OHM Remediation Services Corp.
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A Member of The IT Group

M60050.000236
MCAS EL TORO
SSIC #5090.3

October 18, 1999

Ms. Bozier H. Demaree, Code 02R.BD
Contracting Officer
Naval Facilities Engineering Command
Southwest Division
1213 Pacific Highway
San Diego, CA 91332-5187

Attention: Ms. Lynn Hornecker, 56MC.LMH

Subject: ***Soil Vapor Extraction (SVE) Geologic Boring Logs and Well Construction Logs for IRP Site 24 Marine Corps Air Station, El Toro, California. Contract N68711-93-D-1459, Delivery Order 065, DCN SW 7301***

Dear Ms. Hornecker:

Attached are the geologic boring logs for the Soil Vapor Extraction (SVE) wells that were constructed by OHM and its subcontractor at the IRP Site 24 of MCAS El Toro, California.

Following boring logs are attached.

1. 24SVE – 154/A/B
2. 24SVE – 106/A/B
3. 24SVE – 15/A/B
4. 24SVE – 18
5. 24SVE – 36/A/B
6. 24SVE – 41/A/B
7. 24SVE – 45/A/B
8. 24SVE – 49/A/B
9. 24SVE – 51/A/B
10. 24SVE – 55/A/B
11. 24SVE – 62/B
12. 24SVE – 78 /A/B

Should you have any questions or comments, please feel free to call the undersigned at (949)-660-5446.

Sincerely,
OHM Remediation Services Corporation

William Sedlak, P.E.
Sr. Project Manager

Attachments: SVE Boring Logs

Copies to: Lucreatria Holloway, COTR, 4EN.LH (1 Copy)
OHM PMO (1 Copy)
Diane Silva, 04N.D5 (2 Copies)
Crispin Wanyoike, Earth Tech (1 Copy)
Project File, (1 Copy)

OHM Remediation Services Corp.
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OHM TRANSMITTAL/DELIVERABLE RECEIPT

CONTRACT N68711-93-D-1459 **DOCUMENT CONTROL NO: SW7301**

TO: Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Bozier H. Demaree, Code 02R1.BD
1220 Pacific Highway
San Diego, California 92132-5190

Date: 19-Oct-99

D.O.: 65

Location: MCAS EL TORO

FROM: Tamra Franklin FOR
Stewart Bornhoft, Program Manager

Edwin G. Bond, Contracts Manager

DESCRIPTION OF ENCLOSURE: ***Soil Vapor Extraction (SVE) Geologic Boring Logs and Well Construction for IRP Site 24, dated October 18, 1999***

TYPE: Contract Deliverable ( ) ($) D. O. Deliverable ( ) (Tech) Request for Change ( ) Other (**X**)

VERSION: N/A **REVISION:** 0

ADMIN RECORD: Yes (**X**) No ( ) Category ( ) Confidential ( )

SCHEDULED DELIVERY DATE: 19-Oct-99 **ACTUAL DELIVERY DATE:** 19-Oct-99

NUMBER OF COPIES SUBMITTED TO THE NAVY: 1/O, 3/C, 2/E
[AS REQUIRED/DIRECTED BY THE (SOW)]

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L. Holloway, 3EN.LLH (1C/1E)	File (1C/1E)	C. Wanyoike, Earth Tech 1
L. Hornecker, 5BME.LH (1C/1E)	Chron (1C)	
D. Silva, 04N.DS (AR/2E)	W. Sedlak, Irv (1C/1E)	
G. Tinker, 05BM.GT (1C)	D. Rawal, Irv (1C/1E)	

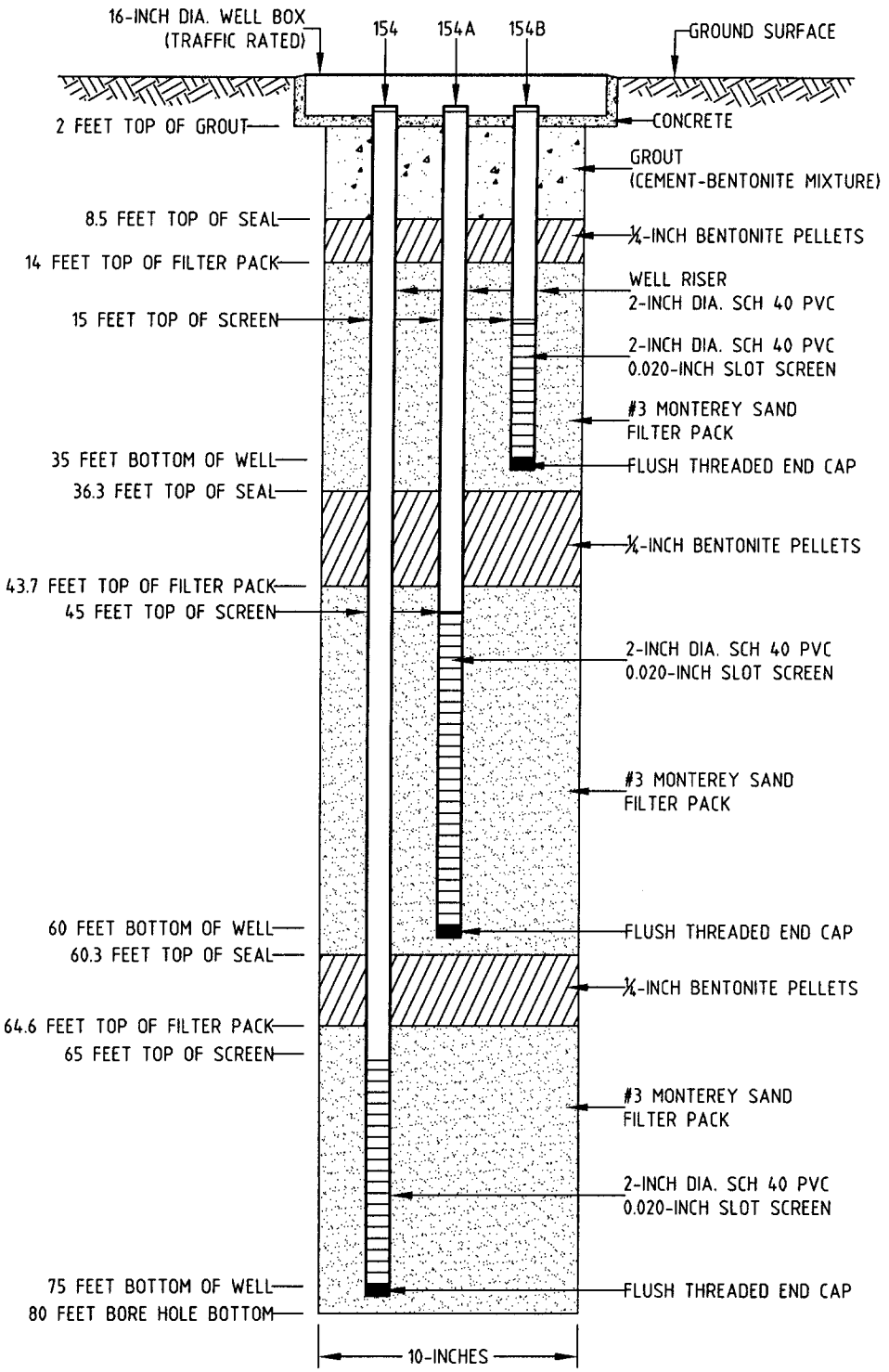
Date/Time Received: 99 OCT 19 14 46

RECEIVED COTR

Doc Class: B-06

Well Construction 24-SVE 154/A/B

Project **MCAS/EL TORO**	Northing 2186268.28		Drilling Company LAYNE CHRISTENSEN		
Project Number **918708**	Easting 6110258.96		Drill Rig AP 1000	Begin Drilling 7/7/99	
Client SWDIV	TOC Elevation 266.67		Driller MARTIN	End Drilling 7/8/99	
Location **SITE 24**	A: 266.72	B: 266.64	Drill Method D.W.R.C.P.H.	Well Completion Date 7/8/99	
Geologist A. SIDDIQUI	TOP OF RIM 267.09		DIAGRAM NOT TO SCALE		



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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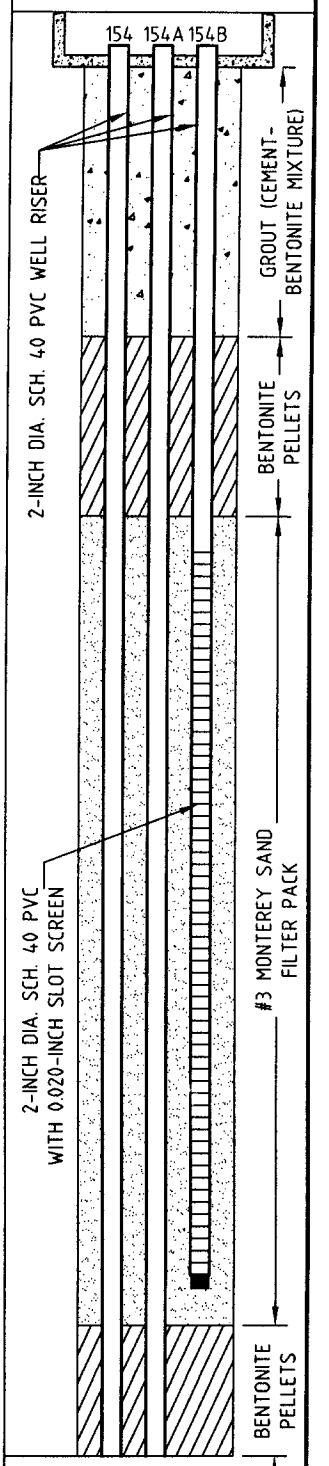
OHM Remediation Services Corp.

Geologic Log of Boring 24-SVE 154/A/B

Project **MCAS/EL TORO**	Northing 2186268.28	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6110258.96	Drill Rig AP 1000	Begin Drilling 7/7/99
Client SWDIV	TOC Elevation 266.67	Driller MARTIN	End Drilling 7/7/99
Location **SITE 24**	A: 266.72 B: 266.64	Drill Method D.W.R.C.P.H	Well Completion Date 7/8/99
Geologist A. SIDDIQUI	TOP OF RIM 267.09	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 81.5 FEET	Depth to Water 73.4 FEET	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
6" asphalt at surface. Top 15 feet hand augured for underground utilities clearance.	0						
	2						
	4						
	6						
	8						
	10	SM					
	12						
	14						
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 75% fine sand, 25% non to low plastic fines, moist, dense.	16					8 24 30	6 6 5
	18						
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 70% fine sand, 30% non to low plastic fines, slightly moist to moist, dense. Amount of fines approximately 40% in bottom 3-inch of sample.	20					26 31 39	6 6 6
	22						
	24						
Sandy Silt (ML): Dark yellowish brown (10YR 3/4), 85% low to medium plastic fines, 15% very fine sand, slightly moist to moist, very stiff.	26	ML				9 12 18	6 6 6
	28						
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 60% very fine sand, 40% non to low plastic fines, slightly moist, dense, interbedded with sandy silt.	30	SM				27 32 36	6 6 6
	32						
	34						
Sandy Silt (ML): Yellowish brown (7.5YR 5/4), 70% fine sand, 30% medium plastic fines, slightly moist to moist, hard, interbedded with Silty Sand (ML), dark yellowish brown (10YR 4/6), 60% fine sand, 40% medium plastic fines.	36	ML				20 21 27	6 6 6
Silty Sand (SM): Yellowish brown (10YR 5/4), 75% fine sand, 25% low plastic fines, moist, dense, interbedded with 2-inch thick lens of brown (7.5YR 4/4) silt at places.	38	SM					
	40						

BORING DETAIL



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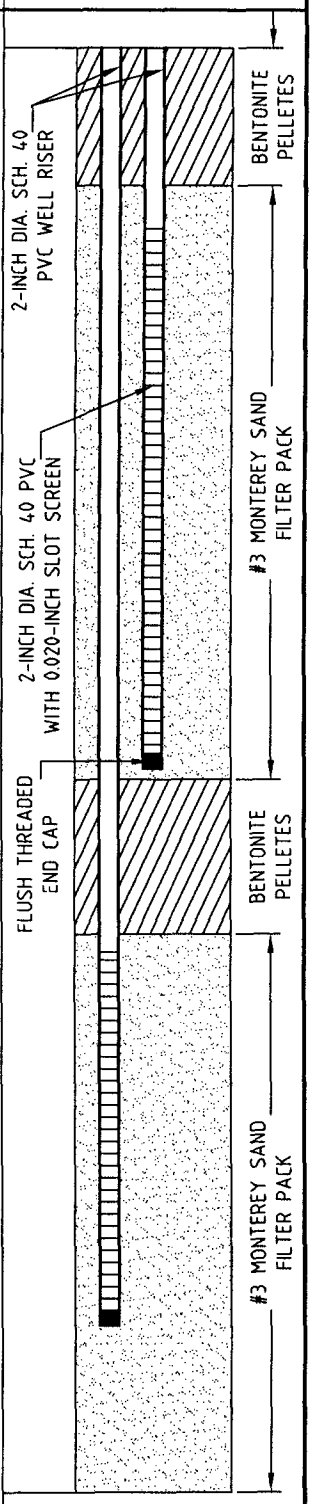
Geologic Log of Well 24-SVE 154/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Yellowish brown (10YR 5/4), 75% fine sand, 25% low plastic fines, moist, dense, interbedded with 2-inch thick lens of brown (7.5YR 5/4) silt at places.	40	SM				29 30 33	6 6 6
	42						
	44						
Poorly graded Sand (SP): Light olive brown (2.5Y 5/3), 100% fine sand, trace fines, slightly moist, dense, interbedded with poorly graded sand with silt at places.	46					14 21 31	6 6 6
	48						
Poorly graded Sand (SP): Light olive brown (2.5Y 5/3), 100% fine sand, trace fines, slightly moist, medium dense.	50	SP				12 15 25	6 6 6
	52						
	54						
Poorly graded Sand (SP): Light olive brown (2.5Y 5/4), 95% fine sand, <5% fines, slightly moist, medium dense, interbedded with silty sand at places.	56					12 19 27	6 6 6
	58						
Sandy Silt (ML): Very dark brown (10YR 3/2), 80% low to medium plastic fines, 20% fine sand, slightly moist, hard.	60					12 22 22	6 6 6
	62						
	64						
Silt (ML): Brown (10YR 4/3), 90% medium plastic fines, 10% fine sand, slightly moist, hard. Soil cuttings plugging up inside of drive casing.	66	ML				12 29 29	6 6 6
	68						
Sandy Silt (ML): Brown (10YR 4/3), 80% medium plastic fines, 20% fine sand, slightly moist, very stiff.	70					8 12 16	6 6 6
	72						
	74						
Silty Sand (SM): Light olive brown (2.5Y 5/3), 80% fine sand, 20% low plastic fines, wet, medium fines, amount of fines variable 10% to 30%, interbedded with silt.	76	SM				8 12 18	0 6 6
	78						
	80						

WELL DETAIL



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Geologic Log of Well 24-SVE 154/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)	WELL DETAIL
Clayey Silt (ML): Dark grayish brown (2.5Y 4/3), 90% medium plastic fines, 10% fines, very moist, hard, interbedded with silty sand which is wet. Total depth = 81.5 feet.	80	ML				8 16 29	6 6 6	#3 MONTEREY SAND FILTER PACK
	82							
	84							
	86							
	88							
	90							
	92							
	94							
	96							
	98							
	100							
	102							
	104							
	106							
	108							
	110							
	112							
	114							
	116							
	118							
	120							

OHM Remediation Services Corp.

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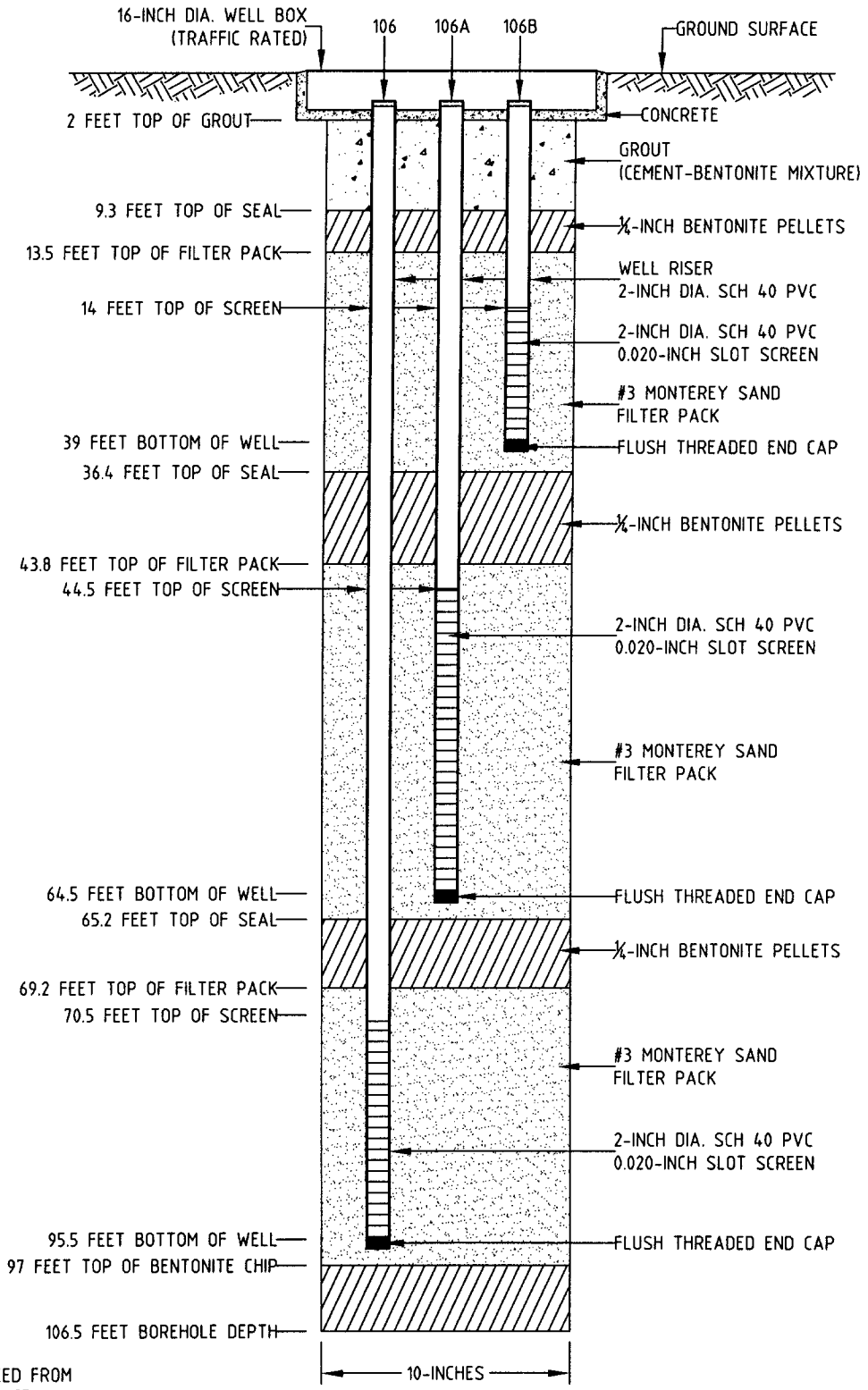
Well Construction 24-SVE 106/A/B

Project **MCAS/EL TORO**	Northing 2188478.77	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6110257.70	Drill Rig AP 1000	Begin Drilling 6/7/99
Client SWDIV	TOC Elevation	Driller MARTIN	End Drilling 6/7/99
Location **SITE 24**	A: - B: -	Drill Method D.W.R.C.P.H.	Well Completion Date
Geologist A. SIDDIQUI	TOP OF RIM 290.44	DIAGRAM NOT TO SCALE	6/8/99



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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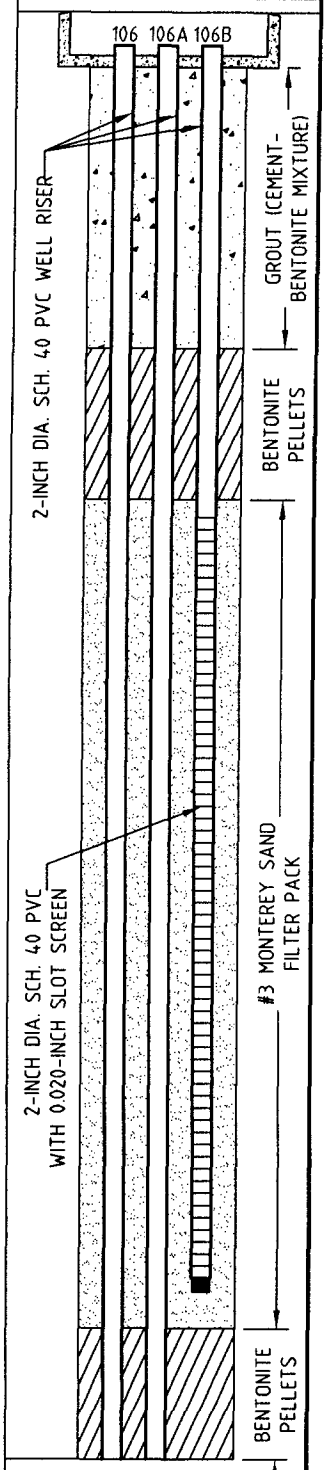
OHM Remediation Services Corp.

Geologic Log of Boring 24-SVE 106/A/B

Project **MCAS/EL TORO**	Northing 2188478.77	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6110257.70	Drill Rig AP 1000	Begin Drilling 6/7/99
Client SWDIV	TOC Elevation	Driller MARTIN	End Drilling 6/7/99
Location **SITE 24**	A: - B: -	Drill Method D.W.R.C.P.H	Well Completion Date 6/8/99
Geologist A. SIDDIQUI	TOP OF RIM 290.44	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water 105 FEET	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
12" concrete at surface. Top 15 feet hand augured for underground utilities clearance.	0						
	2						
	4						
	6						
	8						
	10						
	12						
	14						
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 70% fine sand, 30% low plastic fines, dry, dense, interbedded with sandy silt, no odor.	16	SM				25 25 30	2 6 6
	18						
Silty Sand (SM): Yellowish brown (10YR 5/4), 75% fine sand, 25% low plastic fines, slightly moist, very dense, interbedded with sandy silt, no odor.	20					31 50	6 6
	22						
	24						
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 70% fine sand, 30% medium plastic fines, dry to slightly moist, very dense, interbedded with clayey silt, trace subangular fine gravel, no odor.	26					55/6	6
	28						
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 70% very fine sand, 30% low plastic fines, trace subangular fine gravel, dry to slightly moist, very dense, no odor.	30					34 55/5	5 6
	32						
	34						
Sandy Silt (ML): Yellowish brown (10YR 5/6), 70% low plastic fines, 30% very fine sand, slightly moist, hard.	36	ML				40 44 50/3	6 6 6
	38						
	40						

BORING DETAIL



OHM Remediation Services Corp.

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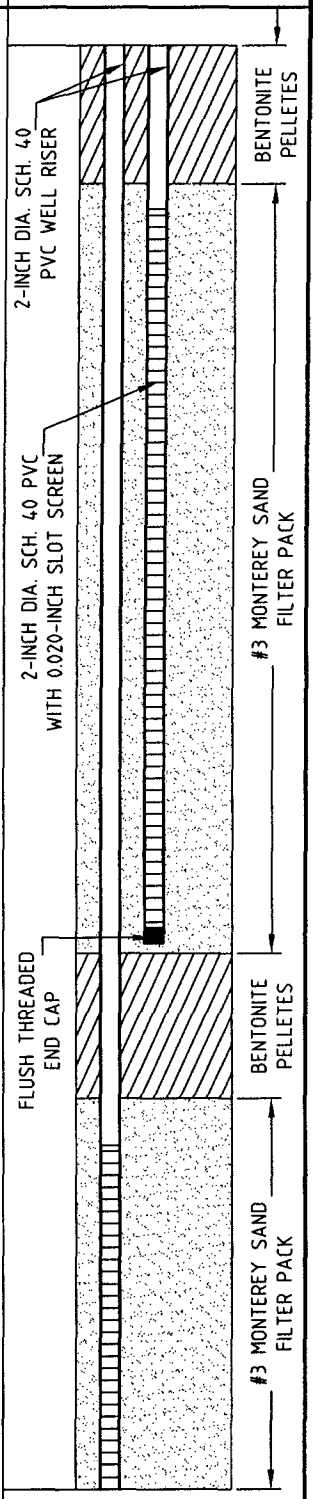
Geologic Log of Well 24-SVE 106/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (6 inches)
Sandy Silt (ML): Yellowish brown (10YR 5/4), 80% low plastic fines, 20% fine sand, slightly moist, hard, no odor.	40					22 44 50	6 6 6
	42						
	44						
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 85% low plastic fines, 15% very fine sand, slightly moist, hard, no odor.	46					28 40 50/4	6 6 6
	48						
Sandy Silt (ML): Dark yellowish brown (10YR 4/6), 60% low plastic fines, 40% fine sand, slightly moist, hard, no odor.	50	ML				48 50/5	6 6
	52						
	54						
Low elastic Silt (ML): Dark yellowish brown (10YR 4/4), 90% medium plastic fines, 10% very fine sand, slightly moist, hard. 2-3 inch thick lens of light yellowish brown color, very fine sand, in top of sample.	56					48 50/5	
	58						
Sandy Silt (ML): Yellowish brown (10YR 5/6), 80% low to medium plastic fines, 20% very fine sand, slightly moist, hard, no odor.	60					22 34 45	6 6 6
	62						
	64						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine (mostly) to medium sand, slightly moist, very dense.	66	SM				25 47 49	6 6 6
	68						
Poorly graded Sand (SP): Light yellowish brown (2.5Y 6/4), 95% fine sand, 5% fines, slightly moist, dense, very well sorted.	70					32 39 47	6 6 6
	72						
	74	SP					
Poorly graded Sand (SP): Yellowish brown (10YR 5/4), 95% fine to medium sand, <5% fines, slightly moist to moist, very dense.	76					23 47 50/1	0 6 6
	78						
	80						



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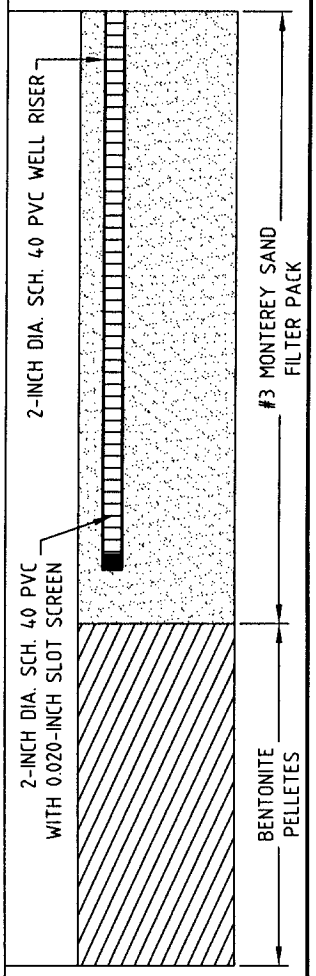
Geologic Log of Well 24-SVE 106/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Poorly graded Sand (SP): Yellowish brown (10YR 5/4), 95% fine to medium sand, <5% fines, slightly moist to moist, very dense.	80	SP				50/4	5
	82						
	84						
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 75% fine sand, 25% medium plastic fines (mostly silt), moist, very dense.	86	SM				26 50/4	6 6
	88						
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 70% fine sand, 30% low plastic fines, slightly moist, very dense.	90					35 50/4	6 6
	92						
	94						
Clayey Silt (ML): Olive brown (2.5Y 4/3), 90% medium plastic fines, 10% very fine sand, slightly moist, hard.	96	ML				15 29 44	5 4 4
	98						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 70% fine sand, 30% medium plastic fines, slightly moist to moist, well sorted sand with plastic silt, contains trace caliche. Poor recovery.	100					50/3	6
	102	SM					
	104						
Silty Sand (SM): Olive brown (2.5Y 5/4), 70% fine sand, 30% low plastic fines, wet, dense. Total = 106.5 feet.	106					15 20 50	6 6 3
	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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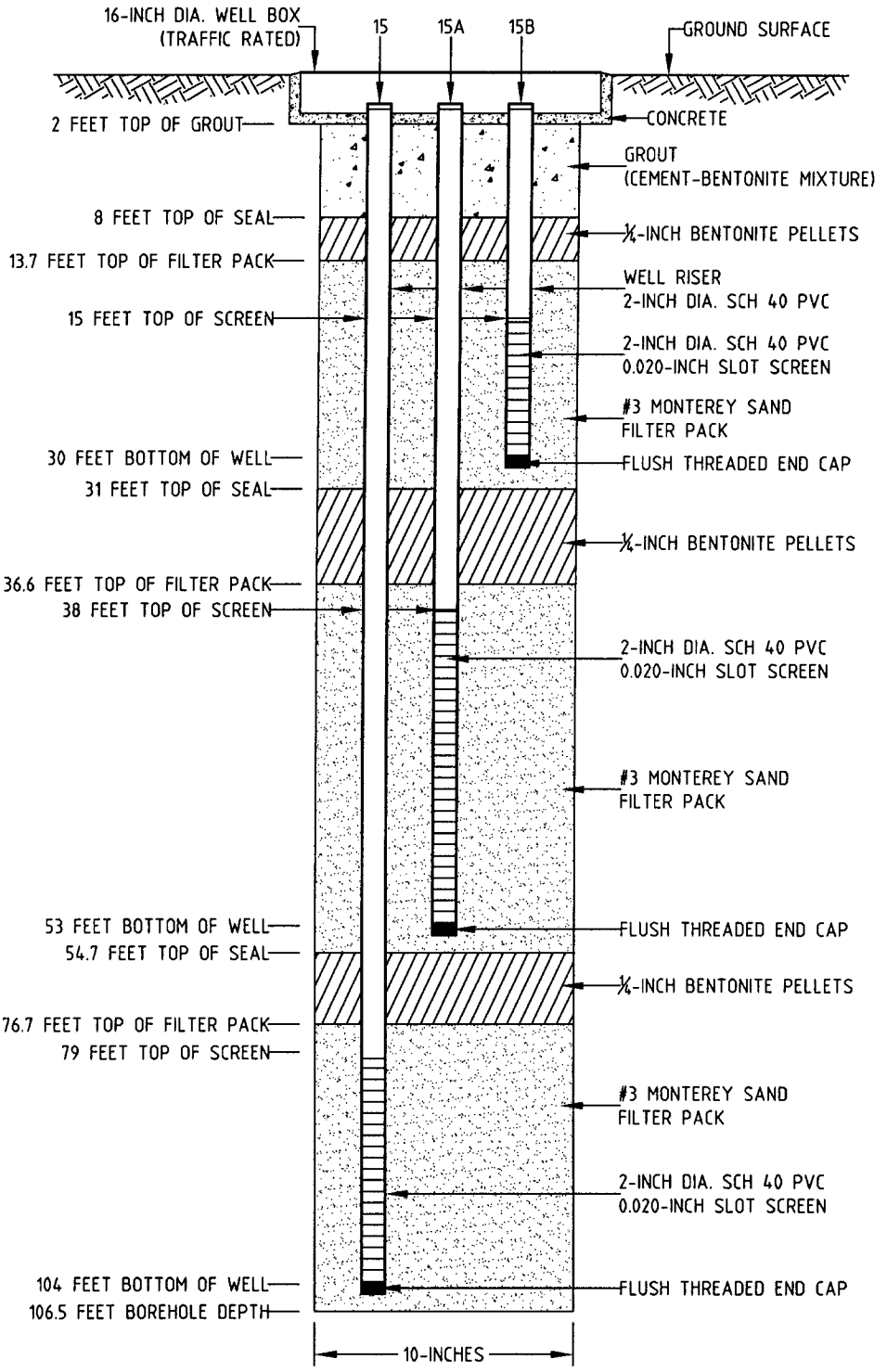
Well Construction 24-SVE 15/A/B

Project **MCAS/EL TORO**	Northing 2190239.79	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6108850.84	Drill Rig AP 1000	Begin Drilling 7/9/99
Client SWDIV	TOC Elevation 278.87	Driller MARTIN	End Drilling 7/9/99
Location **SITE 24**	A: 278.86 B: 278.87	Drill Method D.W.R.C.P.H.	Well Completion Date 7/12/99
Geologist A. SIDDIQUI	TOP OF RIM 279.27	DIAGRAM NOT TO SCALE	



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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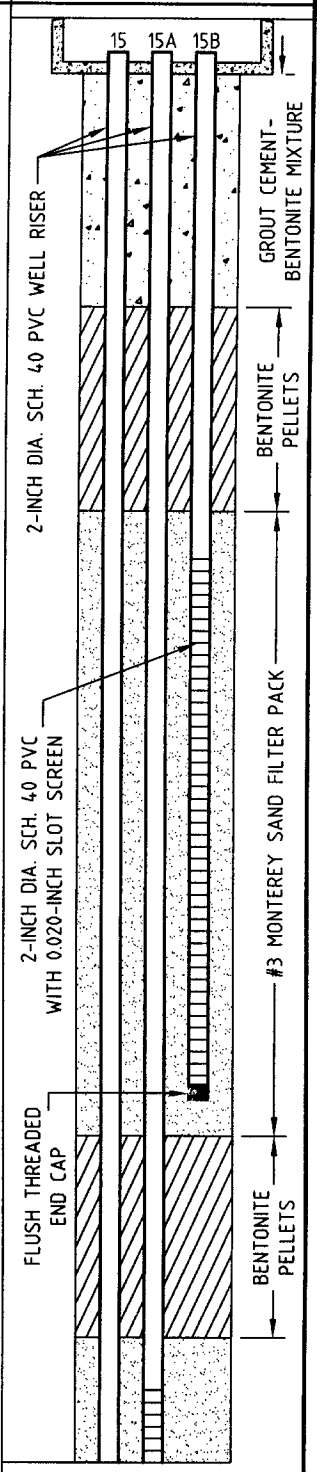
Geologic Log of Boring 24-SVE 15/A/B

Project **MCAS/EL TORO**	Northing 2190239.79	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6108850.84	Drill Rig AP 1000	Begin Drilling 7/9/99
Client SWDIV	TOC Elevation 278.86	Driller MARTIN	End Drilling 7/9/99
Location **SITE 24**	A· 278.87 A· 278.87	Drill Method D.H.R.C.P.H.	Well Completion Date
Geologist A. SIDDIQUI	TOP OF RIM 279.27	DIAGRAM NOT TO SCALE	7/12/99
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
Top 15 feet hand augured for underground utilities clearance.	0, 2, 4, 6, 8, 10, 12, 14						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine sand 20% non to low plastic fines, slightly moist, dense. Interbedded with lenses of sandy silt and poorly graded sand with silt at places.	16	SM				24 28 29	6 6 6
	18						
Not enough recovery. Poorly graded sand.	20					11 16 16	1 0 0
Sand with gravel in soil cuttings.	22, 24						
Gravel in sampler. Not enough recovery. Gravely sand, ~30% fine to coarse gravel in soil cuttings.	26	SP				50/4"	1
	28						
Silt (ML): Brown (10YR 5/3), 90% medium plastic fines, 10% very fine sand, slightly moist, very stiff.	30, 32	ML				9 11 15	6 6 6
	34						
Sandy Silt (ML): Brown (10YR 5/3), 60% low plastic fines, 40% fine sand, slightly moist, very stiff. Interbedded with silty sand.	36	ML				12 17 21	6 6 6
	38						
	40	SP					

BORING DETAIL

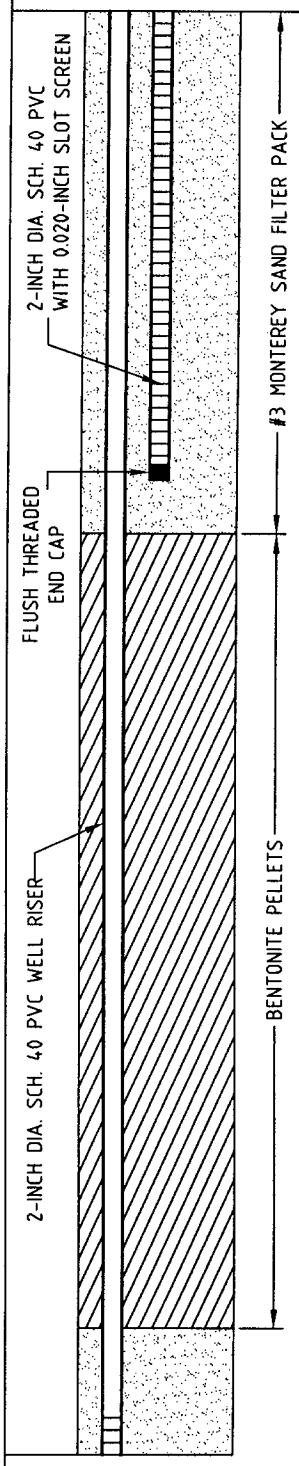


Geologic Log of Well 24-SVE 15/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Poorly Graded Sand (SP): Light yellowish brown (10YR 6/3), 100% fine sand, trace fines, slightly moist, dense, well sorted. Gravel shows up in soil cuttings at 43 feet.	40	SP				19 24 25	6 6 6
	42						
Poorly Graded Sand (SP): Light yellowish brown (10YR 6/3), 100% fine sand, trace fine, trace sub rounded gravel, slightly moist, medium dense.	44					21 18 22	6 6 6
	46						
	48						
Poorly graded Sand (SP): Same as above, no gravel.	50	SP				11 12 14	6 6 6
	52						
	54						
Sandy Silt (ML): Dark brown (10YR 3/3), 60% non to low plastic fines, 40% fine sand, slightly moist to moist, very stiff. At places grades into silty sand. Amount of sand 20%-60%.	56	ML				12 14 15	6 6 6
Soil cuttings plugging up the inside of drive casing.	58						
Sandy Silt (ML): Dark yellowish brown (10YR 3/6), 60% low plastic fines, 40% fine sand, slightly moist, very stiff.	60	ML				12 23 47	6 6 6
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 80% fine sand, 20% non plastic fines, slightly moist, dense.	62	SM					
Discharge hose plugged up with soil cuttings.	64						
Interbedded with thin lenses of silty sand. Clayey Silt (ML): Dark yellowish brown (10YR 4/6), mottled to olive gray (5Y 5/2), 100% medium to high plastic fines (mostly silt) with clay, trace fine sand, slightly moist, hard.	66	ML				28 31 34	6 6 6
	68						
Inside of drive casing plugging up with soil cuttings. Clayey Silt (ML): Dark yellowish brown (10YR 4/4), 90% medium plastic fines, 10% fine sand, slightly moist, very stiff.	70	ML				5 7 11	6 6 2
	72						
	74						
Silty Sand (SM): Dark yellowish brown, (10YR 4/6), 75% fine sand, 25% low plastic fines, slightly moist, dense.	76	SM				13 37 36	6 6 6
Gravel showing up with sand in soil cuttings.	78	SP					
	80						

WELL DETAIL



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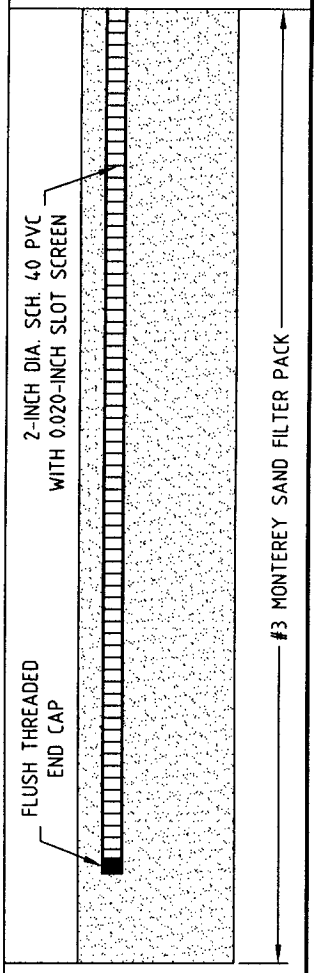
Geologic Log of Well 24-SVE 15/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Poorly Graded Sand (SP): Pale yellow (2.5Y 7/3), 100% fine sand, trace fines, slightly moist, medium dense. Interbedded with light yellowish brown (2.5Y 6/3) color lenses of silty sand at places.	80	SP				12	6
						66	6
						24	6
Gravel with sand in soil cutting.	82						
	84						
Gravely Sand (SP): Yellowish brown (10YR 5/4), 80% fine (mostly), to medium sand, 20% fine to coarse sub rounded gravel, trace fines, slightly moist to moist, very dense.	86	SP				38	6
						50/1"	1
	88						
Not enough recovery. Gravel in sampler. Gravely sand, same as above.	90					28	1
						50/1"	
	92						
	94	SP/ SM					
Poorly Graded Sand With Silt (SP-SM): Light olive brown (2.5Y 5/4), 95% fine sand, 5% fines, moist, very dense.	96					50/1"	6
	98						
Poorly Graded Sand With Silt (SP-SM): Light olive brown (2.5Y 5/4), 95% fine sand, 5% fines, moist, dense.	100	SP/ SM				27	6
						34	6
						44	6
	102						
	104						
Silt (ML): Light olive brown (2.5Y 5/4), 90% medium plastic fines, 10% fine sand, slightly moist, hard.		ML				47	
Total depth=106.5	106					42	
						50	
	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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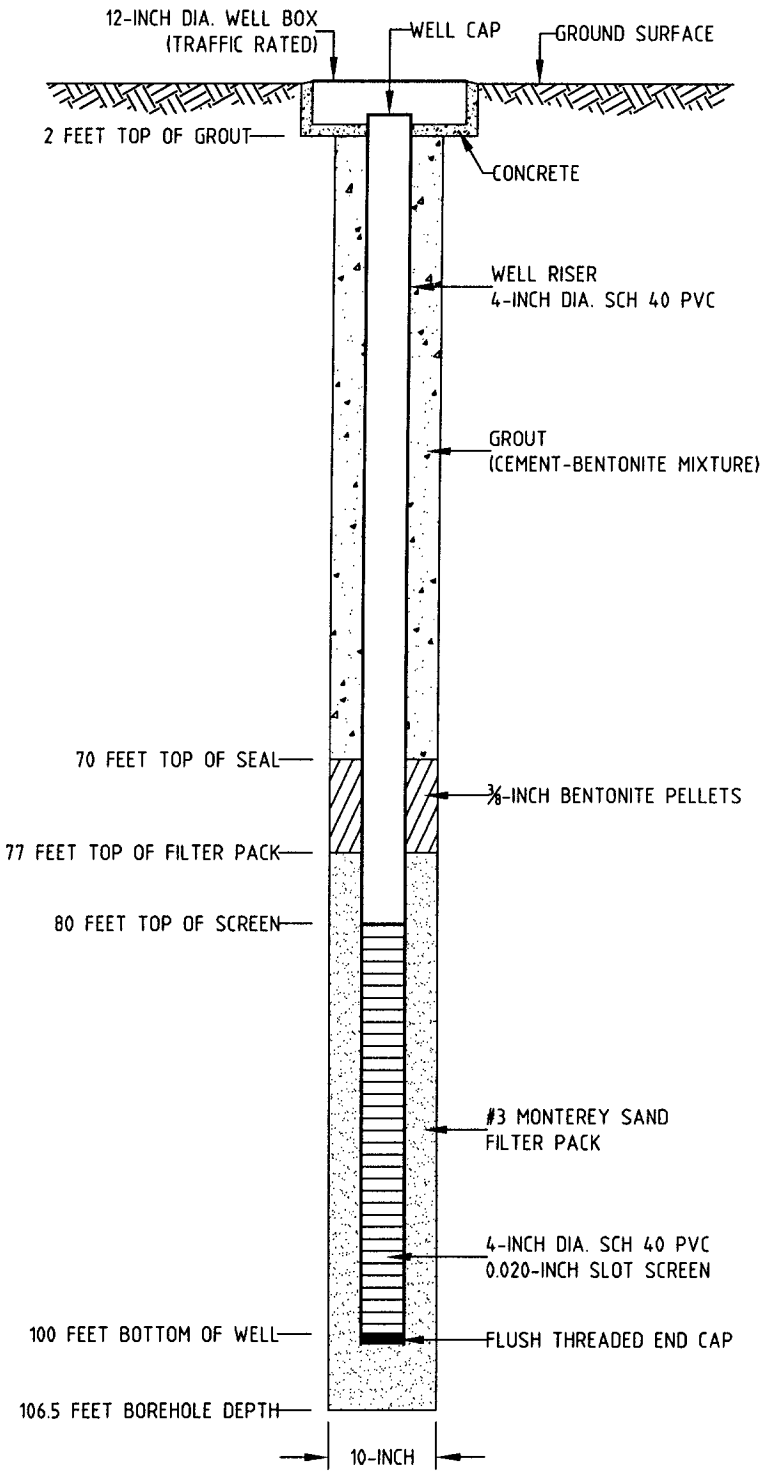
Well Construction 24-SVE 18

Project **MCAS/EL TORO**	Northing 2189110.54	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6108991.19	Drill Rig AP 1000	Begin Drilling 7/7/99
Client SWDIV	TOC Elevation 274.41	Driller MARTIN	End Drilling 7/6/99
Location **SITE 24**	TOP OF RIM -	Drill Method D.W.R.C.P.H.	Well Completion Date 7/7/99
Geologist A. SIDDIQUI	DIAGRAM NOT TO SCALE		



NOTES:

DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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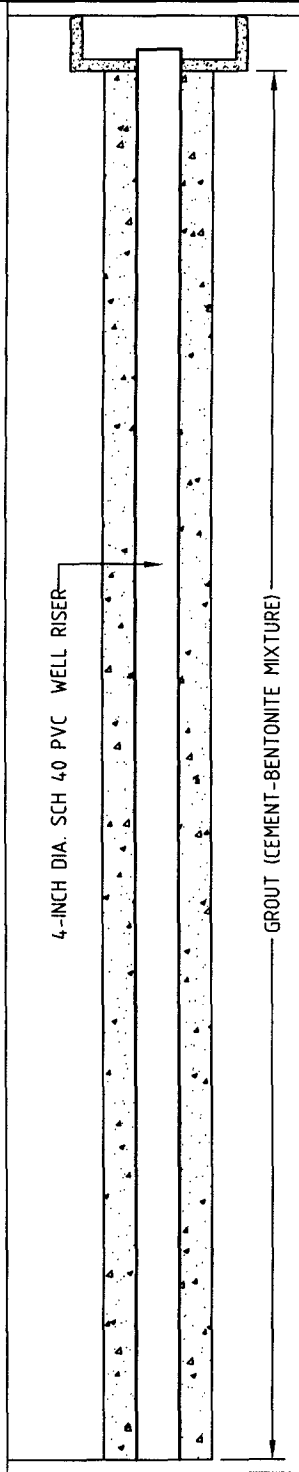
OHM Remediation Services Corp.

Geologic Log of Boring 24-SVE 18

Project **MCAS/EL TORO**	Northing 2189110.54	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6108991.19	Drill Rig AP 1000	Begin Drilling 7/6/99
Client SWDIV	TOC Elevation 274.41	Driller MARTIN	End Drilling 7/6/99
Location **SITE 24**	TOP OF RIM -	Drill Method D.W.R.C.P.H.	Well Completion Date 7/7/99
Geologist A. SIDDIQUI	DIAGRAM NOT TO SCALE		
Borehole Diameter 10/11-INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
6-inch asphalt at surface. Top 15 feet hand augered.	0, 2, 4, 6, 8, 10, 12, 14						
Silty (ML): Brown (10YR 5/3), 90% medium plastic fines, 10% very fine sand, slightly moist, stiff, micaceous.	16, 18	ML				6 7 10	6 6 5
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 75% fine sand, 25% low plastic fines, slightly moist, medium dense.	20, 22	SM				7 10 12	6 6 6
Poorly Graded Sand With Silt (SP-SM): Yellowish brown (10YR 5/4), 85% fine (mostly) to medium sand, 10% fines, 5% fine to coarse sub rounded gravel, slightly moist, dense.	24, 26	SP/SM				50	3"
Gravel coming up in cuttings.	28						
Poorly Graded Sand With Silt (SP-SM): Yellowish brown (10YR 5/4), 90% fine sand, 10% fines, trace fine sub rounded gravel, slightly moist, dense.	30	SP/SM				23 32 37	6 6 5
Fine to coarse gravel comming up with cuttings.	32						
Silt (ML): Dark yellowish brown (10YR 3/6), 80% low plastic fines, 20% fine sand, slightly moist, very stiff.	34, 36	ML				12 15 17	6 6 6
	38, 40	SM					

BORING DETAIL



OHM Remediation Services Corp.

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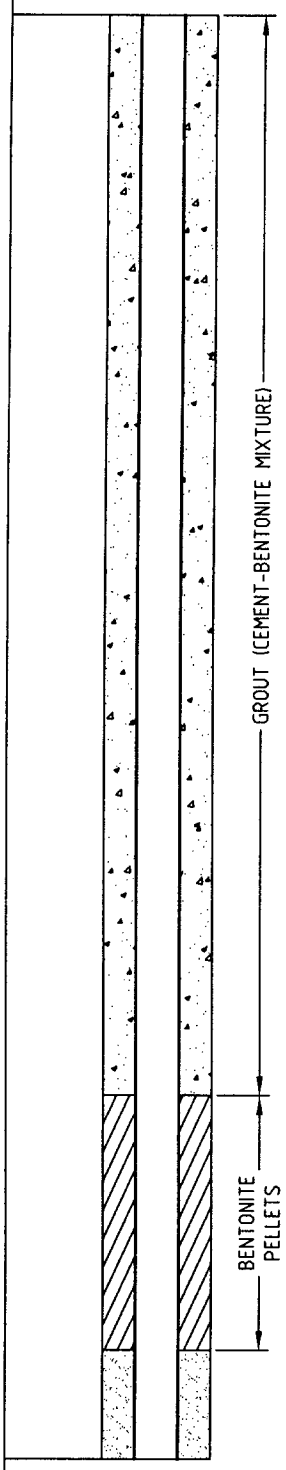
Geologic Log of Well 24-SVE 18

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 60% fine sand, 40% low plastic fines, slightly moist, dense.	40					14 27 31	6 6 6
	42	SM					
	44						
Poorly Graded Sand (SP): Yellowish brown (10YR 5/4), 95% fine to medium sand, 5% fine, trace fine sub rounded gravel, slightly moist, dense.		SP				21 38 40	6 6 4
	46						
Dark yellowish brown sandy silt.							
	48						
Clayey Silt (ML): Dark yellowish brown (10YR 3/4), 100% medium plastic fines, slightly moist, very stiff.	50	ML				6 7 17	6 6 6
Soil cuttings plugging inside of drive casing.	52						
	54						
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 70% fine sand, 30% low to medium plastic fines, slightly moist, dense. Interbedded with sandy silt.	56	SM				28 34 47	6 6 6
	58						
Sandy Silt (ML): Dark yellowish brown (10YR 3/6), 70% low plastic fines, 30% very fine sand. slightly moist, very stiff.	60	ML				12 14 22	6 6 6
Inside of drive casing is plugging up with soil cuttings.	62						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine sand, 20% low to medium plastic fines, slightly moist, very dense. Interbedded with silt.	64	SM				7 6 50/4"	6 6 2
	66						
	68						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 75% fine sand, 25% low plastic fines, slightly moist, dense to very dense.	70	SM				30 50/5"	6 4
	72						
Silt (ML): Dark yellowish brown (10YR 4/4), 90% medium plastic fines, 10% very fine sand, slightly moist, hard.	74	ML					
	76					12 19 50	6 6 5
	78						
	80						

WELL DETAIL



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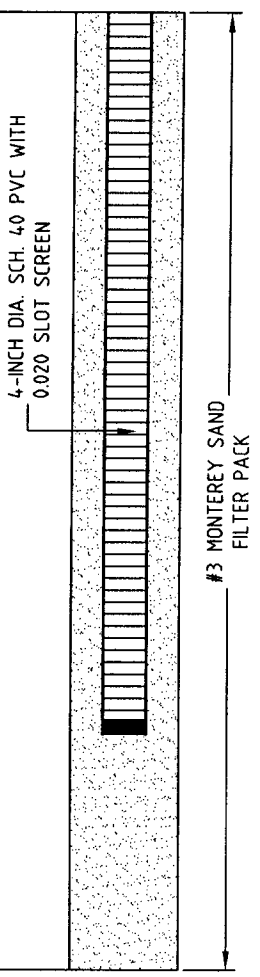
Geologic Log of Well 24-SVE 18

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 80% medium plastic fines, 20% fine sand, slightly moist, hard.	80	ML				36 39 50/5"	6 6 5
	82						
	84	SP					
Poorly Graded Sand (SP): Light olive brown (2.5Y 5/4), 100% fine (mostly) to medium sand, trace fines, trace fine gravel, slightly moist, very dense.	86					42 50	6 2
Gravels with sand in soil cuttings.	88						
Gravelly Sand (SP): Light olive brown (2.5Y 5/4), 70% fine (mostly) to medium sand, 30% fine (mostly) to coarse sub rounded gravel, slightly moist, trace fines, dense.	90	SP				50	6
	92						
Gravels with sand in soil cuttings.	94						
Poorly Graded Sand (SP): Light olive brown (2.5Y 5/4), to pale yellow (2.5Y 7/3), 100% fin sand, trace fines, slightly moist, dense, well sorted. At places interbedded with thin (1"-2" thick) lenses of silt.	96	SP				30 32 50	6 6 6
	98						
Silt (ML): Olive brown (2.5Y 4/4), 80% non to low plastic fines, 20% fine sand, very moist, very stiff.	100					13 18 21	6 6 6
	102						
	104						
Clayey Silt (ML): Olive brown (2.5Y 4/4), 100% medium plastic fines (mostly silt with clay), trace very fine sand, slightly moist, hard.	106	ML				7 16 34	
Total Depth=106.5 feet.	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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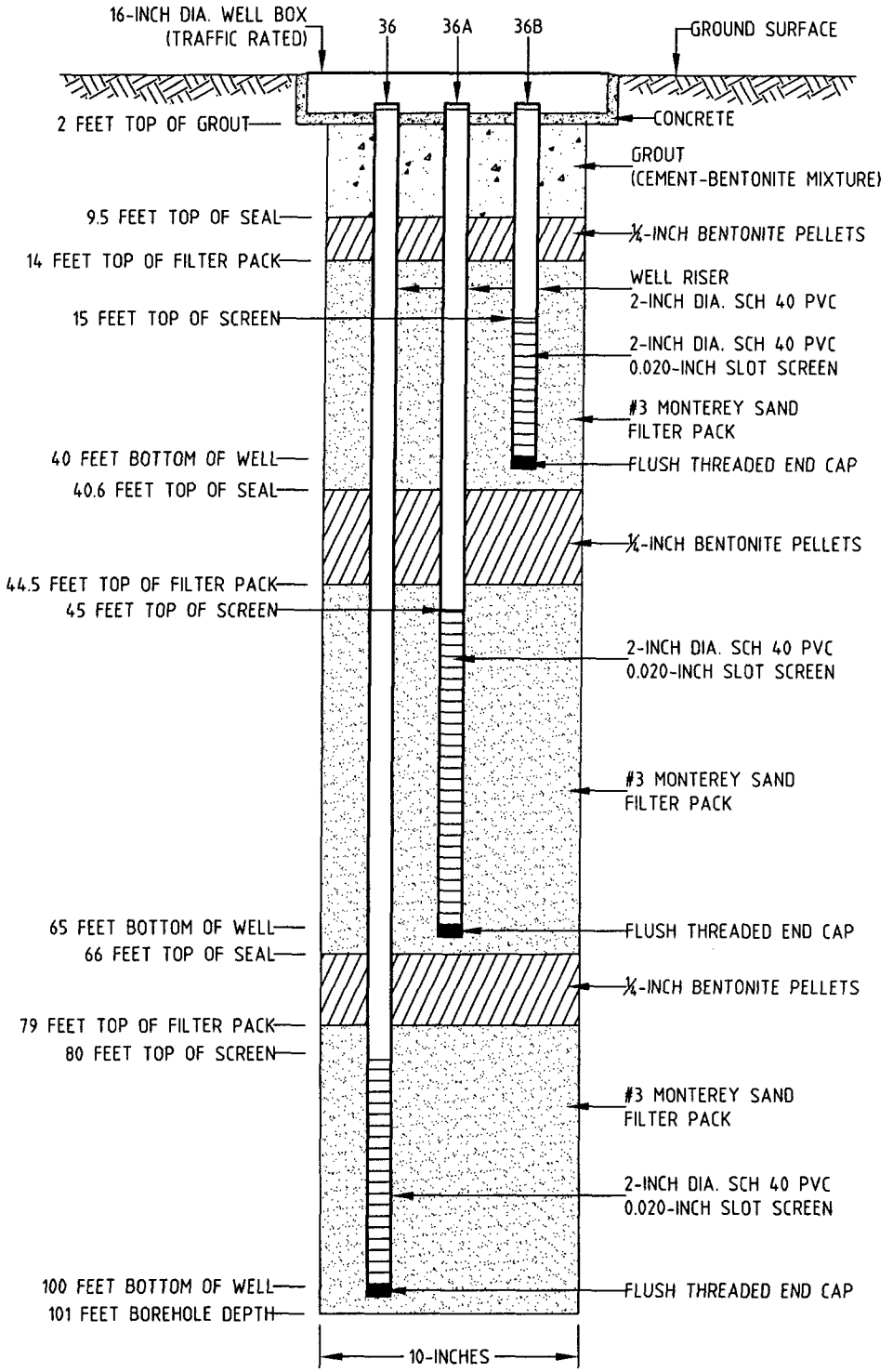
Well Construction 24-SVE 36/A/B

Project **MCAS/EL TORO**	Northing 2188899.10	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109763.06	Drill Rig AP 1000	Begin Drilling 6/28/99
Client SWDIV	TOC Elevation 283.95	Driller MARTIN	End Drilling 6/29/99
Location **SITE 24**	A: 284.05 B: 283.82	Drill Method D.W.R.C.P.H.	Well Completion Date
Geologist S. TOKASH	TOP OF RIM 284.41	DIAGRAM NOT TO SCALE	6/29/99



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

OHM Remediation Services Corp.

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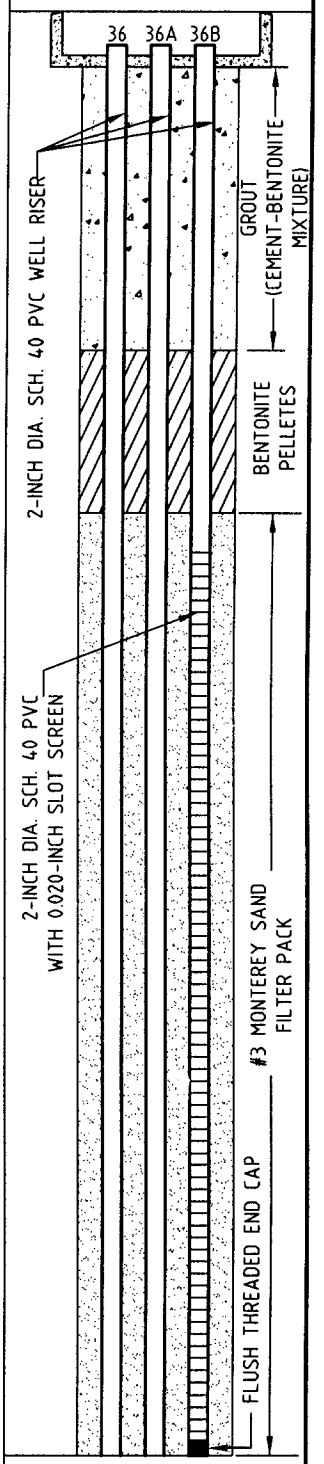
Geologic Log of Boring 24-SVE 36/A/B

Project **MCAS/EL TORO**	Northing 2188899.10	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109763.06	Drill Rig AP 1000	Begin Drilling 6/28/99
Client SWDIV	TOC Elevation 283.95	Driller MARTIN	End Drilling 6/29/99
Location **SITE 24**	A: 284.05 B: 283.82	Drill Method D.W.R.C.P.H.	Well Completion Date 6/29/99
Geologist S. TOKASH	TOP OF RIM 284.41	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 101 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10-inch concrete at surface. Top 15 feet hand augured for underground utilities clearance. Poorly graded Sand (SP).	0–14	SP					
Silty Sand (SM): Brown (10YR 5/3), 60% fine sand, 40% fines, moist, medium dense.	16	SM				14 17 20	6 6 3
Poorly graded Sand with Silt (SP-SM): Brown (10YR 5/3), 90% fine sand, 10% silt, moist, medium dense.	20–22	SP/SM				9 12 17	6 6 6
Poorly graded Sand (SP): Very pale brown (10YR 7/4), 100% fine to medium sand, dry to slightly moist, medium dense.	24–26	SP				12 13 14	6 6 6
Silty Sand (SM): Brown (10YR 4/3), 70% fine to medium sand 30% silt, moist, medium dense.	28–30	SM				12 13 14	6 6 6
Poorly graded Sand (SP): Very pale brown (10YR 7/4), 100% fine to medium sand, dry to slightly moist, medium dense.	32–34	SP					
Silty Sand (SM): Brown (10YR 4/3), 80% fine to medium sand, 20% silt, moist, very dense.	36–40	SM				50/6"	

BORING DETAIL



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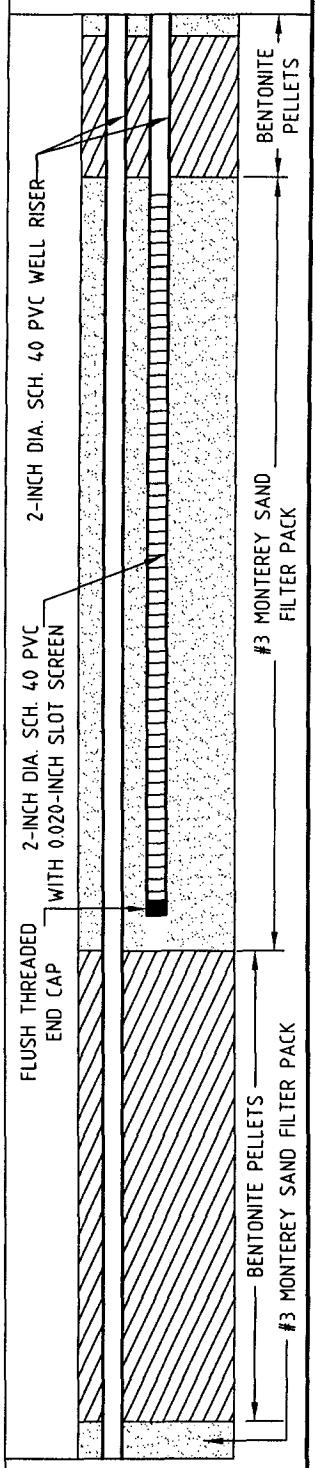
Geologic Log of Well 24-SVE 36/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Brown (10YR 5/3), 70% medium sand, 30% silt, moist, very dense.	40	SM				27 50/6"	
	42						
	44						
Sandy Silt (ML): Dark grayish brown (10YR 4/2), 90% fines, 10% fine sand, moist, very stiff.	46	ML				12 15 17	6
	48						
Silty Sand (SM): Light yellowish brown (10YR 6/4), 70% fine to medium sand, 30% silt, moist, very dense.	50	SM				50/6"	6
	52						
	54						
Silty Sand (SM): Yellowish brown (10YR 5/4), 70% fine to medium sand, 30% silt, moist, dense.	56					18 38 41	6 6 6
	58						
Silty Sand: Yellowish brown (10YR 5/4), 60% fine sand, 40% fines, moist, medium dense.	60					11 13 17	3
	62						
	64						
Silty Sand/Sandy Silt (SM/ML): Brown (10YR 5/3), 50% fine sand, 50% silt, moist, very dense.	66	SM/ ML				18 50/6"	
	68						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine to medium sand, 20 % silt, moist, dense.	70	SM				27 25/5"	6 6
	72						
	74						
Poorly graded Sand with Silt (SP-SM): Yellowish brown (10YR 5/4), 90% fine sand, 10% silt, moist, very dense.	76	SP/ SM				40 50/4"	6 6
Silty Sand/Sandy Silt (SM/ML): Brown (10YR 5/3), 50% fine sand, 50% silt, moist, very dense.	78	SM/ ML					
	80						



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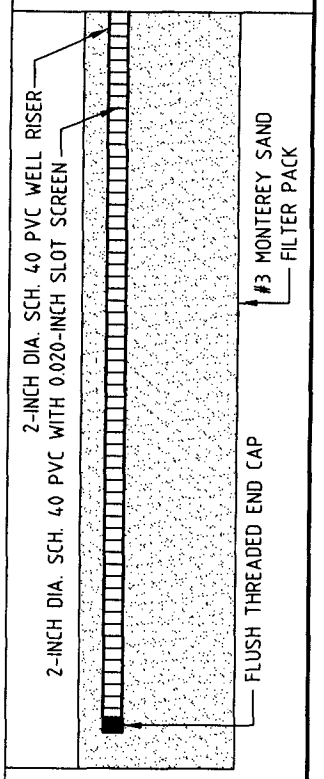
OHM Remediation Services Corp.

Geologic Log of Well 24-SVE 36/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand/Sandy Silt (SM/ML): Brown (10YR 5/3), 50% fine sand, 50% silt, moist, very dense.	80	SM/ML		X		50/6"	6
	82						
	84	SP					
Poorly graded Sand (SP): Very pale brown (10YR 7/4), 100% fine sand trace cobbles, slightly moist, very dense.	86			X		50/6"	6
	88						
Poorly graded Sand (SP): Very pale brown (10YR 7/4), 100% fine sand, trace cobbles, slightly moist, dense.	90			X		26	6
				X		37	6
				X		39	6
	92						
	94						
Poorly graded Sand with Silt (SP/SM): Very pale yellow, 90% fine to medium sand, 10% silt, dry to slightly moist, very dense.	96	SP/SM		X		50/4"	3
Silty Sand (SM): Light olive brown (2.5Y 5/4), 75% fine sand, 25% low plastic fines, slightly moist to moist, very dense, interbedded with sandy silt.	98	SM					
	100			X		30	6
Total Depth = 101 feet.						50/4"	6
	102						
	104						
	106						
	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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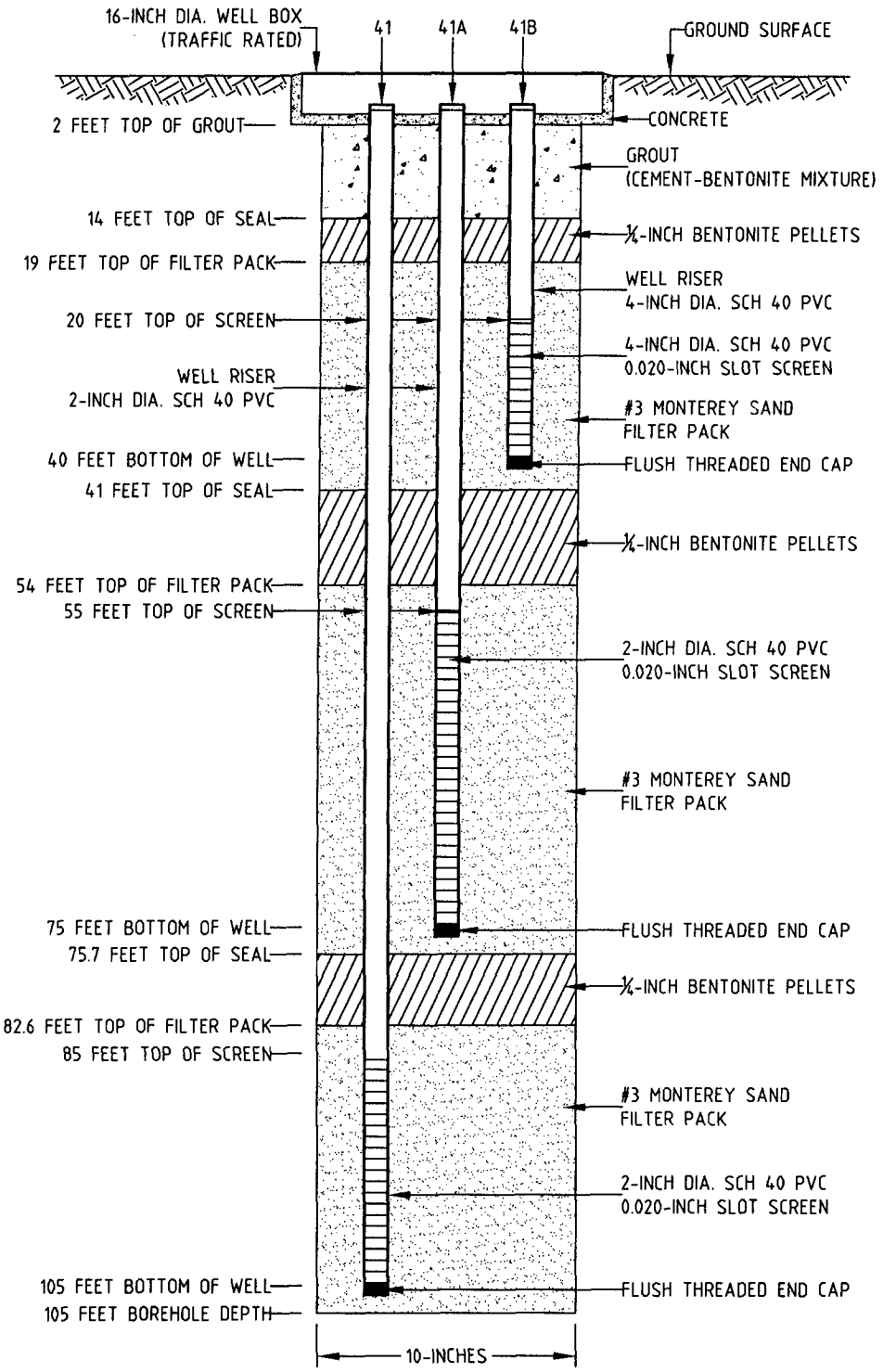
Well Construction 24-SVE 41/A/B

Project **MCAS/EL TORO**	Northing 2188712.87		Drilling Company LAYNE CHRISTENSEN		
Project Number **918708**	Easting 6109664.06		Drill Rig AP 1000	Begin Drilling 6/24/99	
Client SWDIV	TOC Elevation 284.01		Driller MARTIN	End Drilling 6/24/99	
Location **SITE 24**	D· 283.87	B· 283.77	Drill Method D.W.R.C.P.H.	Well Completion Date 6/24/99	
Geologist S. TOKASH	TOP OF RIM 284.51		DIAGRAM NOT TO SCALE		



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

OHM Remediation Services Corp.

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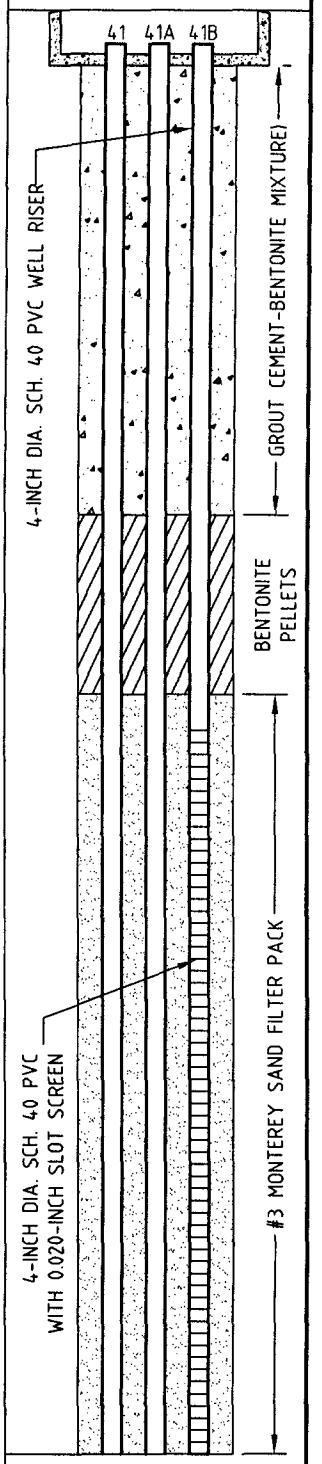
Geologic Log of Boring 24-SVE 41/A/B

Project **MCAS/EL TORO**	Northing 2188712.87	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109664.06	Drill Rig AP 1000	Begin Drilling 6/24/99
Client SWDIV	TOC Elevation 284.01	Driller MARTIN	End Drilling 6/24/99
Location **SITE 24**	A: 283.87 B: 283.77	Drill Method DUAL WALL REVERSE	Well Completion Date 6/24/99
Geologist S. TOKASH	TOP OF RIM 284.51	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 105 FEET	Depth to Water 105 FEET	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10 inch concrete @ surface. Top 15-feet hand augured for underground utilities clearance.	0, 2, 4, 6, 8, 10, 12, 14						
Silty Sand (SM): Yellowish brown (10YR 5/4), 70% fine to medium sand, 25% silt, slightly moist, medium dense.	16, 18	SM				11 13 13	6 6 6
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 80% silt, 20% fine sand, slightly moist, very stiff.	20, 22, 24	ML				12 12 20	6 6 3
Poorly Graded Sand (SP): Pale brown (10YR 6/3), 60% fine to medium sand, 40% fine to coarse gravel, dry, very dense.	26, 28	SP				29 50/1	3 3
No recovery. Coarse rounded gravel in sampler.	30, 32					50	0
Poorly Graded Sand With Silt (SP/SM): Dark grayish brown (10YR 4/2), 90% fine to medium sand, 10% silt, slightly moist, very dense.	34, 36, 38, 40	SP/SM				26 50/3	6 0

BORING DETAIL



OHM Remediation Services Corp.

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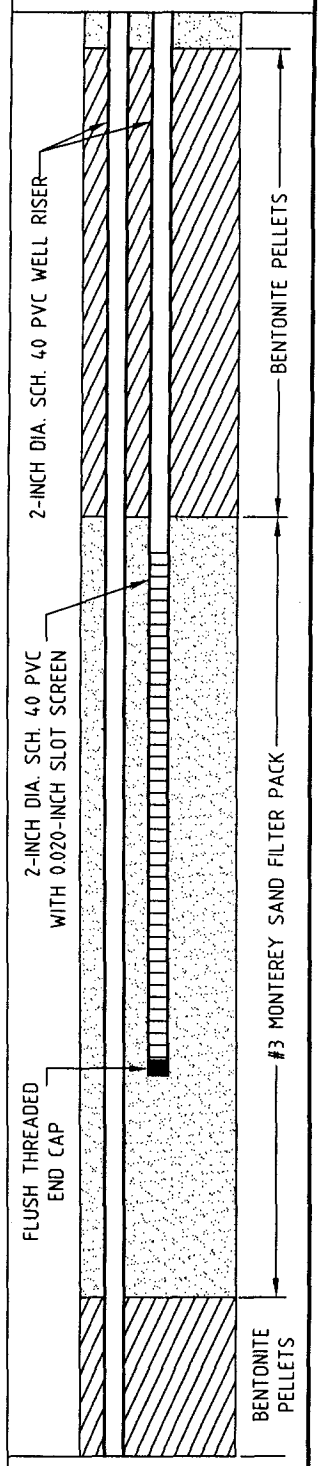
Geologic Log of Well 24-SVE 41/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Clayey Silt (ML): Dark yellowish brown (10YR 4/4), 90% fines, 10% clay, 10% fine to medium sand, slightly moist, hard.	40	ML				19 33 15	6 6 6
	42						
	44						
Poorly graded Sand with Silt (SP-SM): Light yellowish brown (10YR 6/4), 90% fine to medium sand, 10% silt, dry, medium dense.	46	SP-SM				23 22 24	6 6 6
Clayey Silt (ML): Dark yellowish brown (10YR 4/4), 90% fines, 10% fine to medium sand, slightly moist, hard.	48	ML					
Clayey Silt (ML): Same as above.	50					25 50/4	6 6
	52						
	54						
Poorly graded Sand with Silt (SP/SM): Brown (10YR 5/3), 90% fine sand, 10% silt, dry to slightly moist, dense.	56	SP/ SM				31 24 32	6 6 6
	58						
Sandy Silt (ML): Yellowish brown (10YR 5/4), 60% silt, 40% fine sand, dry to slightly moist, hard.	60	ML				27 27 31	6 6 6
	62						
	64						
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/4), 100% fine sand, dry, dense.	66	SP				28 27 27	6 6 6
	68						
Gravely Sand (SP): Light yellowish brown (2.5Y 6/4), 80% fine to coarse sand, 20% fine to coarse gravel, very dense, slightly moist.	70					44 50/3	6 3
	72						
	74						
Poorly graded Sand with Silt (SP/SM): Yellowish brown (10YR 5/4), 90% fine to medium sand, 10% silt, moist, very dense.	76	SP/ SM				50/5	3
	78						
	80						

WELL DETAIL

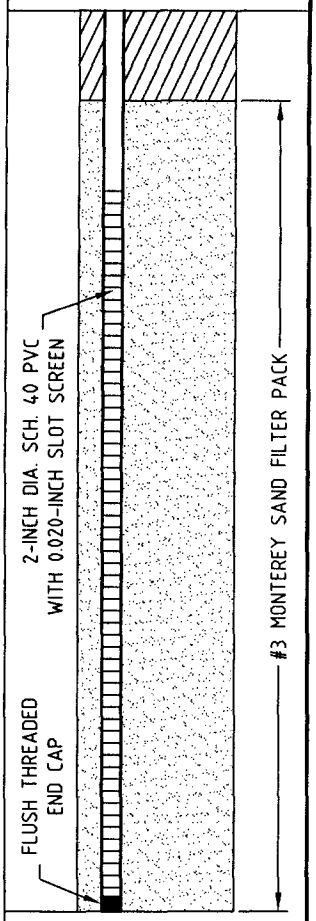


Geologic Log of Well 24-SVE 41/A/B

Project **MCAS/EL TORO** Project No. **918708**

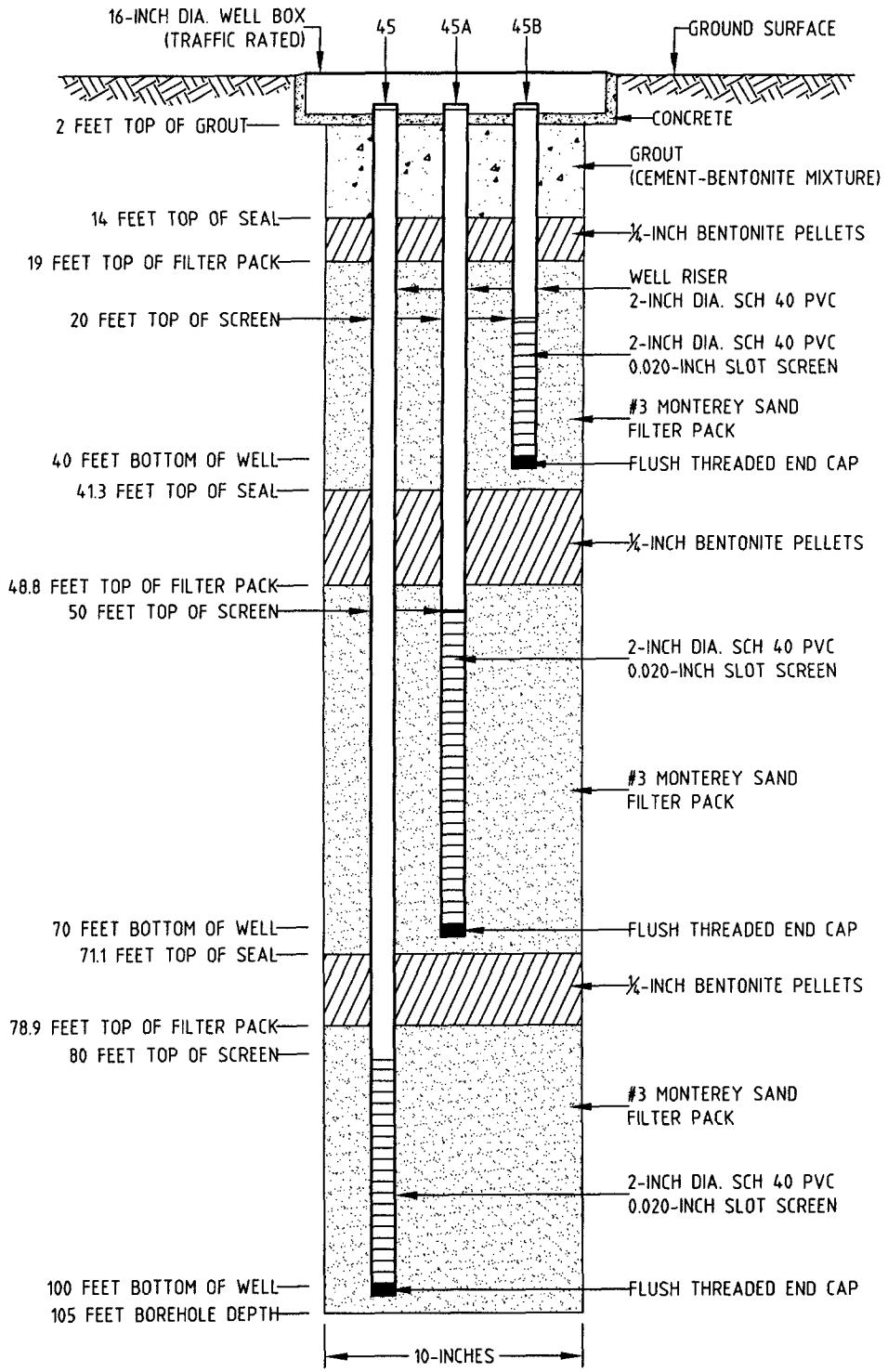
DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Clayey Silt (ML): Brown (10YR 5/3), 90% fines, 10% sand, hard, moist.	80	ML				27 42 50/5	6 6 6
	82						
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/4), 100% fine to medium sand, dry to slightly moist, dense.	84						
	86	SP				27 27 35	6 6 6
	88						
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/4), 100% fine to coarse sand, dry to slightly moist very dense.	90	SP				28 50/6	6 3
	92						
	94						
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/4), 100% very fine sand, dry to slightly moist, medium dense.	96	SP				17 18 32	6 6 0
	98						
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/4), 100% fine to medium sand, dry to slightly moist, dense.	100	SP				24 7 50	6 3 3
	102						
Silty Clay (CL): Very dark gray (10YR 3/1), 100% fines, moist, hard, water at approximately 105 ft below grade. Total depth = 105 feet.	104	CL				12 25 43	
	106						
	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



Well Construction 24-SVE 45/A/B

Project **MCAS/EL TORO**	Northing 2188722.61		Drilling Company LAYNE CHRISTENSEN		
Project Number **918708**	Easting 6109709.44		Drill Rig AP 1000		Begin Drilling 6/25/99
Client SWDIV	TOC Elevation 284.01		Driller MARTIN		End Drilling 6/25/99
Location **SITE 24**	A: 283.99	B: 283.99	Drill Method D.W.R.C.P.H.		Well Completion Date
Geologist S. TOKASH	TOP OF RIM 284.46		DIAGRAM NOT TO SCALE		6/25/99



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

OHM Remediation Services Corp.

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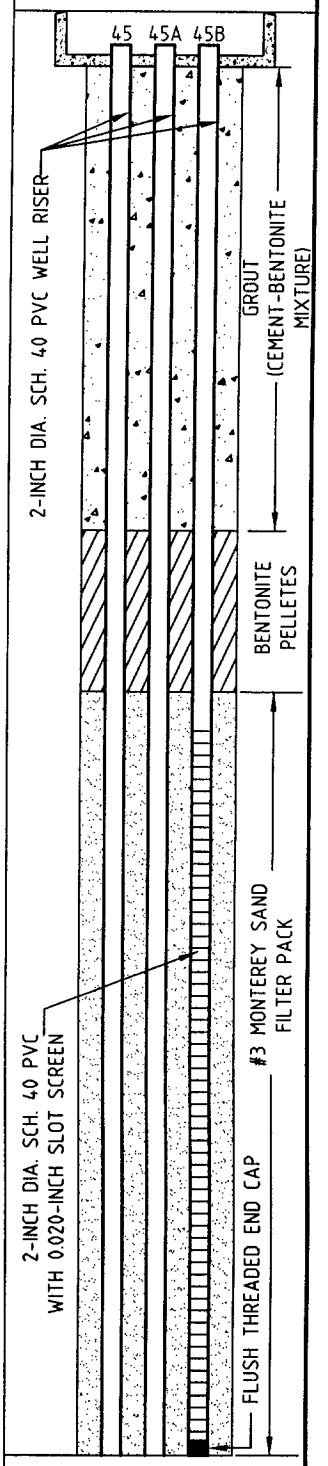
Geologic Log of Boring 24-SVE 45/A/B

Project **MCAS/EL TORO**	Northing 2188722.61	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109709.44	Drill Rig AP 1000	Begin Drilling 6/25/99
Client SWDIV	TOC Elevation 284.01	Driller MARTIN	End Drilling 6/25/99
Location **SITE 24**	A: 283.99 B: 283.99	Drill Method D.W.R.C.P.H.	Well Completion Date 6/25/99
Geologist S. TOKASH	TOP OF RIM 284.46	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 105 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10" concrete at surface. Top 15 feet hand augured for underground utilities clearance.	0						
	2						
	4						
	6						
	8						
	10						
	12	SM					
	14						
Silty Sand (SM): Brown (10YR 5/3), 70% fine to medium grained sand, 30% fines, slightly moist, medium dense.	16					12 15 22	6 6 3
	18						
Silty Sand (SM): Light yellowish brown (10YR 6/4), 70% fine to medium sand, 30% fines, slightly moist, medium dense.	20					14 15 23	6 6 6
	22						
	24						
Poorly graded Sand (SP): Very pale brown (10YR 7/3), 100% fine sand, dry to slightly moist, medium dense.	26					17 17 17	6 6 6
	28						
Poorly graded Sand (SP): Very pale brown (10YR 7/3), 95% fine to medium sand, 5% gravel and small cobbles, dry to slightly moist, dense.	30	SP				16 27 41	6 6 3
	32						
	34						
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 80% fine to medium sand, 20% silt, moist, very dense.	36	SM				25 26 50/5"	6 6 6
	38						
	40						

BORING DETAIL



OHM Remediation Services Corp.

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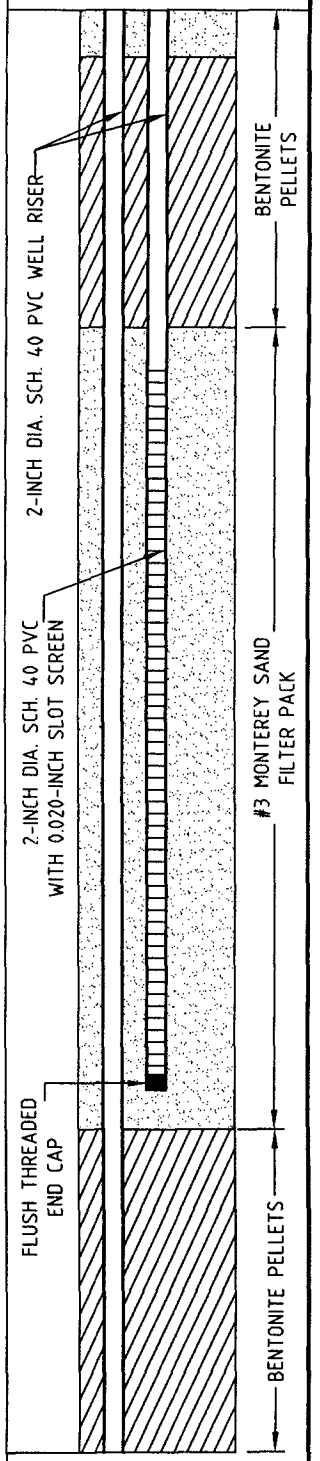
Geologic Log of Well 24-SVE 45/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 60% fine sand, 40% silt, moist, very dense.	40					20 40 50/5"	6 6 6
	42						
	44						
Silty Sand (SM): Same as above, medium dense.	46	SM				16 19 24	6 6 2
	48						
Silty Sand (SM): Same as above, very dense.	50					24 50/5"	6 6
	52						
	54						
Poorly graded Sand (SP): Light yellowish brown (10YR 6/4), 100% fine sand, dry to slightly moist, dense.	56					27 25 39	6 6 6
	58						
Poorly graded Sand (SP): Same as above, medium dense.	60	SP				14 17 22	6 6 6
	62						
	64						
Poorly graded Sand (SP): Light yellowish brown (10YR 6/4), 100% fine to medium sand, slightly moist, dense.	66					17 23 26	6 6 6
	68						
Silty Sand (SM): Dark yellowish brown (10YR 4/4), 60% fine to medium sand, 40% silt, moist, very dense.	70					24 24 50/5"	6 6 4
	72	SM					
	74						
Silty Sand/Sandy Silt (SM-ML): Dark yellowish brown (10YR 4/4), 50% fine sand, 50% silt, moist, very dense.	76					21 30 50/5"	6 6 6
	78	SM/ ML					
	80						



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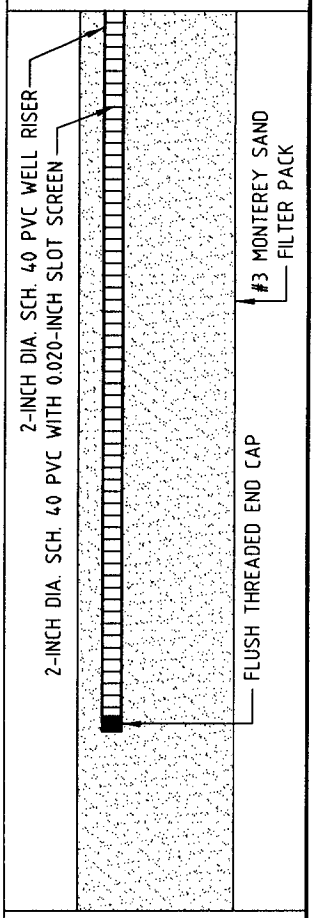
Geologic Log of Well 24-SVE 45/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand/Sandy Silt (SM-ML): Dark yellowish brown (10YR 4/4), 50% fine sand, 50% silt, moist, very dense.	80	SM/ML				22 29 50/2"	6 6 3
	82						
	84						
Poorly graded Sand: Very pale brown (10YR 7/4), 100% fine to medium sand, slightly moist, very dense.	86	SP				50/5"	6
	88						
Poorly graded Sand with Silt (SP-SM): Very pale brown (10YR 7/6), 90% fine to medium sand, 10% silt, dry to slightly moist, very dense.	90	SP/SM				27 50/4"	6 4
	92						
	94	SM					
Silty Sand (SM): Yellowish brown (10YR 5/4), 60% fine sand, 40% silt, moist, dense.	96					22 42 47	6 6 4
Poorly graded Sand (SP): Yellowish brown (10YR 5/4), 100% fine to medium sand, dry to slightly moist, dense.	98	SP					
Silty Sand/Sandy Silt (SM-ML): Yellowish brown (10YR 5/4), 50% fine to medium sand, 50% fines, moist, hard.	100	SM/ML				17 23 35	6 6 6
	102						
Sandy Silt (ML): Dark olive brown (1.8Y 4/4), 80% silt, 20% fine sand, moist, very stiff.	104	ML				8 11 22	
Total Depth = 100 feet.	106						
	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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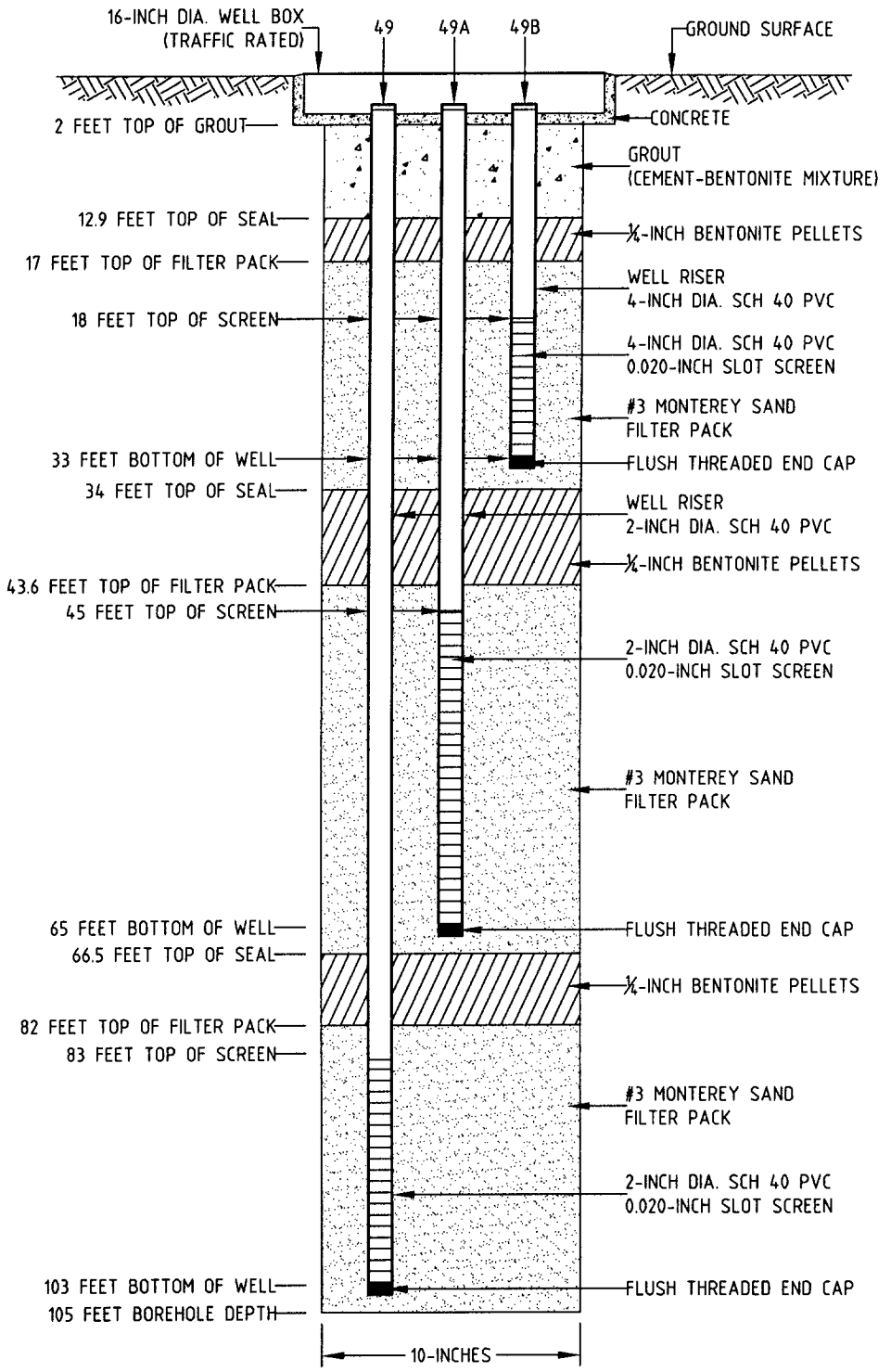
Well Construction 24-SVE 49/A/B

Project **MCAS/EL TORO**	Northing 2188601.75	Drilling Company LAYNE CHRISTENSEN			
Project Number **918708**	Easting 6109796.36	Drill Rig AP 1000		Begin Drilling 6/22/99	
Client SWDIV	TOC Elevation -	Driller MARTIN		End Drilling 6/22/99	
Location **SITE 24**	B -	Drill Method D.W.R.C.P.H.		Well Completion Date 6/23/99	
Geologist A. SIDDIQUI	TOP OF RIM 284.49	DIAGRAM NOT TO SCALE			



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

OHM Remediation Services Corp.

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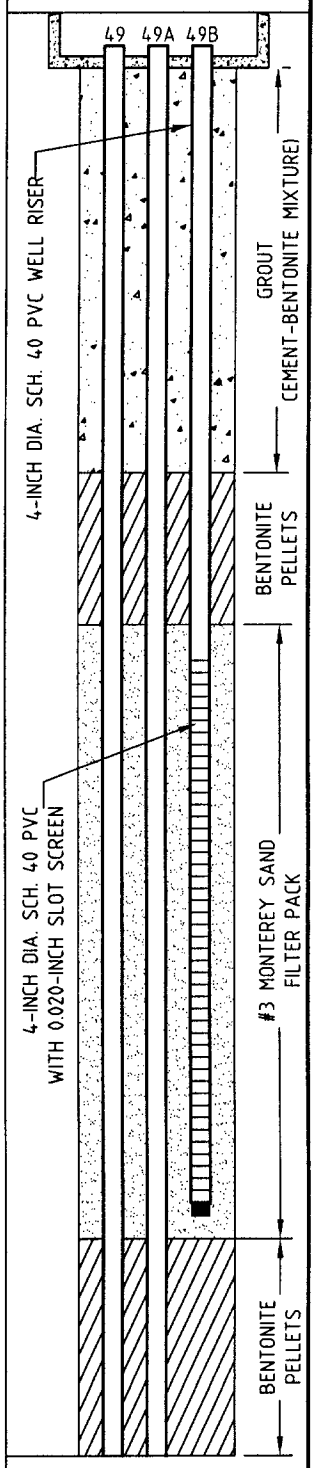
Geologic Log of Boring 24-SVE 49/A/B

Project **MCAS/EL TORO**	Northing 2188601.75	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109796.36	Drill Rig AP 1000	Begin Drilling 6/22/99
Client SWDIV	TOC Elevation -	Driller MARTIN	End Drilling 6/23/99
Location **SITE 24**	A/B -	Drill Method D.W.R.C.P.H	Well Completion Date 6/23/99
Geologist A. SIDDIQUI	TOP OF RIM 284.49	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10-inch concrete at surface. Top 15 feet hand augered.	0, 2, 4, 6, 8, 10, 12						
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 70% low plastic fines, 30% fine sand, slightly moist, very stiff, interbedded with silty sand.	14, 16	ML				19, 19, 19	6, 1, 0
Silty Sand (SM): Light olive brown (2.5Y 5/4), 80% fina sand, 20% fines, slightly moist, dense.	18, 20	SM				28, 31, 37	6, 6, 6
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/4), 100% fine to medium sand, trace fines, trace fine sub rounded gravel, slightly moist, dense.	22	SP					
Some coarse gravel and trace cobbles show up in soil cuttings.	24						
Poorly Graded Sand (SP): Light yellowish brown (2.5Y 6/3), 95% fine to medium sand, 5% fine sub rounded gravel, slightly moist, dense.	26, 28	SP				17, 31, 34	6, 6, 6
Poorly Graded Sand (SP): Yellowish brown (10YR 5/4), 100% fine to medium sand, trace fine sub rounded gravel, trace fines, slightly moist, medium dense, at places thin lenses of silty sand.	30, 32	SP				14, 19, 25	6, 6, 3
From 32 feet silty sand in soil cuttings.	34						
Clayey Silt (ML): Dark yellowish brown (10YR 4/4), 90% low to medium plastic fines, 10% fine sand, slightly moist, hard.	36, 38, 40	ML				28, 27, 48	6, 6, 6

BORING DETAIL



OHM Remediation Services Corp.

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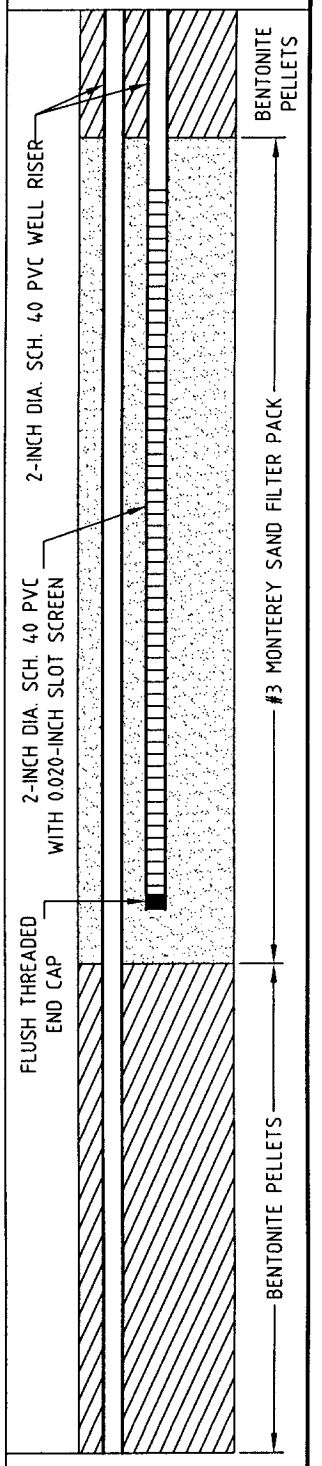
Geologic Log of Well 24-SVE 49/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Clayey Silt (ML): Dark yellowish brown (10YR 5/4), 90% medium plastic fines, 10% fine sand, slightly moist, hard.	40	ML				19 26 29	6 6 6
Soil cuttings plugging up the drive casing.	42						
	44						
Sandy Silt (ML): Dark yellowish brown (10YR 5/4), 75% low to medium plastic fines, 25% fine sand, slightly moist, hard, at places thin lenses of silty sand.	46	ML				8 16 31	6 6 2
	48						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine sand, 20% low plastic fines, slightly moist, very dense, trace caliche. At places lenses of sandy silt.	50	SM				41 50/5"	6 5
Fine, well sorted sand comming out of cyclone.	52						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine sand, 20% low plastic fines, slightly moist, medium dense, well sorted.	54	SM				14 16 17	6 6 6
Sandy Silt (ML): Brown (10YR 5/3), 80% low plastic fines (silt with little clay), 20% very fine sand, slightly moist, very stiff.	56	ML					
	58						
Sandy Silt (ML): Light olive brown (2.5Y 5/4), 75% low plastic fines, 25% fine sand, slightly moist, hard. Caliche in bottom 6 inches.	60	ML				31 28 50/5"	6 6 6
	62						
	64						
Clayey Silt (ML): Dark yellowish brown (10YR 5/4), 90% medium plastic fines, 10% fine sand, trace caliche, slightly moist, hard.	66	ML				45 50/2"	6 1
Inside of drive casing is plugging up with soil cuttings.	68						
Clayey Silt: Same as above.	70	ML				16 29 39	6 6 5
Silty Sand (SM): Dark yellowish brown (10YR 5/6), 65% fine sand, 35% non to low plastic fines, slightly moist, dense, interbedded with sandy silt.	72	SM					
	74						
Silty Sand (SM): Dark brown (10YR 3/3), 60% fine sand, 40% non to low plastic fine, slightly moist, very dense, interbedded with sandy silt.	76	SM				19 40 50	
	78						
	80						

WELL DETAIL



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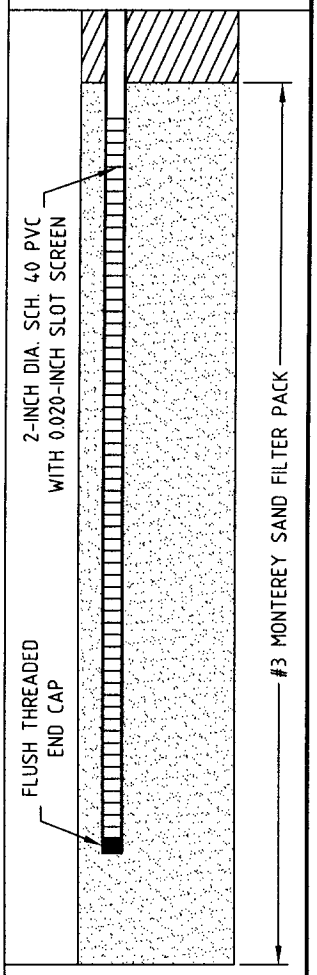
Geologic Log of Well 24-SVE 49/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Dark yellowish brown 10YR 4/4, 70% fine sand, 30% non plastic fines, slightly moist, very dense.	80	SM				50	3
	82						
	84						
Gravelly Sand (SP): Brown (10YR 5/3), 80% fine sand, 20% fine to coarse, sub rounded to sub angular gravel, very dense.	86	SP				31 50/1"	6 1
	88						
Gravelly Sand. Same as above. Not enought recovery. Only fine to coarse gravel in sampler.	90					47 50/1"	3
	92						
	94						
Poorly Graded Sand (SP): Light olive brown (2.5Y 5/4), 95% fine to medium sand, 5% fines, trace fine gravel, slightly moist to moist, very dense, strong odor.	96	SP				18 50/1"	6 1
	98						
Sandy Silt (ML): Olive brown (2.5Y 4/4), 80% low plastic fines (mostly silts), 20% fine to medium sand, moist, hard, no odor. Interbeded with sand.	100	ML				12 34 37	6 6 6
	102						
	104						
Clayey silt.						15	
Silty Sand (SM): Olive brown (2.5Y 4/4), 80% fine to medium sand, 20% low plastic fines, wet, very dense.	106	SM				31 50	
Total depth = 106.5 feet.	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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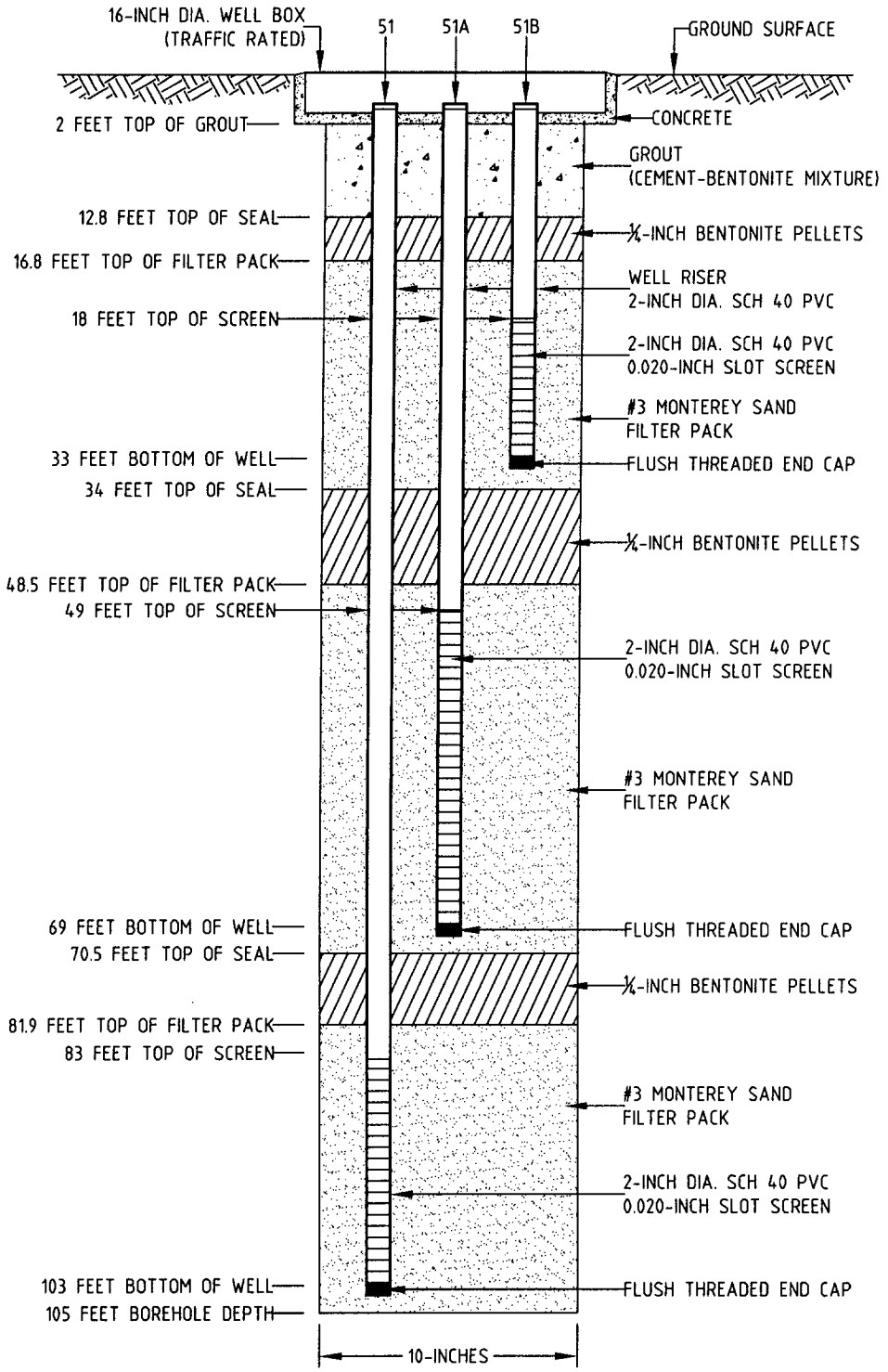
Well Construction 24-SVE 51/A/B

Project **MCAS/EL TORO**	Northing 2188667.30	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109853.95	Drill Rig AP 1000	Begin Drilling 6/21/99
Client SWDIV	TOC Elevation 284.11	Driller MARTIN	End Drilling 6/21/99
Location **SITE 24**	A: 284.11 B: 284.08	Drill Method D.W.R.C.P.H.	Well Completion Date 6/22/99
Geologist A. SIDDIQUI	TOP OF RIM 284.44	DIAGRAM NOT TO SCALE	



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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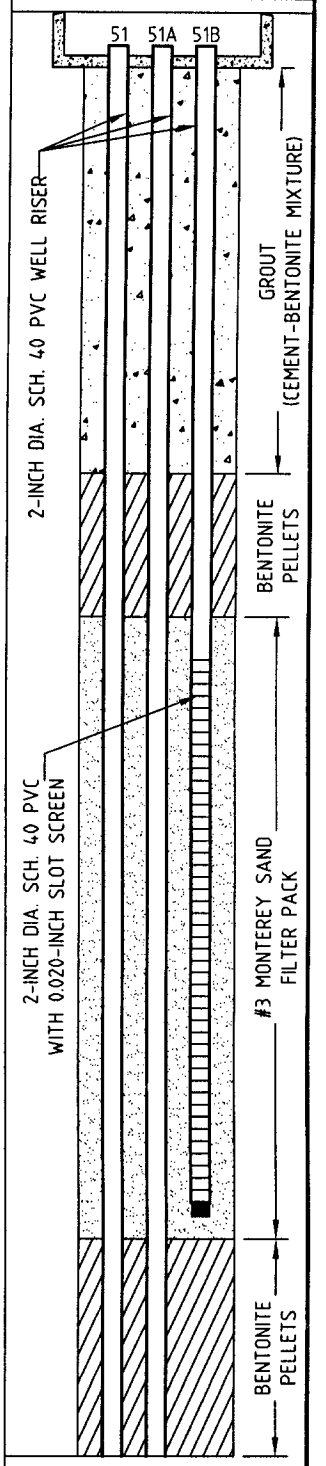
OHM Remediation Services Corp.

Geologic Log of Boring 24-SVE 51/A/B

Project **MCAS/EL TORO**	Northing 2188667.30	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109853.95	Drill Rig AP 1000	Begin Drilling 6/21/99
Client SWDIV	TOC Elevation 284.11	Driller MARTIN	End Drilling 6/21/99
Location **SITE 24**	A: 284.11 B: 284.08	Drill Method D.W.R.C.P.H	Well Completion Date
Geologist A. SIDDIQUI	TOP OF RIM 284.44	DIAGRAM NOT TO SCALE	6/22/99
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
12" concrete at surface. Top 15 feet hand augured for underground utilities clearance.	0						
	2						
	4						
	6						
	8						
	10	ML					
	12						
	14						
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 80% low plastic fines, 20% fine sand, slightly moist, hard.	16					11 23 21	6 2 0
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine sand, 20% fines, slightly moist.	18	SM					
Poorly graded Sand with Silt (SP/SM): Light olive brown (2.5Y 5/4), 90% fine sand, 10% fines, slightly moist, dense.	20					18 22 36	6 6 6
	22	SP/SM					
	24						
Poorly graded Sand (SP): Yellowish brown (10YR 5/4), 95% fines, mostly to medium sand, <5% fines, slightly moist, medium dense.	26					15 15 19	6 6 6
	28	SP					
Not enough recovery. 2" piece of gravel in shoe, gravel is showing up in cuttings, from 32 feet coil cutting consist of silt balls coated with sand.	30					50/4"	6
	32						
	34						
Sandy Silt (ML): Brown (7.5YR 4/4), 80% low plastic fines, 20% fine sand, slightly moist, hard.	36	ML				12 15 37	6 6 6
	38						
	40						

BORING DETAIL



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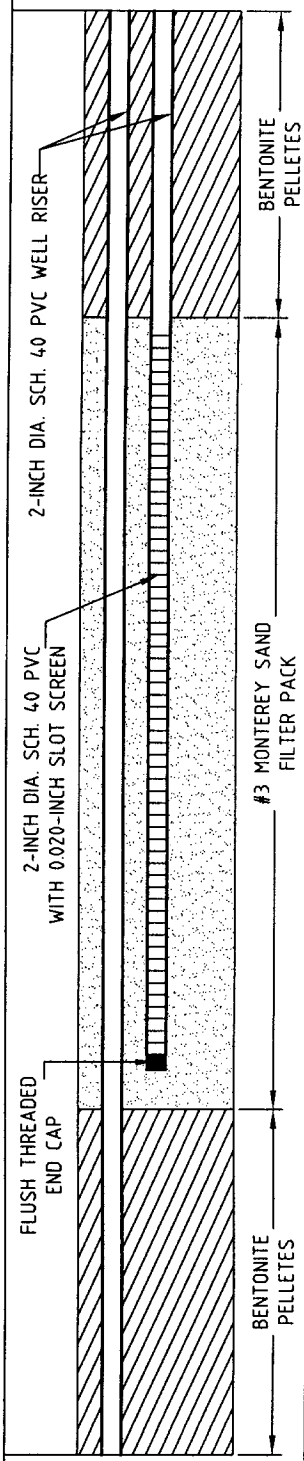
Geologic Log of Well 24-SVE 51/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Sandy Silt (ML): Brown (7.5YR 4/4), 70% low plastic fines, 30% fine sand, slightly moist, hard, at places grades into silty sand.	40	ML				17 27 43	6 6 6
	42						
	44						
Silt (ML): Dark brown (10YR 3/3), 90% low plastic fines (mostly silt and little clay), 10% fines sand, slightly moist, hard. Driller had to clean inside of drive casing from plugged up soil cuttings.	46					25 32 40	6 6 6
	48						
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 65% fine sand, 35% non to low plastic fines, slightly moist, very dense.	50	SM				31 50/3	6 2
	52						
	54						
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 60% very fine sand, 40% non plastic fines, slightly mist, very dense.	56					31 50	6 6
	58						
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 80% low plastic fines, 20% fine sand, little caliche, slightly moist, hard.	60	ML				18 28 32	
	62						
Sandy Silt (ML): Light olive brown (2.5Y 5/4), 60% low plastic fines, 40% fine sand, slightly moist, hard.	64						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 75% fine mostly to medium sand, 25% fines, trace caliche, slightly moist, very dense.	66	SM				36 50/2	6 1
	68						
Sandy Silt (ML): Dark yellowish brown (10YR 4/6), 80% low plastic fines, 20% fine sand, slightly moist, hard.	70	ML				27 32 40	6 6 6
	72						
	74						
Sandy Silt (ML): Light olive brown (2.5Y 5/4), 70% low plastic fines, 30% fine sand, slightly moist, hard.	76					14 17 24	6 6 6
	78						
	80						

WELL DETAIL



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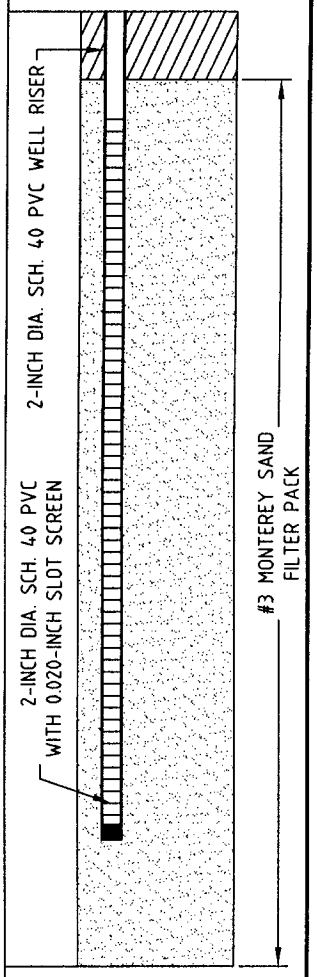
Geologic Log of Well 24-SVE 51/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Clayey Silt (ML): Light olive brown (2.5Y 5/4), 100% medium plastic fines, slightly moist, hard.	80	ML				13 17 27	
	82						
	84	SM					
Silty Sand (SM): Light olive brown (2.5Y 5/4), 70% fine sand, 30% low plastic fines, slightly moist, very dense. Interbedded with sandy silt.	86					27 50/5	6 4
	88						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 70% fine sand, 30% low plastic fines, slightly moist, very dense. Interbedded with sandy silt at places.	90					20 44 50	6 6 6
	92						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 80% fine sand, 20% fines, slightly moist, dense.	94					25 27 31	6 6 6
Clayey silt (ML): 100% medium plastic fines, trace fine sand, slightly moist, hard.	96	ML					
	98						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 70% fine sand, 30% low plastic fines, slightly moist, very dense.	100	SM				40 50/5	6 3
	102						
	104	ML					
Clayey Silt (ML): Dark brown (2.5Y 3/3), 100% medium plastic fines, trace very fine sand, moist to very moist, very stiff.	106					7 9 12	6 6 6
Total depth = 106.5 feet.	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



OHM Remediation Services Corp.

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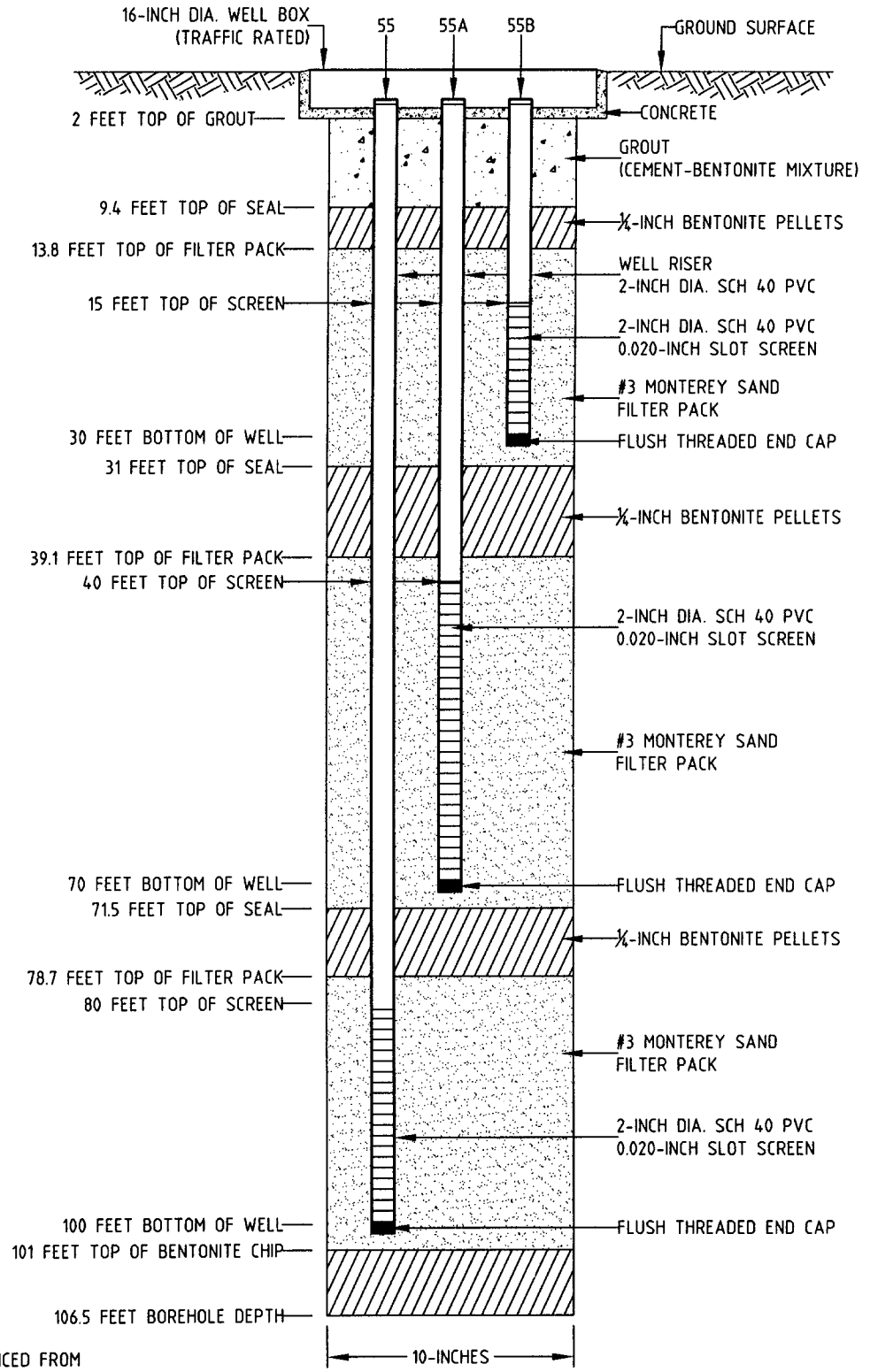
Well Construction 24-SVE 55/A/B

Project **MCAS/EL TORO**	Northing 2188675.08	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109972.37	Drill Rig AP 1000	Begin Drilling 6/17/99
Client SWDIV	TOC Elevation 284.50	Driller MARTIN	End Drilling 6/17/99
Location **SITE 24**	A: 284.53 B: 284.51	Drill Method D.W.R.C.P.H.	Well Completion Date
Geologist A. SIDDIQUI	TOP OF RIM 284.98	DIAGRAM NOT TO SCALE	6/18/99



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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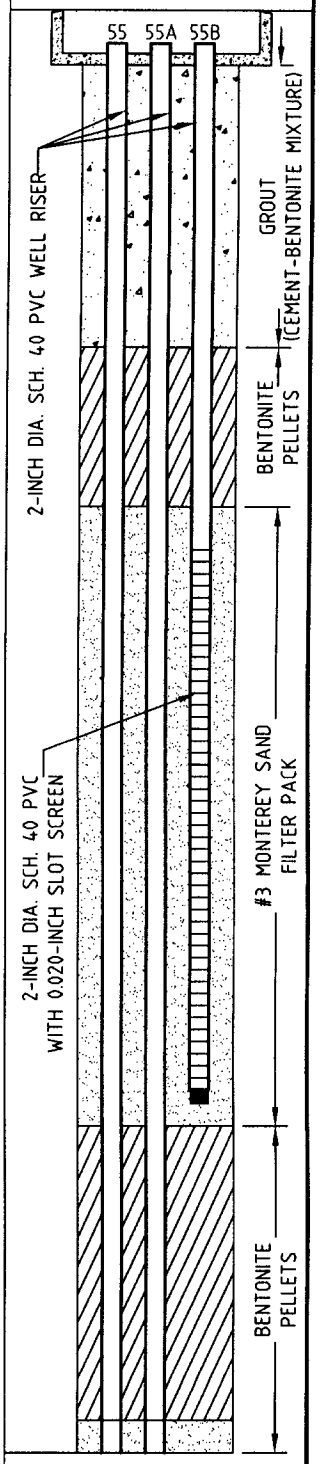
Geologic Log of Boring 24-SVE 55/A/B

Project **MCAS/EL TORO**	Northing 2188675.08	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109972.37	Drill Rig AP 1000	Begin Drilling 6/17/99
Client SWDIV	TOC Elevation 284.50	Driller MARTIN	End Drilling 6/17/99
Location **SITE 24**	A: 284.53 B: 284.51	Drill Method D.W.R.C.P.H	Well Completion Date 6/18/99
Geologist A. SIDDIQUI	TOP OF RIM 284.98	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10" concrete at surface. Top 15 feet hand augured for underground utilities clearance.	0						
	2						
	4						
	6						
	8	ML					
	10						
	12						
	14						
Sandy Silt (ML): Olive brown (2.5Y 4/4), 75% low to medium plastic fines, 25% fine sand, slightly moist, very stiff.	16					12 17 22	6 6 3
	18						
Poorly graded Sand (SP): Light olive brown (2.5Y 5/4), 95% fine (mostly) to medium sand, 5% fines, slightly moist, very dense, interbedded with silty sand at places.	20	SP				18 44 48	6 6 6
	22						
	24	SM					
Silty Sand (SM): Light olive brown (2.5Y 5/4), 75% fine sand, 25% low plastic fines, slightly moist, medium dense.	26					15 26 31	6 6 6
Sandy Silt (ML): Dark yellowish brown (10YR, 4/6), 70% low plastic fines, 30% fine sand, slightly moist, very stiff.	28	ML					
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 60% fine sand, 40%, non to low plastic fines, slightly moist, very dense.	30	SM				39 50/6	6 5
	32						
	34						
Sandy Silt (ML): Dark yellowish brown (10YR 4/6), 70% low plastic, fines, 30% fine sand, slightly moist, hard.	36	ML				17 20 31	6 6 6
	38						
	40						

BORING DETAIL



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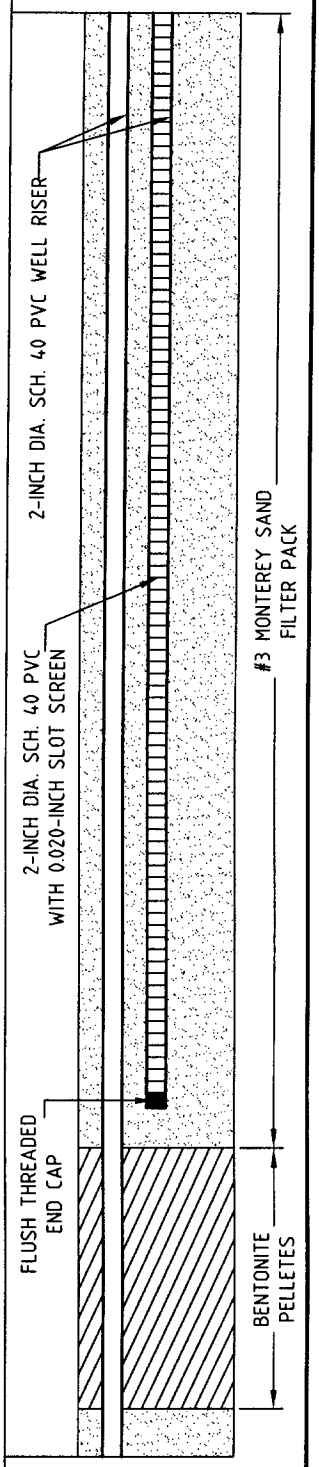
Geologic Log of Well 24-SVE 55/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 70% fine sand, 30% non plastic fines, slightly moist, very dense, very well sorted, interbedded with sandy silt.	40					18 40 50	6 6 6
	42						
	44						
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 65% fine sand, 35% non to low plastic fines, slightly moist, very dense, interbedded with sandy silt.	46	SM				18 40 50/5	6 6 4
	48						
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 80% fine sand, 20% non plastic fines, slightly moist, very dense.	50					50/5	4
	52						
	54						
Sandy Silt (ML): dark yellowish brown (10YR 4/6), 70% non to low plastic fines, 30% fine sand, slightly moist, hard. Amount of sand is variable 25% to 40%.	56					14 50/6	6 6
	58	ML					
Dark yellowish brown (10YR 4/4), 85% non to low plastic fines, 15% very fine sand, slightly moist, hard, caliche at places.	60					45 50/6	6 6
	62						
	64						
Silty Sand (SM): Dark yellowish brown (10YR 4/6), 60% fine sand, 40% low plastic fines (mostly silt with some clay), slightly moist, dense, trace caliche, interbedded with sandy silt.	66					17 37 37	6 6 6
	68	SM					
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 70% fine sand, 30% non to low plastic fines, slightly moist, very dense.	70					25 50/5	
	72						
	74						
Sandy Silt (ML): Light olive brown (2.5Y 5/4), 70% medium plastic fines, (mostly silt with clay), 30% very fine sand, trace fine gravel, slightly moist, hard.	76	ML				25 50/2	6 1
	78						
	80	SM					

WELL DETAIL



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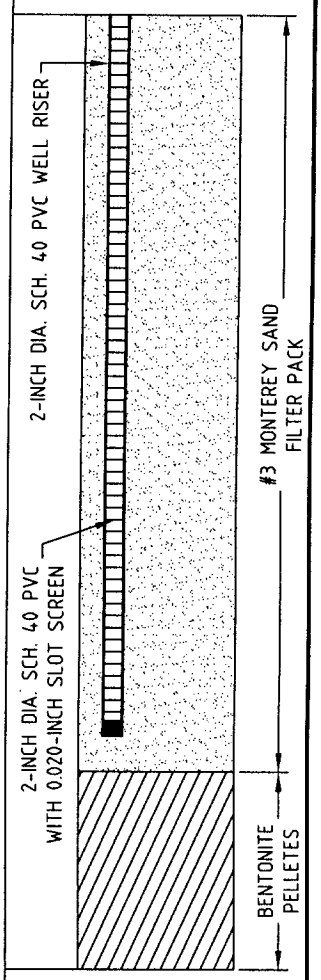
Geologic Log of Well 24-SVE 55/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Light olive brown (2.5Y 5/4), 75% fine sand, 25% non to low plastic fines, slightly moist, very dense, trace coarse gravel.	80	SM				50/4	3
	82						
	84						
Poorly graded Sand (SP): Light olive brown (2.5Y 5/4), 95% fine (mostly) to medium sand, 5% fines, trace fine, subrounded gravel, slightly moist, very dense, interbedded with silty sand at places.	86	SP				27 50/2	6 4
	88						
Sandy Silt (ML): Light olive brown (2.5Y 5/3), 90% medium plastic fines, 10% fine sand, slightly moist, hard, interbedded with sand lenses.	90	ML				40 39 45	6 6 6
	92						
	94						
Silty Sand (SM): Dark yellowish brown (10YR 3/6), 65% fine sand, 35% non to low plastic fines, slightly moist to moist, very dense, interbedded with silt.	96	SM				50/6	5
	98						
Silt (ML): Olive brown (2.5Y 5/4), 90% medium plastic fines, 10% fine sand, moist, very stiff.	100	ML				21 25 43	6 6 4
Silty Sand (SM): Light olive brown (2.5Y 5/4), 80% fine sand, 20% fines, moist, dense to very dense, very well sorted, interbedded with silt.	102	SM					
	104						
Silty Sand (SM): Olive brown (2.5Y 4/4), 70% fine sand, 30% low plastic fines, wet, medium dense.	106					9 19 27	
	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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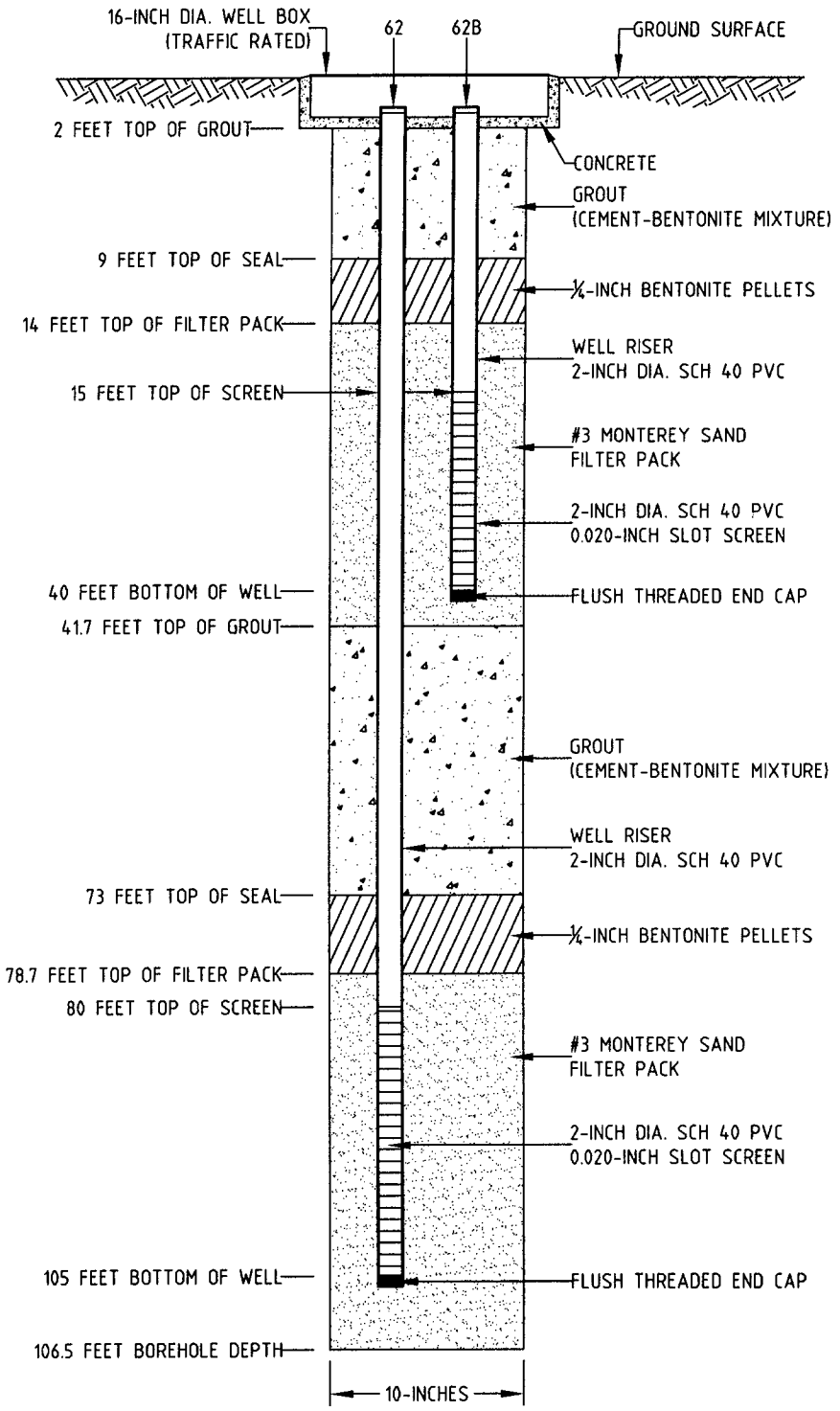
OHM Remediation Services Corp.

Well Construction 24-SVE 62/B

Project	**MCAS/EL TORO**	Northing	2189034.33	Drilling Company	LAYNE CHRISTENSEN	
Project Number	**918708**	Easting	6109959.57	Drill Rig	AP 1000	Begin Drilling 6/30/99
Client	SWDIV	TOC Elevation	283.46	Driller	MARTIN	End Drilling 6/30/99
Location	**SITE 24**	B	283.32	Drill Method	D.W.R.C.P.H.	Well Completion Date
Geologist	A. SIDDIQUI	TOP OF RIM	283.86	DIAGRAM NOT TO SCALE		7/01/99



NOTES:

DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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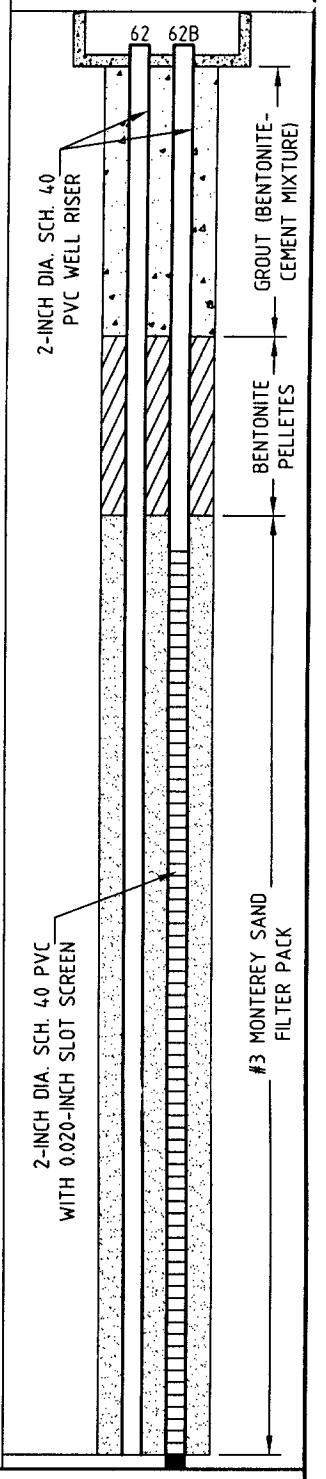
OHM Remediation Services Corp.

Geologic Log of Boring 24-SVE 62/B

Project **MCAS/EL TORO**	Northing 2189034.33	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6109959.57	Drill Rig AP 1000	Begin Drilling 6/30/99
Client SWDIV	TOC Elevation 283.46	Driller MARTIN	End Drilling 6/30/99
Location **SITE 24**	B 283.32	Drill Method D.W.R.C.A.P.	Well Completion Date
Geologist A. SIDDIQUI	TOP OF RIM 283.86	DIAGRAM NOT TO SCALE	6/30/99
Borehole Diameter 10 TO 11-INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water 105 FEET	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10-inch concrete at surface. Top 15-feet hand augured for underground utilities clearance.	0, 2, 4, 6, 8, 10, 12, 14	ML					
Sandy Silt (ML): Dark yellowish brown (10YR 5/4), 80% low plastic fines, 20% fine sand, slightly moist, stiff.	16					7 7 8	6 6 6
Silty Sand (SM): Brown (7.5YR 4/3), 70% fine sand, 30% low plastic fines, wet, medium dense.	18	SM					
Silt (ML): Brown (10YR 5/3), 90% low to medium plastic fines, 10% very fine sand, slightly moist, hard.	20, 22	ML			100	9 10 26	6 6 6
At 22.5 feet trace fine gravel and sand begin to show up in soil cuttings.	24						
Silty Sand (SM): Dark yellowish brown (10YR 3/4), 75% fine sand, 25% non to low plastic fines, slightly moist, dense.	26				106	17 35 45	6 6 6
	28	SM					
Silty Sand (SM): Dark yellowish brown (10YR 5/6), 75% fine sand, 25% non plastic fines, slightly moist, very dense.	30, 32				58	39 50	6 6
Sandy Silt (SM): Dark yellowish brown (10YR 5/4), 60% low plastic fines, 40% very fine sand, slightly moist, hard, at places grades into silty sand.	34, 36	ML			92	20 21 40	6 6 6
	38, 40						

BORING DETAIL



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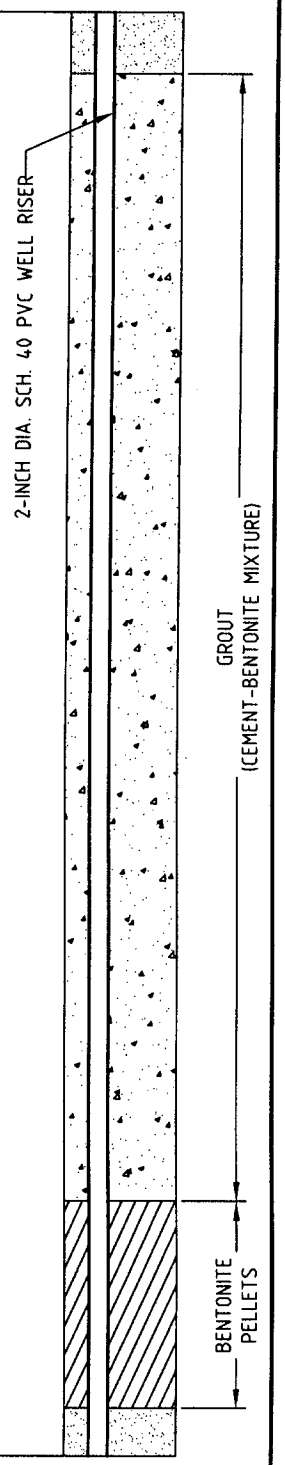
Geologic Log of Well 24-SVE 62/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 60% non to low plastic fines, 40% very fine sand, slightly moist, hard.	40	ML			7	26 50/4	6 6
	42						
	44						
Silty Sand (ML): Yellowish brown (10YR 5/4), 70% fine sand, 30% non plastic fines, slightly moist, very dense.	46	SM			42	25 50/5	6 5
	48						
Poorly graded Sand with silt (SP-SM): Yellowish brown (10YR 5/4), 90% fine sand, 10% non plastic fines, slightly moist, very dense.	50	SP-SM			29	30 50/5	6 4
	52						
	54						
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 75% non to low plastic fines, 25% fine sand, trace caliche, slightly moist, hard.	56	ML				23 41 50/4	6 6 4
	58						
Silty Sand (SM): Dark Yellowish brown (10YR 4/4), 75% fine sand, 25% non plastic fines, slightly moist, dense.	60	SM			9	24 39 41	6 6 6
	62						
	64						
Silty Sand (SM): Yellowish brown (10YR 5/4), 80% fine sand, 20% non to low plastic fines, slightly moist, dense, interbedded with sandy silt at places, trace caliche, grades in to SP at places.	66				0	23 29 35	6 6 6
	68						
Sandy Silt (ML): Dark yellowish brown (10YR 4/4), 75% non plastic fines, 25% fine sand, slightly moist, hard, olive color mottling.	70	ML			0	25 50/5	6 4
	72						
	74						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 80% fine sand, 20% non to low plastic fines, trace fine gravel, slightly moist, very dense.	76	SM			0	50	5
	78						
	80						

WELL DETAIL



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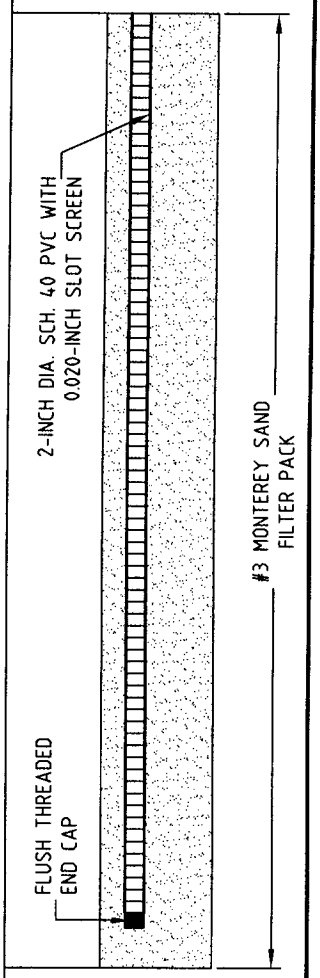
Geologic Log of Well 24-SVE 62/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Light olive brown (2.5Y 5/4), 85% fine sand, 15% fines, slightly moist, dense.	80				9	19 30 37	6 6 6
	82						
Silty Sand (SM): Light olive brown (2.5Y 5/4), 70% fine sand, 30% low plastic fines, slightly moist, very dense, interbedded with sandy silt and poorly graded sand.	84				15	35 40 44	6 6 6
	86						
	88	SM					
Silty Sand (SM): Olive brown (2.5Y 5/4), 70% fine sand, 30% non plastic fines, moist, dense, grades into sandy silt at places, amount of fines variable 25% to 40%.	90				0	20 25 40	6 6 6
	92						
	94						
Silty Sand (SM): Olive brown (2.5Y 5/4), 75% fine (mostly) to (little) medium sand, 25% non to low plastic fines, moist, very dense.	96					32 50/4"	
	98						
Poorly graded Sand (SP): Light olive brown (2.5Y 5/4), 95% fine sand, <5% fines, slightly moist to moist, dense, well sorted.	100	SP				26 27 45	6 6 6
	102						
	104						
Silty Sand (SM): Olive brown (2.5Y 5/4), 70% fine sand, 30% non to low plastic fines, wet, medium dense, amount of fines, variable 25% to 40%, trace fine, subrounded gravel and coarse sand.	106	SM				12 24 21	6 6 6
Total depth= 106.5 feet.	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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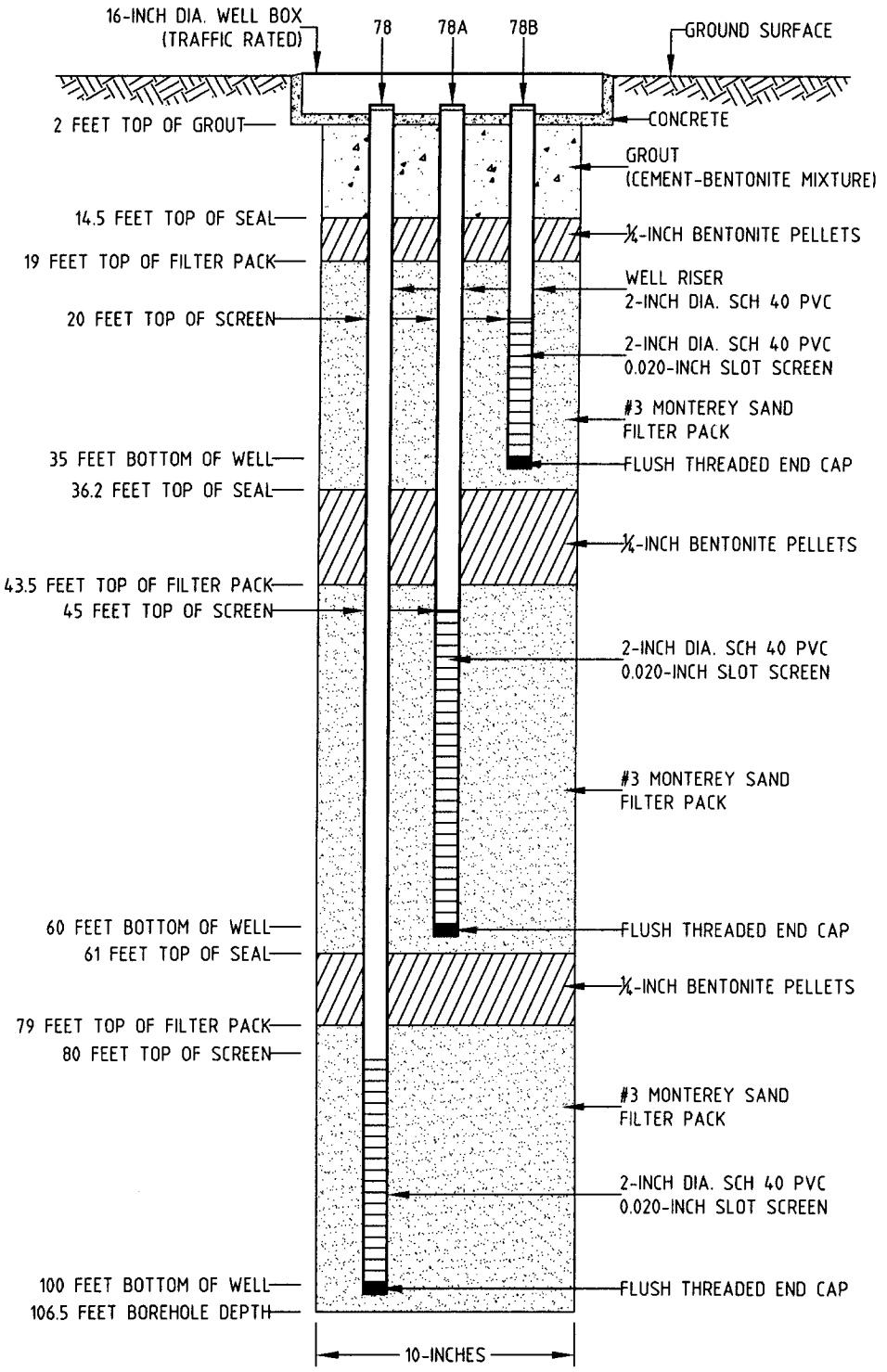
Well Construction 24-SVE 78/A/B

Project **MCAS/EL TORO**	Northing 2188774.57	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6110099.14	Drill Rig AP 1000	Begin Drilling 7/1/99
Client SWDIV	TOC Elevation 287.33	Driller MARTIN	End Drilling 7/1/99
Location **SITE 24**	A: 287.33 B: 287.06	Drill Method D.W.R.C.P.H.	Well Completion Date 7/2/99
Geologist A. SIDDIQUI	TOP OF RIM 287.57	DIAGRAM NOT TO SCALE	



NOTES:
DEPTHS ARE REFERENCED FROM
0 FEET GROUND SURFACE.
TOC=TOP OF CASING

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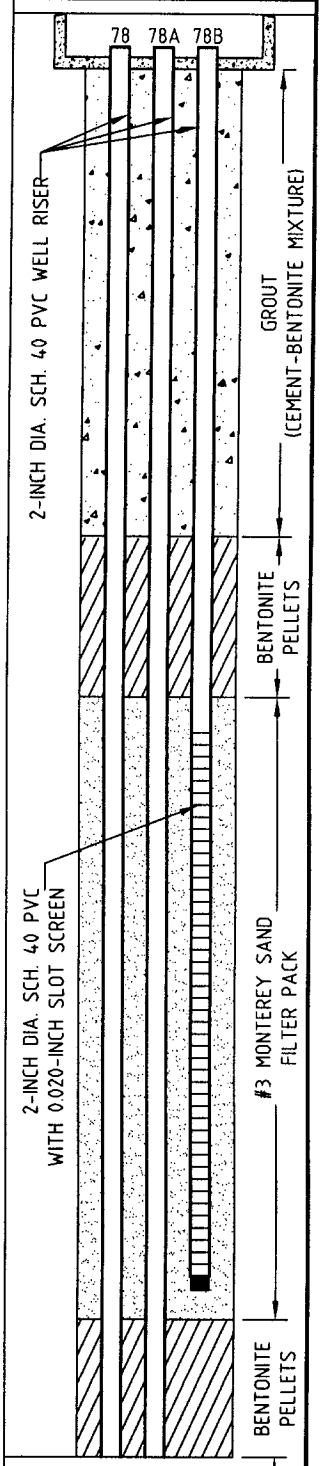
OHM Remediation Services Corp.

Geologic Log of Boring 24-SVE 78/A/B

Project **MCAS/EL TORO**	Northing 2188774.57	Drilling Company LAYNE CHRISTENSEN	
Project Number **918708**	Easting 6110099.14	Drill Rig AP 1000	Begin Drilling 7/1/99
Client SWDIV	TOC Elevation 287.33	Driller MARTIN	End Drilling 7/1/99
Location **SITE 24**	A: 287.33 B: 287.06	Drill Method D.W.R.C.P.H	Well Completion Date 7/2/99
Geologist A. SIDDIQUI	TOP OF RIM 287.57	DIAGRAM NOT TO SCALE	
Borehole Diameter 10-11 INCHES	Total Depth of Borehole 106.5 FEET	Depth to Water NOT ENCOUNTERED	

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 in.	Recovery (inches)
10" concrete at surface. Top 15 feet hand augured for underground utilities clearance.	0						
	2						
	4						
	6						
	8						
	10	ML					
	12						
	14						
Sandy Silt (ML): Dark yellowish brown (10YR 4/3), 80% low plastic fines, 20% fine sand, slightly moist, very stiff, interbedded with silty sand.	16					13 16 20	6 6 2
	18						
Silty Sand (SM): Yellowish brown (10YR 5/4), 75% fine mostly to medium sand, 25% low plastic fines, slightly moist medium dense, amount of fines variable, 10% to 30% interbedded silty sand and poorly graded sand with silt.	20	SM				19 21 22	6 6 5
	22						
	24						
Poorly graded Sand (SP): Light yellowish brown (2.5Y 6/3), 100% fine to medium sand, trace fine subrounded gravel, slightly moist, medium dense, gravel showing up in soil cuttings.	26	SP				21 18 21	6 6 6
	28						
Silty Sand (SM): Dark yellowish brown (10YR 3/6), mottled at places to olive gray, 60% fine sand, 40% low plastic fines, trace fine gravel, medium to coarse sand, coarse sand and gravel are with the top 6-inch of sample in olive gray, clayey matrix slightly moist, dense.	30	SM				46 39 45	6 6 6
	32						
	34						
Sandy Silt (ML): Dark yellowish brown (10YR 3/6), 75% low plastic fines, 25% fine sand, slightly moist, hard.	36	ML				12 16 32	6 6 6
	38						
	40						

BORING DETAIL



OHM Remediation Services Corp.

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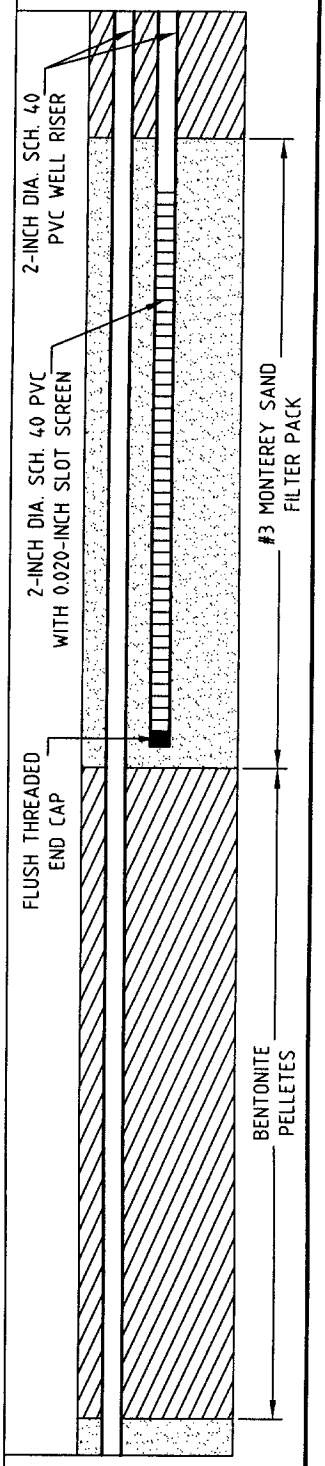
Geologic Log of Well 24-SVE 78/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Sandy Silt (ML): Dark yellowish brown (10YR 3/6), 80% low plastic fines, 20% fine sand, slightly moist, very stiff.	40	ML				10 13 17	6 6 6
	42						
	44						
Silt (ML): Dark yellowish brown (10YR 3/4), 90% medium plastic fines, 10% fine sand, slightly moist, hard. At approximately 48 feet driller cleaned soil cutting plugged into the drive casing.	46					10 17 28	6 6 6
	48						
Silty Sand (SM): Dark yellowish brown (10YR 5/6), 75% fine (mostly) to medium sand, 25% non to low plastic fines, slightly moist, dense.	50	SM				23 33 50	6 6 6
	52						
	54						
Silty Sand (SM): Dark yellowish brown (10YR 5/6), 60% very fine sand, 40% non plastic, fine, slightly moist, dense, interbedded with silt.	56					19 25 41	6 6 6
	58						
Silt (ML): Light olive brown (2.5Y 5/4), 80% low to medium plastic fines, 20% fine sand, some caliche, slightly moist, hard.	60	ML				21 24 43	6 6 6
	62						
	64						
Silts (ML): Olive brown (2.5Y 5/4), 80% medium plastic fines, (mostly) silt, little clay, 20% fine sand, slightly moist, interbedded with silty sand. Top 5-inch sample consists of sand.	66					43 50	6 5
	68						
Silty Sand (SM): Dark yellowish brown (10YR 5/6), 65% fine sand, 35% low to medium plastic fines, slightly moist, interbedded with silt.	70	SM				27 50	
	72						
	74						
Sandy Silt (ML): Yellowish brown (10YR 5/4), 75% low to medium plastic fines, 25% fine sand, slightly moist, hard.	76	ML				14 17 38	6 6 6
	78						
	80	SM					

WELL DETAIL



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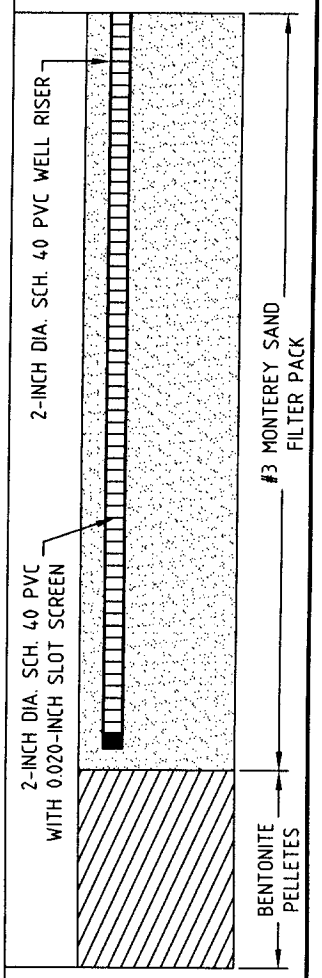
Geologic Log of Well 24-SVE 78/A/B

Project **MCAS/EL TORO** Project No. **918708**

DESCRIPTION	Depth (feet)	Soil Group	Graphic Log	Samples	PID/FID (ppm)	Blows/6 In.	Recovery (6 inches)
Silty Sand (SM): Light olive brown (2.5Y 5/4), 70% very fine sand, 30% low plastic fines, slightly moist, dense.	80	SM				25 50	6 6
	82						
Fine to coarse gravels show up in soil cuttings at 84 feet.	84						
Poorly graded Sand with Silt (SP-SM): Light olive brown (2.5Y 5/4), 90% fine sand, 10% fines, slightly moist, dense, very well sorted, interbedded with silty sand.	86	SP-SM				18 39 45	6 6 6
	88						
Sandy Silt (ML): Olive brown (2.5Y 4/4), 70% low to medium plastic fines, 30% fine sand, slightly moist to moist, hard, interbedded with thin lenses of sand with trace fine gravel.	90	ML				21 22 24	6 6 6
	92						
	94						
Silty Sand (SM): Olive brown (10YR 4/4), 75% fine sand, 25% low plastic fines, slightly moist to moist, very dense, interbedded with sandy silt .	96					32 50/4	5 4
	98	SM					
Silty Sand (SM): Olive brown (2.5Y 4/4), 75% fine (mostly) to medium sand, 25% low plastic fines, slightly moist, very dense, interbedded with sandy silt.	100					23 50/3	6 7
	102						
	104						
Silty Sand (SM): Olive brown (2.5Y 4/4), 65% fine sand, 35% medium plastic fines (mostly) silt with clay, medium dense.	106					11 13 28	6 6 3
Total depth = 106.5 feet.	108						
	110						
	112						
	114						
	116						
	118						
	120						

WELL DETAIL



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