLOWS ON SAMPLER (PER 6")	USCS SYMBOL	PROFILE	FIELD DATA	
							FIELD GEOLOGIST <u>D. H. Cox</u>	COORDINATES <u>N 340,925.4</u> <u>E 1,552,823.9</u>
							DESCRIPTION	
70							SANDY CLAY; brown gray, moist, stiff, moderate plasticity, minor medium subangular gravels.	
75								
80								
85							SANDY CLAY; brown gray, moist, stiff, moderate plasticity, minor fine to medium subround gravels, predominantly sandstone clasts.	
90							CLAY/SILTY CLAY; gray-brown gray, moist, stiff, moderate plasticity.	
95						CL	SANDY CLAY; medium gray, moist, stiff, moderate plasticity, minor medium, subround gravels.	
100							CLAY/SILTY CLAY; medium gray, moist, stiff, moderate plasticity.	
105			4" sch. 40 steel casing Bentonite/cement grout				SANDY CLAY; medium dark gray, moist, stiff, moderate to very plastic.	
110							CLAY/SILTY CLAY; medium-dark gray, moist, stiff, moderate to very plastic.	
115							SANDY CLAY; medium to dark gray, moist, stiff, moderate plasticity.	
120							CLAY/SILTY CLAY; dark gray, moist, stiff, moderate plasticity.	
125						CL-CH	SANDY CLAY; dark gray, moist, stiff, moderate to very plastic.	
130							CLAY/SILTY CLAY; dark gray, moist to slightly dry, moderate to very plastic.	
135							CLAY/SILTY CLAY; dark gray, moist, stiff, moderate to very plastic.	
140						CL	CLAY/SILTY CLAY; dark gray, slightly moist to dry, stiff, moderate plasticity, sticky.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

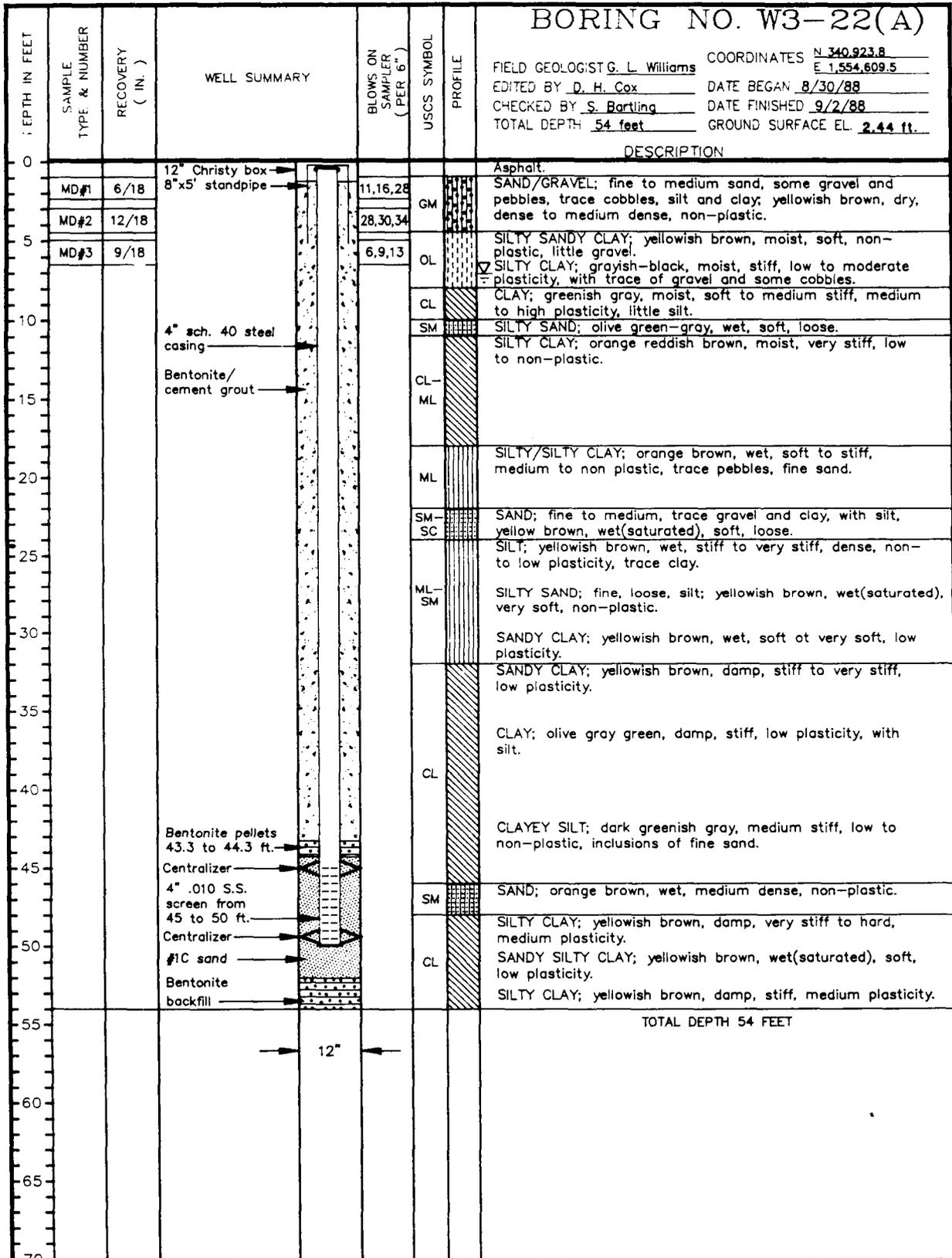
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: CME 55 Hollow Stem Auger
 SAMPLING METHODS: MD=California Modified
 S=Split Barrel

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W3-22A



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	BLOWS ON SAMPLER (PER 6")	USCS SYMBOL	PROFILE	BORING NO. W3-23(A) (abandoned) @ 10 ft. north of W3-23(A)	
								FIELD GEOLOGIST G. L. Williams	COORDINATES
0		MD#1	12/18		4,6,9	FILL		EDITED BY D. H. Cox	DATE BEGAN 8/22/88
5		MD#2	9/18		4,4,6	OL		CHECKED BY S. Bartling	DATE FINISHED 8/23/88
10		MD#3	12/18		4,5,6	CL		TOTAL DEPTH 23 feet	GROUND SURFACE EL. -
15		MD#4	18/18		2,2,3	SM		DESCRIPTION	
20						SC		FILL: clay, moderate brown, moist, stiff, moderate plasticity, trace pebbles.	
25						GM		SILTY CLAY; very dark brown-black, moist, stiff, low plasticity.	
30								SILTY SANDY CLAY; yellowish brown, damp, soft, low plasticity, with gravel.	
35								SILTY SAND; gray-brown, wet, soft, ~40% gravel.	
40								CLAYEY SILTY SAND; gray and yellow brown, wet, soft, low plasticity.	
45								SILTY SANDY GRAVEL; poorly sorted, loose.	
50								No recovery.	
55						CL		SILTY CLAY; grayish light brown, wet, very soft, low plasticity.	
60						SM		SILTY SAND; wet, medium dense to dense.	
65						CL		SILTY CLAY; yellowish brown, damp to moist, medium stiff, low plasticity.	
70								TOTAL DEPTH 23 FEET (abandoned)	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: CME 55 Hollow Stem Auger

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

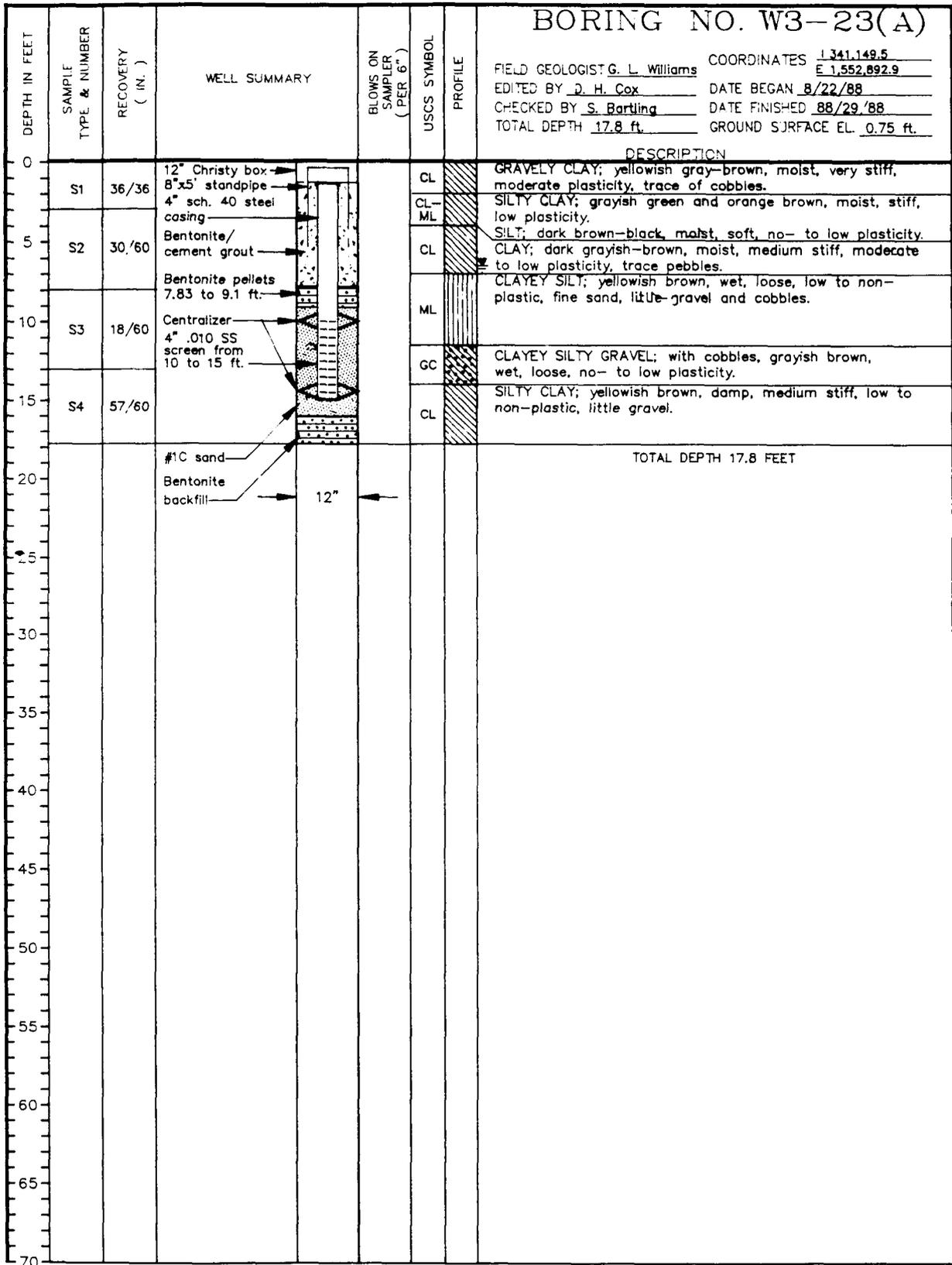
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W3-23AN(MF25)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: CME 55 Hollow Stem Auger
 SAMPLING METHODS: MD=California Modified
 S=Split Barrel
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: W3-23A(MF25)



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 FOR EXPLANATION OF SYMBOLS AND TERMS

APPENDIX I

SECTION 4.0 – SITE 4 BORING LOGS

MARCH 1989 QUARTERLY REPORT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 15 MARCH 1989

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#18	
								FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 339,027.7</u> <u>E 1,552,291.4</u>
0								EDITED BY <u>D. H. Cox</u> DATE BEGAN <u>9/27/88</u> CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>9/28/88</u> TOTAL DEPTH <u>252 feet</u> GROUND SURFACE EL. <u>4.39 ft.</u>	
								DESCRIPTION	
0					2.0	CL		SANDY CLAY; dark brown, slightly moist, stiff, low plasticity.	
5									
10	#1	0/60						GRAVEL; dark, angular, 1/4"-1/2" clasts, clean, coarse.	
15	#2	0/60						Gravel with alternating zones of sandy clay.	
20	#3	0/60							
25	#4	0/60			1.0	CL		SANDY CLAY; moderate brown, moist, medium stiff, sticky.	
30	#5	0/60						CLAYEY SAND/SANDY CLAY; dark gray/black, moist, non-plastic, brittle, organic appearance.	
35	#6	0/60						No recovery. SANDY CLAY/GRAVEL; angular gravel. Logged from shaker.	
40	#7	16/60			3.2	CL		SANDY CLAY; moderate brown, moist, very stiff, moderate plasticity, some coarse sand and gravel, (minor amount 2-5%).	
45	#8	20/60			1.0	CH		SILTY CLAY; moderate brown, moist, medium stiff, plastic.	
50	#9	0/60						No recovery. SAND and SILT. Logged from shaker.	
55	#10	28/60			2.25			SANDY CLAY; moderate brown, moist, very stiff, moderate plasticity.	
60	#11	0/60				CL		SANDY CLAY; moderate brown, soft, sticky.	
65	#12	0/60							
70	#13	0/60							

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. GB#18								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD DATA	
							FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES N <u>339,027.7</u> E <u>1,552,291.4</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/27/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/28/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>4.39 ft.</u>
							DESCRIPTION	
70	#13	0/60					SANDY CLAY; moderate gray brown, soft, sticky.	
75	#14	0/60						
80	#15	0/60						
85	#16	0/60			CL			
90	#17	0/60						
95	#18	0/60						
100	#19	0/60						
105	#20	4/60		2.0			SILTY CLAY; dark brown, moist, stiff, very plastic.	
110	#21	40/60		2.5	CH			
115	#22	28/60		2.25				
120	#23	0/60			CL		No recovery. SANDY CLAY/SILTY CLAY; brown, moist, sticky. Logged from shaker.	
125	#24	60/60		3.0	CH		SILTY CLAY; gray brown, moist, very stiff, plastic.	
130	#25	36/60		2.0				
135	#26	0/60			SM		No recovery. SILTY SAND; moderate brown, fine grained. Logged from shaker.	
140	#27	48/60		3.25	CH		SILTY CLAY; gray brown, moist, very stiff, plastic.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. GB#18								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES <u>N 339,027.7</u> <u>E 1,552,291.4</u>	
							FIELD GEOLOGIST <u>J. Hagsall</u>	DATE BEGAN <u>9/27/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/28/88</u>
							TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>4.39 ft.</u>
							DESCRIPTION	
140	#27	48/60		3.25	CH		SILTY CLAY; green brown, moist, very stiff, plastic.	
145	#28	20/60		3.75				
150	#29	16/60		3.25				
155	#30	0/60			SP		No recovery. SAND; dark, coarse, angular, mudstone fragments. Logged from shaker.	
160	#31	0/60						
165	#32	60/60		4.5	CL		CLAY; brownish gray, dry, hard, non-plastic, blocky fractured slickensided.	
170	#33	24/60		4.25				
175	#34	0/60					No recovery. SAND; dark gray, coarse, angular with shells and gravel. Logged from shaker.	
180	#35	0/60						
185	#36	0/60						
190	#37	60/60		4.25	CL		CLAY; brown gray, slightly moist, hard, non-plastic, blocky and fractured with slickensides.	
195	#38	0/60					No recovery. SAND and GRAVEL; coarse, angular. Logged from shaker.	
200	#39	60/60		3.0				
					CL		SANDY CLAY; tan brown, moist, very stiff, low plasticity.	
					CH		SILTY CLAY; moderate gray brown, moist, very stiff, plastic.	
205	#40	0/60					No recovery. SANDY CLAY; brown gray. Logged from shaker.	
210	#41	0/60						

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB18(MF24)



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SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#18	
								FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 339,027.7</u> <u>E 1,552,291.4</u>
								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/27/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/28/88</u>
								TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE EL. <u>4.39 ft.</u>
								DESCRIPTION	
210	#41	0/60						No recovery. SANDY CLAY/SILTY SAND; brown gray. Logged from shaker.	
215	#42	0/60							
220	#43	54/60			3.0	CL		SANDY CLAY; gray brown, moist, very stiff, non-plastic.	
225	#44	0/60						No recovery. SILTY CLAY; gray brown. Logged from shaker.	
230	#45	0/60							
235	#46	60/60			2.75	CH		SILTY CLAY; gray, moist, very stiff, plastic, grades to a moderate brown, silty clay.	
240	#47	0/60						No recovery.	
245	#48	60/60			2.0	CL		SANDY CLAY; yellowish brown, moist, low plasticity, with minor gravel.	
250	#49	0/60				SM		No recovery. SILTY SAND. Logged from shaker.	
255									TOTAL DEPTH 252 FEET 4-1/2" diameter boring
260									
265									
270									
275									
280									

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



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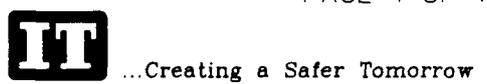
PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#19	
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE
						DESCRIPTION
0						SILTY SANDY CLAY; dark brown, moist, soft, sticky.
5					CL	SILTY SANDY CLAY; tan-brown, moist, soft, sticky.
10	#1	0/60				No recovery. SILTY SAND/SANDY CLAY; tan brown to moderate brown, moist, soft, sticky. Logged from shaker.
15	#2	0/60				
20	#3	0/60				
25	#4	0/60			SM	
30	#5	0/60				
35	#6	0/60				
40	#7	0/60				
45	#8	32/60		3.25	CL	SILTY CLAY; tan brown to moderate brown, moist, very stiff, plastic.
50	#9	24/60		3.25		
55	#10	0/60				No recovery. SILTY CLAY; gray brown, stiff, plastic, sticky, minor amounts of sand (5%). Logged from shaker.
60	#11	0/60			CL	
65	#12	0/60				
70	#13	0/60				

FIELD GEOLOGIST J. Hadsall COORDINATES N 339,004.7
 E 1,552,974.3
 EDITED BY D. H. Cox DATE BEGAN 9/22/88
 CHECKED BY S. Bartling DATE FINISHED 9/26/88
 TOTAL DEPTH 252 feet GROUND SURFACE EL. 4.03 ft.

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: MF-GB19(MF24)



SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#19			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (ISF)	USCS SYMBOL	PROFILE	FIELD INFORMATION	
							FIELD GEOLOGIST: <u>J. Hadsall</u>	COORDINATES: <u>N. 339,004.7</u> <u>E. 1,552,974.3</u>
							EDITED BY: <u>D. H. Cox</u>	DATE BEGAN: <u>9/22/88</u>
							CHECKED BY: <u>S. Bartling</u>	DATE FINISHED: <u>9/26/88</u>
							TOTAL DEPTH: <u>252 feet</u>	GROUND SURFACE EL.: <u>4.03 ft.</u>
							DESCRIPTION:	
70	#13	0/60					No recovery. SILTY CLAY; gray brown, stiff, plastic, increasing sands (10%). Logged from shaker.	
75	#14	0/60						
80	#15	0/60				CL		
85	#16	0/60						
90	#17	0/60				SM	No recovery. SILTY SAND; moderate brown, subangular, 25% lithics. Logged from shaker.	
95	#18	28/60		2.0			SILTY CLAY; moderate/dark brown, moist, stiff, plastic.	
100	#19	0/60						
105	#20	26/60		1.5			SILTY CLAY; gray brown, moist, medium stiff to stiff, sticky.	
110	#21	0/60						
115	#22	24/60		2.25		CH	SILTY CLAY; gray to brown gray, moist, very stiff, plastic.	
120	#23	20/60		0.25			SILTY CLAY; gray brown, moist, soft, sticky, angular tan-brown, sandstone fragments.	
125	#24	48/60		3.25			SILTY CLAY/CLAY; gray brown, slightly moist, very stiff, high plasticity.	
130	#25	48/60		3.25				
135	#26	54/60		4.0			SILTY CLAY; brown gray, moist, hard, plastic.	
140	#27	0/60					No recovery.	

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB19(MF24)



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SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#19			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES	
							FIELD GEOLOGIST	DATE BEGAN
							DESCRIPTION	
140	#27	0/60					No recovery.	
145	#28	56/60		3.5	CL-CH		SILTY CLAY; brown gray, moist, very stiff, plastic.	
150	#29	46/60		4.25			SILTY CLAY; dark brown, moist, hard, moderate plasticity. Large angular sandstone clasts.	
155	#30	60/60		4.25			SILTY CLAY; gray, moist, hard, very plastic.	
160	#31	0/60					No recovery.	
165	#32	60/60		4.25	CL		CLAY; grading from gray brown to dark gray brown, hard, moderate plasticity.	
170	#33	46/60		3.75			SANDY CLAY; dark gray, moist, very stiff, moderate plasticity, some pebbles near 172 feet.	
175	#34	0/60					No recovery. GRAVEL; 1/8" subangular, dark, lithic.	
180	#35	0/60						
185	#36	60/60		3.25	CL		SILTY CLAY; dark gray, moist, very stiff, plastic.	
190	#37	0/60			SM		No recovery. SILTY SAND; fine grained, subrounded, 25% lithics.	
195	#38	60/60		3.0	CL		SANDY CLAY; gray brown to moderate brown, very stiff, moist, moderate plasticity, increasing sand 10-30%.	
200	#39	60/60		3.25			Decreasing sand content, increasing silt.	
205	#40	60/60		3.0			Increasing sand content.	
210	#41	40/60		3.0				

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#19	
								FIELD GEOLOGIST <u>J. Hagsall</u>	COORDINATES <u>N 339,004.7</u>
								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/22/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>9/26/88</u>
								TOTAL DEPTH <u>252 feet</u>	GROUND SURFACE E. <u>4.03 ft.</u>
								DESCRIPTION	
210	#41	40/60			3.0	CL		SANDY CLAY; moderate brown, moist, very stiff, moderate to low plasticity.	
215	#42	0/60				SM		No recovery. SILTY SAND. Logged from shaker.	
220	#43	60/60			3.5			SILTY CLAY; dark gray brown, moist, very stiff, very plastic.	
225	#44	60/60			3.0				
230	#45	29/60			3.0-1.5				
235	#46	60/60			4.25	CH-CL		SILTY CLAY; dark gray brown, grading to moderate brown, moist, hard, brittle.	
240	#47	60/60			4.0			SILTY CLAY; moderate brown, moist, very stiff to hard, high plasticity.	
245	#48	0/60							
250	#49	0/60							
								TOTAL DEPTH 252 FEET 4-1/2" diameter boring	
255									
260									
265									
270									
275									
280									

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB19(MF24)



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 FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#20	
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE
						DESCRIPTION
0					CL	SILTY CLAY/SANDY CLAY; graysh orange, moderately moist, very soft, medium to low plasticity.
5					SC	SAND/SANDY CLAY; medium to coarse grained, angular.
10	#1	0/60			SC	
15	#2	0/60			SM	SAND; very fine, unconsolidated, some silt.
20	#3	0/60			SM	
25	#4	30/60		1.5	CH-CL	CLAY/SILTY CLAY; moderate yellowish brown, moist, soft, high plasticity. SILTY CLAY; yellowish gray, moist, soft, medium plasticity.
30	#5	0/60			SP	SAND; black and tan, coarse grained, angular to sub-angular, unconsolidated.
35	#6	0/60			SM	
40	#7	0/60			SM	
45	#8	0/60			SM	
50	#9	0/60			SM-SC	No Recovery. SILTY SAND; medium grained, sub-angular. Logged from shaker.
55	#10	0/60			SM-SC	
60	#11	14/60		1.0-2.5	CL	SILTY CLAY; light olive gray, moist, soft/stiff, medium plasticity, with calcite inclusions.
65	#12	0/60			SC	No recovery. SAND; medium to coarse. Logged from shaker.
70	#13	0/60			CL-SC	SANDY CLAY; tan, moist, soft, medium plasticity.

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB20(MF24)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#20	
								FIELD GEOLOGIST <u>E. Wessner</u>	COORDINATES <u>N 339,443.4</u> <u>E 1,552,021.4</u>
								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>10/5/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>10/6/88</u>
								TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>2.65 ft.</u>
								DESCRIPTION	
70		#13	0/60					No recovery. SANDY CLAY; tan, moist, soft, medium plasticity. Logged from shaker.	
75		#14	0/60			CL-SC		No recovery. SANDY CLAY; with sand throughout. Logged from shaker.	
80		#15	0/60					CLAY/SILTY CLAY; light olive gray, moist, very soft, high plasticity.	
85		#16	40/60		0.5	CH-CL		SANDY CLAY; yellow/brown, moist, very soft, moderate plasticity.	
90		#17	0/60					No recovery. SAND; medium grained, with clay. Logged from shaker.	
95		#18	0/60			SC		SILTY SAND; medium and fine grained.	
100		#19	0/60					CLAYEY SAND; gray, medium to fine grained, very soft.	
105		#20	27/60		1.5-0.5	CL		SILTY CLAY; medium olive brown, moist, soft, moderate plasticity.	
110		#21	0/60					Grading into silty sandy clay; very soft.	
115		#22	56/60					No recovery. CLAY/SILTY CLAY; olive gray, moist, soft, high plasticity. Logged from shaker.	
120		#23	0/60					SILTY CLAY; medium light gray, moderately moist, soft, low plasticity.	
125		#24	60/60					SILTY CLAY; yellow and gray, slightly moist, stiff, low to medium plasticity.	
130		#25	36/60					No recovery. SAND; medium to coarse, angular to subangular. Logged from shaker.	
135		#26	0/60					SILTY CLAY; yellow gray, moderately moist, soft, medium plasticity. CLAY/SILTY CLAY; light gray, moderately moist, hard, low to medium plasticity.	
140		#27	0/60					SILTY CLAY; grayish green, slightly to moderately moist, stiff, low to medium plasticity.	
								No recovery. CLAYEY SAND; medium coarse grained, angular. Logged from shaker.	

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

PAGE 2 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB20(MF24)

					BORING NO. GB#20			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF.)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>E. Wessner</u>	COORDINATES <u>N 339,443.4</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>10/5/88</u>
							CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>10/6/88</u>
							TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>2.65 ft.</u>
							DESCRIPTION	
140	#27	0/60				SC	No recovery. CLAYEY SAND; medium to coarse grained, angular. Logged from shaker.	
145	#28	0/60						
150	#29	9/60		1.5-2.0			SILTY CLAY; greenish gray, moderately moist, stiff, moderate plasticity.	
155	#30	12/60		2.5			SANDY CLAY; light gray with mottled light olive brown, stiff, moist, low plasticity.	
160	#31	41/60		3.0-4.0	CL		SILTY CLAY; grayish green, slightly to moderately moist, hard, low plasticity.	
165	#32	60/60		3.0				
170	#33	60/60		2.5			SANDY CLAY; greenish gray, moist, stiff, low plasticity, grading to dark greenish gray.	
175	#34	0/60			SM-SP		No recovery. SAND; medium coarse. Logged from shaker.	
180	#35	18/60		2.5	CL		SANDY CLAY; dark greenish gray, moist, stiff, slightly plastic, massive shell fragments, lenses of clayey sand.	
185	#36	15/60		3.0-1.5	CH		SILTY CLAY; greenish gray, moderately moist, stiff, medium plasticity.	
190	#37	30/60		2.0-2.5	CL		SANDY SILTY CLAY; yellow green, moist, soft, high plasticity. SANDY CLAY; light gray mottled yellow, moist, soft, low plasticity, coarse, subround sand inclusions.	
195	#38	0/60					No recovery. SAND; fine to medium grained, subangular to subround. Logged from shaker.	
200	#39	0/60			SP-SW		SAND; medium to coarse grained, angular, some clay.	
205	#40	0/60						
210	#41	14/60		4.0	CL		SILTY CLAY; grayish green, moderately moist, hard, low plasticity.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB20(MF24)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#20	
								FIELD GEOLOGIST <u>E. Wessner</u>	COORDINATES <u>N 339,443.4</u> <u>E 1,552,021.4</u>
								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>10/5/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>10/6/88</u>
								TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>2.65 ft.</u>
DESCRIPTION									
210		#41	14/60		4.0	CL		SILTY CLAY; grayish green, moderately moist, hard, low plasticity.	
215		#42	0/60			SP		No recovery. SAND; medium coarse, some fine gravels. Logged from shaker.	
220		#43	38/60		3.0-4.0	CL		SILTY SANDY CLAY; dark greenish gray, moderately moist, hard, low plasticity.	
225		#44	0/60			ML-SC		SANDY CLAY; moist-wet, very soft, low plasticity, (6" bed). No recovery. CLAYEY SAND/SAND; fine grained. Logged from shaker.	
230		#45	0/60			SP		No recovery. SAND; coarse, angular. Logged from shaker.	
235		#46	60/60		2.0-3.0			SILTY CLAY; light olive gray-mottled gray, stiff, moderately moist, moderate plasticity.	
					1.0-2.0			SANDY CLAY; olive gray, moist, soft, moderate plasticity.	
240		#47	60/60		4.0	CL		SILTY CLAY; light olive gray, moderately moist, hard, low plasticity, nodules of siltstone throughout.	
245		#48	60/60		3.0			SILTY SANDY CLAY; dark yellowish orange with gray, moderately moist, stiff, moderate plasticity, grading into.	
250		#49	60/60		3.0			SANDY SILTY CLAY; grayish green, slightly moist, stiff, low plasticity.	
255		#50	0/60			SP		No recovery. SAND; fine to coarse. Logged from shaker.	
260								TOTAL DEPTH 257 FEET 4-1/2" diameter boring	
265									
270									
275									
280									

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

PAGE 4 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler

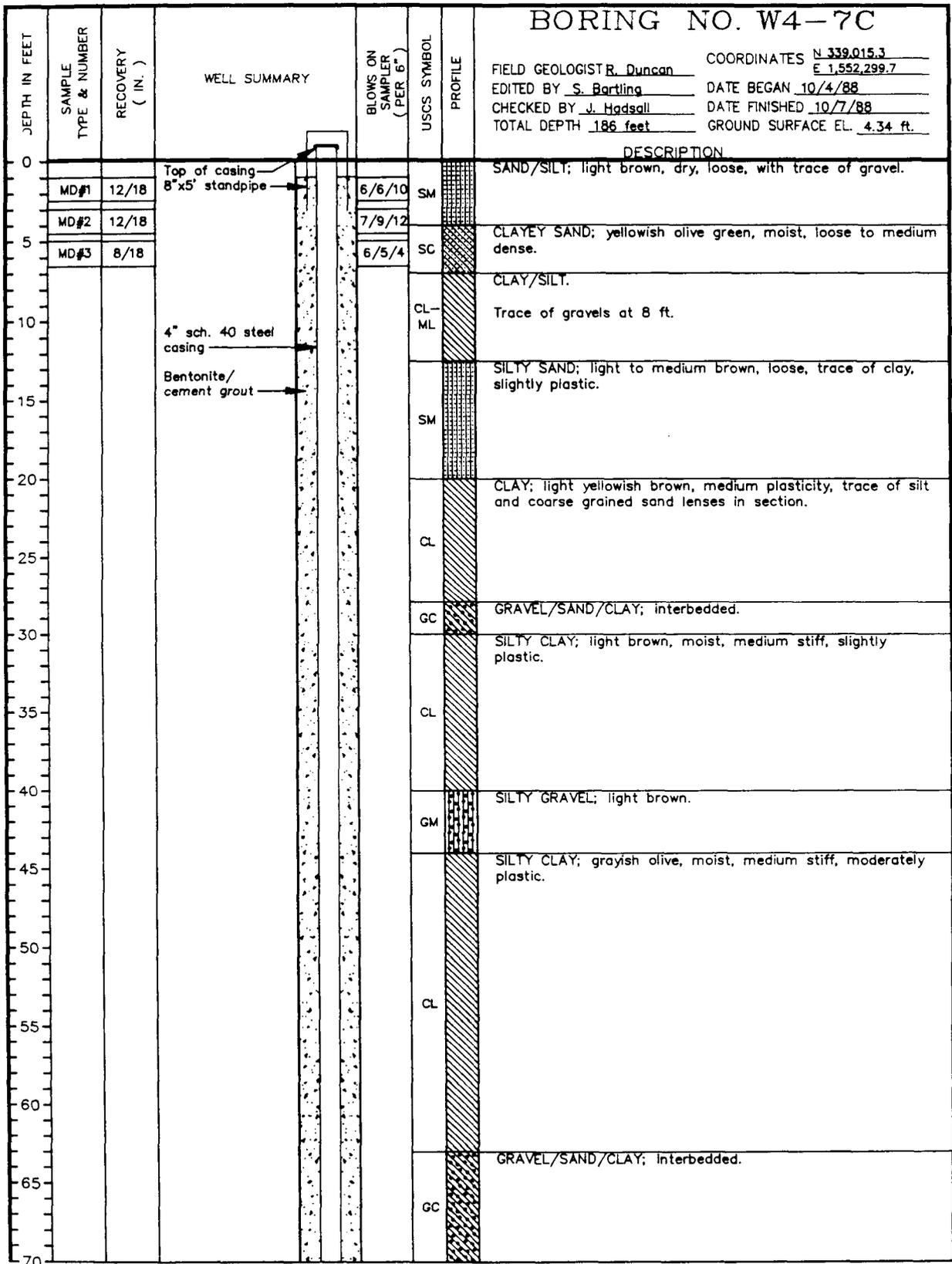


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PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB20(MF24)



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

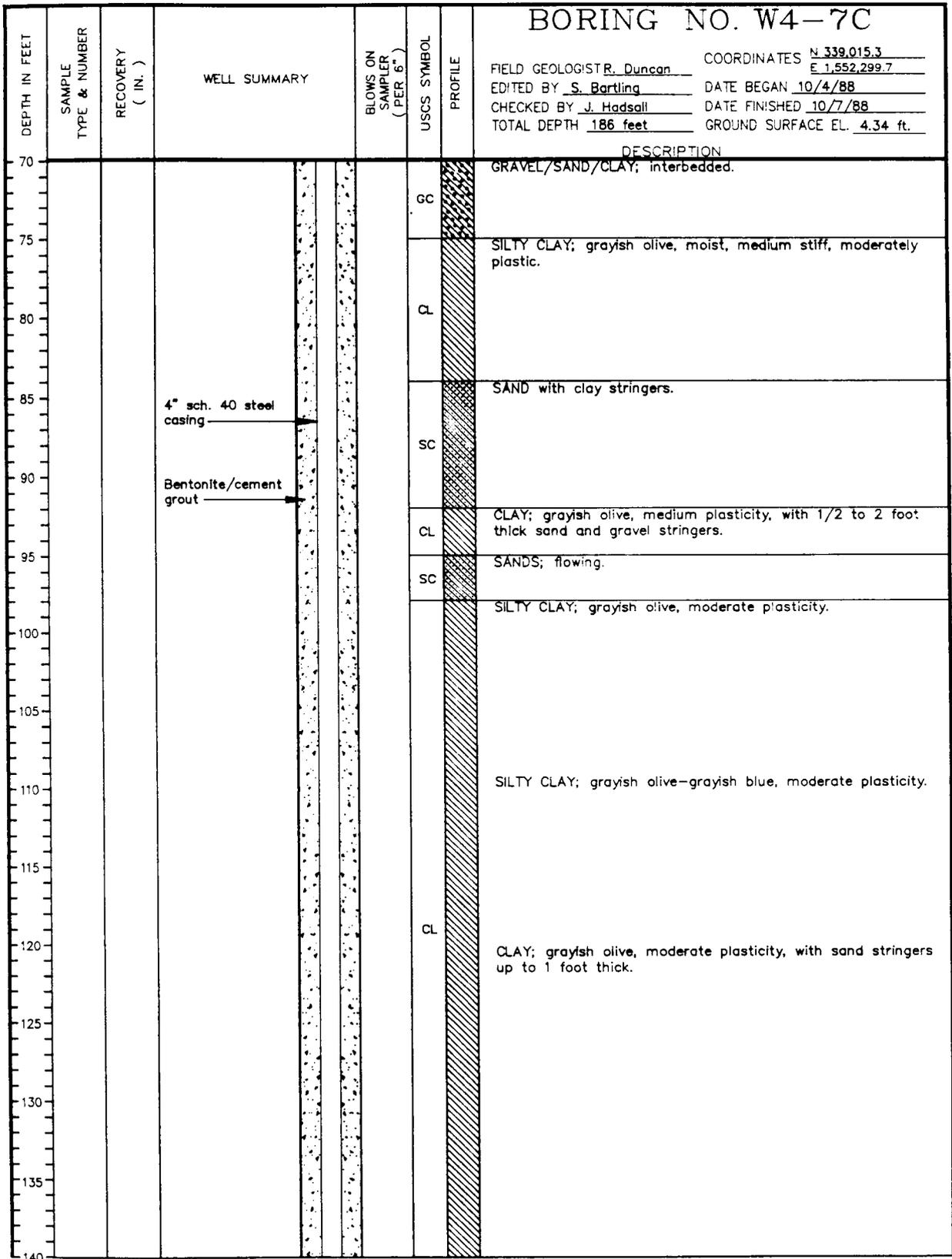
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

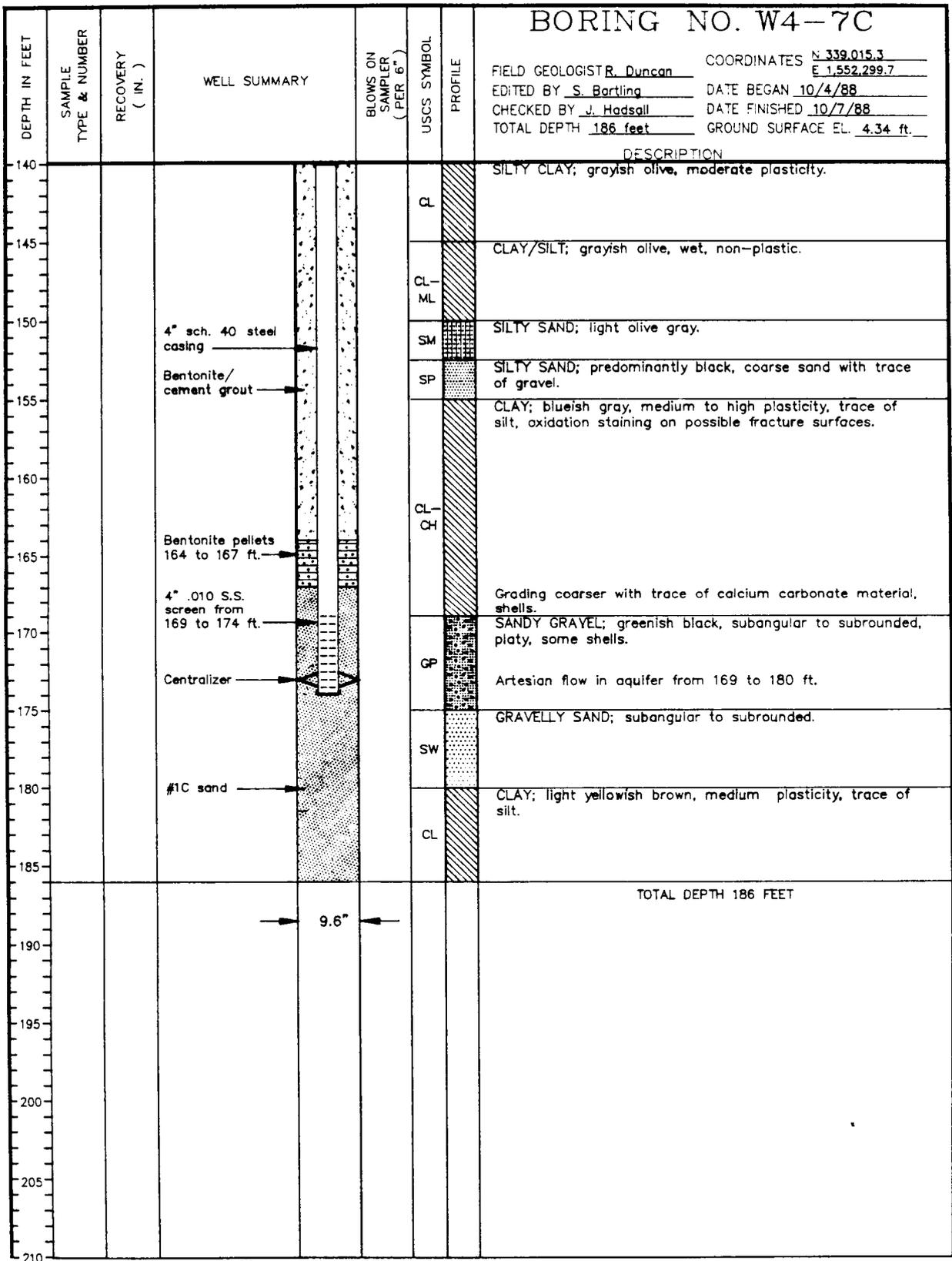
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
DRILLING METHOD: Air Rotary

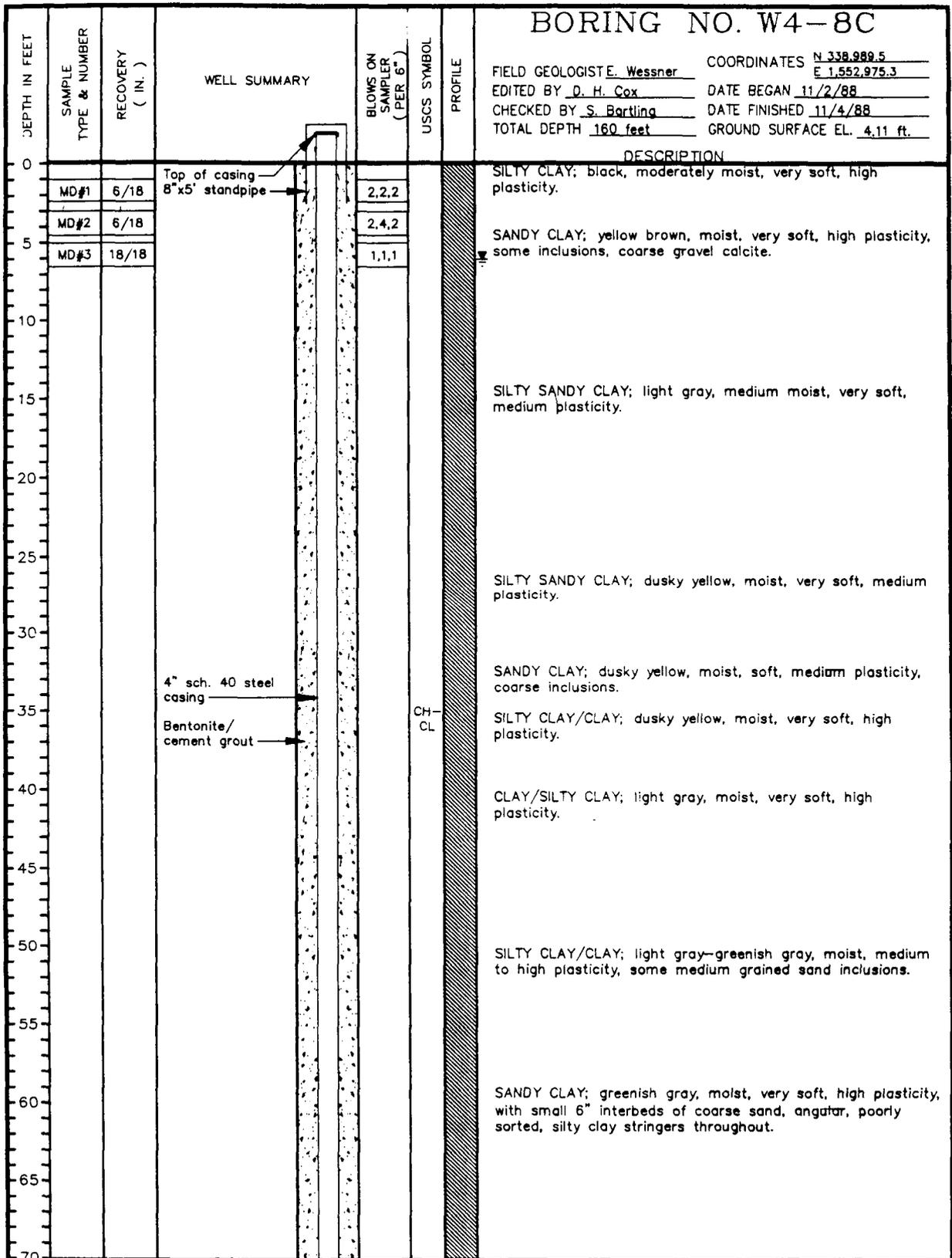
SAMPLING METHODS: MD=California Modified
S=Split Barrel



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PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

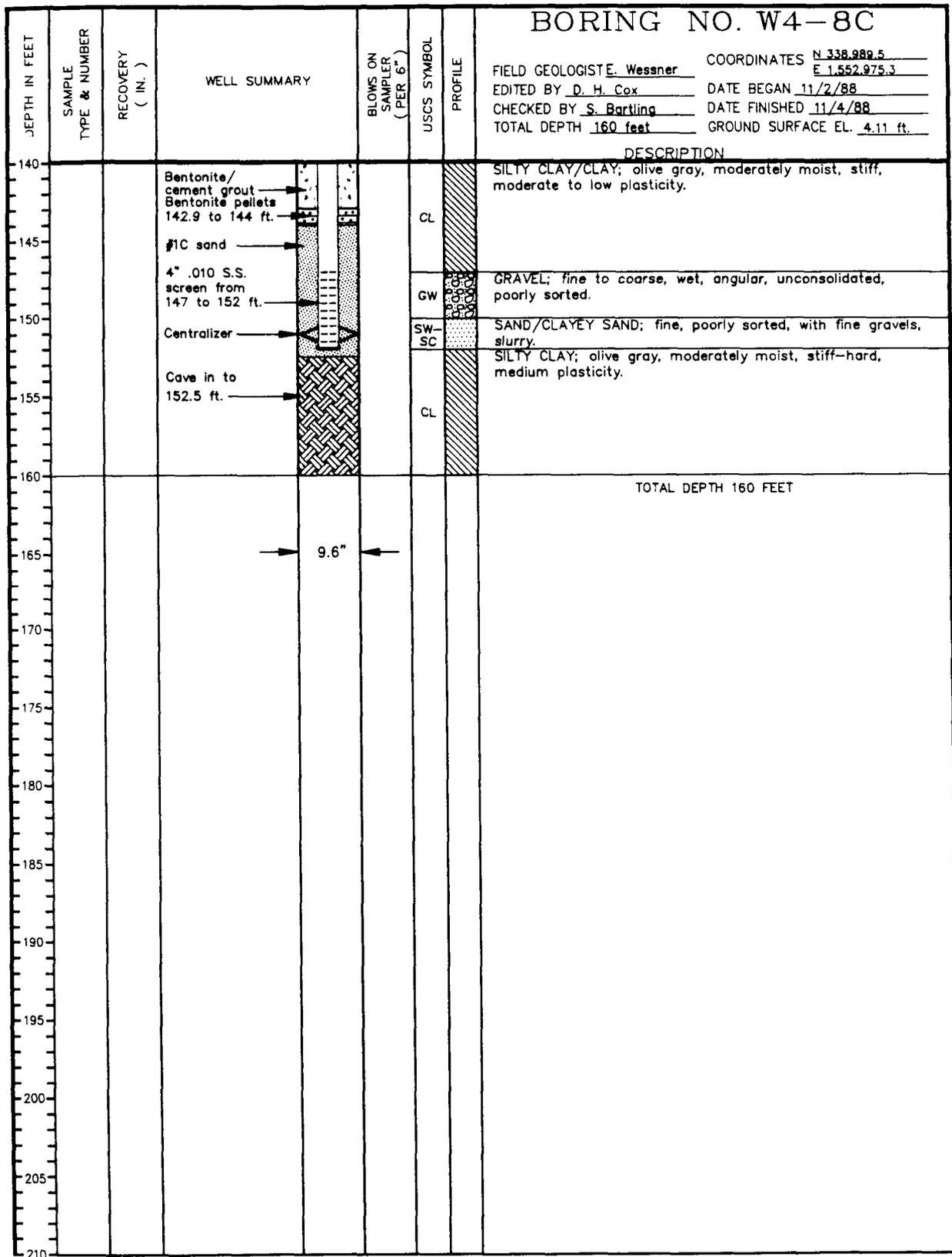
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W4-8C(MF25)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

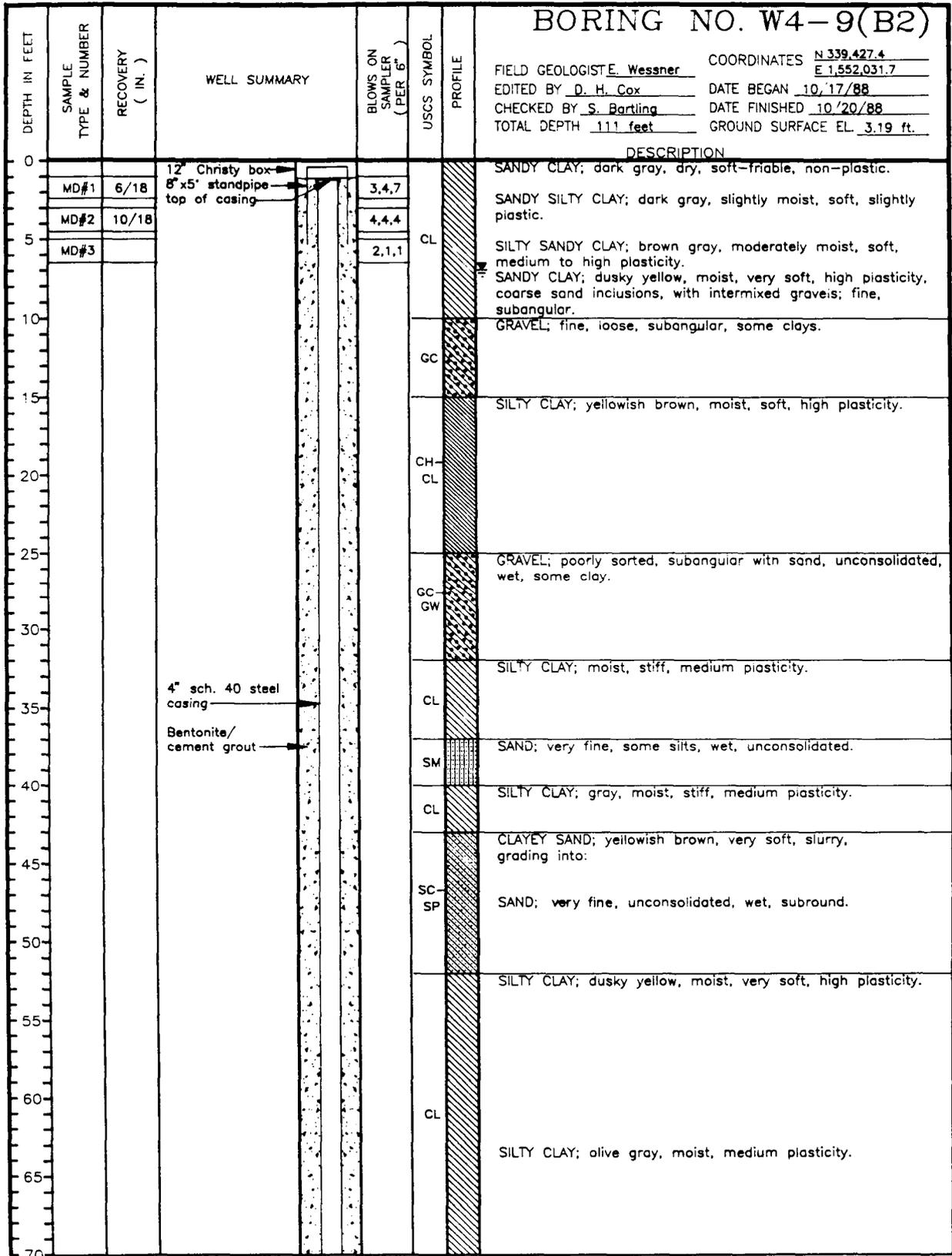
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEAN CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. W4-11A (Abandoned)	
								FIELD GEOLOGIST <u>E. Wessner</u>	COORDINATES <u>N 339,000.2</u> <u>E 1,552,963.7</u>
0								EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/29/88</u>
								CHECKED BY <u>J. Hadsall</u>	DATE FINISHED <u>10/1/88</u>
								TOTAL DEPTH <u>99 feet</u>	GROUND SURFACE EL. <u>4.04 ft.</u>
								DESCRIPTION	
		MD#1	8/18		7,10,19	OL		SILTY CLAY; black, dry, very stiff, non-plastic, w/ roots.	
		MD#2	7/18		7,9,12			SILTY CLAY; black, dry, very stiff, non-plastic, some inclusions, coarse.	
5		MD#3	18/18		3,4,5			SILTY SANDY CLAY; grayish yellow, mottled gray, moderately moist, medium stiff, medium plastic, few roots, grading more moist and less plastic.	
		MD#4	18/18		2,2,4			SILTY CLAY; moderate yellow-gray yellow, moist, medium stiff, moderately plastic, very broken. Contains very angular gravels. More plastic, lacking broken appearance.	
10		#1	60/60		1.0			SILTY CLAY; light olive brown/moderate yellow with mottled gray, moist, medium stiff, moderate plasticity, broken in appearance, fracture surfaces are wet.	
15		#2	60/60		1.0			SANDY SILTY CLAY; moderate yellow gray, soft, moderate to slightly plastic.	
20		#3	60/60		1.5			SILTY CLAY; light olive mottled yellow, slightly moist, slightly to moderately plastic.	
25		#4	60/60		3.5			SILTY CLAY; moderate yellow mottled light gray, slightly moist, stiff, slightly to moderately plastic.	
30		#5	60/60		1.5			SILTY SANDY CLAY; dusky yellow, moist, moderately stiff, plastic, few medium grained inclusions.	
35		#6	60/60		2.0	CL		SILTY CLAY; moderate yellowish brown, moist, slightly stiff, slightly plastic, broken platy appearance.	
40		#7	60/60		1.0			Light gray mottled yellowish brown.	
45		#8	60/60		2.0			SILTY CLAY; dusky brown, mottled gray, moderately moist, stiff, moderate plasticity.	
50		#9	24/24		3.0			SILTY CLAY; dark yellowish brown, mottled gray, moderately moist, moderate plasticity.	
		#10	60/60		2.0			SILTY CLAY/CLAY; light olive gray, moderately moist, medium stiff, medium plastic to plastic.	
					1.0				
					2.0				
55		#11	60/60		1.0			SILTY CLAY/CLAY; gray-olive-gray, moderately moist, slightly stiff.	
60		#12	60/60		0.5			SILTY CLAY/CLAY; dusky yellow, mottled gray, moderately moist, medium stiff, moderately plastic.	
65		#13	60/60		1.0-2.0			SILTY SANDY CLAY; dusky yellow, mottled gray, moist, soft slightly plastic.	
70		#13	60/60					SILTY CLAY; dusky yellow, mottled gray, moderately moist, medium stiff, moderate plasticity.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: CME 55 Hollow Stem Auger

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W4-11A(MF23)

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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. W4-11A (Abandoned)						
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEAN CONSISTENCY (TSF)	USCS SYMBOL	PROFILE
						EDITED BY <u>D. H. Cox</u> DATE BEGAN <u>9/29/88</u> CHECKED BY <u>J. Hadsall</u> DATE FINISHED <u>10/1/88</u> TOTAL DEPTH <u>99 feet</u> GROUND SURFACE EL. <u>4.04 ft.</u>
						DESCRIPTION
70	#14	60/60				SILTY SANDY CLAY; light olive gray, soft, moist, plastic, very sticky.
75	#15	60/60		1.0		SILTY CLAY; pale olive, mottled olive brown, moderately moist, medium, plastic.
80	#16	36/60				SILTY SANDY CLAY; dark olive, moist, soft, moderate plasticity.
85	#17	0/60			CL	
90	#18	32/60				
95	#19	32/60				SILTY CLAY; olive, medium moist, medium stiff, plastic, few coarse inclusions.
100						TOTAL DEPTH 99 FEET 12.0" diameter boring
105						
110						
115						
120						
125						
130						
135						
140						

DRILLING CO.: Water Development Co.
 DRILLING METHOD: CME 55 Hollow Stem Auger
 SAMPLING METHODS: MD=California Modified
 S=Split Barrel
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: W4-11A(MF23)



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SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

SITE 5
BORING LOGS ARE PRESENTED IN APPENDIX I
OF THE DECEMBER 1988 QUARTERLY REPORT

NO BORINGS OR WELLS WERE DRILLED AT SITE 6
DURING PHASE I OF THE REMEDIAL INVESTIGATION

APPENDIX I

SECTION 7.0 – SITE 7 BORING LOGS

MARCH 1989 QUARTERLY REPORT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 15 MARCH 1989

BORING NO. GB#24								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 336.753.9</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/30/88</u>
0							DESCRIPTION	
							FILL: silty sand, gravels and clay; dark brown to black, moist, solvent odor, clay, very stiff and plastic, sand; coarse and angular. Description based on auger cuttings.	
10	#1	0/60			CL		No recovery. SANDY CLAY; tan brown, moist, soft, sticky. Logged from shaker.	
15	#2	0/60					No recovery. Gravel and coarse sand; dark gray/multicolored, angular, loose, multilithic, seashell fragments. Logged from shaker.	
20	#3	0/60						
25	#4	0/60						
30	#5	0/60						
35	#6	0/60						
40	#7	0/60						
45	#8	0/60						
50	#9	0/60			CL		No recovery. SANDY CLAY; tan brown, moist, soft, sticky. Logged from shaker.	
55	#10	24/60			CH		SILTY CLAY; tan brown, moist, stiff, very plastic.	
60	#11	0/60			CL		No recovery. SILTY CLAY. Logged from shaker.	
65	#12	38/60			CL		SANDY CLAY; gray brown, moist, very stiff, moderate plasticity.	
70	#13	0/60			SC		No recovery. CLAYEY SAND/SAND. Logged from shaker.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

PAGE 1 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB24(MF28)

		BORING NO. GB#24						
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USGS SYMBOL	PROFILE	COORDINATES <u>N 336,753.9</u> <u>E 1,551,962.9</u>	
							FIELD GEOLOGIST <u>J. Hadsall</u>	DATE BEGAN <u>9/30/88</u>
							CHECKED BY <u>E. Wessner</u>	DATE FINISHED <u>10/4/88</u>
							TOTAL DEPTH <u>257 ft.</u>	GROUND SURFACE EL. <u>11.19 ft.</u>
							DESCRIPTION	
70	#13	0/60				SC	No recovery. SANDY CLAY/SAND; medium grained. Logged from shaker.	
75	#14	0/60			No Recovery. CLAYEY SAND/SAND; medium grained, some coarse grained. Logged from shaker.			
80	#15	0/60			No recovery. CLAYEY SAND/SAND; medium grained. Logged from shaker.			
85	#16	0/60			No recovery. CLAYEY SAND/SAND; medium grained. Logged from shaker.			
90	#17	0/60			No recovery. CLAYEY SAND/SAND; medium coarse grained. Logged from shaker.			
95	#18	0/60			Fine sands in desander.			
100	#19	0/60			No recovery. CLAYEY SAND/SAND; medium coarse grained. Logged from shaker.			
105	#20	0/60			No recovery. CLAYEY SAND/SAND; medium coarse grained. Logged from shaker.			
110	#21	0/60			No recovery. CLAYEY SAND/SAND; medium coarse grained. Logged from shaker.			
115	#22	0/60			No recovery. CLAYEY SAND/SAND; medium coarse grained. Logged from shaker.			
120	#23	33/60		2.0- 2.5	CL	SILTY CLAY; light olive gray, mottled gray, moderately moist, moderately stiff, moderate plasticity.		
125	#24	33/60				SILTY CLAY; dark greenish gray, moderately moist, moderately stiff, moderate plasticity.		
130	#25	60/60		3.0- 3.5		SILTY CLAY; light gray with mottled olive brown, moderately moist, stiff, moderate plasticity.		
135	#26	60/60		3.0- 3.5		SILTY CLAY; light gray with mottled olive brown, moderately moist, stiff, moderate plasticity.		
140	#27	0/60			SC	No recovery. SAND/CLAY; medium grained, some gravel. Logged from shaker.		

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB24(MF28)



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SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#24			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u> COORDINATES <u>N 336,753.9</u> <u>E 1,551,962.9</u>	
							EDITED BY <u>D. H. Cox</u> DATE BEGAN <u>9/30/88</u> CHECKED BY <u>E. Wessner</u> DATE FINISHED <u>10/4/88</u> TOTAL DEPTH <u>257 ft.</u> GROUND SURFACE EL. <u>11.19 ft.</u>	
							DESCRIPTION	
140	#27	0/60				SC		
145	#28	32/60		2.0-3.0	CL	[Hatched Profile]	SILTY SANDY CLAY; medium gray, blueish gray, moderately moist, moderately stiff, moderate plasticity.	
150	#29	60/60						
155	#30	0/60			SC	[Hatched Profile]	No recovery. CLAYEY SAND. Logged from shaker.	
160	#31	0/60						
165	#32	36/60		3.5	CL	[Hatched Profile]	SILTY CLAY; light gray, mottled olive brown, moist to moderately moist, stiff, moderate plasticity.	
170	#33	0/60						
175	#34	0/60				[Hatched Profile]	No recovery. CLAYEY SAND/SAND; medium to coarse grained, angular. Logged from shaker.	
180	#35	0/60			SC-SW			
185	#36	0/60				[Hatched Profile]	No recovery. SAND; medium to coarse grained, angular. Logged from shaker.	
190	#37	0/60						
195	#38	50/60		2.0	CL-CH	[Hatched Profile]	SILTY CLAY; dark greenish gray, moderately moist, moderately stiff, moderate plasticity. SILTY CLAY; light gray, mottled moderate yellow, moderately moist, moderate to slightly stiff, plastic. SILTY CLAY/CLAY; medium dark gray, moist, moderately stiff, plastic.	
200	#39	46/60		3.0-4.0				SILTY CLAY; grayish green, moderately moist, stiff to very stiff, moderate plasticity.
205	#40	0/60			SC-SW	[Hatched Profile]	No recovery. SAND; medium grained, angular to subangular, some silty clay content. Logged from shaker.	
210	#41	0/60						

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

BORING NO. GB#24								
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD GEOLOGIST <u>J. Hadsall</u>	COORDINATES <u>N 338.753.9</u>
							EDITED BY <u>D. H. Cox</u>	DATE BEGAN <u>9/30/88</u>
DESCRIPTION								
210	#41	0/60					No recovery. SAND; medium grained, subangular, some fine gravels. Logged from shaker.	
215	#42	0/60						
220	#43	0/60				SW-SC		
225	#44	0/60						
230	#45	20/60		3.5-4.0	CL		SILTY CLAY; dark greenish gray, slightly moist, very stiff, slightly plastic.	
235	#46	60/60		3.5			SANDY CLAY; dark greenish gray, moist, very soft, moderate plasticity. SILTY CLAY; medium light gray, moderately moist, stiff, slightly plastic.	
240	#47	0/60				SW	No recovery. SAND; fine to coarse, poorly sorted. Logged from shaker.	
245	#48	60/60		3.5	CL		SILTY CLAY; medium gray, slightly moist, very stiff, slightly plastic.	
250	#49	0/60				SC	No recovery. SAND/CLAYEY SAND. Logged from shaker.	
255	#50	60/60		4.0-5.0	CL		SILTY CLAY; moderate yellow, mottled gray, moderately moist, stiff, slightly plastic.	
260							TOTAL DEPTH 257 FEET 4-1/2" diameter boring	
265								
270								
275								
280								

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



...Creating a Safer Tomorrow

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	BLOWS ON SAMPLER (PER 6")	USCS SYMBOL	PROFILE	DESCRIPTION
BORING NO. W7-16(C)								
								FIELD GEOLOGIST: <u>Wessner</u> COORDINATES <u>N 336.745.1</u> <u>E 1.551.965.7</u> EDITED BY <u>J. B. Owen</u> DATE BEGAN <u>11/7/88</u> CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>11/9/88</u> TOTAL DEPTH <u>167 feet</u> GROUND SURFACE EL. <u>11.15 ft.</u>
0				12" Christy box 8"x5" standpipe top of casing	7,6,5	CL	Asphalt.	SANDY CLAY; light brown, slightly moist, stiff, low plasticity.
	MD#1	9/18			5,4,4	CL		SILTY SANDY CLAY; black, slightly moist, hard, low plasticity.
	MD#2	18/18			4,3,4	SC		CLAYEY SAND; yellowish brown, moist, unconsolidated, moderately sorted.
5	MD#3	18/18				CL		GRAVELLY SILTY CLAY; dusky yellow, moist, soft, medium to high plasticity, gravel size calcite inclusions.
10						GW		GRAVEL; wet, poorly sorted, fine to coarse.
15						CL		SANDY CLAY; dusky yellow, moist, very soft, high plasticity.
20						SC		CLAYEY SAND/GRAVEL; wet, slurry, medium grained sand with some fine sand and gravel.
25						CL		SILTY CLAY; dusky yellow, moist, very soft, medium plasticity, inclusions of sand.
30						SW		SAND/GRAVEL; poorly sorted, angular, wet, medium grained sand, fine gravels.
35				4" sch. 40 steel casing Bentonite/cement grout		CL-CH		SANDY CLAY; dusky yellow, mottled gray, moist, very stiff, slightly plastic, fine to coarse sands, with coarse sand and fine gravel interbeds.
40						CL-CH		
45						CL-CH		
50						CL-CH		
55						CL-CH		SILTY CLAY; brown, moist, soft, high plasticity.
60						SW		SILTY CLAY/CLAY; medium gray, moist, stiff, high plasticity.
65						SW		GRAVELLY SAND; wet, poorly sorted, sand; fine grained, gravel; coarse to fine, angular.
70						CH		SILTY CLAY/CLAY; light gray, moist, soft, high plasticity.

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

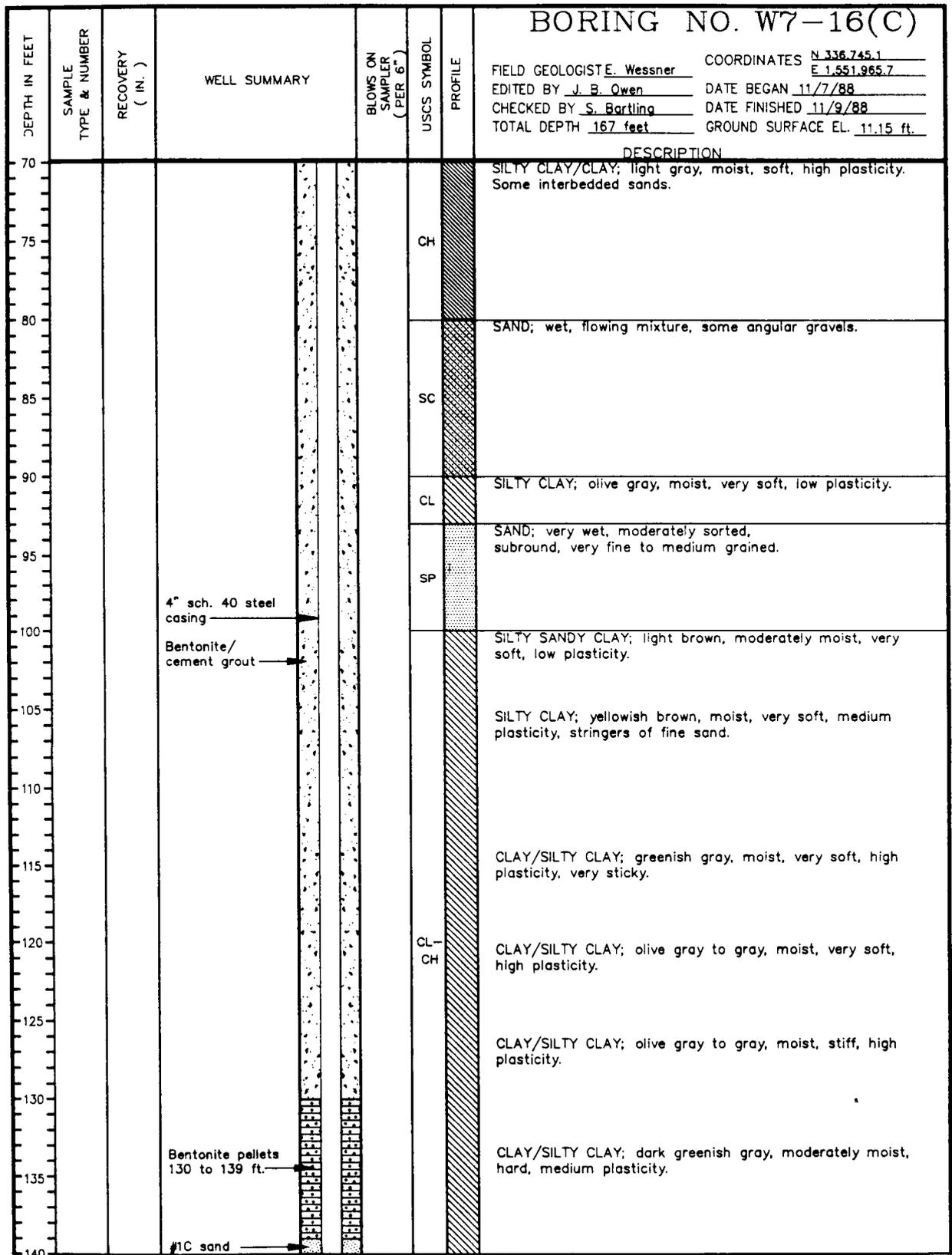
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

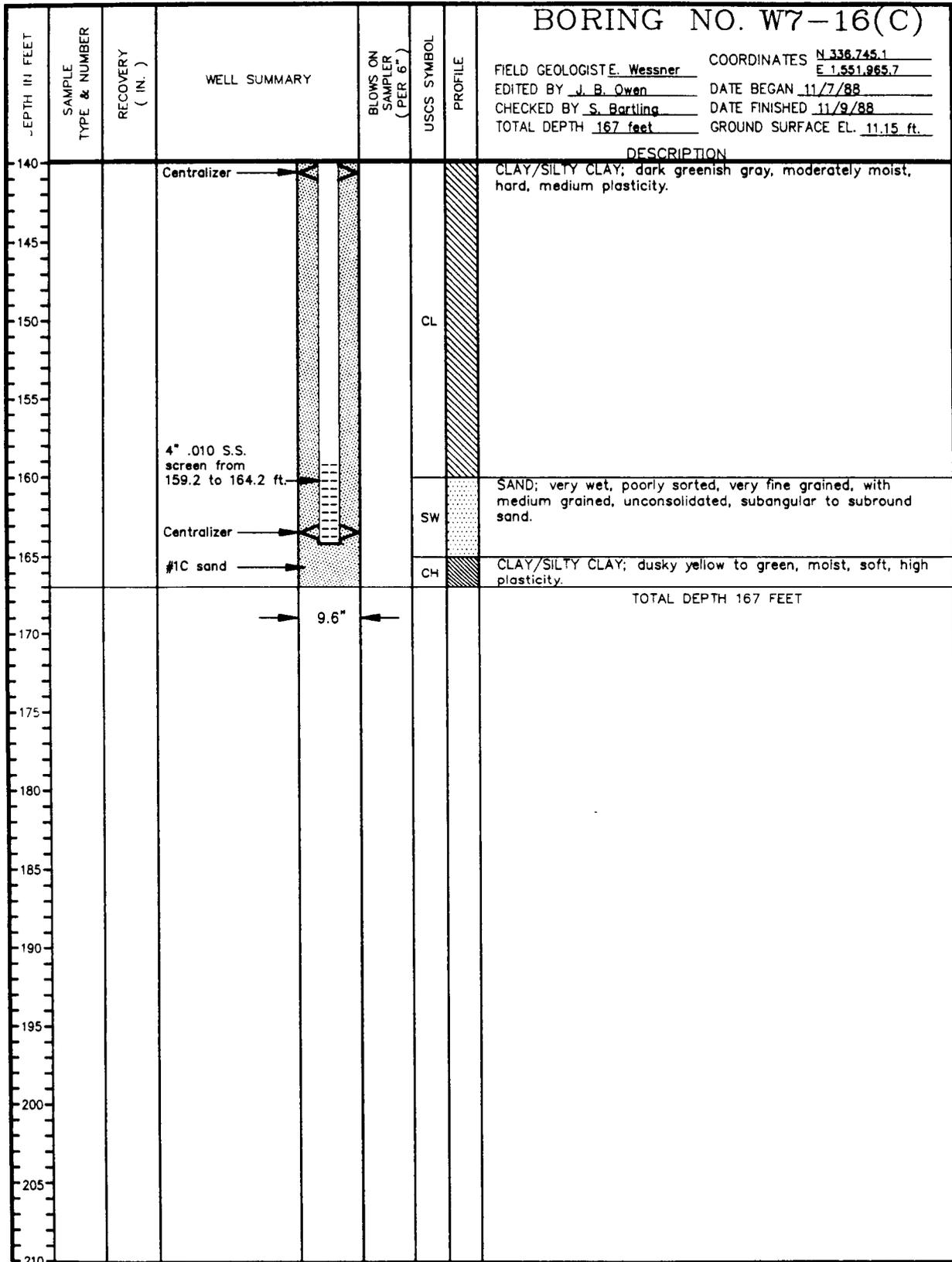


DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary
 SAMPLING METHODS: MD=California Modified
 S=Split Barrel
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: W7-16C(MF25)



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 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

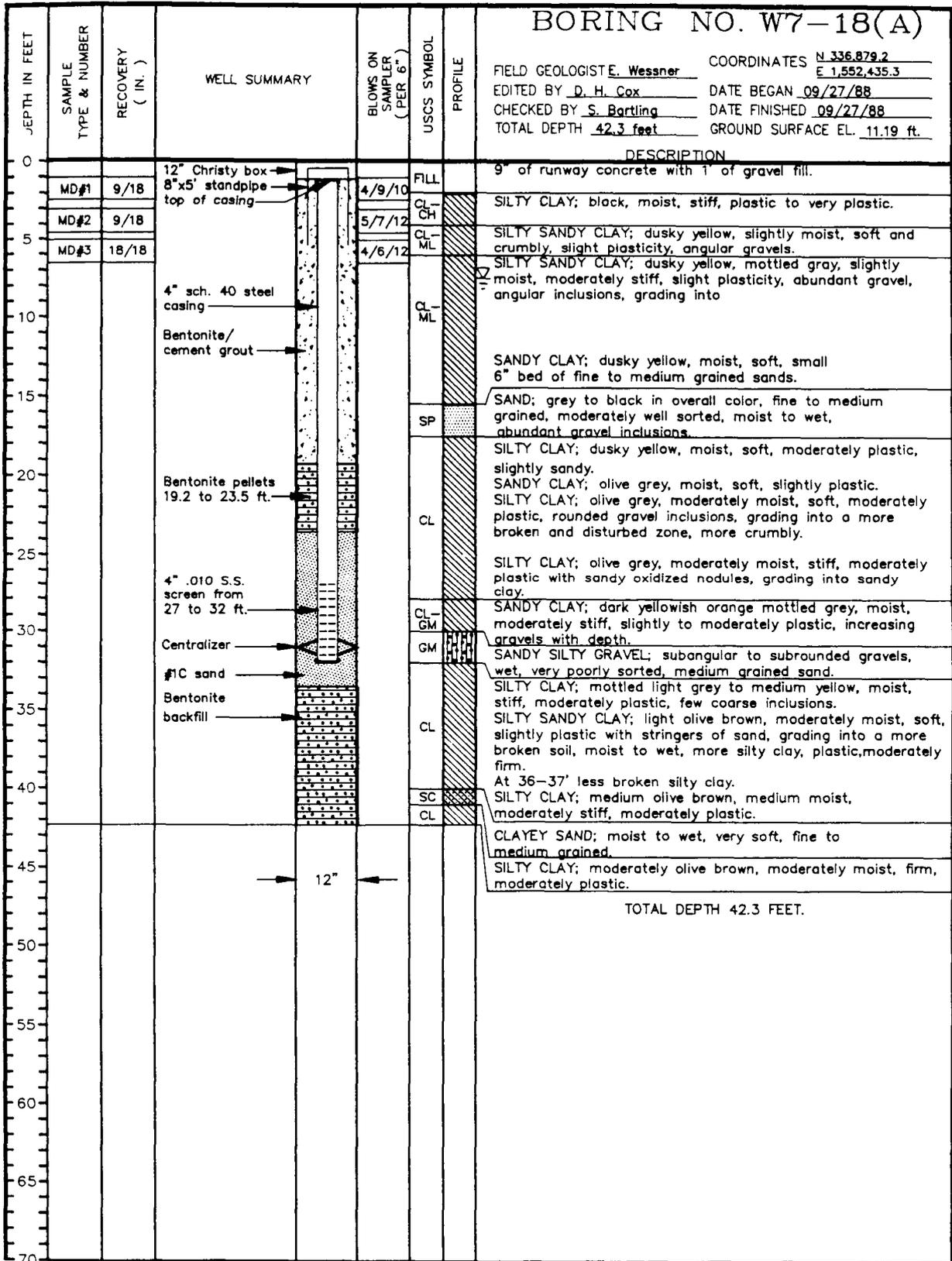
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W7-16C(MF25)



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DRILLING CO.: Water Development Co.
 DRILLING METHOD: Hollow Stem Auger

PAGE 1 OF 1

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

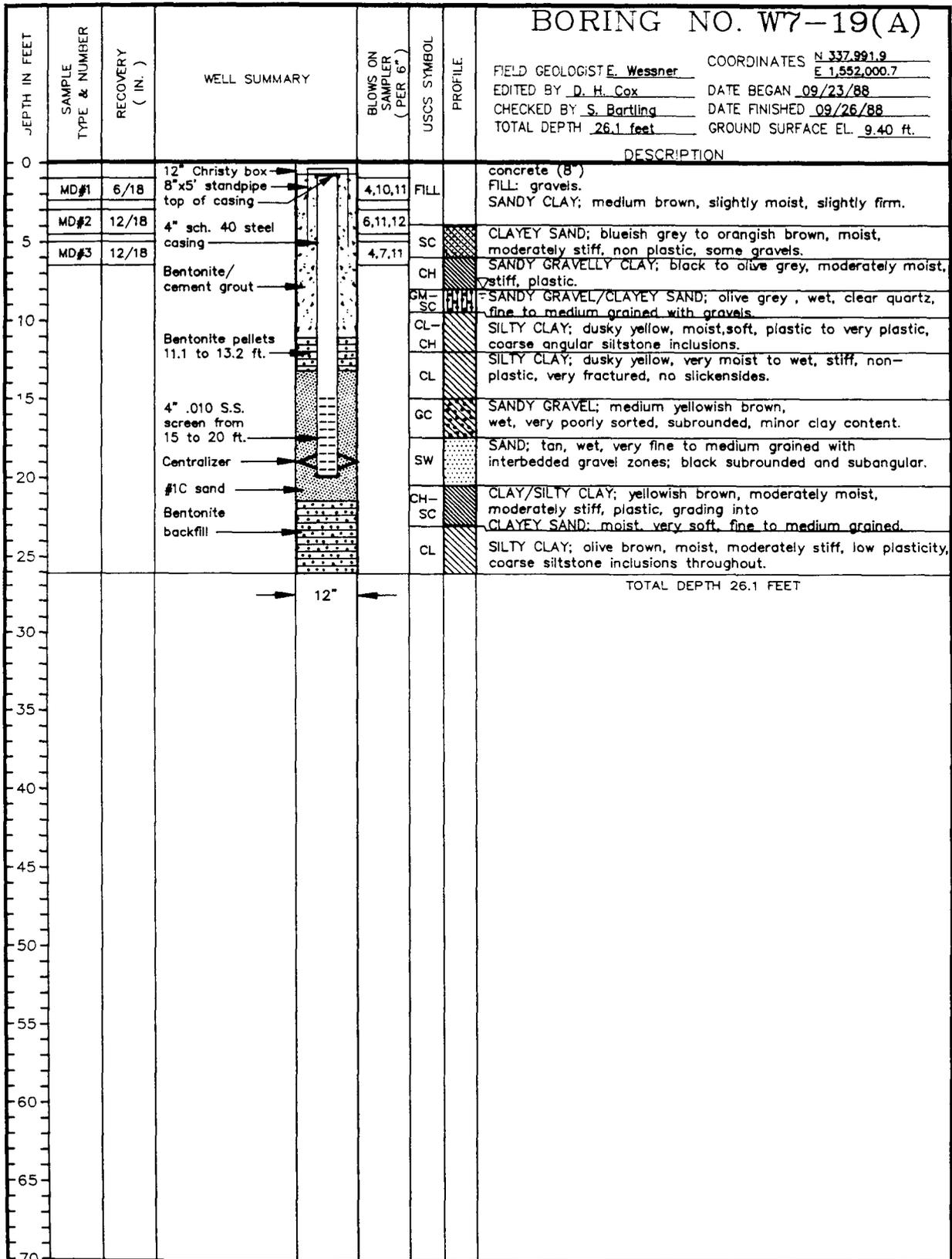


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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: W7-18A(MF-27)



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Hollow Stem Auger

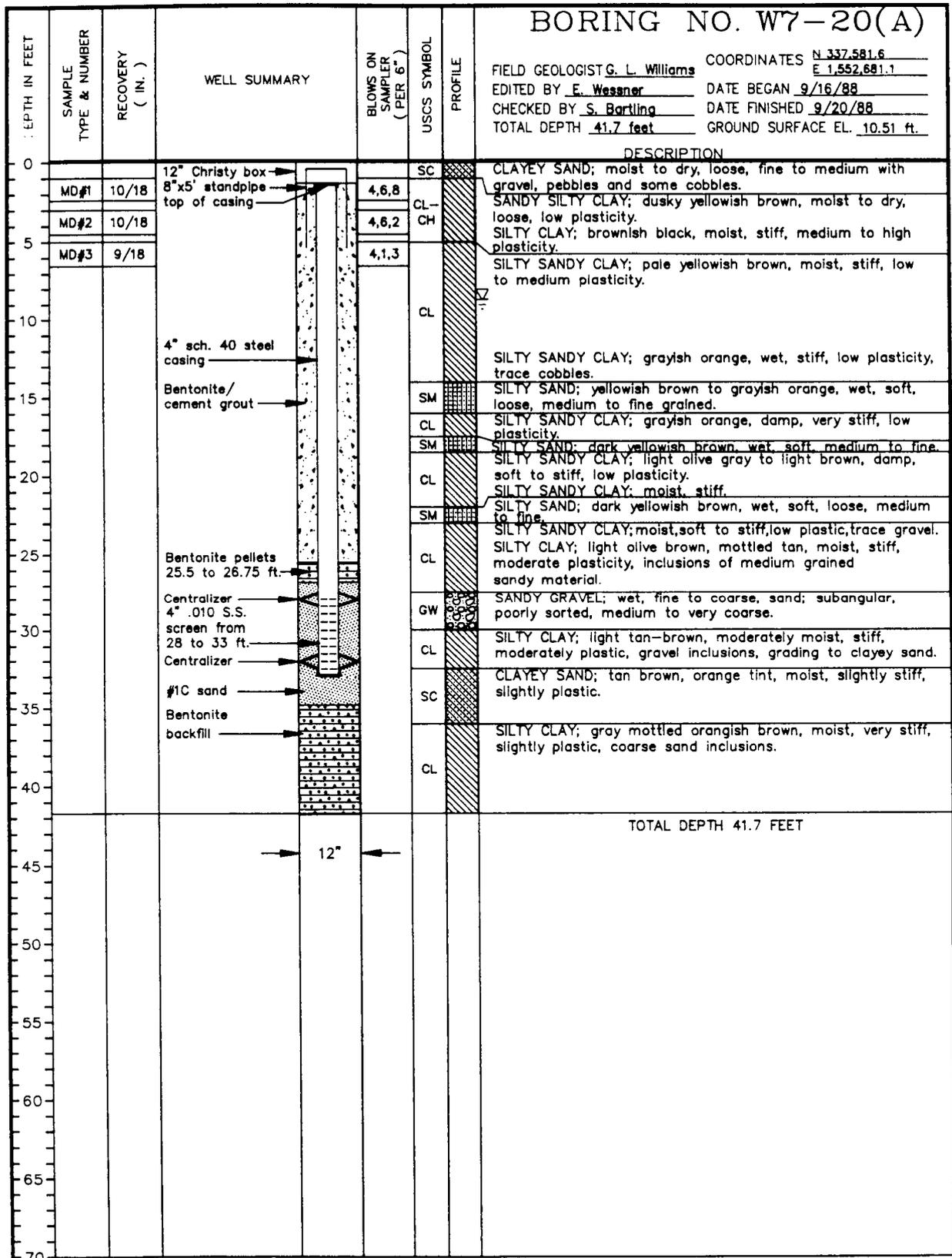
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: CME 55 Hollow Stem Auger

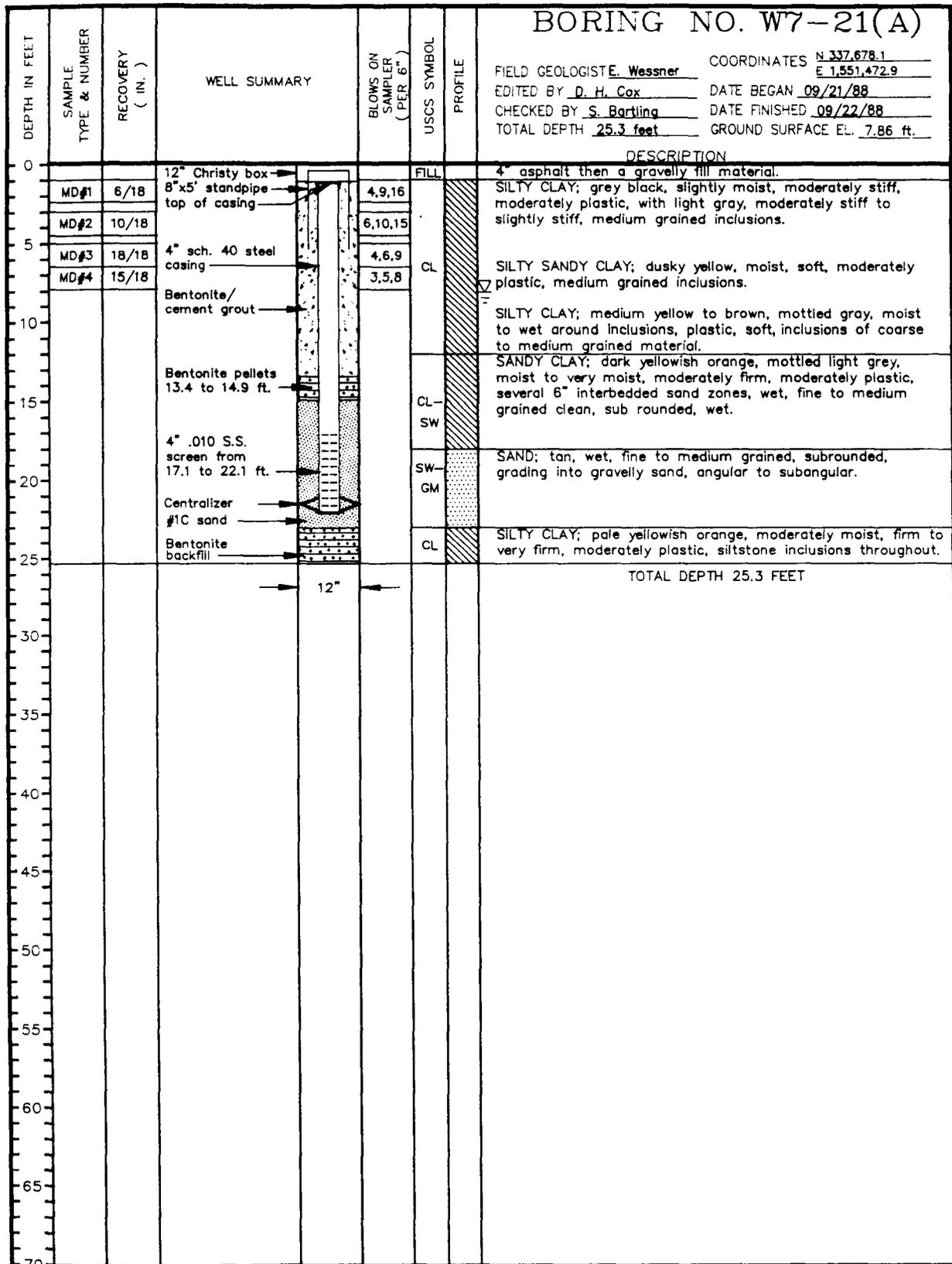
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Hollow Stem Auger

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W7-21A(MF27)



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 FOR EXPLANATION OF SYMBOLS AND TERMS

APPENDIX I

SECTION 8.0 – SITE 8 BORING LOGS

MARCH 1989 QUARTERLY REPORT
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 15 MARCH 1989

BORING NO. GB#25									
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	FIELD INFORMATION		
							FIELD GEOLOGIST	COORDINATES	DATE BEGAN
							FIELD GEOLOGIST <u>R. Duncan</u> COORDINATES <u>N 338,975.3</u> <u>E 1,547,877.4</u> EDITED BY <u>F. Wessner</u> DATE BEGAN <u>10/11/88</u> CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>10/12/88</u> TOTAL DEPTH <u>257 feet</u> GROUND SURFACE EL. <u>7.72 ft.</u>		
							DESCRIPTION		
0						FILL	Asphalt, fill and gravel.		
5						CL	CLAY; greenish black, soft, dense, slight hydrocarbon odor.		
10	#1	0/60				GM	GRAVEL; medium gray, loose.		
15	#2	0/60				CL	CLAY; pale yellowish brown, low to medium plasticity.		
20	#3	9/60		1.5		CL	CLAY; medium dark gray, stiff, medium plasticity, trace sand.		
25	#4	0/60							
30	#5	0/60				GM	GRAVEL; dark gray, subangular to subround, predominantly 1/8" with some 1/4" up to 3/4" diameter, some sand and silt.		
35	#6	0/60							
40	#7	0/60				CL	CLAY; pale yellowish brown, medium stiff, medium plasticity, trace silt and sand.		
45	#8	23/60		2.25		CL	increasing sand content.		
50	#9	0/60				GM	GRAVEL; brownish black, loose, some silt and sand.		
55	#10	19/60		2.0-2.5		CL	CLAY; pale yellowish brown with medium gray patches, medium stiff, medium to low plasticity, some silt.		
60	#11	0/60				GM	No recovery. GRAVEL; brownish black, loose, subround, predominantly 1/4" diameter. Logged from shaker.		
65	#12	0/60							
70	#13	0/60							

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#25	
								FIELD GEOLOGIST <u>R. Duncan</u>	COORDINATES <u>N 338,975.3</u> <u>E 1,547,877.4</u>
								EDITED BY <u>E. Wessner</u>	DATE BEGAN <u>10/11/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>10/12/88</u>
								TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>7.72 ft.</u>
								DESCRIPTION	
70		#13	0/60					No recovery. GRAVEL; brownish black, loose, subround, predominantly 1/4" diameter, some shell fragments, interbedded clay layers. Logged from shaker.	
75		#14	0/60						
80		#15	0/60						
85		#16	0/60						
90		#17	0/60					No recovery.	
95		#18	0/60			GM		GRAVEL; brownish black with some redish, brown, and white loose, gravels predominantly 1/4" to 1/2", subangular, trace of shell fragments. Logged from shaker.	
100		#19	0/60						
105		#20	0/60					No recovery. GRAVEL with 30% silt and sand. Logged from shaker.	
110		#21	0/60						
115		#22	21/60			CL		SILTY CLAY; yellowish brown, trace sand, interbedded with gravel.	
120		#23	0/60			GM		No recovery. GRAVEL; brownish black, loose, with clay; yellowish brown to light olive brown, silty.	
125		#24	36/60					CLAY; dark greenish gray, soft to medium stiff, medium plasticity.	
130		#25	41/60						
135		#26	60/60			CL		CLAY; dark greenish gray, soft to medium stiff, medium plasticity, trace gravel, clay becomes stiffer.	
140		#27	0/60					No recovery. CLAY; gravel lenses. Logged from shaker.	

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: MF-GB25(MF-28)



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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#25			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES <u>N 338,975.3</u> <u>E 1,547,877.4</u>	
							FIELD GEOLOGIST <u>R. Duncan</u>	DATE BEGAN <u>10/11/88</u>
							CHECKED BY <u>S. Bartling</u> DATE FINISHED <u>10/12/88</u>	
							TOTAL DEPTH <u>257 feet</u> GROUND SURFACE EL. <u>7.72 ft.</u>	
							DESCRIPTION	
140	#27	0/60				CL	No recovery. CLAY; medium blueish gray. Logged from shaker.	
145	#28	0/60					CLAY; medium blueish gray, medium stiff, medium plasticity, very sticky.	
150	#29	60/60				CL	No recovery. CLAY; medium blueish gray, medium stiff, medium plasticity, very sticky. Logged from shaker.	
155	#30	0/60					SILTY CLAY; olive gray, medium stiff, low plasticity, trace sand to clayey sand.	
160	#31	28/60				CL	CLAY; medium blueish gray, medium stiff, medium plasticity, very sticky.	
165	#32	60/60					No recovery. CLAY; sand lenses. Logged from shaker.	
170	#33	40/60				SC-SM	No recovery. SAND; brownish black, loose, coarse sand, trace gravels, some silt and clay. Logged from shaker.	
175	#34	0/60					No recovery. SAND/GRAVEL; subangular to subrounded. Logged from shaker.	
180	#35	0/60				CL	CLAY; medium blueish gray, soft, medium plasticity.	
185	#36	0/60					No recovery. CLAY; sand and gravel lenses. Logged from shaker.	
190	#37	0/60				CL		
195	#38	0/60						
200	#39	0/60				CL		
205	#40	60/60						
210	#41	0/60						

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB25(MF-28)



DEPTH IN FEET		SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	BORING NO. GB#26	
								FIELD GEOLOGIST <u>R. Duncan</u>	COORDINATES <u>N 338,741.2</u> <u>E 1,547,844.5</u>
								EDITED BY <u>E. Wessner</u>	DATE BEGAN <u>10/7/88</u>
								CHECKED BY <u>S. Bartling</u>	DATE FINISHED <u>10/10/88</u>
								TOTAL DEPTH <u>257 feet</u>	GROUND SURFACE EL. <u>7.64</u>
								DESCRIPTION	
0							ML	SANDY SILT; medium brown, dry, low plasticity.	
5							CL	No recovery. CLAY; grayish black, slightly moist, medium stiff, medium plasticity. Logged from shaker.	
10	#1	0/60						No recovery. SILTY CLAYEY SAND; moderate yellowish brown, soft, low plasticity. Logged from shaker.	
15	#2	0/60							
20	#3	0/60							
25	#4	0/60						No recovery. SILTY CLAYEY SAND; moderate yellowish brown, soft, low plasticity. Logged from shaker.	
30	#5	0/60					SC		
35	#6	0/60						No recovery. SAND; moderate yellowish brown, coarse, trace silt and clay. Logged from shaker.	
40	#7	0/60							
45	#8	0/60							
50	#9	34/60			4.5	CL		CLAY; yellowish brown, medium plasticity, trace silt and sand.	
55	#10	0/60				CL		No recovery. CLAY; light olive gray, medium stiff, medium plasticity. Logged from shaker.	
60	#11	0/60							
65	#12	32/60			3.5	CL		CLAY; light olive gray, medium stiff, medium plasticity.	
70	#13	0/60				CL		No recovery. CLAY; light olive gray, medium stiff, medium plasticity. Logged from shaker.	

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB25(MF-28)



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FOR EXPLANATION OF SYMBOLS AND TERMS

					BORING NO. GB#26			
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	COORDINATES <u>N 338,741.2</u> <u>E 1,547,844.5</u>	
							FIELD GEOLOGIST <u>R. Duncan</u>	DATE BEGAN <u>10/7/88</u>
							DESCRIPTION	
70	#13	0/60				CL	No recovery. CLAY; light olive gray, very soft, medium plasticity, trace silt. Logged from shaker.	
75	#14	0/60						
80	#15	0/60						
85	#16	0/60				SM	No recovery. CLAY; light olive gray, very soft, medium plasticity, trace silt. Logged from shaker.	
90	#17	0/60						
95	#18	0/60				CH	No recovery. SAND; olive gray, loose, trace of coarse sand and silt, subangular. Logged from shaker.	
100	#19	0/60					Increasing coarse sand.	
105	#20	24/60		0.5			CLAY; blue gray, very soft, very plastic.	
110	#21	33/60		1.5			CLAY; olive gray, very soft, very plastic.	
115	#22	60/60		1.6		CH		
120	#23	60/60		2.75				
125	#24	20/60		2.25			SILTY CLAY; olive gray, very soft, very plastic.	
130	#25	0/60				CH	No recovery. CLAY; olive gray, very soft, very plastic. Logged from shaker.	
135	#26	0/60						
140	#27	0/60						

DRILLING CO.: Water Development Co.
DRILLING METHOD: Mud Rotary

SAMPLER: 5' Core Barrel Wireline Sampler

PROJECT NO.: 409616
CLIENT: Moffett Naval Air Station
Moffett Field, California

AutoCAD FILE: MF-GB25(MF-28)



BORING NO. GB#26							
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE	DESCRIPTION
140	#27	0/60					No recovery. CLAY; olive gray, very soft, very plastic. Logged from shaker.
145	#28	51/60		2.0-3.0	CH		CLAY; olive gray, very soft, very plastic.
150	#29	50/60		2.0-3.0	CH		
155	#30	56/60		2.5			CLAY; olive gray, very soft to medium stiff, moderately plastic.
160	#31	1/60		1.0			SILTY CLAY; medium stiff, non-plastic; becoming stiffer.
165	#32	3/60		4.5	CL		
170	#33	54/60		2.25			CLAY; olive gray, very soft to medium stiff, moderately plastic.
175	#34	0/60					No recovery. SANDY GRAVEL; greenish black, subangular to subrounded, up to 1/8" diameter, loose, trace shell fragments. Logged from shaker.
180	#35	0/60			GM		
185	#36	39/66					No recovery. SANDY GRAVEL; greenish black, loose, gravels up to 1" diameter. Logged from shaker.
190	#37	0/60					
195	#38	0/60		2.0	CL		CLAY; olive gray, medium stiff, moderately plastic.
200	#39	0/60					
205	#40	10/66		3.7	GM		SANDY GRAVEL with 1 foot thick clay interbeds.
210	#41	54/60		3.0	CL		CLAY; olive gray, medium stiff, moderate plasticity.

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary

PAGE 3 OF 4

SAMPLER: 5' Core Barrel Wireline Sampler



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: MF-GB25(MF-28)

BORING NO. GB#26						
DEPTH IN FEET	SAMPLE TYPE & NUMBER	RECOVERY (IN.)	WELL SUMMARY	MEASURED CONSISTENCY (TSF)	USCS SYMBOL	PROFILE
210	#41	54/60		3.0	CL	CLAY; olive gray, medium stiff, moderate plasticity.
215	#42	0/60				No recovery. CLAY. Logged from shaker.
220	#43	28/60		3.0		CLAY; olive gray, medium stiff, low to moderate plasticity, trace silt, sand lenses.
225	#44	59/60		2.0-3.0		
230	#45	58/60		2.0		
235	#46	53/60		3.2	CL	
240	#47	26/60		1.7		CLAY; olive gray, medium stiff, low to moderate plasticity, trace silt, sand and gravel lenses.
245	#48	49/60		3.5		
250	#49	45/60		2.5		
255						
260						TOTAL DEPTH 257 FEET 4-1/2" diameter boring
265						
270						
275						
280						

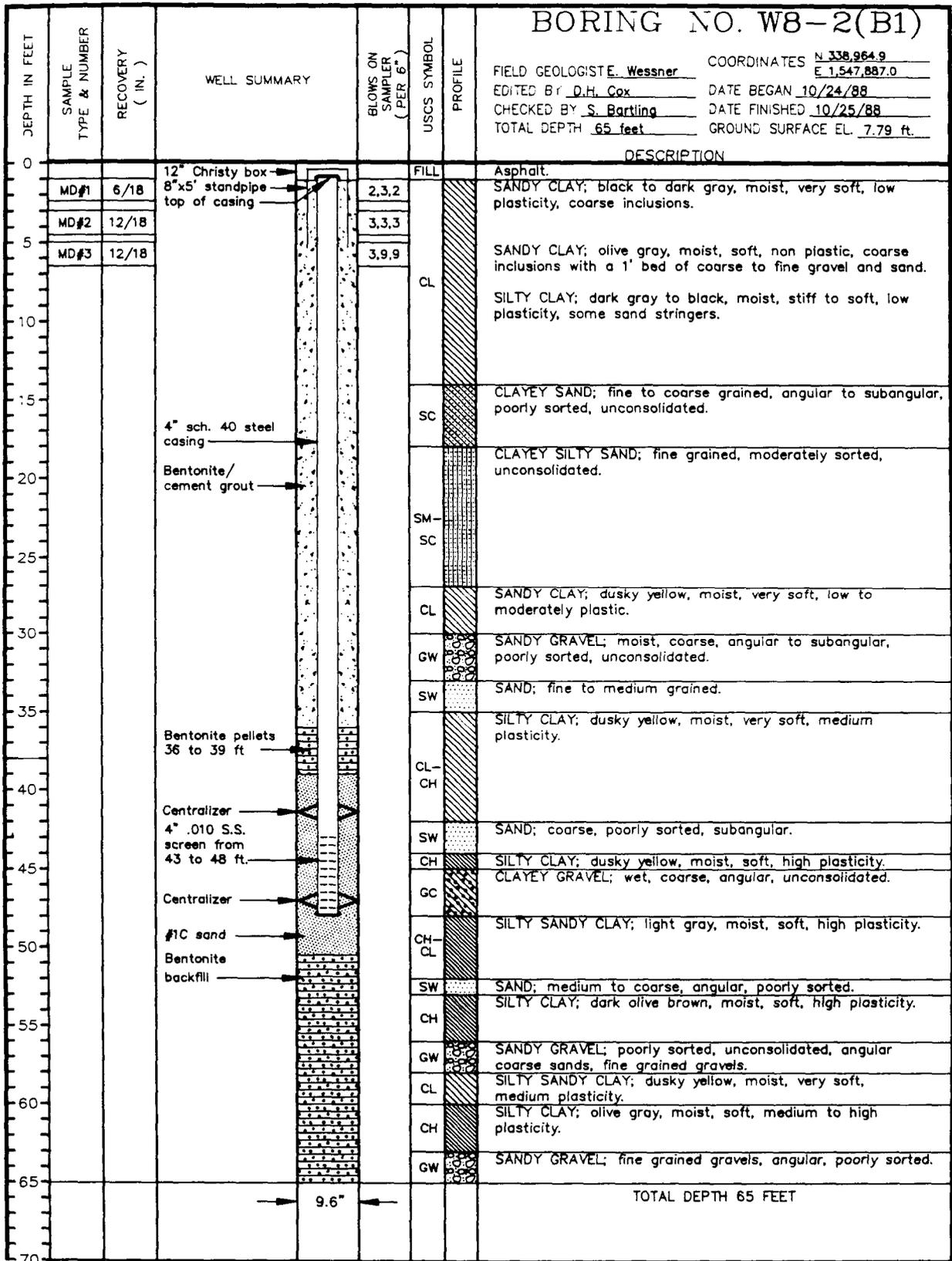
FIELD GEOLOGIST R. Duncan COORDINATES N 338,741.2
 EDITED BY E. Wessner DATE BEGAN 10/7/88
 CHECKED BY S. Bortling DATE FINISHED 10/10/88
 TOTAL DEPTH 257 feet GROUND SURFACE EL. 7.64

DRILLING CO.: Water Development Co.
 DRILLING METHOD: Mud Rotary
 SAMPLER: 5' Core Barrel Wireline Sampler
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: MF-GB25(MF-28)



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 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

PAGE 1 OF 1

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

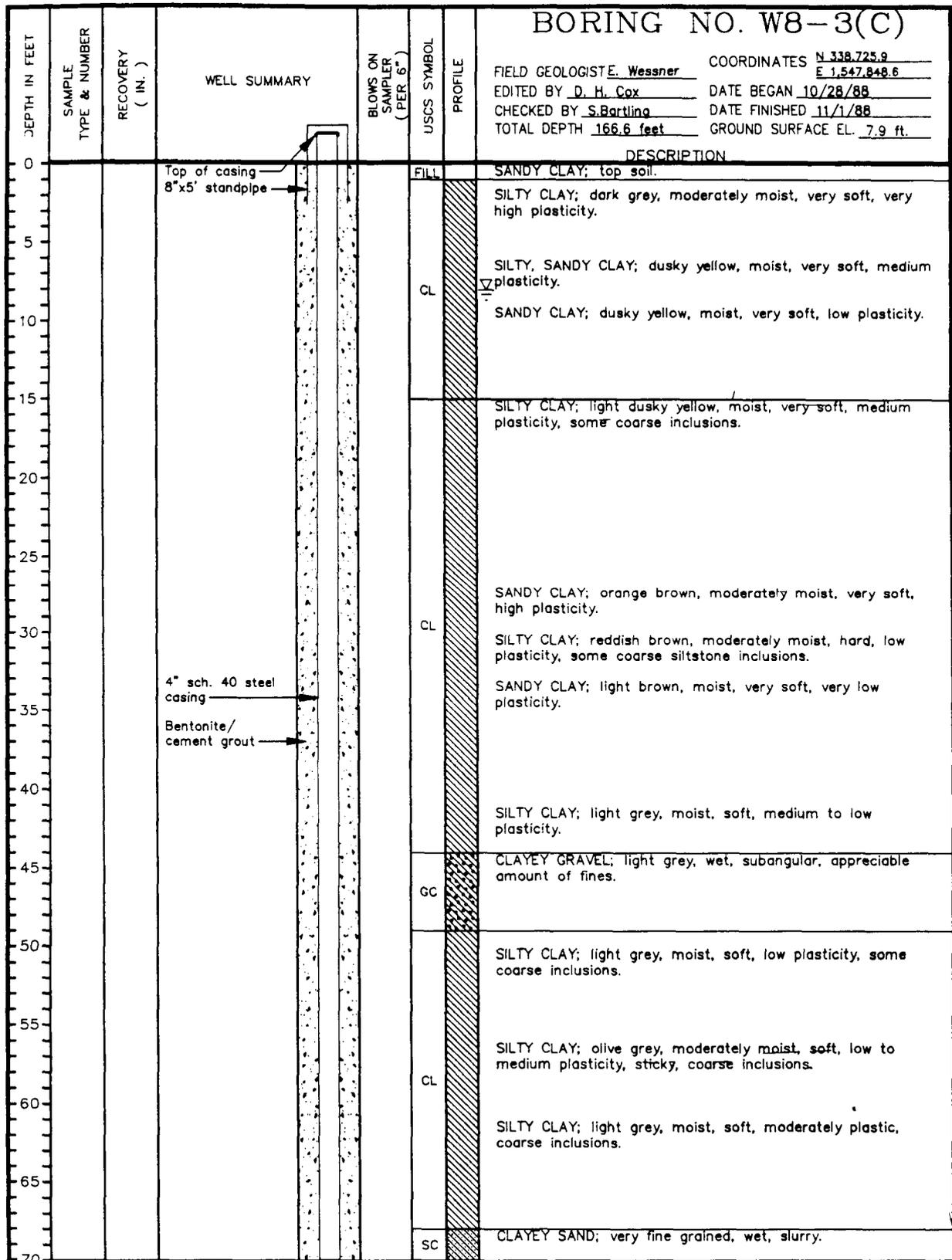


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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

AutoCAD FILE: W8-2B1(MF27)



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

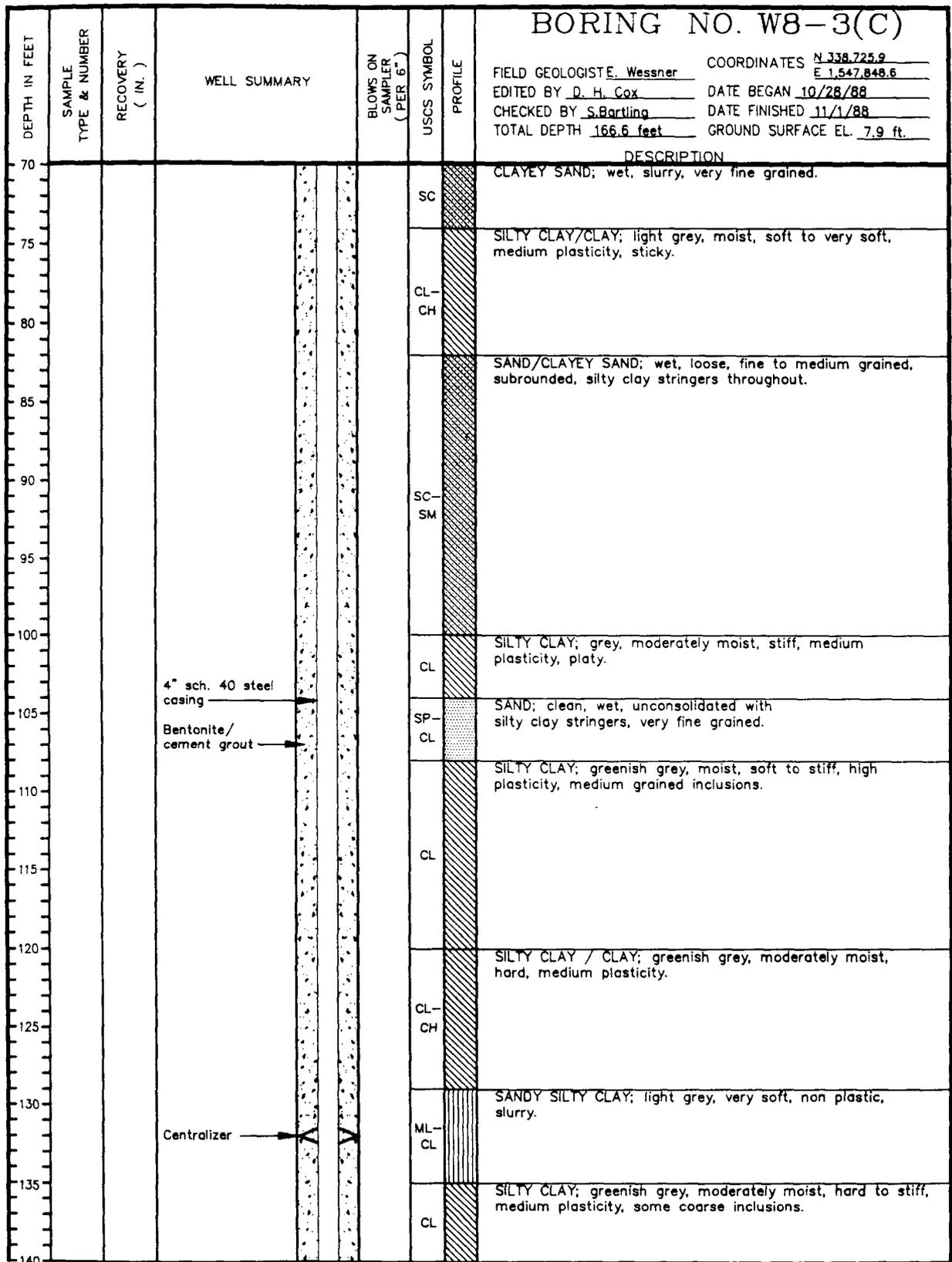
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

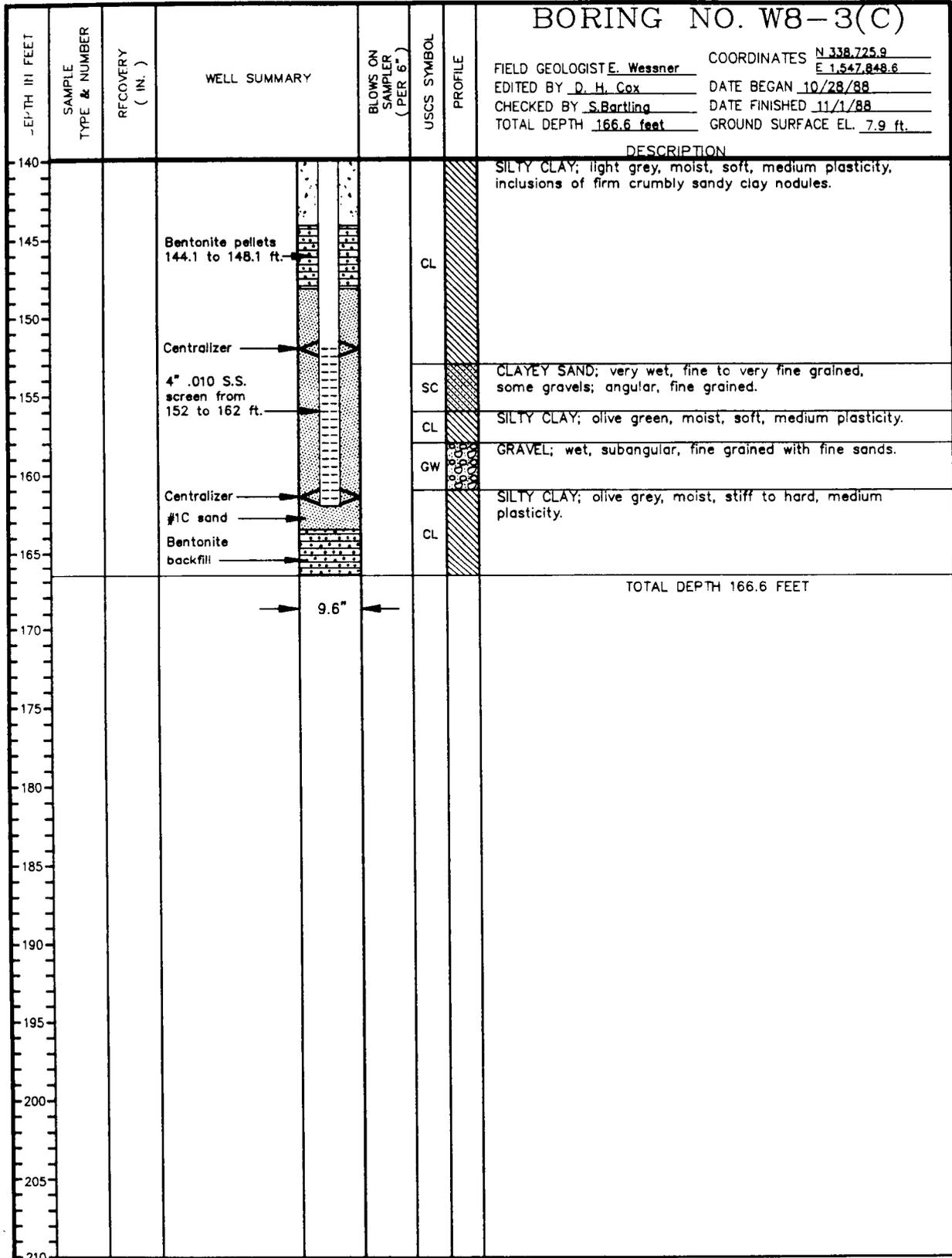
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Air Rotary

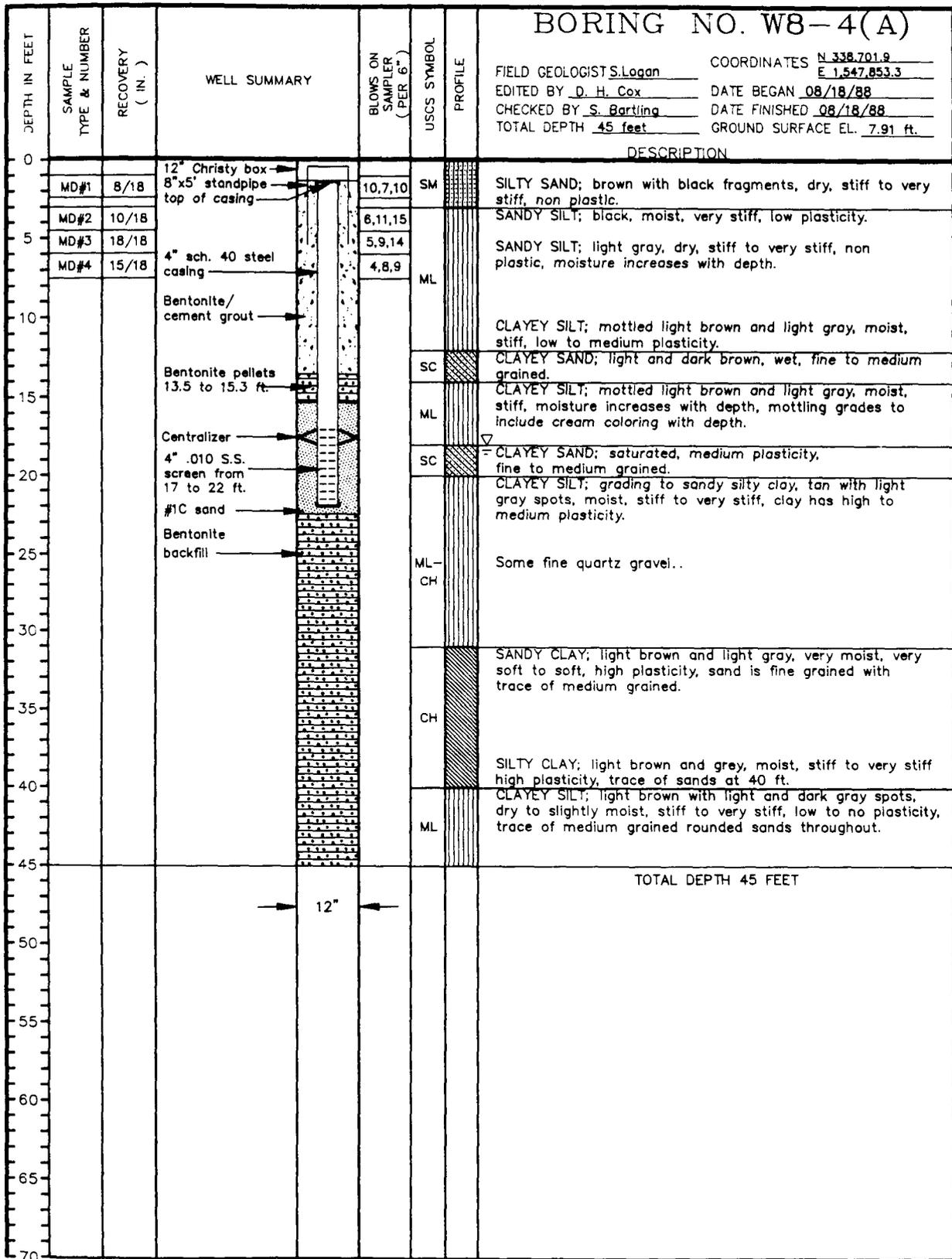
SAMPLING METHODS: MD=California Modified
 S=Split Barrel



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PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
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SEE LEGEND FOR LOGS AND TEST PITS
 FOR EXPLANATION OF SYMBOLS AND TERMS

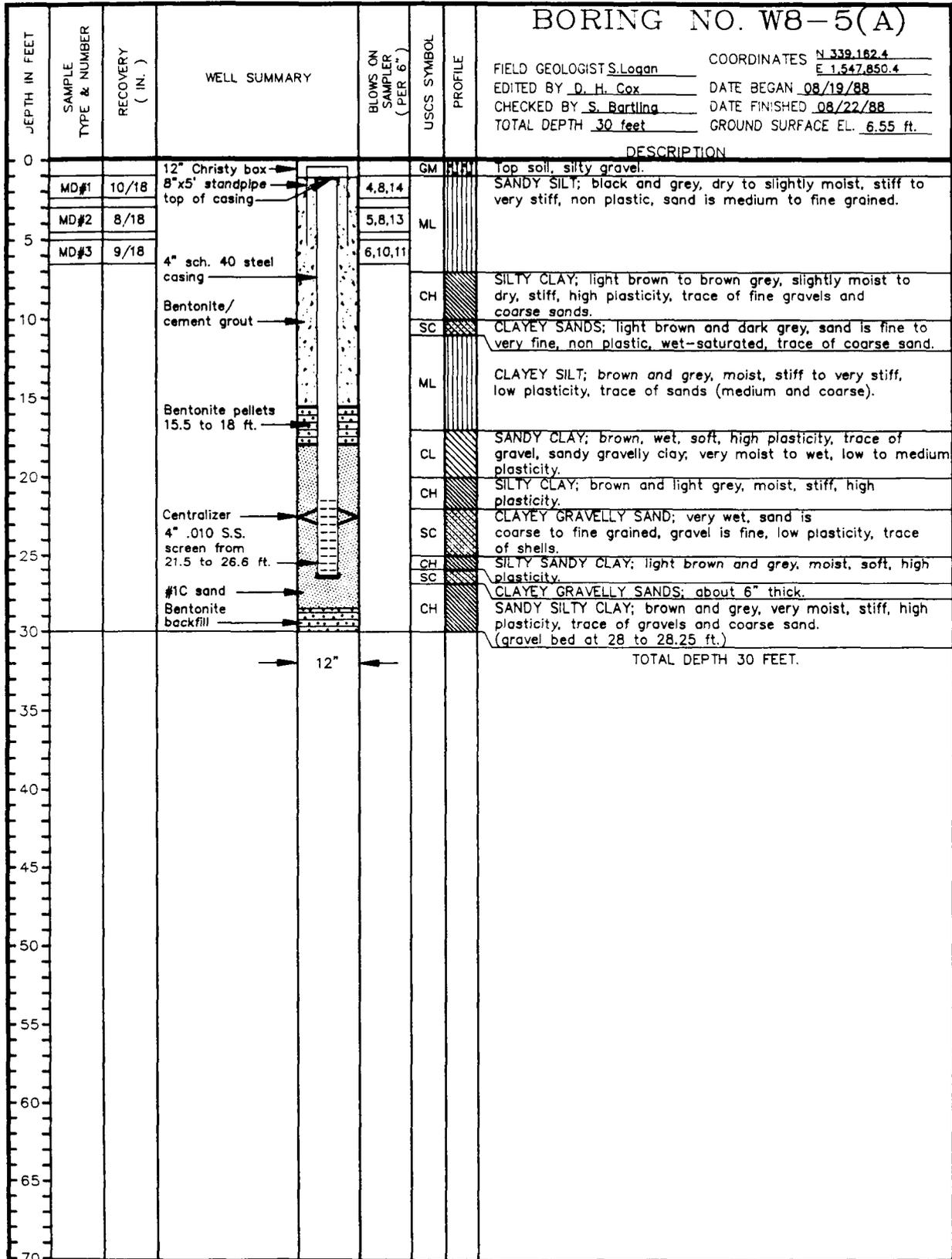


DRILLING CO.: Water Development Co.
 DRILLING METHOD: Hollow Stem Auger
 SAMPLING METHODS: MD=California Modified
 S=Split Barrel
 PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California
 AutoCAD FILE: W8-4A(MF-27)



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 FOR EXPLANATION OF SYMBOLS AND TERMS



DRILLING CO.: Water Development Co.
 DRILLING METHOD: Hollow Stem Auger

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

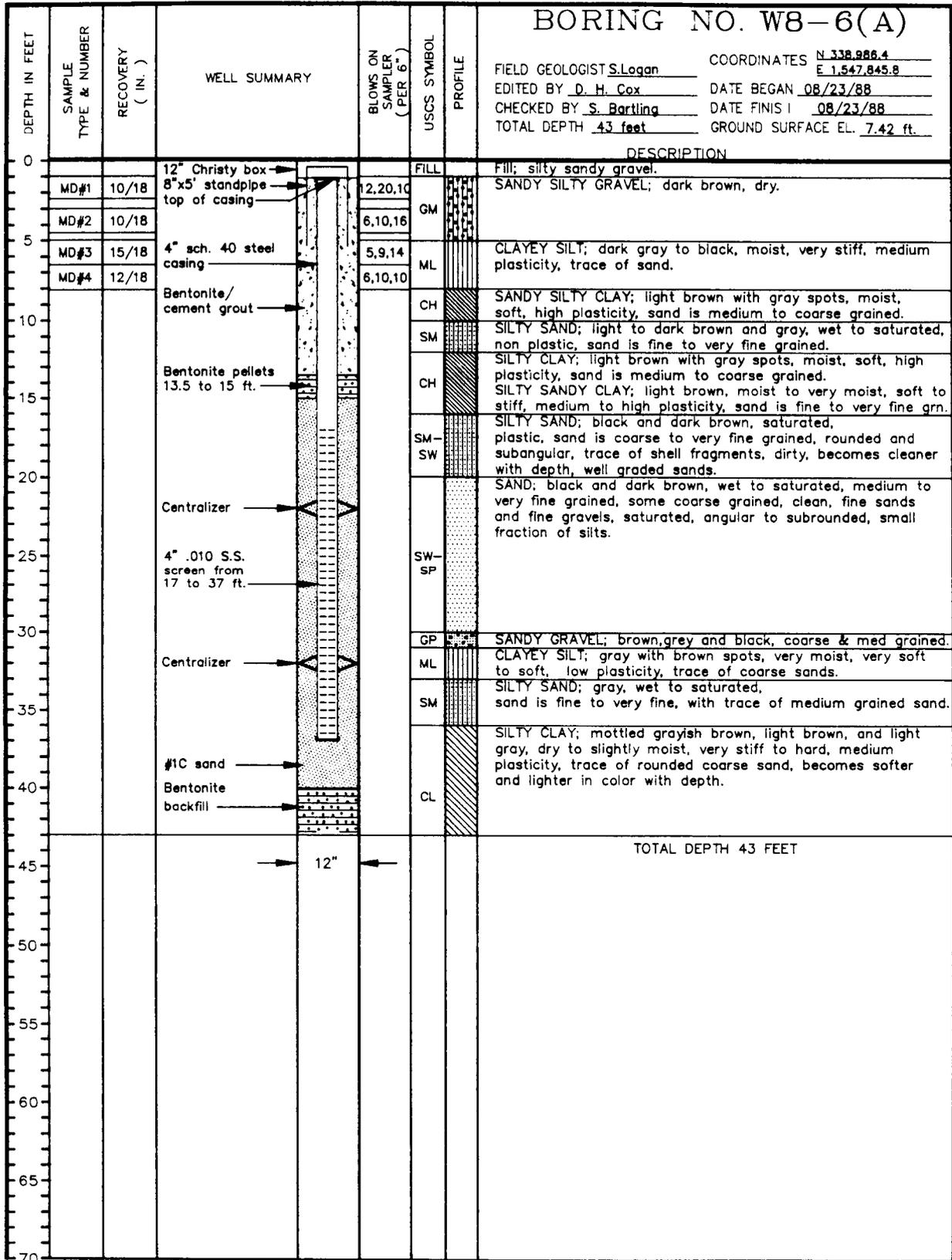
PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W8-5A(MF-27)



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DRILLING CO.: Water Development Co.
 DRILLING METHOD: Hollow Stem Auger

SAMPLING METHODS: MD=California Modified
 S=Split Barrel

PROJECT NO.: 409616
 CLIENT: Moffett Naval Air Station
 Moffett Field, California

AutoCAD FILE: W8-6A(MF-27)



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 FOR EXPLANATION OF SYMBOLS AND TERMS

SITES 9 THROUGH 19

- BORING LOGS FOR SITES 9, 10, 11, 12, 14, AND 19 ARE PRESENTED IN APPENDIX I OF THE DECEMBER 1988 QUARTERLY REPORT
- NO BORINGS OR WELLS WERE DRILLED AT SITES 13, 15, 16, 17, AND 18.