The electronic version of this document(s) should have the name: Report.HW.932019A.1988-05-31.Information Summary Report - Appendix I



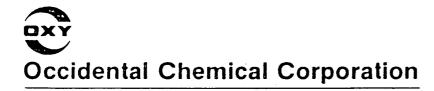
Occidental Chemical Corporation

INFORMATION SUMMARY REPORT APPENDIX - 1 OVERBURDEN STRATIGRAPHIC AND INSTRUMENTATION LOGS

- OVERBURDEN WELLS
- OVERBURDEN BOREHOLES
- UTILITY BEDDING EXCAVATIONS

S-Area Remedial Program





INFORMATION SUMMARY REPORT APPENDIX - 1 OVERBURDEN STRATIGRAPHIC AND INSTRUMENTATION LOGS

- OVERBURDEN WELLS
- OVERBURDEN BOREHOLES
- UTILITY BEDDING EXCAVATIONS

S-Area Remedial Program

LIST OF OVERBURDEN WELLS

OW260-87 OW261-87 OW262-87 OW263-87 OW264-87: OW265-87 OW266-87 OW267-88 OW268-88 OW269-88 OW270-87 OW271-87 OW272-87 OW273-87 OW274-87 OW275-87 OW276-87 OW277-87 OW278-87 OW279-87 OW280-87 OW281-87 OW282-87 OW283-87 OW284-87 OW285-87 OW286-87 OW287-87 OW288-87 OW289-87 OW290-87 OW291-87 OW292-87 OW293-87 OW294-87

LIST OF OVERBURDEN BOREHOLES

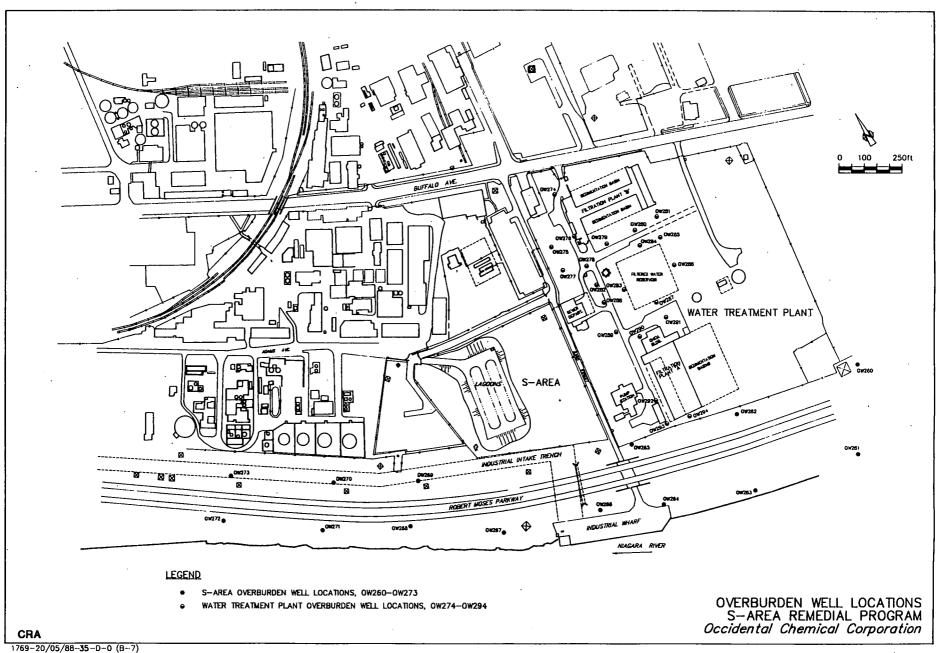
BH-100-87	BH-146-87	BH-192-88
BH-101-87	BH-147-87	BH-193-88
BH-102-87	BH-148-87	BH-194-88
BH-103-87	BH-149-87	BH-195-88
BH-104-87	BH-150-87	BH-196-88
BH-105-87	BH-151-87	BH-197-88
	BH-151-87	
BH-106-87		BH-198-88
BH-107-87	BH-153-87	BH-199-88
BH-108-87	BH-154-87	BH-200-88
BH-109-87	BH-155-87	BH-201-88
BH-110-87	BH-156-87	BH-202-88
BH-111-87	BH-157-87	BH-203-88
BH-112-87	BH-158-87	BH-204-88
BH-113-87	BH-159-87	BH-205-88
BH-114-87	BH-160-87	BH-206-88
BH-115-87	BH-161-87	BH-207-88
BH-116-87	BH-162-87	BH-208-88
BH-117-87	BH-163-87	BH-209-88
BH-118-87	BH-164-87	BH-210-88
BH-119-87	BH-165-87	BH-211-88
BH-120-87	BH-166-87	BH-212-88
BH-121-87	BH-167-87	BH-213-88
BH-121-67 BH-122-87	BH-168-87	BH-214-88
BH-123-87	BH-169-87	BH-215-88
BH-124-87	BH-170-87	BH-216-88
BH-125-87	BH-171-87	BH-217-88
BH-126-87	BH-172-87	BH-218-88
BH-127-87	BH-173-87	BH-219-88
BH-128-87	BH-174-87	BH-220-88
BH-129-87	BH-175-87	BH-221-88
BH-130-87	BH-176-87	BH-222-88
BH-131-87	BH-177-87	BH-223-88
BH-132-87	BH-178-87	
BH-133 - 87	BH-179-87	
BH-134-87	BH-180-87	
BH-135-87	BH-181-87	•
BH-136-87	BH-182-87	
BH-137-87	BH-183-87	
BH-138-87	BH-184-87	
BH-139-87	BH-185-87	
BH-139-87 BH-140-87	BH-185-87 BH-186-87	
BH-141-87	BH-187-87	
BH-142-87	BH-188-87	
BH-143-87	BH-189-88	
BH-144-87	BH-190-88	
BH-145-87	BH-191-88	

LIST OF UTILITY BEDDING EXCAVATIONS AND BORINGS

A-1 A-2 A-3 B-1 B-1A B-2 B-2AB-3 B-5 B-6 B-8 B-9 B-12 B - 13B-14 B-16 B-18 B-21 B-22 B-24 B-25 B-26

B-27 B-28 B-31 B-32 B-33 C-4A C-4B OVERBURDEN WELLS

OW260 - OW294



PROJECT NAME: S-AREA

HOLE DESIGNATION: OW260-87

PROJECT NO .:

1769

DATE COMPLETED: 6/10/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

CRA SUPERVISOR: D.C. MILLARD

LOCATIO	ON: NEAR PARKWAY, SOUTH OF HYSEN PROP	PERTY	CRA SUPERVISOR:	D.C. MILLAR B. BURKETT	
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPL N S S U T T	,Ñ,
IL BG	REFERENCE ELEVATION GROUND ELEVATION	567.80 568.4		N S T A T U S E R	A L U E
	augered to 1.0 ft. BGS, no sample /Fill — Red Brown Clayey Silt, Sandy, Gravel,	567.4	ROAD BOX	155	61
- 2.5	some Sand lenses, dry Fill — Red Brown Silt with fine to coarse	565.4	- CEMENT/ BENTONITE GROUT	255	18
- 5.0	Gravel, dry Fill — Gray fine to coarse Gravel, dry	563.4 562.4	- BENTONITE SEAL	355	>100
- 7.5	augered through "shot rock" to 13.0 ft. BGS, no samples		7.5°6 BOREHOLE		
-10.0					
10.0		-			
-12.5	Gray fine to medium Sand, some Silt, vegetation, trace fine Gravel, wet, native	555.4	2.0° B.I. PIPE	4SS	9
-15.0	same, with some coarse Sand, trace White shell fragments, no vegetation	553.4		555	7
-17.5	same, with trace coarse Gravel	551.4		6SS	12
-20.0	same, with trace Silt lenses, no Gravel	549.4	SAND PACK Q ROC #1	7SS X	2
00.5	same, except trace coarse Sand and coarse Gravel	547.4	G ROC #1	855	7
-22.5	Red Brown. Clay and Silt, some fine Sand,	544.0		988	14
-25.0	wet, native same, except some Silt, no Sand Red Brown Clay, Sand, and Silt, trace fine	543.4 542.4	SCREEN DETAILS: Screened Interval: 549.3 to 544.3	1055	2
-27.5	Gravel, wet, native, Till same, with angular rock fragments at spoon tip	541,4 540.1 539.9	Length -5 FT. Diameter -2.0* ID Slot # 6	1155	>100
-30.0	augered to 28.5 ft. BGS, no sample END OF BOREHOLE AT 28.5 ft. BGS		Material—STAINLESS STEEL Sand Pack Interval: 561.9 to 543.9		
- 32.5	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (4.0 ft. southwest) a 2.0° ID observation well was installed to 24.5 ft. BGS	5	201.9 to 243.9		
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	■ DEC/EF		TER FOUND	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W261-87

PROJECT NO.: 1769

DATE COMPLETED: 6/15/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

SOUTHEAST OF WATER TREATMENT PLANT

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N	SAMP	
11 00	REFERENCE ELEVATION GROUND ELEVATION	569.10 569.6	INSTALLATION	NUMBER BER	S T A T US	#CT > < Z
	augered to 1.0 ft. BGS, no sample		ROAD BOX	"	++1*	+
2.5	Fill — Brown Silt, some vegetation, trace Gravel, dry Fill — Gray angular Gravel, dry	568.6 568.1 567.7	CEVENT (155	X	>10
	augered through "shot rock" to 20.0 ft. BGS		CEMENT/ BENTONITE GROUT			
5.0						
7.5			BOREHOLE			
10.0						
12.5			2.0° \$ B.I. PIPE			
15.0						
17.5		·				1
20.0	Gray Silty fine Sand, wet, native	549.6	SAND	255		
22.5			SAND PACK Q ROC #1	355	\bigvee	1
25.0	,			455		2
	same, with some Gravel:	<i>544.0</i>	WELL	555	\bowtie	1, 1
27.5	Red Brown Silty Clay, trace Gravel, moist, low plastic, native, Till	541.8	SCREEN DETAILS:	655	\bigcirc	-
30.0	Red Brown and Gray Gravelly Sand, Silty, wet, nonplastic, native, Till	539.6	Screened Interval: 546.8 to 541.8 Length -5 FT.	7SS	\bigvee	>10
32.5	augered to 31.5 ft. BGS, no sample END OF BOREHOLE AT 31.5 FT. BGS NOTE: At completion the initial borehole	538,2 538.7	Diameter — 2.0" ID Slot # 6 Material—STAINLESS			
	was grouted to ground surface. In an adjacent borehole (5.0 ft. west) a 2.0" ID observation well was installed to 28.5 ft. BGS		STEEL Sand Pack Interval: 563.3 to 541.1			
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	A SAMPLE 🔀 WATER	R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W262-87 (PAGE 1 of 2)
DATE COMPLETED: 6/12/87

PROJECT NO.:

CLIENT:

DRILLING METHOD: HSA 8.0" OD

LOCATION:

OCCIDENTAL

NORTH OF PARKWAY, SOUTH OF WATERTOWER

1769

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	E
ft BG		ft AMSL	INSTALLATION	L N	SS	Ά.
	REFERENCE ELEVATION GROUND ELEVATION	574.32 574.5		M B E R	A T U S	A LUE
	augered to 1.0 ft. BGS, no sample		ROAD BOX	<u> </u>		
- 2.5	Fill — Brown and Gray Gravelly Silt, dry	573.5		155	\square	55
	Fill — Brown Silt, some Gravel and brick, trace Clay and Sand, moist	571.5	CEMENT/ BENTONITE GROUT	2SS		17
5.0	Fill — Black and Gray Silt and flyash, trace Sand, broken glass, moist	569.5		355	M	27
7.5	same, with Gravel and brick	567.5	8.0°¢ BOREHOLE	4SS	\bowtie	39
10.0	Fill — mottled Brown and Red Brown Silty	565.6 564.9 564.6 564.4	BENTONITE SEAL	555	\emptyset	29
	Fill - Black cinder, moist Fill - Black tar-like material	564.4 563.5	SEAL	655	\forall	15
12.5	Fill - light Brown Silty Sand, trace concrete, moist Fill - Brown, Black, White, and Red Silt,		2.0° # B.I. PIPE	755	Θ	2
15.0	slag, cinder, some Gravel, concrete, wet Fill — Black Silt, slag, cinders, wet,	559.5			Θ	
17.5	trace iridescent sheen, sewage odor	557.0		855		2
	Brown Gray fine Sandy Silt, trace thin Sand seams, wet, native	<i>555.5</i>		955	A	5
20.0	Gray Silty fine Sand, wet, native		SAND PACK Q ROC #1	1055	A	8
22.5			y Roc #1	1155		6
25.0	i.			12SS	X	13
	same, except fine to medium Sand, shell	<i>547.5</i>		1355		.1
27.5	fragments	<i>¥</i>		14SS	M	9
30.0	same, except trace Gravel	545.5	WELL	15SS	\prod	15
32. 5	Red Brown Clayey Silt, wet, slightly dilatent, native, Till Red Brown Sandy Silt, trace Clay and Gravel,	5421	SCREEN	16SS		18
02. U	wet, native, Till augered to 34.2 ft. BGS, no sample	542.1 541.5 540.5 540.3		1755		100
	END OF BOREHOLE AT 34.2 FT. BGS				لبلبا	
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/		SAMPLE ∇ WATE			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		r found C water Li	EVET	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	STUI —— STATI	C WAILK L	FACT	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW262-87 (PAGE 2 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 6/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

NORTH OF PARKWAY, SOUTH OF WATERTOWER

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAM	PLE
t BG		ft AMSL	INSTALLATION	N STA	S Y
32.5				STATE SUMBER	A A L
55.0	NOTE: At completion the initial borehole wa grouted to ground surface. In an adjacent borehole (5.0 ft. east) a 2.0" ID observation well was installed to 32.4 ft. BGS		SCREEN DETAILS: Screened Interval: 547.1 tp 542.1 Length -5.0 FT. Diameter -2.0" ID Slot # 6		
7.5			Material—STAINLESS STEEL Sand Pack Interval:		
0.0	en e		563.7 to 542.1		
2.5					,
5.0					
7.5					
0.0	*				
2.5					
5.0	·				
7.5					
5.0		·			
2.5	,				
5.0	•				
		1		[[- 1

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W263-87

PROJECT NO .:

1769

DATE COMPLETED: 6/17/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

SOUTHWEST OF PARKWAY, ADJACENT TO OW202.

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAN		
t BG	REFERENCE ELEVATION	ft AMSL 570.54	INSTALLATION	Z 🗆 🗷 🗷 E	S T A	ローターの	Ņ
	GROUND ELEVATION	571.0	u	BER	A T E	ย	E F
2.5	augered through "shot rock" to 18.0 ft. BGS		ROAD BOX				İ
5.0		,	BOREHOLE				
7.5			- BENTONITE				
10.0					t .		
12.5			2.0° ø B.I. PIPE	<i>,</i> -			
15.0							
17.5	Fill — Black Gray Silty fine to medium Sand, wet	553.0	SAND PACK Q ROC #1				
20.0	same, with trace wood Black Gray Silty fine Sand, wet, native Black Gray Silty fine to medium laminated	551.5 551.0		•			
22.5	Sand, trace White shell fragments, wet, native— Gray Black Silty medium to coarse Sand, wet, native— same, with fine Gravel— same, except rounded fine to medium Gravel—	549.5 549.0 547.5 545.2	WE SEREEN				
25.0	same, except coarse Sand, trace layers of fine Gravel	545.0 545.0	·				
27.5	END OF BOREHOLE AT 26:0 FT. BGS At complétion a 2:0° ID observation well was installed		SCREEN DETAILS: Screened Interval: 545.0' to 540.0' Length -5 FT.				
30.0	Note: Stratigraphy for 0.0-26.0 ft. taken from 0W202-87	`	Diameter — 2.0" ID Slot # 6 Material—STAINLESS STEEL				
32.5	·		Sand Pack Interval: 562.7' to 545.0'				

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W264-87 (PAGE 1 of 2)
DATE COMPLETED: 4/30/87

PROJECT NO .: 1769

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

CLIENT:

SOUTH OF PARKWAY, AT PUBLIC DOCK

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAME	
ft BG	REFERENCE ELEVATION	ft AMSL 568.21	INSTALLATION	N S S S S S S S S S S S S S S S S S S S	רון . מרא<גי
	GROUND ELEVATION	568.4		M A A B T 1	Ü
	Fill — dark Brown to Gray Silty Gravel, some Clay and Sand, trace vegetation, dry to moist	!	ROAD BOX	155	4.
2.5	same, except no vegetation	566.4 566.0	2.0° ø B.i. PIPE	2SS 🔀	>10
2.0	augered through "shot rock" to 8.0 ft. BGS		- CEMENT/ ENTON/TE GROU!		
5.0			BENTONITE SEAL		
	·				
7.5	•	500.4	7.5"¢		
	Fill — Gray to Brown Gray fine to medium Sandy Gravel, trace Silt, wet, slight	560.4		355	18
10.0	chemical odor	558.9			
	augered through "shot rock" to 12.5 ft. BGS				Ì
12.5	Fill Cray and dade Cray Silks Cray I	<i>555.9</i>			
	Fill — Gray and dark Gray Silty Gravel, trace Sand, wet		SAND CAROC #1	455	5
15.0	Fill — Black Gravelly Silt, Sandy, wet,	<i>553.9</i>			
	iridescent sheen	551.9	- SAND GAROC #1	5SS	
17.5	Black and dark Gray laminated Siity fine Sand, trace shell fragments, wet, iridescent		Q ROC #1	6SS	1
	Sheen, native Gray and dark Gray fine Sand, some Silt,	550.4	went went	7SS X	
20.0	trace Clayey Silt lenses wet, native same, with trace shell fragments	548 4	SCREEN	/33 🛚	1
	Dark Gray Silty fine Sand, some fine to	548.4 547.9 547.2		888	3
22.5	medium Gravel, trace shell fragments, wet, native	545.8	SCREEN DETAILS:	955	>10
	Red Brown Sand, Silt, and Clay, some Gravel, moist to wet, native, Till		Screened Interval: 562.4 to 547.4	l.	
25.0	augered to 24.0 ft. BGS, no sample	544.4 543.8	Length −15.0 FT. Diameter −2.0* ID	10SS	110
	Red Brown Silty Gravel, Sandy, trace Clay, wet, native, Till		Slot # 6 Material—STAINLESS		
27.5	Red Brown Sand, Silt, and Clay, some Gravel, moist to wet, native, Till		STEEL Sand Pack Interval:	1155	16
	no split spoon advancement,	540.4	562.9 to 547.4		
30.0	augered to 30.0 ft. BGS, no sample	538.4		1255	>10
	Red Brown Sand, Silt, and Clay, some Gravel, moist to wet, native, Till	538.6 538.6		1388	5
52.5	Gray Brown to Gray Silt, some fine Sand and Gravel, trace Clay, moist, native, Till	536.1		14SS 🔀	>10
	AUGER REFUSAL AND END OF BOREHOLE AT 32.3 FT. BGS	ļ			
DTĖS: (SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	PA SPUT			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SAMPLE WATER	FOUND '	
•	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	SPLIT T STATIO	WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W264-87 (PAGE 2 of 2)
DATE COMPLETED: 4/30/87

PROJECT NO .:

CLIENT:

OCCIDENTAL

1769

DRILLING METHOD: HSA 7.5" OD

LOCATION:

SOUTH OF PARKWAY, AT PUBLIC DOCK

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPL	
t BG	· · · · · · · · · · · · · · · · · · ·	ft AMSL	INSTALLATION	2 B B C C	S T A T U S	\$25 & LUE
32.5 35.0	NOTE: At completion the initial borebole was grouted to ground surface. In an adjacent borehole (3.0 ft. east) a 2.0" ID observation well was installed to 21.0 ft. BGS				Š	Ē
37.5						
10.0		ı		,		
12.5						
5.0						
7.5		,				
0.0						
2.5			•			
5.0	•	·				
7.5	ŧ.		·. ·			
0.0						
2.5		•	,			
5.0	,					

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW265-87 (PAGE 1 of 2)

PROJECT NO .:

1769 .

DATE COMPLETED: 4/24/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

D. 115A 0.0 0D

LOCATION:

SOUTH OF PUMP STATION, NORTH OF PARKWAY

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMF	
ft BG	REFERENCE ELEVATION GROUND ELEVATION	ft AMSL 574.02 574.5	INSTALLATION	A B K C Z	S T A T E	S N A LU
	Fill — dark Brown and Brown Silt and Clay, some Gravel and fine Sand, trace vegetation,	573.7 573.1	ROAD BOX	n 1SS	X	<u>\$</u>
2.5	moist Fill - Gray angular to rounded Gravel and Red Brown Sand, some Silt, dry to moist	573.1				
5.0	augered through "shot rock" to 4.0 ft. BGS Fill - Brown and Red Brown Silty fine Sand,	570.5 569.6	GROUT	255	\forall	12
	subangular to rounded Gravel, moist Fill — Red Brown and Brown Gray laminated Silty Clay and Gray Silty fine Sand, some	568.5 568.0	8.0° BORÉHOLE	355	\forall	40
7.5	Gravel, moist to wet Fill - Red Brown fine Sand, some Silt and Clay, angular to subangular Gravel, moist to		BENTONITE SEAL	455	\forall	18
10.0	wet Fill — dark Brown and Brown Gray Silty Clay, trace flyash, cinders, glass, moist	564.3		555	Θ	17
12.5	Fill — Brown Gray and Orange Brown flyash and Gravel, wet Fill — Brown Silt, flyash, trace cinders and	562.5 562.1	20" 4	655	\bigvee	1 '
15.0	fine Sand, wet Fill — Black cinders and Gravel, wet		8.I. PIPE		Θ	
15.0		557.9		755	\bigcirc	6
17.5	Dark Gray Silty fine Sand, trace vegetation, wet, native			8SS	A	8
20.0				955	\bigvee	15
00 E			SAND PACK Q ROC #1	1055	X	
22.5		550.5		11SS	X	4
25.0	Dark Gray and Gray fine Sandy Silt, wet, native same, with trace fine rounded Gravel	<i>548.5</i>		1255	X	3
27.5	same, except fine to medium Sand	546.5	WELL	1388	X	15
30.0		544.7	SCREEN SCREEN	14SS		
-	Red Brown Clayey Silt, some fine Sand, trace fine to medium Gravel, wet, native, Till augered to 32.0 ft. BGS, no sample	542.6 542.5		15SS		2:
32.5	no recovery Red Brown fine to medium Sand, some Silt	542.5 540.5		16SS	M	58
IOTES:	and Gravel, trace Clay, moist to wet, native, Till SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/T			17SS	M	64
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC		A SAMPLE VATE	R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW265-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 4/24/87

CLIENT:

. OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

SOUTH OF PUMP STATION, NORTH OF PARKWAY

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAMF	
t BG		ft AMSL	INSTALLATION	N STATE	,
32.5				R	
	no recovery	540.5	SCREEN DETAILS:	16SS X	5
35.0	Red Brown fine to medium Sand, some Silt and Gravel, trace Clay, moist to wet, native,	538.8	Screened Interval: 549.6 to 544.6 Length -5.0 FT.	17SS	. 6
	augered to 36.3 ft. BGS, no sample	538.2	Diameter - 2.0" ID Slot # 6		
37.5	END OF BOREHOLE AT 36.3 ft. BGS		Material - STAINLESS STEEL		
40.0	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (2.0 ft. east) a 2.0" ID observation well was installed to 30.2 ft. BGS		Sand Pack Interval: 565.1 to 544.3		
42.5					
	, , , , , , , , , , , , , , , , , , , ,				.
45.0					
17.5					
•				`	
50.0				.	
52.5	,				-
55.0				•	1
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57.5			•		
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0.0				,	Î
,					
2.5					
	. `				
35.0			•		
		1		1 1	1

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W266-88

PROJECT NO.: 1769

DATE COMPLETED: 3/22/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 10.0" OD

LOCATION:

NORTH SIDE OF PUBLIC DOCK

CRA SUPERVISOR: D.L. TARNOWSKI

EPTH t BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION			4PLE	
. 50	REFERENCE ELEVATION GROUND ELEVATION	ft AMSL 568.10 568.2	INSTALLATION	, 20 20 EC 2	STATE	STATUS	, A L U
	Fill — Brown and Red Brown fine Sandy Silt, Gray angular gravel, trace vegetation, moist		ROAD BOX CEMENT/ BENTONITE GROUT	R		S	<u>. E</u>
2.5							
5.0	no recovery augered to 5.0 ft. BGS, no sample	564.2 563.9 563.2	2.0° ¢ B.I. PIPE				
	Fill — Gray angular gravel, wet same, with trace brick	561.2					
'.5	Samo, war add brick	307.2	10.0° BOREHOLE				
0.0	Fill — coarse angular Gravel, wet	559.2					
	same, with some Sand	557.2					
2.5	same, with some Yellow Brown medium to coarse Sand, wet, slight fuel oil odor	555.2	SAND PACK OF ROC #1				
5.0		,	SAND SACK Q ROC #1				
7.5		550.7	Went Went				
	Dark Gray Silty fine Sand, trace rounded fine Gravel, wet, native	550.7	SCREEN				
0.0	Red Brown Silty fine Sand, Clayey, some subrounded fine Gravel, moist to wet, native	549.2 548.8	SCREEN DETAILS:			•	
2.5	END OF BOREHOLE AT 19.4 ft. BGS At completion a 2.0" ID observation well was		Screened Interval: 559.1 to 573.1 Length -14 FT.				
	installed		Diameter - 2.0" ID Slot # 6				
5.0	NOTE: Stratigraphy for 0.0—19.4 ft. taken from 0W203—87.		Material—STAINLESS STEEL				
7.5		-	,				
0.0		ļ					
, ,							
2.5							
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E			<u> </u>	<u> </u>		
>	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA DEC/EPA		FOUND WATER L			

SOUTH OF PARKWAY, ADJECENT TO 0W204-87

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW267-88

PROJECT NO.: 1769

DATE COMPLETED: 3/22/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 10.0" OD

LOCATION:

CRA SUPERVISOR: D.L. TARNOWSKI

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAM		
t BG	REFERENCE ELEVATION	ft AMSL 571.78	INSTALLATION	M M	STA	S T A	Ņ
	GROUND ELEVATION	571.9		B E R	A T E	u S	A L U E
	Fill — Red Brown Silty fine Sand, trace vegetation and Gravel, moist	570	ROAD BOX				
2.5	augered to 5.0 ft. BGS, no sample	570.4					
2.5			CEMENT/ BENTONITE GROUT				
5.0		566.9					
	Fill — Brown and Gray Brown mottled fine Sandy Silt, trace Clay and Gravel, moist	564.2	BOREHOLE				
7.5		562.4	PENTONITE				
	augered to 9.5 ft. BGS, no sample	-	BENTONITE SEAL				
0.0	Fill — Red Brown to Gray angular Gravel, wet	1	2.0° pipe				
2.5	,						
5.0		556.4 556.1					
	Fill — Gray Brown medium to coarse Sand, trace shell fragments, wet	556.1					
7.5	Fill - Gray coarse Gravel, wet	554.4 553.9	WELL SCREEN				
	augered to 18.0 ft. BGS, no sample Fill — Gray and Gray Brown coarse Gravel, wet						
0.0	Fill — Gray Brown Silty coarse Sand,	551.9					
	Gravelly, wet Gray Silty fine Sand, wet, chemical odor,	550.9 549.9	SAND				
2.5	native	0,0.0	PARPO #1				
٠	Gray fine Sand and Silt, wet, chemical odor, native	547.2					
5.0	END OF BOREHOLE AT 24.7 FT. BGS	34/.2	SCREEN DETAILS:				ı
	NOTE: Stratigraphy for OW267-88 taken from OW204-87 At completion of OW267-88 (11.0		Screened Interval: 562.2 to 547.2				ı
7.5	ft. west of OW204-87) a 2.0" ID observation well was installed to 24.7 ft. BGS		Length −15 FT. Diameter −2.0" ID				1
	Well was installed to 24.7 ft. 500		Slot # 6 Material—STAINLESS				ı
0.0			STEEL Sand Pack Interval:				
			563.2 to 547.2				
2.5		.					
IES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/		A SAMPLE 🔀 WATER	R FOUND			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA		C WATER I	_EVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW268-88 (PAGE 1 of 2)
DATE COMPLETED: 3/10/88

PROJECT NO.: 1769

DRILLING METHOD: HSA 10.0" OD

CLIENT:

OCCIDENTAL

	ON: SOUTH OF PARKWAY, ADJACENT TO OW		CRA SUPERVISOR:	D.C. K.D.	SCH	MID.	TKE
EPTH t BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N U		APLE S	<u>-</u>
	REFERENCE ELEVATION GROUND ELEVATION	578.24 578.5		U M B E o		ATUS	, A
	Fill — Brown and Red Brown mottled Silty Clay, trace vegetation, moist Fill — Gray Sandy Gravel, Silty, dry	578.0 577.7	ROAD BOX	<u> </u>			
2.5	Fill — Red Brown Silty Sand, Gravelly, dry to moist Fill — Gray Brown and dark Brown mottled	574.4 574.1 573.7					
5.0	Silty Clay, moist same, except Red Brown and Gray, some fine to coarse Sand, moist Fill — Red Brown Clayey Silt, Sandy, fine to	572.6 571.4					
7.5	medium angular Gravel, moist Fill — dark Gray medium to coarse Sand, trace Silt and Clay nodules, wet	571.4 570.5	=10.0°¢ BOREHOLE				
0.0	Fill — Red Brown, Brown, and Gray Silty Clay, some fine to medium Gravel, some Silty Sand and Sandy Silt lenses, moist to wet Fill — Red Brown Silty Clay, trace Sand		B.I. PIPE				
2.5		566.5					
5.0	Fill — Red Brown and Gray Silty Clay, fine to medium subangular to angular Gravel, fine to medium Sand, wet, slight chemical odor same, except no odor	564.5 564.1					
7.5	Fill — Gray and Brown Gray Sandy angular Gravel, trace Silt, moist	562.7					
0.0	augered through "shot rock" to 20.0 ft. BGS Fill — dark Gray Sandy angular to subangular Gravel, wet augered through to 24.0 ft., no sample	558.5	SAND PACE OF THE P				
2.5 ,	Black to Gray laminated Silty Clay, Clayey Silt, Silty Sand, and Sandy Silt, wet, chemical odor, native	555.5 554.5					
5.0	same, with iridescent sheen same, with trace shell fragments Black and dark Gray mottled fine Sandy Silt	553.7 552.5	,				
7.5	to Silty fine Sand, trace fine Gravel and shell fragments, wet, chemical odor, native Black Sandy fine to medium subangular Gravel, trace Silt, wet, chemical odor, native	550.5	WELL SCREEN				
0.0	Dark Gray fine to medium Sand, trace Silt, shell fragments, wet, chemical odor, native Dark Gray medium Gravelly fine to medium Sand, wet, native	548.5 548.0	WE SCREEN				
2.5	Red Brown Sandy Silt, Clayey, fine to medium Gravel, trace Sand and Silty Clay seams, wet to moist, native, Till	546.5 546.0	SCREEN				
	END OF BOREHOLE AT 34.0 FT. BGS	544.5					
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/						
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	■ DEC/EPA	_	FOUND WATER I			

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W268-88 (PAGE 2 of 2)

PROJECT NO .: 1769

DATE COMPLETED: 3/10/88

CLIENT:

DRILLING METHOD: HSA 10.0", OD

LOCATION:

OCCIDENTAL

CRA SUPERVISOR:

D.C. MILLARD K.D. SCHMIDTKE SOUTH OF PARKWAY, ADJACENT TO 0W205-87 DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE ft BG ft AMSL INSTALLATION ATUS A T E 32.5 Red Brown Sandy Silt, Clayey, fine to medium Gravel, trace Sand and Silty Clay WELL SCREEN 10.0°ø BOREHOLE 544.5 seams, wet to moist, native, Till -35.0 END OF BOREHOLE AT 34.0 FT. BGS SAND PACK Q ROC #1 Note: Stratigraphy for OW268-88 taken 37.5 from OW205-87. At completion of SCREEN DETAILS: OW268-88 (11.0 ft. west of OW205-87) Screened Interval: a 2.0" ID observation well was installed 552.2 to 534.2 to 34.0 ft. BGS. Length -5.0 FT. 40.0 Diameter - 2.0" ID Slot # 6 Material - STAINLESS STEEL 42.5 Sand Pack Interval: 554.2 to 534.2 45.0 47.5 -50.0 52.5 -55.0 -57.5 60.0 62.5 65.0 NOTES: 0 SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EPA SPLIT . 0 ∇ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SAMPLE WATER FOUND GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT DEC/EPA SPLIT STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW269-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 10/13/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

NORTH OF PARKWAY, SOUTH OF S-AREA

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPLE	Ε
ft BG		ft AMSL	INSTALLATION	Ü	SST	,Ñ,
	REFERENCE ELEVATION GROUND ELEVATION	<i>573.12 573.0</i>		ZUMBER	A T U S	A L
1.5	Fill — dark Brown and Brown Clayey Silt, trace fine Sand, fine Gravel, moist		ROAD BOX	1SS		16
3.0	Fill — dark Brown, Black, and Orange fine Sandy Silt, trace Clay, fine Gravel, moist, slight chemical odor	571.0	- CEMENT/ ENTONITE GROUT	255		2.
4.5	Fill — dark Brown, Red Brown, and Gray Clayey Silt, trace fine Sand, fine Gravel, moist	569.0	- BENTONITE SEAL	355		ŧ
6.0	Fill — Red Brown and Black Silty Clay, Sandy, trace fine Gravel, moist, slight chemical odor	567.0	BOREHOLE	4SS ,		į
7.5	same, with fine Sandy Silt nodules, chemical odor	565.0	2.0* 9 B.I. PIPE			
9.0	Fill — dark Brown and Brown Silty medium to coarse Sand, fine Gravel, wet, slight chemical odor	563.0		555		1:
10.5	Fill — Black Silty Clay, Sandy, trace fine Gravel, moist, slight chemical odor /Fill — dark Brown and Brown Silty fine to	562.6		6SS		,
12.0	/ coarse Sand, trace fine Gravel, brick, wet, slight chemical odor same, except Black, moist to wet, moderate chemical odor	561.0 560.4	SAND PACK Q ROC #1	7 S S		
13.5	Fill — Brown Silty fine to coarse Sand, fine Gravel, moist to wet Fill — Black and Brown fine Sandy Silt, trace	559.0 558.9 558.5 558.2		/33		
15.0	fine Gravel, trace moist, trace iridescent sheen Fill - Black Silty fine to medium Sand, trace			855		
16.5	fine Gravel, moist to wet, iridescent sheen Fill - Black Silty Clay, Sandy, moist Fill - Black fine Sandy Silt, fine Gravel, moist to wet, iridescent sheen	557.0 556.3		9SS		
18.0	Fill — Black Clayey Silt, fine to medium Sand, fine Gravel, wet, iridescent sheen Fill — Black and Brown fine Sandy Silt, Clay nodules, trace wood, wet, dull Gray sheen	555.0		10SS		
19.5	Fill — Red Brown and Green Gray Silty Clay, trace fine Sand, moist Fill — Black fine Sandy Silt, trace coarse Gravel, wet, slight dull Gray sheen	553.0 552.6		11SS		
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E				<u> </u>	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE WATER SPLIT STATIO	FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W269-87 (PAGE 2 of 2)
DATE COMPLETED: 10/13/87

PROJECT NO.: 1769

LOCATION:

DRILLING METHOD: HSA 8.0" OD

CLIENT:

OCCIDENTAL

NORTH OF PARKWAY, SOUTH OF S-AREA

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		L	SAMPL	E_
ft BG		ft AMSL	INSTALLATION	N U M	S S T A A A T T	,N,
32.5				8 E R	STATUS	A LUE
21.0	Fill — Black and Brown fine Sandy Silt, Clay nodules, trace wood, wet, dull Gray sheen Fill — Red Brown and Green Gray Silty Clay, trace fine Sand, moist Fill — Black fine Sandy Silt, trace coarse	553.0 552.6	BOREHOLE	10SS		
22.5	Gravel, wet, slight dull Gray sheen same, except fine Gravel, no sheen	551.0	BUREHULE 2.0" # B.I. PIPE	12SS		
24.0	Fill — Gray and Black Silty fine to coarse Sand, fine Gravel, wet	549.0		1355		:
25.5		<i>546.3</i>	SAND PACE #1	1000		
27.0	Fill - Black fine Gravelly fine to medium Sand, trace Silt, wet augered to 28.0 ft. BGS, no sample Fill - Black Silty fine to coarse Sand, fine	546.0 545.0	SAND PACK Q RÖC #1	1455		>1:
28.5	Gravel, wet, chemical odor Gray Brown laminated Silty Clay, moist, native	543.8 543.7		15SS		4
30.0 31.5	Red Brown fine Sandy Silt, fine to medium rounded to subangular Gravel, moist, native, Till same, except Red Brown grading to Gray Brown	543.0	SCREEN DETAILS: Screened Interval: 548.9 to 543.9 Length -5.0 FT. Diameter -2.0" ID	1655		7
			Slot # 6 Material—STAINLESS	17SS		>10
33.0	augered to 33.2 ft. BGS, no sample END OF BOREHOLE AT 33.2 FT. BGS	540.2 539.8	STEEL Sand Pack Interval: 564.3 to 543.8			
34.5 \$\begin{align*} \text{36.0}	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (3.0 ft. east) a 2.0" ID observation well was installed to 29.2 ft.					
37.5	BGS					
39.0						
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/I GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	R FOUND	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W270-87 (PAGE 1 of 2)
DATE COMPLETED: 10/16/87

PROJECT NO .: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

NORTH OF PARKWAY, SOUTH OF N-AREA

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPLE N ISTS I	','
IC BG	REFERENCE ELEVATION GROUND ELEVATION	571.90 571.6	INSTRUCTION	N S S S T A A T B E U S	VALUE
- 1.5	Fill — Brown and Gray Brown Silty Clay, trace fine Sand, fine to medium Gravel, vegetation, moist		ROAD BOX	155	27
- 3.0	Fill — Gray Brown fine to medium Sandy Silt, fine to medium Gravel, trace Clay, moist augered to 4.0 ft. BGS, no sample	569.6 568.6	- CEMENT/ BENTONITE GROUT	255	>50
- 4.5	Fill — Black, Gray Brown, and Brown Silty Sand, trace fine Gravel, Clay, moist, slight chemical odor Fill — Brown, Gray Brown, Red Brown, and	567.6	BENTONITE SEAL	355	>100
- 6.0	Yellow Clayey Silt, trace fine Sand, fine Gravel, moist, slight chemical odor Fill — light Gray Silty fine Sand, moist,	566.8	7.5 BOREHOLE	455	6
- 7.5	slight chemical odor augered to 6.0 ft. BGS, no sample Fill — Brown, Gray Brown, Red Brown, and Black Clayey Silt, trace fine Sand, fine	566.3 565.6			J
- 9.0	Gravel, moist, slight chemical odor same, except fine to medium Gravel, trace Black fiberous material	563.6 561.6		5SS	26
-10.5	Fill — Gray Brown and Black Silty Clay, Sandy, trace fine Gravel, moist, trace oily sheen, slight chemical odor			655	4
-12.0	same, except dark Gray, Black, and Red Brown, fine to medium Gravel, trace wood	559.6	SAND PACOC #1	755	5
-13.5 -15.0	Fill — Black to Red Brown Silty Clay, Sandy, trace Silty Clay and Silty Sand lenses, trace fine Gravel, moist, slight chemical odor	557.6	SAND PACK FI	855	3
-16.5	same, except no Black and Silty Sand lenses, no Gravel same, except no Silty Clay lenses, trace Gravel	555.6 555.0	SCREEN	988	4
-18.0	Fill — dark Gray and Red Brown Silt and fine to medium Sand, Silty Clay, fine Gravel, wet, slight chemical odor	553.6		1055	WR
-19.5	Fill — Brown Silty fine to medium Sand, wet, slight chemical odor	551.6		1155	2
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		A SAMPLE WATE	R FOUND C WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW270-87 (PAGE 2 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 10/16/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

CRA SUPERVISOR: D.J. OSCAR

NORTH OF PARKWAY, SOUTH OF N-AREA LOCATION:

MONITOR DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION SAMPLE INSTALLATION ft AMSL STATE ft BG ATU 19.5 **10SS** WR Fill - Brown Silty fine to medium Sand, wet, slight chemical odor **11SS** 2 - 21.0 7.5 0 BORÉHOLE 22.5 WELL SCREEN **12SS** 6 547.6 547.3 24.0 SAND PACK Q ROC #1 Fill - Black Silty fine to medium Sand, wet, slight chemical odor **13SS** 18 Fill - fine to medium Sandy medium to 25.5 coarse angular Gravel, trace Silt, wet, slight 545.6 chemical odor, dull sheen 545.2 Fill — Black fine to coarse Gravelly fine to coarse Sand, trace Silt, wet, slight 100 **14SS** SCREEN DETAILS: -27.0 chemical odor, dull sheen Screened Interval: 564.5 to 545.5 Red Brown fine Sandy Silt, rounded to Length -19.0 FT. angular Gravel, wet to moist, native, Till Diameter -2.0" ID -28.5 same, except grading to fine Sand, some 543.6 **15SS** 98 Slot # 6 Silt, fine to medium rounded to angular Material-STAINLESS Gravel 541.9 541.8 STEEL augered to 29.8 ft. BGS, no sample 30.0 Sand Pack interval: 566.0 to 545.3 END OF BOREHOLE AT 29.8 FT. BGS NOTE: At completion the initial borehole 31.5 was grouted to ground surface. In an adjacent borehole (5.0 ft. west) a 2.0" ID observation well was installed to 26.4 ft. BGS -33.0 34.5 -36.0 37.5 39.0 SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EPA SPLIT NOTES: 0 ∇ WATER FOUND 0 DEC/EPA SAMPLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC STATIC WATER LEVEL GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT DEC/EPA SPLIT

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW271-87

PROJECT NO .:

1769

DATE COMPLETED: 6/23/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

SOUTH OF PARKWAY, ADJACENT TO 0W206-87

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		_	1PLE	
t BG		ft AMSL	INSTALLATION	Ü	S T	T	,v,
	REFERENCE ELEVATION GROUND ELEVATION	574.10 574.6		M B E R	A T E	STATUS	A L U E
,	Fill — Red Brown Silt, angular Gravel, moist		ROAD BOX				
2.5	same, except Silty Clay	572.6		!			
	same, with some brick	570.6	CEMENT/ BENTONITE GROUT				
5.0	same, with Gray streaks, no brick	568.6	BOREHOLE				
7.5			- BENTONITE SEAL				
			2.0° 6 B.I. PIPE				
0.0	same, with brick and coarse angular Gravel, no streaks	564.6					
. -	augered through "shot rock" to 15.0 ft. BGS	563.6					
2.5]		,	
5.0		559.6					
	Fill — Red Brown Silty Clay, trace Gravel, moist						
7.5	Fill — Red Clay, moist	557.6					
0.0			SAND PACK Q ROC #1	`			
2.5	same, with Brown inclusions	552.0 551.6	T ROC #1				
	Gray Black Silty Sand, trace Gravel, wet,	551.6	SCREEN				
5.0	Gray Black Sand, wet, native	549.6 549.3					
	Red Brown Clayey Silt, Gravelly, wet,	548.1					
7.5	\native, Till augered to 26.5 ft. BGS, no sample		SCREEN DETAILS: Screened Interval:				
	END OF BOREHOLE AT 26.5 FT. BGS		565.1 to 548.1 Length -17 FT.				
0.0	Note: Statigraphy for OW271-87 taken from OW206-87. At completion of OW271-87		Diameter — 2.0" ID Slot # 6				
2.5	(10.0 ft. southwest of OW206-87) a 2.0" ID observation well was installed		Material-STAINLESS STEEL				
~.0	to 26.5 ft. BGS.		Sand Pack Interval: 566.1 to 548.1				
OTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	TRA SOUT			<u> </u>		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT VATE	R FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		C WATER L	EVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW272-87

PROJECT NO .:

1769

DATE COMPLETED: 6/25/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

SOUTH OF PARKWAY, 75.0' NORTH OF RIVER

LOCAT	ION: SOUTH OF PARKWAT, 75.0 NORTH OF P	KI VEK	CRA SUPERVISOR:	С.п.	PADGII	N TOIN
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
ft BG		ft AMSL	INSTALLATION	Ü	SS	× ×
ļ	REFERENCE ELEVATION GROUND ELEVATION	571.70 572.0		M B E	T T A T E US] . j
	· · · · · · · · · · · · · · · · · · ·	3/2.0	ROAD BOX	, R	S	E
	augered to 1.0 ft. BGS, no sample Fill — Brown and Gray Sandy Silt, trace	571.0 570.5		155	\bowtie	>100
2.5	Gravel, vegetation, White shell-like	370.5				
2.5	material, moist augered through "shot rock" to 15.0 ft. BGS		8.0*			
]			BOREHOLE			
5.0			CEMENT/_			
			- CEMENT/ CROUT		·	
7.5						
/.0			- BENTONITE SEAL		1 1	1
			SEAL			
10.0	· ·					
		·				
-12.5	·					
			2°¢ B.l. PIPE			
						.
15.0	Fill — Brown and Gray Sandy subangular to	557.0	SAND		\square	
	angular Gravel, Silty, wet	555.0	SAND SACK O ROC #1	2SS	M	16
17.5	Fill - Gray and Brown coarse Sand, subangular	555.0	PACC #1	3SS	\square	8
	to angular Gravel, wet		WELL SCREEN	JSS	\square	°
- 20.0				400	M	. 75
720.0	Sand, native, wet	551.3 551.2		455	\square	35
	Red Brown Silt, trace Clay, Gravel, and Sand wet, native, Till			555	M	>100
-22.5	augered to 25.0 ft BGS, no sample	549.5			H	
		•	SCREEN DETAILS:	•	.	
- 25.0		547.0	Screened Interval:			
	Red Brown Silt, trace Clay, Gravel, and Sand wet, native, Till	546.1	551.2' to 556.2' Length -5 FT.	6SS	X	>100
	augered to 28.0 ft. BGS, no samples		Diameter — 2" ID			ĺ
-27.5		544.0	Slot # 6 Material—STAINLESS	7 S S	\square	>100
	no split spoon advancement		STEEL			
-30.0	END OF BOREHOLE AT 28.0 ft. BGS		Sand Pack Interval: 562.6' to 551.2'			
	Note: At completion the initial borehole was grouted to ground surface. In an			ı		
32.5	adjecent borehole (5.0 ft. east) a 2.0" ID					
-32.5	observation well was installed to 21.2 ft. BGS.		·	ı		
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/1	-PA SPIIT			<u>i </u>	<u></u>
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	A SPLIT VATER	FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	_	_	WATER	LEVEL	
	·					

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW273-87 (PAGE 1 of 2)

PROJECT NO .: 1769

0

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

DATE COMPLETED: 10/20/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

 \mathbf{Z}

Y

WATER FOUND

STATIC WATER LEVEL

DEC/EPA SAMPLE

DEC/EPA SPLIT

CRA SUPERVISOR: D.J. OSCAR

LOCATION: NORTH OF PARKWAY, SOUTH OF U-AREA

DEPTH | STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE ft BG INSTALLATION ft AMSL STATU REFERENCE ELEVATION GROUND ELEVATION A T E 570.48 570.5 -ROAD BOX .Fill - dark Brown Silty Clay, fine Gravel, **1SS** >60 fine Sand, trace vegetation, moist augered to 2.0 ft. BGS, no sample 569.5 - 1.5 568.5 Fill - dark Brown fine Sandy Silt, some 255 >50 568.0 Clay, trace fine to medium Gravel, moist 3.0 augered to 4.0 ft. BGS, no sample 7.5°6 BOREHOLE 566.5 Fill - dark Brown and Gray Brown Clayey 4.5 Silt, trace fine Sand, fine to medium Gravel, moist **3SS** 21 BENTONITE SEAL 6.0 564.5 Fill - Gray Gravel, trace Silt, Clay, fine 564.0 Sand, dry to moist **4SS** 97 Fill — dark Brown and Black Silty Clay, Sandy, trace fine to medium Gravel, moist, 7.5 2.0° ¢ slight chemical odor 562.5 Fill — Black Clayey Silt, fine to medium Gravel, trace fine Sand, wet, slight 9.0 5SS WR chemical odor Fill - Black and Red Brown fine Sandy Silt. 560.5 trace Clay, fine to medium Gravel, wet, slight chemical odor 10.5 560.0 *559.6* Fill - Black and Red Brown Clayey Silt, fine **6SS** to coarse Gravel, trace fine Sand, wet, slight chemical odor 12.0 558.5 Fill — Red Brown Silty Clay, trace fine Sand, fine to coarse Gravel, moist to wet, SAND PACK Q ROC #1 *557.7* **7SS** slight chemical odor -13.5 Fill - Black and Red Brown Silt and Clay, some fine to coarse Gravel, trace fine Sand, *556.5* wet, slight chemical odor Fill - Black fine to medium Gravel and slag, 15.0 888 WH trace fine Sand, Clay, wet, iridescent sheen, slight chemical odor WELL SCREEN 554.5 Fill - Black Silty fine Sand, trace Clay, 16.5 Gravel, glass, wet, iridescent sheen, slight chemical odor 955 Fill - Black fine Sandy Silt, trace Gravel, wet, slight chemical odor -18.0 same, except no Gravel, loose Fill - Black and dark Gray Silty fine Sand, **10SS** 8 trace Gravel, wet, slight chemical odor 19.5 Red Brown Clayey Silt, trace fine Sand, fine to medium rounded to angular Gravel, moist, slight chemical odor, native, Till **11SS** 11 0 NOTES: SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EPA SPLIT

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW273-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 10/20/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

NORTH OF PARKWAY, SOUTH OF U-AREA

CRA SUPERVISOR: D.J. OSCAR

				<u>, </u>		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	Z U	SAMPL S S	E Å.
. ,			•	₩ В	S S T T A A T T	. A LUE
19.5			·	E R	E U S	_
- 21.0	Red Brown Clayey Silt, trace fine Sand, fine to medium rounded to angular Gravel, moist, slight chemical odor, native, Till	548.5	SCREEN DETAILS: Screened Interval: 563.5 to 551.5 Length -12.0 FT. Diameter -2.0" ID	10SS 11SS		11
22.5	Red Brown Silty Clay, Sandy, trace fine to coarse rounded to angular Gravel, moist, native, Till	346.3	Slot # 6 Material—STAINLESS STEEL Sand Pack Interval:	12SS	M	39
24.0	Red Brown fine Sandy Silt, trace Clay, fine to coarse rounded to angular Gravel, moist,	546.5	564.7 to 551.5	13SS	\bigvee	67
25.5	native, Till	,		14SS	\bigvee	>100
-27.0	END OF BOREHOLE AT 26.7 FT. BGS	543.8	·	1733		/100
28.5	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (4.0 ft. east) a 2.0" ID observation well was installed to 19.0 ft. BGS	,		·		
30.0				:		
31.5		·				
-33.0						
34.5						
36.0	·					
·37.5		'		' !		,
39.0						
•	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	FOUND WATER L	EVEL	-

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W274-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/1/87

DRILLING METHOD: HSA 7.5" OD

CLIENT:

OCCIDENTAL

LOCATION:	WATER	TREATMENT	PLANT.	WEST	OF	R-PLANT

DEPTH	TOTATION AND DECORPTION & PENANCE	lei ei i maril				
ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N U	SAMPL	
	REFERENCE ELEVATION GROUND ELEVATION	571.97 572.1) M 83 E R	S S T A T U S	A LU
	Fill — Black Silty fine to medium Sand, trace fine Gravel, vegetation, dry	571.8	ROAD BOX CEMENT/ BENTONITE GROUT	155	M	18
- 1.5	Fill — Brown and dark Brown Clayey Silt, trace fine Sand, Gravel, vegetation, moist	570.1		133	\triangle	
- 3.0	Fill — dark Brown Silty fine to coarse Sand, trace Gravel, vegetation, moist	570.1 569.8	BENTONITE SEAL	255	M_{0}	11
0.0	Olive Brown to Brown Gray mottled Sand, Silt, and Clay, trace vegetation and shell fragments, moist, native	568.8 568.1	2.0" # B.I. PIPE	255	$igwedge^*$	
- 4.5	Brown and Brown Gray Clayey Silt, trace fine Sand, vegetation, moist, native	567.2	-7.5° p BÖREHOLE SAND PACK O ROC p1	355	\bigvee Φ	10
- 6.0	Brown and Brown Gray mottled Silt, some fine Sand and Clay, moist, native Olive Gray, Brown Gray, and Gray mottled		SAND SAROC #1		()	
- 7.5	Silty fine Sand, trace Clay, moist, native Olive Brown and Brown Silty Clay, thin Silty	565.2 564.8	WELL	455	$ \chi _{\mathbf{\Phi}}$	20
- 9.0	Sand lenses, moist, native Brown, Brown Gray, and Red Brown laminated Silty Clay, thin Sandy Silt lenses, moist, native			5SS	\bigvee	24
	Red Brown to Red Gray mottled Silty Clay, trace fine Gravel and thin Silt lenses, moist, native	563.3	SCREEN DETAILS: Screened Interval: 568.6 to 563.6			
- 10.5	same, except no Silt lenses	562.1	Length -5.0 FT. Diameter -2.0" ID Slot # 6	6SS		22
-12.0	same, except soft	560.1	Material— STAINLESS STEEL Sand Pack Interval:	7SS	\bigcap	27
- 13.5	same, except moist to wet	<i>558.1</i>	569.6 to 563.2	/55	\triangle	23
-15.0				855	\bigvee	4
-16.5	same, with trace Gravel	556.1°			$\left(\cdot \right)$	
-18.0	same, with trace thin Silt seams	554.1		988	\bigvee	4
10.0	Same, with trace that Sit Segins	554.7		10SS	\bigvee .	2
-19.5	same, except grading to a Clayey Silt	552.1			\bigcap	
NOTES				11SS	\coprod	2
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS'& DEC/E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	EPASPLIT ■ DEC/EPA	SAMPLE ∇ WATER	R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		C WATER LE	.VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W274-87 (PAGE 2 of 2)

PROJECT NO .:

DATE COMPLETED: 5/1/87

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, WEST OF B-PLANT

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
t BG	,	ft AMSL	INSTALLATION	W C X	S S T T A A	1
9.5	·			B E R	S S T A T T E US	
	same, except grading to a Clayey Silt	552.1		10SS	M	
			· ·		N/I	
1.0		'		11SS	IXI	
				f	VV	
2.5	Red Gray Clayey Silt, trace fine Gravel and	550.1	•		\square	
2.0	thin Sandy Silt lenses, moist to wet, native			12SS	IVI	
		1		1255	$ \Lambda $	
4.0	Ded Deaves Cond Silk and Clay come for he	548.1	•		(-)	
	Red Brown Sand, Silt, and Clay, some fine to medium Gravel, moist to wet, native, Till			4700	\/	Ι,
5.5	•	,		13SS		'
J .J	·	<u> </u>			Ш	
,					N/I	
7.0				14SS	IXI	
					$V \setminus V$	
0 =					\square	
8.5	Red Brown fine to medium Sandy Silt, some	543.7		15SS	IVI	
	fine to medium Gravel, trace Clay, moist, native, Till			1000	$ \Lambda $	
0.0	same, except Red Brown and Gray	542.1 541.8		•	$\left(\cdot \right)$	
	Gray angular Gravel, wet, native	541.8 541.3		16SS	\boxtimes	>1
1.5	augered to 32.0 ft. BGS, no sample	547.5				
1.5		540.1 539.9		1700		,
•	Gravel, wet, native			17SS		>1
3.0	augered to 32.5 ft. BGS, no sample	539.6	•			
	END OF BOREHOLE AT 32.5 FT. BGS	<u> </u>		:		
	NOTE: At completion the initial borehole was					
4.5	grouted to ground surface. In an adjacent borehole (2.0 ft. north) a 2.0" ID observation		,			
	well was installed to 8.9 ft. BGS	·				
5.0						
, .						
7.5						ŀ
				,		
9.0			•			
			•			
DIES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	EPA SPLIT		•		-
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA S	AMPLE WATE	R FOUND	•	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT.	DEC/EPA SE	PLIT 🗶 STAT	IC WATER LE	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW275-87

PROJECT NO .:

1769

DATE COMPLETED: 6/10/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT, WEST OF 53rd, NORTH OF ADAMS

CRA SUPERVISOR: K.D. SCHMIDTKE

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	Ε
t BG		ft AMSL	INSTALLATION	7 3 8 C Z	SST	Ň
	REFERENCE ELEVATION GROUND ELEVATION	570.34 570.5		8 E R	A T US	LUE
	augered through asphalt, Gray and Black Silty Sand, and angular Gravel to 2.0 ft. BGS, no sample	568.5	ROAD BOX CEMENT/ BENTONITE GROUT		X	
2.5	Fill — Red Brown, Gray, and Olive Green Silty Clay, Gravelly, moist	368.3	BENTONITE SEAL BOREHOLE	1SS		2
5.0	. Clarification of Clark Cond.	564.6 564.5	2.0	255		1
7.5	Fill — Gray and Black Silty Sand, vegetation, wood, cinders, moist Fill — Gray, Black, and Olive Silty fine to medium Sand, wet	563.5	B.I. PIPE WELL SCREEN	388	Ø	1
10.0	Red Brown, Gray, and Olive Green Silty Clay, moist, native	-	SAND PACK Q ROC #1	4SS	X	2
12.5			SCREEN DETAILS: Screened Interval: 566.5 to 561.5	5 SS	X	
	same, except wet	<i>556.5</i>	Length -5 FT. Diameter -2.0" ID Slot # 6	6SS	$\langle \rangle$	
5.0			Material—STAINLESS STEEL Sand Pack Interval:	7 S S	A	
17.5	same, with trace Sand same, except no Sand	554.5 552.5	567.5 to 560.5	8SS 9SS	$\bigvee_{i=1}^{n}$	
20.0				1055	\bigcirc	
22.5				11SS		,
25.0				12SS		
27.5	Red Brown Sandy Clay, Silty, subrounded Gravel, wet, native, Till	543.0		13SS		
	same, except subangular Gravel Gray rock fragments	542.5	,	14SS		
50.0	augered to 32.0 ft. BGS, no sample END OF BOREHOLE AT 32.0 FT. BGS NOTE: At completion the initial borehole	539.0 338.6		15SS	X	
32.5	was grouted to ground surface. In an adjace borehole (6.0 ft. east) a 2.0" ID observation well was installed to 9.9 ft. BGS 1SS to 3SS — A 3.0" split spoon was used	<i>538.5</i> .		·		
OTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	PA SPLIT		li	<u> </u>	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC		SAMPLE WATER	FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W276-87 (PAGE 1 of 2)
DATE COMPLETED: 5/15/87

PROJECT NO .: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT, WEST OF B-PLANT

CRA SUPERVISOR: B. BURKETT

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPL	
	REFERENCE ELEVATION GROUND ELEVATION	571.27 571.5		Z D B B C Z	S T A T U S) 2>4.10r
- 1.5	Fill — Brown Silty Sand, vegetation, trace fine Gravel, dry Fill — Brown Sandy Silt Fill — White and Gray flyash, cinders, coal,	571.3 571.1 569.5	ROAD BOX CEMENT/ BENTONITE GROUT	155		21
- 3.0	Fill — Brown Sandy Silt, coarse Gravel, ash, cinders, dry		BI. PIPE	2SS		`9
4.5	same, except moist same, except Gray Brown, wet	567.5 566.7	8.0°# BOREHOLE	700	$\sqrt{}$	
- 6.0	Fill — Yellow Brown Clayey Sandy Silt, Yellow Sand seams, wet Fill — Gray Black Clayey Silt, wood, wet	566.3 565.7 565.5 564.9	SAND PACK FI O ROC FI	388		. 13
7.5	Fill — Gray Green Sandy Silt, trace ash, wet Fill — Black Gray Clayey Silt, some Red Brown Clay, trace Sand, wet	563.7 563.5	WELL SCREEN	4SS	$\bigvee \Phi$	18
- 9.0	Red Brown and Green Black Silty Clay, moist to wet, native Gray Green and Red Brown laminated Silty Clay, dry, native same, except moist to wet	563.5 561.5		588		23
- 10.5 - 12.0			SCREEN DETAILS: Screened Interval: 568.0 to 563.0 Length -5.0 FT. Diameter -2.0" ID	6SS		7
- 13.5	same, except wet	557.5	Slot # 6 Material—STAINLESS STEEL Sand Pack Interval: 568.5 to 562.0	755		10
-15.0				855	$\left\langle \right $	3
-16.5	·	j		988	$\sqrt{}$	
-18.0				<u> </u>	 	
-19.5	same, except trace Silt seams and fine Gravel	552.7		1055	$\langle \ $	МΗ
·	Gray and Red Brown laminated Silty Clay, trace Silt seams, wet, native	551.5	<i>:</i>	1155		WH
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/ES GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	PA SPLIT DEC/EPA DEC/EPA		FOUND WATER LEV	EL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW276-87 (PAGE 2 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 5/15/87

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

CLIENT: LOCATION:

WATER TREATMENT PLANT, WEST OF B-PLANT

CRA SUPERVISOR:

B. BURKETT

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPLE		
t BG 19.5		ft AMSL	INSTALLATION	N U M B E	S T A T U S	ACL > <2
		 		10SS	/ \S	W
21.0	Gray and Red Brown laminated Silty Clay, trace Silt seams, wet, native	551.5		1155		w
22.5			·	12SS	\bigvee	w
24.0					\mathbb{H}	
25.5	·			1355		w
27.0				14SS	\mathbb{N}	
28.5	same, except trace Gravel, moist to wet	543.5			(
	Red Brown Clayey Silt, some Sand and subangular Gravel, native, Till	542.5		15SS	X	
0.0	Red Brown Silty Sand, Gravel, trace Clay, moist to wet, native, Till	541.5 540.7			\bigcup	
51.5	Gray Sandy Silt, Gravel, trace Gray Clay, dry to moist, native, Till	539.7	•	16SS	M	
	augered to 32.8 ft. BGS, no sample	538.7				
33.0	END OF BOREHOLE AT 32.8 FT. BGS	330.7				
34.5	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (5.0 ft. south) a 2.0° ID observation well was installed to 9.5 ft. BGS					
6.0						İ
•	·		•			
7.5			,			
9.0	·					
OTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	EPA SPUT	·	<u> </u>		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA S		ER FOUND		
	GRAIN SIZE DIST. & ATT. FOR QCC & DEC/EPA SPLIT	DEC/EPA SI	PLIT 🔽 STA	TIC WATER L	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W277-87 (PAGE 1 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 6/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT

CRA SUPERVISOR: K.D. SCHMIDTKE

	·					
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPL	
	REFERENCE ELEVATION GROUND ELEVATION	569.84 570.2	·	202000	STATUS	aCr≽<2,
	augered through coarse Gravel to 2.0 ft. BGS	568.2	ROAD BOX CEMENT/ BENTONITE GROUT			
2.5	Fill — Gray to Black Silty fine Sand, some Gray angular Gravel, moist to wet	566.2	BENTONITE SEAL 2.0° Ø B.I. PIPE	155	$\sum \!\!\!\!\! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	10
5.0	Fill — Gray and White Silty fine to coarse Sand, non—plastic, wet augered to 6.0 ft. BGS, no sample	565.0 564.2	BOREHOLE	255	\square Φ	>50
7.5	Fill — White, Gray, and Black Gravel and slag, wet		WELL SCREEN	388	X	56
10.0	Red Brown Silty Clay, wet, plastic, native	562.2 560.2	SAND O ROC #1	4 S S	X	5
10.0	Red Brown and Green Gray Silty Clay, mottled, moist, native		SCREEN DETAILS: Screened Interval:	5SS	X	4
12.5	same, without Green Gray mottling	558.0	566.3 to 561.3 Length5.0 FT. Diameter2.0" ID Slot # 6	6SS	\bigvee	4
-15.0			Material — STAINLESS STEEL Sand Pack Interval:	7 SS	\bigvee	WH
17.5			567.2 to 561.2	855		2
-20.0			,	9SS		WH
				10SS		WH _.
-22.5				11SS	X	WH
-25.0				1255	$A \mid$	WR
-27.5	·			13SS	$A \mid$	WH
-30.0	Red Brown Silty Clay with some Sand, wet,	541.6 540.9		14SS	$X \mid$	WH
70.5	Red Brown Silty Clay, Sandy, Gray subangular Gravel, wet, native, Till	537.9		15SS 16SS		WH >50
-32.5	Caugered to 32.5 ft. BGS, no sample END OF BOREHOLE AT 32.5 FT. BGS	537.9 537.7				. 30
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	PA SPLIT DEC/EPA DEC/EPA	_	FOUND .	VEL_	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW277-87 (PAGE 2 of 2)

PROJECT NO .:

DATE COMPLETED: 6/12/87

CLIENT:

OCCIDENTAL

1769

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT

CRA SUPERVISOR: K.D. SCHMIDTKE

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	S	AMPL	
ft BG	<u> </u>	ft AMSL	INSTALLATION	ÿ	S S	Ĭ,Å,
32.5			•	N U M B E R	S S T A T E US	MCL> <z< td=""></z<>
35.0	Note: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (6.0 ft. northwest) a 2.0" ID observation well was installed to 9.0 ft. BGS		*	Ř	S	Ě
37.5			`			
40.0						
42.5						
45.0						
47.5		.				
50.0	;					
52.5						
55.0					•	
57.5						
60.0			•			
62.5					-	
65.0						

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W278-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/8/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT, WEST OF UTILITY TUNNEL

CRA SUPERVISOR: D.J. OSCAR D.C. MILLARD

			<u> </u>	D.C. N	MILLAP	עט
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMP	
TC BG	REFERENCE ELEVATION GROUND ELEVATION	570.24 570.5	MOTALLATION	N U M B E R	S T A T U S	ฑ๘ฅ๖<๕๋
•	augered through asphalt to 0.5 ft. BGS	570.0	ROAD BOX	- K		 -
	Fill — Brown Gray and Gray Sand, Gravel, dry	370.0		100	\square	
1.5				1SS	Д	10
3.0	Fill — Red Brown and Gray Brown Silt, some Clay, trace fine Sand and fine Gravel, moist	568.2	CEMENT/ BENTONTE GROUT	2SS	M	8
: :	same, except some Sand, fine to medium Gravel moist to wet	566.5 566.2				
4.5	Fill — Gray Brown Clay, some Silt, moist Fill — Black and Brown Gray Silty fine Sand,	566.0 565.8	BENTONITE SEAL	355	X	4
6.0	\some Clay, trace Gravel, moist to wet Fill — Brown, Red Brown, and Gray Brown Silt Clay, trace fine Sand and fine Gravel, moist		2.0* 9 B.I. PIPE			
7.5	same, except moist to wet Fill — Black Silt, some Clay and vegetation, trace fine Sand, moist	564.5 563.4	BOREHOLE	455	X	6
9.0	Brown, Red Brown, and Gray Silty Clay, trace fine Sand and fine Gravel, moist, native	<i>562.1</i>	WELL SCREEN	5SS	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	4
10.5		<i>559.4</i>	SAND PACK Q ROC #1	6SS	$\int \int d$	6
	Brown Gray Silt, wet, native		SAND PACK Q ROC #1	•	M	
12.0	Gray Brown Silty Clay, trace fine Gravel, wet, native same, except moist to native	55 8.6 55 8. 5	SCREEN DETAILS:	7 SS	$\prod_{i=1}^{n}$	
13.5	· ·		Screened Interval: 563.2 to 558.2 Length -5.0 FT.	/33		2
15.0			Diameter - 2.0* ID Slot # 6 Material - STAINLESS STEEL	888		2
16.5	same, except trace Red Brown laminations	<i>554.5</i>	Sand Pack Interval: 564.5 to 558.0	9SS		2
18.0	same, except thin Silty Sand seams	552.5			()	
19.5				10SS	X	WH
				11SS	\bigvee	WH
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	PA SPLIT		١		•
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA		FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT T STATIO	WATER LE	VEL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW278-87 (PAGE 2 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 5/8/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION

WATER TREATMENT PLANT. WEST OF UTILITY TUNNEL

CRA SUPERVISOR: D.J. OSCAR

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG		ft-AMSL	INSTALLATION	M KCZ	SST	, v,
		ļ	•	8 €	S T A T US	Ĵ
19.5				R	, \ s	E
		_		1055	(-)	W
					\/	
21.0				1155	ΙXΙ	W
					$V \setminus V$	
	Dad Danie Stitu Clay thin Stity Sand sagms	548.5				1.
22.5	Red Brown Silty Clay, thin Silty Sand seams, moist to wet, native			4000	V	,,,
	mode to way make	,		12SS	MΙ	Wi
	·			1		
-24.0		1		1	$\Lambda \Lambda$	
				1388	IVI	l w
-25.5				1000	/\	"
-23.5		1			\mapsto	ľ
					\mathbb{N}/\mathbb{I}	
-27.0				1488	IXI	
		1			$V \setminus V$	İ
	same, trace Gravei	542.5	•			
-28.5	,		•	1	V	Ì
				15SS	M	\ W
		540.7			\square	
-30.0	Red Brown Sand, Silt, and Clay, some Gravel, moist to wet, native, Till	540.5			M	
	Red Brown Silty Clay, trace Gravel, moist	539.8		16SS	IXI	>10
31.5	to wet, native	539.0		İ		1.
- 31.3	Red Brown to Gray Sandy Silty Clay, some	538.5 538.3		1755		>10
	Gravel, moist to wet, native, Till same, except Gray, Gravelly, wet	539.6				
-33.0	augered to 32.0 ft. BGS, no sample	537.5			1	
		1				
·	Gray Silt and Sand, Gravel, wet, native augered to 33.0 ft. BGS, no sample		•			
-34.5						
	END OF BOREHOLE AT 33.0 FT. BGS				1	
	NOTE: At completion the initial borehole				1 1	
- 36.0	was arouted to ground surface. In an			Ì		
	adjacent borehole (3.0 ft. south) a 2.0" ID observation well was installed to 12.5 ft. BGS				1 1	
- 37.5		1				
37.3	NOTE: Due to inadequate amount of sample,	<u>_</u> ·				
	OW278-87 was resampled (BHWR 278-87) from 6.0 - 12.0 ft. BGS. These samples were	"				1
- 39.0	submitted for chemical analysis, split with					
· .	EPA/DEC, and analyzed.				1	
i .		1 1				
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC	/EPA SPLIT				
MOIES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC	DEC/EPA	SAMPLE W	ATER FOUND		
1	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		TATIC WATER	I FVFI	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W279-87 (PAGE 1 of 2)

PROJECT NO .:

DATE COMPLETED:

5/12/87

CLIENT:

OCCIDENTAL

1769

DRILLING METHOD: HSA 8.0" OD

LOCATION: WATER TREATMENT PLANT, SOUTH OF B-PLANT CRA SUPERVISOR: C.H. PADGINTON B. BURKETT STRATIGRAPHIC DESCRIPTION & REMARKS DEPTH ELEVATION MONITOR SAMPLE ft BG INSTALLATION ft AMSL NUMBE ĀTU REFERENCE ELEVATION 570.38 A T E GROUND ELEVATION 570.5 Fill - Brown Sandy Silt, vegetation, moist ROAD BOX CEMENT/ BENTONITE GROUT **1SS** 13 568.7 568.5 Fill - Brown Clayey Silt, trace Sand, moist BENTONITE 2.5 Fill - Brown, Red, and Gray Clayey Silt, **2SS** 15 2.0° 6 B.I. PIPE Gravel, moist same, except moist to wet 566.5 8.0° BOREHOLE 5.0 355 0 5 564.5 Fill - Gray and Green Silty Clay, wet, WELL SCREEN plastic 0 **4SS** 6 7.5 562.7 562.5 Fill - Brown Silt, wet Brown and Red Brown laminated Silty Clay, **5SS** 9 wet, plastic, native 10.0 SCREEN DETAILS: Screened Interval: **6SS** 3 567.0 to 562.0 same, except Red Brown, no laminations 558.5 Length -5.0 FT. 12.5 Diameter -2.0" ID **7SS** 3 Slot # 6 Material - STAINLESS 15.0 STEEL 888 2 Sand Pack Interval: 567.5 to 561.5 955 2 17.5 552.5 Brown and Red Brown laminated Silty Clay, **10SS** WR 20.0 **11SS** WR 22.5 **12SS** WR 25.0 **13SS** WH Red Brown Clayey Silt, Sand, Gravel. **14SS** WH 27.5 wet, native, Till Gray Sandy Gravel, wet, native, Till **15SS** 27 augered to 30.0 ft. BGS, no sample 30.0 Gray rock fragments, some Sand, weathered, **16SS** >50 wet, native 539.0 END OF BOREHOLE AT 31.3 FT. BGS 32.5 NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (6.0 ft. east) a 2.0" ID observation well was installed to 9.0 ft. BGS NOTES: 0 SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EPA SPLIT 0 GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ∇ DEC/EPA SAMPLE WATER FOUND GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT DEC/EPA SPLIT STATIC WATER LEVEL

WATER TREATMENT PLANT, SOUTH OF B-PLANT

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W279-87 (PAGE 2 of 2)

PROJECT NO .:

1769

DATE COMPLETED:

DRILLING METHOD: HSA 8.0" OD

CLIENT:

LOCATION:

OCCIDENTAL

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	В. В	JRKETT SAMPLE	
ft BG		ft AMSL	INSTALLATION	N U	SSS	Ņ,
32.5				M B E R	S T A T U S	ÁLUE
35.0	NOTE: Due to inadequate amount of sample, OW279-87 was resampled (BHR 279-87) from 4.0 - 8.0 ft. BGS. These samples were submitted for chemical analysis, split with EPA/DEC, and analyzed.			,		
37.5			•			•
40.0						
42.5						
45.0						
47.5				• .		
50.0		٠,				
52.5						
55.0						
57.5	· 					
0.0				•		
52.5						
55.0	-			-		•
	D SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	PA SPLIT				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPAS		FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW280-87 (PAGE 1 of 2)
DATE COMPLETED: 5/13/87

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF B-PLANT

C.H. PADGINTON CRA SUPERVISOR:

L				B. BUF	RKETT	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	= •		AMPL	
ft BG	REFERENCE ELEVATION GROUND ELEVATION	ft AMSL 569.78 569.9	INSTALLATION	DMBECZ	S T A T US	יוכר ∢<בׂ
	Fill — Brown Sandy Silt, trace Gravel and Clay, moist	567.0	ROAD BOX CEMENT/ BENTONITE GROUT	155		10
2.5	Brown, Gray, and Red mottled Clayey Silt, some Gravel, trace Sand, moist, native	567.9		255	$\overline{\mathbf{X}}$	11
5.0	same, moist to wet	563.9	7.25° 8 BOREHOLE	355	$\sqrt{\Phi}$	11
7.5		561.9	WELL SCREEN	455	$X \mathbf{\Phi}$	13
-10.0	Brown and Red Brown laminated Silty Clay, trace Silt seams, moist, native	307.3	SANS A	5SS	X	14
			SCREEN DETAILS: Screened Interval: 565.8 to 560.8	655	X	9
-12.5		555.9	Length -5 FT. Diameter -2.0° ID Slot # 6	755	<u> </u>	13
15.0	Brown Silty Clay, wet, soft, native	333.9	Material—STAINLESS STEEL Sand Pack Interval:	855		3
-17.5	But Burney of Oracle in the City	551.9	566.9 to 560.4	988	X	3
-20.0	Red Brown and Green Gray laminated Silty Clay, trace Silt seams, wet, soft, native			1055	X	WH
-22.5				1155	X	WH
22.5	same, except Brown to Red Brown, no	545.9		1255		3
-25.0	laminations			1355	X .	WH
-27.5	guared to 28.5 th DCC	541.9	·	1455	$\setminus \mid$	2
-30.0	augered to 28.5 ft. BGS, no sample Red Brown Sandy Gravelly Silt, moist to wet, native, Till augered to 29.9 ft. BGS, no sample	541.4 540.6 540.0		1555	X	>50
-32.5	END OF BOREHOLE AT 29.9 FT. BGS NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (6.0 ft. west) a 2.0° ID observation well was installed to 9.5 ft. BGS					
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E					
1	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	•	FOUND		
L	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	STATIC	WATER LEV	ÆL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW280-87 (PAGE 2 of 2)
DATE COMPLETED: 5/13/87

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF B-PLANT

CRA SUPERVISOR:

C.H. PADGINTON

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	B. BURK		—
t BG	STRATIONAL THE DESCRIPTION & REMARKS	ft AMSL	MONITOR INSTALLATION		MPLE Ts T	7
,				NUMBER	STATUS	; ; ;
2.5	NOTE: Due to inadequate amount of sample, OW280-87 was resampled (BHR 280-87) from 4.0 - 8.0 ft. BGS. These samples were submitted for chemical analysis, split with EPA/DEC, and analyzed.					
5.0						
7.5						
0.0						
2.5				,		
5.0	·					
7.5	·					
0.0				,		
2.5						
5.0	·	:	·			
7.5		,				
0.0						
2.5						
	·					

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W281-87

PROJECT NO .:

1769

DATE COMPLETED: 5/7/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

LOCATION:

WATER TREATMENT PLANT, SOUTHEAST OF B-PLANT

	<u> </u>				, 0,,,,,	
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		MPLE	****
10 00	REFERENCE ELEVATION GROUND ELEVATION	ft AMSL 570.06 570.3	INSTALLATION	N STATE	STATUS	וֹכר∢<בֻ
	Brown, Red, and Gray mottled Clayey Silt, some Gravel, trace Sand, dry, native		ROAD BOX CEMENT/ BENTONITE GROUT	1SS	S	13
2.5	Red Brown and Green Gray Clayey Silt, trace Sand and Gravel, moist, native	568.3	BENTONITE SEAL 2.0° B.i. PIPE	255		18
- 5.0	Brown Gray and Red Brown mottled Silty Clay, moist, native same, with dark Gray and Green Silty fine	566.3 565.8	7.25° BOREHOLE	388	(7
- 7.5	Sand seams, wet Red Brown laminated Silty Clay, Silt seams,	563.3	WELL	4SS X	0	11
	moist, native same, except trace Silt seams	562.3	SAND SACK O ROC #1	5SS X		14
10.0	same, except plastic	560.3	SCREEN DETAILS: Screened Interval: 566.3 to 561.3	6SS X		6
-12.5 ,	same, except mottled	558.3	Length −5 FT. Diameter −2.0° ID	7SS X		12
-15.0			Slot # 6 Material—STAINLESS STEEL Sand Pack Interval:	855		2
- 17.5		-	567.3 to 560.8	988		2
-20.0				10SS	,	wн
- 22.5			,	11SS X	,	WH
- 25.0			,	12SS X		1
	Red Brown Clayey Silt, Sand and Gravel, wet, native, Till	544.5		13SS X		9
-27.5	augered to 28.9 ft. BGS, no sample	542.6	,			
-30.0	END OF BOREHOLE AT 28.9 FT. BGS	541.4				
-32.5	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (5.0 ft. north) a 2.0" ID observation well was installed to 9.5 ft. BGS					
.(SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	PA SPLIT DEC/EPA DEC/EPA		FOUND WATER LEVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW282-87 (PAGE 1 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 5/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD:

HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT, WEST OF UTILITY TUNNEL

CRA SUPERMSOR:

D.C. MILLARD B. BURKETT.

DEDTU	STRATICRAPHIC DECORPTION & DEVIABILE	let et de et e	- Value	 	RREII	<u> </u>
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	· N	SAMPL S S	E N
	REFERENCE ELEVATION GROUND ELEVATION	570.61 571.1		203000	T A T U S	A L D E
	Fill — Brown fine Sand and Silt, some Gravel, cinders, trace vegetation, dry	569.1	ROAD BOX	155	M	28
- 2.5	Fill — dark Brown to dark Gray mottled Silty Clay, trace cinders and Gravel, moist to dry	369.7	CEMENT/ BENTONITE GROUT	255	M	12
- 5.0	Fill — dark Gray and Black mottled Silty Clay, trace Gravel, moist to wet	567.1	BII. PIPE	388	\bigcirc	5
- 7.5	same, with wood, oily sheen	563.1	BOREHOLE SAND PACK Q ROC #1 WELL SCREEN	455	M	9
- 10.0		F61.1	SAND SACKOC #1	555	Xa	13
- 10.0	Dark Gray Silty fine Sand, trace shell, wet, native	561.1	WELL SCREEN	6SS	M	. 8
-12.5	Brown and Gray Brown Silty Clay, trace Silt seams, moist, plastic, native	559.1	SCREEN DETAILS:	755	\square	7
- 15.0	Brown and Red Brown Silty Clay, trace Silt seams, wet, plastic, native	557.1	Screened Interval: 565.4 to 558.4 Length -7.0 FT.	855		. 1
- 17.5			Diameter — 2.0" ID Slot # 6 Material— STAINLESS	955		2
- 20.0			STEEL Sand Pack Interval: 566.4 to 558.3	1055	\square	1
20.0	·			11SS	M	1
-22.5				12SS	X	2
-25.0	same, with trace fine Gravel	545.1		1 3 SS	M	WН
-27.5	same, with some Sand	543.1	,	1 4 SS	M	1
70.0	,	541.3		15SS	M	wн
-30.0	Brown and Red Brown Sandy Clay, some Silt, fine Gravel, wet, native, Till Brown Sandy Clay, some Silt, angular and	540.6		16SS	$M \mid$	6
-32.5	subangular Gravel, wet to moist, native, Till Gray Sandy Gravel, wet, native	538.7 538.2		17SS		>100
	END OF BOREHOLE AT 32.9 FT. BGS		;			. '
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	EPA SPUT	<u></u>			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	_	_	FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	STATIO	WATER L	EVEL.	·

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W282-87 (PAGE 2 of 2)
DATE COMPLETED: 5/12/87

PROJECT NO .:

1769

DRILLING METHOD: HSA 8.0" OD

CLIENT: LOCATION: OCCIDENTAL

PTH S	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAM	PLE
BG		ft AMSL	INSTALLATION	UZ		
2.5				N U M 81 E R	S A T E	STATUS
55.0	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (6.0 ft. south) a 2.0" ID observation well was installed to 12.8 ft. BGS					3
i7. 5	NOTE: Due to inadequate amount of sample, 0W282-87 was resampled (BHR 282-87) from 4.0 - 10.0 ft. BGS. These samples were submitted for chemical analysis, split with					
0.0	EPA/DEC, and analyzed.					
2.5			,			
15.0						
7.5						
50.0						
52.5						
55.0	· -					
57.5						
60.0						
52.5						
5.0						

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW283-87

PROJECT NO.: 1769

DATE COMPLETED: 6/4/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0° OD

LOCATION:

WATER TREATMENT PLANT, WEST OF FILTERED WATER RESEVOIR

	WATER RESEVOIR					
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPI	
	REFERENCE ELEVATION GROUND ELEVATION	571.56 571.7	INSTALLATION	N D E R	S T A T U S	ופראלים
	Fill — Brown and Green Silt, vegetation, trace Clay, dry	570.7	ROAD BOX	1 S S	X s	14
- 2.5	Fill — Brown and Red Clayey Silt, Gravel, slag, brick, dry	569.7	- CEMENT/ BENTONITE GROUT	255	\forall	18
- 5.0	Fill — Brown, Red, and Gray Silty Clay, brick, trace Gravel and slag, moist	567.7			Θ	
0.0	no recovery Fill Brown and Red Silty Sand, Gravel,	565.7 565.2	2.0" d B.I. PIPE	355	A	11
- 7. 5	brick, wood, trace Clay, wet Fill - Black Silt, decayed vegetation, wet	563.7 563.2	8.0°# BOREHOLE	4 SS	Xa	8
- 10.0	Fill — Gray Brown Sandy Clayey Silt, wet Fill — Gray Silty fine Sand, wet	563.2	SAND PACK Q ROC #1	5 S S	\bigvee \Box	6
	Brown and Red Brown mottled Silty Clay,	560.2 559.7	SAND PACK O'ROC #1 SCREEN	6SS	\bigvee \Box	3
-12.5	moist, plastic, native Red Brown and Gray laminated Silty Clay.	303.7		7 S S	\sum	4.
-15.0	moist to wet, soft, plastic, native same, except wet	<i>557.7</i>	SCREEN DETAILS:	855		1
-17.5		667.7	Screened Interval: 563.2 to 558.2 Length -5 FT.	955	\bigvee	WH
20.0	Brown Silty Clay, wet, soft, native	553.7	Diameter -2.0° ID Slot # 6 Material-STAINLESS	10SS	X	WH
-20.0	Red Brown and Gray laminated Silty Clay, wet, native	551.7	STEEL Sand Pack Interval: 566.7 to 557.2	11 S S	X	1
22.5			337.2	1255	\overline{A}	WH
25.0			•	1355	\overrightarrow{A}	WR
27.5	Brown Silty Clay, wet, soft, native	545.7		1488		1
	Red Brown Sandy Silty Clay, Gravel, wet, native, Till			1588	\overrightarrow{A}	WH
30.0	no split spoon advancement, augered to 32.1 ft. BGS, no sample	541.7		16SS	$\langle \rangle$	1
32.5	END OF BOREHOLE AT 32.1 FT. BGS NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (7.0 ft. east) a 2.0" ID observation well was installed to 14.5 ft. BGS	539.7 539.6		17 S S		>50
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	PA SPLIT	<u></u>			<u> </u>
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA DEC/EPA	_	FOUND WATER LE	VET	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW284-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 6/1/87

1 110000

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF B-PLANT

LOCATI	ION: WATER TREATMENT PLANT, SOUTH OF E	-PLAN I	CRA SUPERVISOR:	C.H.	ADGII	NON
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPL S S	E.
	REFERENCE ELEVATION GROUND ELEVATION	569.47 569.6		N D M B E R	S T A T U S	AUTOE
	Fill — Brown and Gray Gravel, vegetation, dr		ROAD BOX CEMENT/ BENTONITE GROUT	155	M	6
- 2.5	Fill — Brown Gray Silty Clay, Gravel, trace Sand, moist	567.6	PBENTONITE SEAL SEAL B.I. PIPE	288	M	14
5.0	Fill — Brown and Gray mottled Clayey Silt, moist	565.6 563.6	B.I. PIPE BOREHOLE	388		15
7.5	Fill — Brown Silt, decayed vegetation, moist / Fill — Gray Silty Sand, wet	563.5 563.4	WELL SCREEN	4 SS	Ø	21
10.0	Green, Brown, Gray, Red Gray Silty Clay, Silt seams, native		SAND PAROC III	5 SS	M	-16
10.0		557.6	SCREEN DETAILS: Screened Interval:	6SS	X	.14
-12.5	Brown and Red Brown laminated Silty Clay, trace Silt seams, moist, soft, native	557.6	565.6 to 560.6 Length -5.0 FT. Diameter -2.0" ID	7 SS		4
15.0	Brown Silty Clay, wet, soft, native	555. 6	Slot # 6 Material — STAINLESS STEEL	8\$\$	\mathbb{X}	1
-17.5		551.6	Sand Pack Interval: 566.6 to 560.1	955		2
	Gray and Red Brown laminated Silty Clay, wet, soft, native	551.6		10SS	X	WR
-20.0	same, except trace Silt seams	549.6		1155		WH
-22.5				12SS		1
- 25.0	•			1 3 SS		WR
-27.5	•		·	1455		1
70.0	Red Brown Sandy Silty Clay, Gravel, wet,	540.6 540.3		15SS		>50
-30.0	native, Till augered to 29.9 ft. BGS, no sample	539.7				
-32.5	END OF BOREHOLE AT 29.9 FT. BGS NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (5.0 ft. south) a 2.0" ID observation well was installed to 9.5 ft. BGS			_		
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	EPA SPLIT DEC/EPA	SAMPLE VATER	FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		WATER LE	VEL,	

WATER TREATMENT PLANT, SOUTH OF B-PLANT

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W284-87 (PAGE 2 of 2)

DATE COMPLETED: 6/1/87

PROJECT NO .:

1769

CLIENT: LOCATION: **OCCIDENTAL**

DRILLING METHOD: HSA 8.0" OD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPLE
ft BG	<u> </u>	ft AMSL	INSTALLATION	N UMBER
70.5	•			M ATUS
32.5		ļ		RES
	NOTE: Due to inadequate amount of sample, OW284-87 was resampled (OWR 284-87) from 6.0 - 8.0 ft. BGS. These samples were submitted for chemical analysis, split with			
	6.0 - 8.0 ft. BGS. These samples were	. 3		
-35.0	submitted for chemical analysis, split with EPA/DEC, and analyzed.			
	EFA/DEC, and analyzed.			
37.5				
				1 1 1
	• .			
40.0	•			
		,		
42.5				
` .				
45.0		1		
47.5				
E0 0		1		
50.0				
	·			
52.5			-	
55.0	. }		•	
			•	
57.5				
37.3				
·		-		
60.0			•	
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62.5]		
j		1		
55.0		ł		
00.0	· ·			
ĺ	·	ĺ		
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E		-	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC./EPA SPLIT	DEC/EPA SA		ER FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA SP	PLIT TAT	IC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W285-87

PROJECT NO .:

1769

DATE COMPLETED: 5/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WATER TREATMENT PLANT, NORTHEAST CORNER OF FILTERED WATER RESERVOIR

CRA SUPERVISOR: B. BURKETT

	OF FILTERED WATER RESERVOIR			,		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	, MONITOR INSTALLATION	-	SAMPL	ĘĤ.
	REFERENCE ELEVATION GROUND ELEVATION	569.52 569.8		202BECZ	ST AT US	Y L
	Fill — Brown Gray Clayey Silt, vegetation, slag, ash, trace coarse Gravel, dry	567.8	ROAD BOX GEMENT/ BENTONITE GROUT	1 S S	X	4
2.5	Fill — Brown to Red Brown and Gray Silt, angular Gravel, cinders, trace Clay, moist	565.8	GRÓÚT "	2\$\$	\bigvee	16
5.0	Fill — Red Brown and Green Black Silty Clay, Gravelly, wet		BOREHOLE	388	\bigvee \mathbf{a}	7
7.5	same, except Gray Black Red Brown Silty Clay, Silt lenses, wet,	563.8 562.8	B.I. PIPE	455	$\nabla 0$	15
7.5	native same, except no Silt lenses, moist to wet	561.8	BI. PIPE WELL SCREEN SCREEN	5 SS	\forall	17
10.0	same, except wet	559.8	EMMERICAN & ROO PI	6SS	\forall	8
12.5	same, except mottled Red Brown, Gray, Orange Brown mottling	557. 8	SCREEN DETAILS: Screened Interval: 564.5 to 559.5	7 SS	\bigoplus	5
15.0			Length -5 FT. Diameter -2.0" ID Slot # 6	,	\bigoplus	
13.0	same, except trace fine Gravel, soft	553. 8	Material—STAINLESS STEEL Sand Pack Interval:	8S S	\bigcirc	-
17.5	Ped Prove and Crow City Olevent and	551.0	565.8 to 559.3	955	A	5
20.0	Red Brown and Gray Silty Clay, wet, soft, native	551.8		10SS	Δ	WH.
				11SS	X	WR
22.5				12 S S	X	<3
25.0				1355	X	WH
27.5	Canda Olay City	542.0		1455	X	1
30.0	Sandy Clay, Silty, wet, native, Till no split spoon advancement AUGERED TO REFUSAL END OF BOREHOLE AT 28.5 ft. BGS	347.3		1555		>50
32.5	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (4.0 ft. southwest) a 2.0" ID observation well was installed to 10.5 ft. BGS	-			\	
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	PA SPLIT ■ DEC/EPA	SAMPLE X WATER	FOUND	1	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	WATER LE	VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW286-87

PROJECT NO.: 1769

DATE COMPLETED: 5/14/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0° OD

LOCATION:

WATER TREATMENT PLANT, EAST OF FILTERED WATER RESERVOIR

CRA SUPERVISOR: S. CROSSMAN

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	E EVATOR	WONITOD	T	= = .	
ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N U	SAMPL	E TV
	REFERENCE ELEVATION GROUND ELEVATION	570.39 570.7		0.38E&	ST ATUS	¥
	Fill — Gray Brown and Red Brown Silty Clay, some Sand, trace fine Gravel, moist same, with slag, Sand pockets	568 .7	ROAD BOX	155	X	18
- 2.5	, , , , , , , , , , , , , , , , , , , ,		GROUT GROUT	2 S S		18
5.0	Start City	564.9		3SS	\bigvee α	14
- 7. 5	Black organic Silt, some Sand, trace Clay, wet, native Red Brown Silty Clay, moist, plastic, native	563.8	BOREHOLE	4SS	\bigvee \mathbf{c}	10
-10.0	same, except trace lamination of Green and Gray same, with trace Silt seams, wet	562.7 560.7	WELL	588	\bigvee	13
	Some, with trace one seams, wet	558.7	SAND PACE PI	6SS	X	5
- 12.5	Red Brown laminated Silty Clay, wet, native	J00./	SCREEN DETAILS: Screened Interval: 564.5 to 559.5	7 S S	\bigvee	5
- 15.0	·	·	Length -5 FT. Diameter -2.0" ID Slot # 6	855		2
-17.5		•	Material—STAINLESS STEEL Sand Pack Interval:	955	X	2
- 20.0			565.7 to 559.2	1055	X	WH
	same, with Silt seams, trace medium Sand	548.7	·	11SS	X	WH
-22.5				12 S S	X	<3.
- 25.0	same, except trace Gravel	<i>544.7</i>		1355		WH
-27.5		542 F		14 S S	X	2
-30.0	Red Brown Sandy Silty Clay, Gravel, wet, native, Till	542.5 541.2		15 S S	X	15
· -	Gray Brown Sandy Silt, angular and rounded Gravel, trace Clay, moist, native, Till END OF BOREHOLE AT 31.0 FT. BGS	539 .7		16SS	X	>50
- 32.5	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (5.0 ft. northwest) a 2.0" ID observation well was installed to 11.5 ft. BGS					
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	PA SPLIT				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		FOUND WATER LE	VFI	
		- 0.0/67	31AIIC	-	· • CL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W287-87 (PAGE 1 of 2)

DATE COMPLETED:

PROJECT NO .:

1769

DRILLING METHOD:

HSA 7.5" OD

2/19/88

CLIENT:

OCCIDENTAL

LOCATION:

WATER TREATMENT PLANT, SOUTH OF FILTERED WATER RESERVOIR

	WATER RESERVOIR			N.W.	THOMP	SON
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
IT BG	REFERENCE ELEVATION GROUND ELEVATION	ft AMSL 574.19 574.2	INSTALLATION	NUMBER	STATUS	שׁמר><כּל
	Fill — Brown and Green Silt, vegetation, trace coarse Gravel, dry	570.0	ROAD BOX	1 SS	M	55
2.5	Fill — Brown and Black Gravelly Silt, slag, dry to moist	572.2	CEMENT/TE STOUT	2 S S		10
5.0	same, except Brown, Red, Black, and Red Brown, moist	570.2		3 SS	M	18
7.5	same, except moist to wet	<i>568.2</i>	BENTONITE	4 S S	X o	14
	same, with trace Clay	566.2	-7.5° BOREHOLE -2.0° BL: PIPE	5SS	\bigvee Φ	4
10.0	Fill - Brown Silty Clay, thin Silt seams, wet	564.2		6SS	Ø	1
-12.5	Fill — Brown and Black Silt, trace Clay and Gravel, wet same, with flyash	562.5 562.2 560.7		7 SS		2
15.0	Fill — White Silt, wet, nonplastic same, with trace slag	560.2	SCHOOL AT	855		6
- 17.5		556.4		988	$\nabla \Phi$	` 25
	Brown Gray Silty fine Sand, wet, native same, except Black and Gray	556.2	SAND SAND OF ROC IN	1055	$\nabla \Phi$	5
-20.0	Brown and Gray Silty Clay, wet, plastic,	553.4	G ROC A	1155	∇	2
-22.5	native same, except Red Brown	551.6	SCREEN DETAILS: Screened interval: 564.2 to 553.2	12 S S		2
-25.0	same, with trace Silt seams same, except Brown and Gray, no Silt seams	548.7 548.2	Length -11.0 FT. Diameter -2.0° ID Slot # 6	1388		2
-27.5			Material – STAINLESS STEEL Sand Pack Interval:	1455	$X \mid$	5
-30.0	Red Brown and Gray laminated Silty Clay, some thin Silt seams, wet, plastic, native	546.2	565.2 to 553.2	1588	$X \mid$	1
	same, except Brown and Gray, trace Silt seam	542.2		1655	$X \mid$	WR
-32.5	Red Brown Silty Sand, trace Clay and Gravel.	540.2		1788	<u> </u>	2
NOTES	wet, native, Till			1 8S S	$X \square$	>50
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EI GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	PASPLIT DEC/EPA	SAMPLE Σ WATER	EDUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	WATER LE	LACT	

ELEVATION

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W287-87 (PAGE 2 of 2)

PROJECT NO .: 1769

DATE COMPLETED:

2/19/88

CLIENT:

OCCIDENTAL

DRILLING METHOD:

HSA 7.5" OD

LOCATION:

65.0

DEPTH | STRATIGRAPHIC DESCRIPTION & REMARKS

CRA SUPERVISOR:

MONITOR

C.H. PADGINTON N.W. THOMPSON

SAMPLE

WATER TREATMENT PLANT, SOUTH OF FILTERED WATER RESERVOIR

ft BG ft AMSL INSTALLATION À À T E 32.5 **17SS** 540.2 Red Brown Silty Sand, trace Clay and Gravel, **18SS** >50 35.0 wet, native, Till 5**38.9** AUGERED TO REFUSAL 538.1 END OF BOREHOLE AT 36.1 ft. BGS 37.5 NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (6.0 ft. south) a 2.0" ID observation well was installed to 21.0 ft. BGS 40.0 42.5 45.0 47.5 50.0 52.5 55.0 57.5 60.0 62.5

NOTES: 0 SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EPA SPLIT

> O GRAIN SIZE DIST. & ATT, LIMITS FOR OCC

DEC/EPA SAMPLE

 ∇ WATER FOUND Y

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW288-87 (PAGE 1 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 5/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

WATER TREATMENT PLANT, EAST OF SEWER DEPT.

CRA SUPERVISOR: K.D. SCHMIDTKE B. BURKETT

				D. DC	JRKETT	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
ft BG	REFERENCE ELEVATION GROUND ELEVATION	ft AMSL 571.66 572.2	INSTALLATION	Z U M @ E R	S T A T U S	ACL > < z
	Fill — Gray Sandy angular Gravel, Silty, dry to moist		ROAD BOX	1SS	M	14
2.5	same, with some glass	570.2		2SS	\bigvee	8
5.0	same, with fine Gravel	568.2	GROUT 6.0° BOREHOLE	355	\bowtie	4
.0	Fill — Brown Silty Clay, moist to wet	566.2 565.9			Θ_{-}	
.5	Fill — Brown, Green, and Red Sandy Gravel, Silty, wet	564.2	SEAL SEAL B.I. PIPE	4SS	Ma	22
).0	Gray Black Silty fine Sand, peat layer, Sand, native	562.2 562.8		. 5SS	Ma.	4
	\same, with peat Gray Black and Black Silty Sand, trace	562.8	SAND Q ROC #1	6SS	\bigcap	6
.5	Vegetation, wet, native Gray Black Silty Sand, wet, native same, except trace vegetation, moist to wet	561.2 560.2 558.2		755	∇	4
o	Red Brown Clay, moist to wet, native	558.2	SCREEN DETAILS: Screened Interval:	855	M	1
	same, except wet	556.2	563.7 to 558.7 Length -5.0 FT.	955	\bigvee	2
5	same, except moist to wet	554.2	Diameter - 2.0" ID Slot # 6 Material- STAINLESS	10SS	Θ	WH
,	Brown Red Silty Clay, wet, native	552.2	STEEL Sand Pack Interval:		Θ	
_		550.2	564.7 to 558.6	11SS	Ä	WH
5	Red Brown Clay with trace Silt, wet, native	548.2		1255	X	WН
)	Red Gray Clay, wet, native same, with trace Grave!	547.2		1355	\mathbb{N}	WR
5				14SS		WR
	Red Brown Silty Sand, some angular Gravel,			15SS		WR
0	wet, native, Till	540.7		16SS		WR
.5	Red Silty Sand with coarse subangular Gravel and trace Clay, dry to moist, native, Till	540.7 540.2 539.2		17SS	\bigvee	>50
	end of Borehole AT 33.8 ft. BGS	539.2 538.5 538.4			<u> </u>	
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	EPA SPUT				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SAMPLE WATER	FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW288-87 (PAGE 2 of 2)

DRILLING METHOD: HSA 6.0" OD

PROJECT NO .:

1769

DATE COMPLETED: 5/12/87

CLIENT:

OCCIDENTAL

CRA SUPERVISOR: K.D. SCHMIDTKE

LOCATION

WATER TREATMENT PLANT, EAST OF SEWER DEPT.

EPIHI	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAM		
t BG		ft AMSL	INSTALLATION	M C Z	S T A T E	Š,	, N,
32.5				89 E. R	Ê	STATUS	· ALUE
32.0		539.2 538.5		17SS	X		>5
	Red Silty Sand with coarse subangular Gravel and trace Clay, dry to moist, native, Till	538.4		Ì	П		
35.0	augered to 33.8 ft. BGS, no sample						
	END OF BOREHOLE AT 33.8 FT. BGS	1					
37.5	NOTE : At completion the initial borehole						
	l was arouted to around surface. In an	.				-	
40.0	adjacent borehole (5.0 ft. south) a 2.0" ID observation well was installed to 13.6 ft. BGS						
40.0			•		1 1		
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42.5							
45.0				ļ			
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-62.5 _.							
-65.0	•			` [
	p.						
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC	ATRA SPILIT				ш	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW289-87 (PAGE 1 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 5/18/87

CLIENT:

OCCIDENTAL

DRILLING METHOD:

HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTHEAST OF

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT 4

CRA SUPERVISOR:

S. CROSSMAN

SEWER PLANT B. BURKETT DEPTH | STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE INSTALLATION ft BG ft AMSL ÀTU ÅLU A T E REFERENCE ELEVATION 572.89 GROUND ELEVATION 573.1 -ROAD BOX augered to 1.0 ft. BGS, no sample 572.1 Fill - Gray Brown Sandy Silt, Gravel, trace **1SS** 11 brick, concrete, rebar, glass, and organics 2.5 2SS 35 568.1 5.0 Fill — Gray Brown Silty Clay, some Sand, BENTONITE SEAL 355 14 trace Gravel, moist 7.5 2.0" B.I. PIPE **4SS** 0 33 564.3 7.5°¢ BOREHOLE 564.1 Fill — Gray medium Sand, moist -10.0 Fill - dark Gray Gravelly fine to coarse 0 **5SS** 12 Sand, trace Silt, brick, peat, wet 561.1 Gray Silty fine Sand, organics, wet, 12.5 petroleum odor, native SAND PACK Q ROC #1 **6SS** 0 39 -15.0 WELL **7SS** Φ 16 555.4 555.1 17.5 Red Brown Clay, soft, wet, native SCREEN DETAILS: 855 1 Red Brown Silty Clay, soft, wet, native Screened Interval: 20.0 565.1 to 555.1 Length -10.0 FT. 955 WH Diameter -2.0" ID 551.1 same, except laminated Gray Green and Red Slot # 6 22.5 Brown Material - STAINLESS **10SS** WΗ STEEL same, except trace Gravel 549.1 Sand Pack Interval: 25.0 **11SS** WH 566.1 to 555.1 547.1 same, without trace Gravel **12SS** WH 27.5 **13SS** WH 30.0 1455 WH 32.5 **15SS** 2 Gray Brown Silty Clay, some Sand, trace 539.5 Gravel, native, Till >100 **16SS** 538.4 NOTES: 0 SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EPA SPLIT ∇ О WATER FOUND GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SAMPLE

DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W289-87 (PAGE 2 of 2)
DATE COMPLETED: 5/18/87

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTHEAST OF

CRA SUPERVISOR: S. CROSSMAN

	SEWER PLANT	- ,	OKA S	UPERVISOR	B. Bi			14
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONI INSTALL	TOR	AL.	SAN		
100		IL AMSL	MOTALL	A HON .	N M M M	S T A T	STA	, ×
32.5					E R	Ę	A T U S	£
		539.5			15SS	IX		2
	Gray Brown Silty Clay, some Sand, trace Gravel, native, Till	538.4			1655	\bowtie		>100
- 35.0	END OF BOREHOLE AT 34.7 FT. BGS							
1	5SS to 7SS - 3" spoon was used, 3.0 ft. long							İ
-37.5	NOTE: At completion the initial borehole		,					
	was grouted to ground surface. In an adjacent borehole (6.0 ft. south) a 2.0" ID							
- 40.0	observation well was installed to 18.0 ft. BGS				*			
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-42.5						ľ		· I
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- 45.0								
45.0								
-47.5								
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-57.5								
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-60.0								
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-62.5								
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-65.0		.						
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	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/EI							
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA		_	FOUND			
L	G SIGHT GELL DIGHT OF THE TOTAL OUT OF DECYCEN SPUT	DEC/EPA	24.01	STATIC	WATER LE	.VEL		. [

PROJECT NAME: S-AREA

PROJECT NO .:

CLIENT:

OCCIDENTAL

LOCATION:

WATER TREATMENT PLANT, NORTH OF A-PLANT

HOLE DESIGNATION: OW290-87 (PAGE 1 of 2)
DATE COMPLETED: 6/17/87

DRILLING METHOD: HSA 7.25" OD

CRA SUPERVISOR: B. BURKETT

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	E
ft BG		ft AMSL	INSTALLATION	U U	S S T T	΄Ά,
	REFERENCE ELEVATION GROUND ELEVATION	574.63 574.8		N D W B F B	A T U S	Ϋ́
	Fill — Brown Tan fine Gravelly Silt, vegetation, dry	574.5	ROAD BOX			
1.5	Fill — Black Gray Silt, cinders, ash, glass, brick, dry	570.0		155	\bigwedge	21
- 3.0	Fill — Brown and Red Brown Silt, fine Gravel cinders, ash, glass, dry	572.8	CEMENT	255	\bigvee	15
1	Fill — Brown Silt, wood, slag, glass,	570.8		<u> </u>		
4.5	brick, trace Clay, dry to moist	570.2	7.25° BOREHOLE		\/	
6.0	Fill — Brown Sand, White soft material, trace Clay, dry to moist		2.0° ø B.I. PIPE	355	\bigwedge	17
7 0.0	Fill — Brown Sand, trace Silt and Clay, dry to moist	568.8	Bil. Pipe			
7.5	same, with fine Gravel, brick, and slag Fill — Brown Gray Clayey Silt, Gravel,	568.1 567.6		4SS	XI	32
	glass, slag, dry to moist same, with brick, cinders, ash, and wood,	566.8			<u>()</u>	
9.0	moist to wet Fill — Brown Rust Black cinders, ash, wood, wet	565.8		5SS	$\left \left\langle \left \right\rangle \right \right $	10
-10.5	Fill — Brown Clayey Silt, fine Gravel, wood, cinders, ash, trace Sand, moist to wet same, with copper wire and Black and White filtercake	564.8 564.0		655		8
12.0	⊤Fill — Black Brown bottom ash	563.0 562.8		ı K	<u> </u>	
	Fill — Brown Black fine Gravel, cinders, ash brick, wood, wet	302.0	SAND PACK Q ROC #1	7\$S	$\sqrt{\Phi}$	52
13.5	same with slag copper wire and slage	500.0		. /	/\	
	same, with slag, copper wire, and glass	560.8 560.3		,	7	
15.0	Black Gray laminated Sand, moist to wet, native			855	$\langle \varpi $	11
-16.5	same, with trace fine Gravel	558.8		· · /	-)	ļ
				988	$\langle $	2
18.0				.	-)	ļ
- 19.5			SCREEN	1055	$\langle \mathbf{o} \rangle$	2
	Red Brown Clay, moist to wet, native same, with Gray Sandy Silt seam, wet	555.0 554.8 554.8	` [8888]≢\$888	<u>/-</u>)	
	Red Brown Silty Clay, moist to wet, native			1155	\coprod	WH
	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E					
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA DEC/EPA	_	FOUND	4 57	J
L	C	DEC/EPA	SIAIIC	WATER LEV		

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW290-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 6/17/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

LOCATION:

WATER TREATMENT PLANT, NORTH OF A-PLANT

· CRA SUPERVISOR: B. BURKETT

- 21.0 - 22.5 - 24.0	Red Brown Clay, moist to wet, native same, with Gray Sandy Silt seam, wet Red Brown Silty Clay, moist to wet, native	555.0 554.8 554.4	INSTALLATION SCREEN	N U M B E R	SAM S T A T E	STATUS	BCT V <z< th=""></z<>
- 21.0 - 22.5 - 24.0	same, with Gray Sandy Silt seam, wet				1 - 1	A T U S	Ų L Į
- 21.0 - 22.5 - 24.0	same, with Gray Sandy Silt seam, wet				 / \	S	
- 21.0 - 22.5 - 24.0	· · · · · · · · · · · · · · · · · · ·	554.4	000EEU 0==	l	μ	Ψl	2
-24.0			SCREEN DETAILS: Screened Interval: 560.0 to 555.0 Length -5.0 FT.	1155	M		WH
-24.0		551.4	Diameter - 2.0" ID Slot # 6 Material - STAINLESS STEEL	12SS	\bigvee		2
	Red Sandy Silty Clay, moist to wet, native Red and Gray laminated Silty Clay,	550.8	Sand Pack Interval: 566.1 to 555.0		()		
-25.5	Red Brown and Red Silt seams, native			1355	X		WH
	Red Brown Silty Clay, some Red Silt seams, moist, native	548.8	4		H		
-27.0				14SS	\mathbb{N}		WH
-28.5				15SS	\bigvee		WH
-30.0	same, except Gray Silt seams	544.8			()		
31.5		547.0		16SS	XI		WH
i V	Red Brown Sandy Silty Clay, fine Gravel, native, Till	543.0 542.8			H		
	Red Brown Silty Clay, moist to wet, native Red Brown Silty Clay, Sandy, fine Gravel,	541.6	٠	1755	XI	İ	2
34 5 7	moist, native, Till Gray Silty Clay, fine to coarse Gravel, trace Sand, moist, native, Till	540.8 540.6		1855			>50
,	augered to 35.7 ft. BGS, no sample	539.1	,				
1	END OF BOREHOLE AT 35.7 FT. BGS OTE: At completion the initial borehole						
37.5 bo	as grouted to ground surface. In an adjacent prehole (6.0 ft. west) a 2.0" ID pservation well was installed to 19.8 ft. BGS	;					
39.0	3SS to 10SS — A 3.0" split spoon was used						
NOTES: ①	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/ET						
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA DEC/EPA	_	FOUND WATER LE			

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W291-87 (PAGE 1 of 2)

DRILLING METHOD: HSA 7.25" OD

PROJECT NO .: 1769

DATE COMPLETED: 6/23/87

CLIENT:

OCCIDENTAL

TH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		AMPL	É
BG		ft AMSL	INSTALLATION	- N	ST	l
	REFERENCE ELEVATION GROUND ELEVATION	573.82 574.4		ZUMBER	A T U S	
	augered through asphalt to 2.0 ft. BGS,		ROAD BOX			Ī
	no sample	•				
5		572.4				
	Fill — Brown Black mottled fine Gravelly \ Silt, glass, cinders, slag, dry to moist			 	_	İ
	same, with trace wood, ash, and metal	571.9	- CEMENT/ BENTONITE GROUT		\ /I	
כ	fragments, moist to wet		GROUT	1SS	$X \mathbf{\Phi} $	l
	Fill - Brown Gray Silty Sand, Gravelly,		7.25° BOREHOLE	1 /	/\	l
		570.4 570.1	BOREHOLE	k	\exists	l
5	wet	570.1 569.9	20.17		$\bigvee $	l
	Fill — Red Brown Silty Clay, fine Gravel,		BENTONITE SEAL	2SS	$\chi \Phi $	١
)	Sand lenses, slag, moist	568.4		. <u> </u>	<u>'</u>	ı
,	Fill — Gray fine to coarse Gravel, moist -				\sqrt{I}	١
	Fill Brown Silty Clay, Gravelly, some slag and cinders, dry to moist	567.9	900 900	388	XIODI	l
5	same, except Black	567.1			/\ `	l
	Fill — Black Gray fine Gravelly Silt, some	566.4	B.i. PIPE	K	-) !	
	wood, moist to wet	565.9			$\setminus \mid _ \mid$	
כ	Fill — Black, Yellow, Tan, and Orange			4SS	$\chi \Phi $	
	cinders, ash, brick, tar paper, moist	5044		1 V	' \	
5	Fill — Black, Brown, and Red Brown mottled \fine Gravelly Silt, slag, moist to wet	564.4 563.9	SAND PACK #1		$\sqrt{ \cdot }$	
	Fill - Tan and Brown White filter cake, fine			5SS	$\chi \Phi $	
•	to coarse Gravel, wet	560.4		1 /	<u> </u>	
0	same, except Brown Gray to Black, no Gravel	562.4	SAND		\Box	
			SAND PACK O ROC #1	6SS	XIODI	
5		560.8		1 1	$/ \setminus \mathbf{J} $	
	Fill - Black metal wire	560.6 560.4			=	
	augered to 14.0 ft. BGS, no sample	000.7			\/l	ĺ
0	Gray and Olive Green laminated fine to medium Sand, wet, native			755	$\chi \Phi $	
		550 4		i /	′ \	
5.	same, except no laminations	<i>558.4</i>	SCREEN		\Box	
5				855	VI@I	
					/\ ~	
0	same, with vegetation and shell fragments	<i>556.4</i>			_)	
	·				\/	
				9SS	$\chi \Phi $	
5		554.6		/	′ \	
	Red Brown Silty Clay, moist, native	337.0		1 1	7	
				1055	\bigvee	L
S:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E	PA SPLIT				_

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW291-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 6/23/87

CLIENT: **OCCIDENTAL** DRILLING METHOD: HSA 7.25" OD

LOCATION:

WATER TREATMENT PLANT, NORTH OF A-PLANT

CRA SUPERVISOR: B. BURKETT

	, , , , , , , , , , , , , , , , , , , ,				
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		MPLE
IT BG	<u> </u>	ft AMSL	INSTALLATION	N S U A	ST A L U E
19.5				M A B T E E	
		<u> </u>	SSS = SSS WELL	9SS /	S E
	Red Brown Silty Clay, moist, native]	SCREEN SOREHOLE	395	7
- 21.0			_	1,000	/
21.0			SAND PACK Q ROC #1	10SS X	\ WH
İ	same, with fine Sand	552.4		l	4
22.5			SCREEN DETAILS:	1 \ \ \ \ \ .	/
·	,		Screened Interval: 566.1 to 553.9	11SS X	1
24.0	and with last that dad. Bod and Con. Cit.	550.4	Length -12.2 FT.		V I
-24.0	same, with laminated dark Red and Gray Silt lenses, no Sand	550.4	Diameter —2.0" ID Slot # 6		7
			Material - STAINLESS	1288	/ wh
- 25.5			STEEL	'255 /\	\
			Sand Pack Interval: 567.4 to 553.9		4
	·			[\ \	/
-27.0				13SS X	HWH
				l /	
-28.5	·	•	•		71
				14SS X	'l wh
- 30.0				l [)
				1500	/
- 31.5				15SS X	(WH
010				<u> </u>	<u> </u>
				l .	/
-33.0				16SS X	1
	Red Brown fine Gravelly Clay, Silt seams,	540.5		l //	$\setminus \setminus \setminus$
- 34.5	native, Till	540.4			7
734.3	Red Brown Clayey Silt, Sandy, Gravelly, dry to moist, native, Till			17SS X	>50
	augered to 36.3 ft. BGS, no sample	539.2		<u> </u>	4
- 36.0	END OF BOREHOLE AT 36.3 FT. BGS	5704			
	NOTE: At completion the initial borehole	538.1			
	was grouted to ground surface. In an adjacent borehole (6.0 ft. west) a 2.0° ID				
-37.5	observation well was installed to 20.5 ft. BGS				
	NOTE: Due to the need for quality assurance and quality control, OW291-87 was resampled		_		
- 39.0	(BH-291 and BH-391) from 2.0 - 18.4 ft. BGS		-		
	These samples were submitted for chemical analysis, split with EPA/DEC, and analyzed.		,		
	2SS to 9SS — A 3.0° split spoon was used				
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	FPA SPLIT		<u> </u>	<u> </u>
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC		SAMPLE S WATER	R FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		WATER LEVE	L

WATER TREATMENT PLANT, WEST OF A-PLANT

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW292-87 (PAGE 1 of 2)

DATE COMPLETED: 5/22/87

PROJECT NO .:

1769

DRILLING METHOD: HSA 7.25" OD

CLIENT: LOCATION: OCCIDENTAL

	ON: WATER TREATMENT PLANT, WEST OF A-		CRA SUPERVISOR:		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPL N ISIS	
	' REFERENCE ELEVATION GROUND ELEVATION	575.72 576.0	, indirect lion	STATE STATE NUMBER	יוכוי א <ב
	Fill — Brown, Red, and Olive Sandy Silt, Clayey, Gravel, moist	574.0	ROAD BOX	1SS	34
- 2.5	Fill — Brown, Black, and Red Sandy Silt and Silty Clay, Gravel, brick, slag, moist	374.0	- CEMENT/ BENTONITE GROUT	288	49
- 5.0		570.0		388	18
- 7.5	Fill — Olive Green Sandy Silt, trace Clay, Gravel, wood, brick, glass, trace Silty Clay seams	568.0	7,25° BOREHOLE	455	30
- 10.0	Fill — Gray and Black Silty fine Sand, trace Clay and Gravel, brick, concrete, vegetation, moist			5SS	10
	same, with Clay seam	564.2		6SS	10
-12.5	same, with glass, cloth, cinders, siag same, with metal, brick, moist to wet	564.0 562.0	2.0° ø B.i. PiPE	7SS	17
-15.0	same, with some Silty Clay seams	576.0		855	25
-17.5				955	11
-20.0	Fill — Black and Gray Silty fine Sand,	556.0		10SS X 0	9
00.5	flyash, cinders, wet	554.0	PACK Q ROC #1	11SS X	29
-22.5	Black and dark Gray Silty fine Sand, wet, native			12SS (15
-25.0				13SS (3
-27.5		548.0		14SS (16
-30.0	Gray Silty fine to medium Sand, trace fine Gravel, shell fragments, wet, native			1588	14
70 =	Red Brown Silty Clay, trace Sand Seams, wet, plastic, soft, native	,	WELL	16SS D	24
-32.5	Red Brown and Gray Sandy Silt, Gravelly, moist, dense, native, Till	542.1 542.0		17SS X D	11 >50
NOTES:	✓augered to 36.0 ft. BGS, no sample SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/	<u> 541.3 </u> Tepa split			1 2 3
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	FOUND WATER LEVEL	

WATER TREATMENT PLANT, WEST OF A-PLANT

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW292-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/22/87

DRILLING METHOD: HSA 7.25" OD

CLIENT: LOCATION: **OCCIDENTAL**

CRA SUPERVISOR: C.H. PADGINTON

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAMPLE N ISISI
BG		ft AMSL	INSTALLATION	N S S U T T
0 5				N STATUS STATUS
2.5	Red Brown Silty Clay, trace Sand Seams, wet,		WELL	17SS X D
	plastic, soft, native	540 o	WELL SCREEN SAND	I
. 0	Red Brown and Gray Sandy Silt, Gravelly,	542.0 541.3	SĂND PACK Q RÔC #1	18SS 🔀 >
5.0	moist, dense, native, Till	1	COREEN DETAILS	1955 - >
	augered to 36.0 ft. BGS, no sample	540.0	SCREEN DETAILS: Screened Interval:	1933
7.5	no split spoon advancement AUGERED TO REFUSAL	538.5	547.7 to 542.7	
	END OF BOREHOLE AT 37.5 ft. BGS		Length -5.0 FT. Diameter -2.0° ID	1
			Slot # 6	
0.0	NOTE: At completion a 2.0" ID observation well was installed to 33.9 ft. BGS		Material - STAINLESS STEEL	
			Sand Pack Interval:	
2.5			564.7 to 542.1	
	·			
5.0				
7.5		:		
50.0				
52.5				
, <u>, , , , , , , , , , , , , , , , , , </u>				
55.0				
57.5				
,,				
			, 	
0.0				
2.5				
2.3				
55.0				
	`			

DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W293-87 (PAGE 1 of 2)
DATE COMPLETED: 5/22/87

PROJECT NO.: 1769

DRILLING METHOD: HSA 7.5" OD

CLIENT:

OCCIDENTAL

REFERENCE ELEVATION GROUND ELEVATION GROUND ELEVATION JUNE 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	E
augered through Brown Gravelly Silt, vegetation, glass, cinders, and ash to 1.0 ft. BGS, no sample Fill - Brown and Red Brown mottled Sandy Silt, brick, cinders, slag, dry 3.0 Fill - Brown White and Olive Green mottled Sandy Silt, coal, metal, dry 4.5 Fill - Brown, Red Brown, and Black Gray mottled Sandy Silt, sh, slag, concrete, cinders, dry 7.5 Fill - Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry 568.6 Fill - Black Sandy Silt, coarse Gravel, cinders, ash, slag, brick, moist to wet Fill - Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet Fill - Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic ador 572.6 Fill - Brown Gray Silt, sand, Gravelly, brick, cinders, ash, moist to wet 572.6 Fill - Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet, septic ador 573.6 Fill - Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic ador Fill - Gray Black Silty Sand, Gravelly, trace Fill - Gray Black Silty Sand, Gravelly, trace Fill - Gray Black Silty Sand, Gravelly, trace Fill - Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic ador	ft BG		 	INSTALLATION	N U	SS	Ď.
augered through Brown Gravelly Silt, vegetation, glass, cinders, and ash to 1.0 ft. BGS, no sample Fill — Brown and Red Brown mottled Sandy Silt, brick, cinders, slag, dry 1.5 Fill — Brown White and Olive Green mottled Sandy Silt, coal, metal, dry 4.5 Fill — Brown White and Olive Green mottled Sandy Silt, coal, metal, dry Fill — Brown, Red Brown, and Black Gray mottled Sandy Silt, ash, slag, concrete, cinders, dry Fill — Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry Fill — Black Gray Sandy Silt, fine Gravel, cinders, ash, moist to wet sah, slag, brick, moist to wet Fill — Black Sandy Silt, coarse Gravel, cinders, osh, moist to wet Fill — Black Sandy Silt, coarse Gravel, cinders, osh, moist to wet Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet septic odor Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Brown Gray Black Silty Sand, Gravelly, brick, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace fragments, shell fragments, moist to wet, septic odor		GROUND ELEVATION	575.6		B E R	A T U S	Ų
Silt, brick, cinders, slag, dry Silt, brick, cinders, slag, dry Silt, brick, cinders, slag, dry Fill — Brown White and Olive Green mottled Sandy Silt, coal, metal, dry 572.6 Fill — Brown, Red Brown, and Black Gray mottled Sandy Silt, ash, slag, concrete, cinders, dry Fill — Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry Fill — Red Brown, Black, Gray Green mottled Clayey Silt, Gravel, Clay seams, cinders, ash, slag, brick, moist to wet Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet Fill — White and Gray Green coarse Sand, Gravel Gra		glass, cinders, and ash to 1.0 ft. BGS, no sample	1 [ROAD BOX			
Fill — Brown White and Olive Green mottled 4.5 Fill — Brown, Red Brown, and Black Gray mottled Sandy Silt, ash, slag, concrete, cinders, dry 7.5 Fill — Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry Fill — Red Brown, Black, Gray Green mottled Clayey Silt, Gravel, Clay seams, cinders, ash, slag, brick, moist to wet 7.5 Fill — Black Sandy Silt, coarse Gravel, cinders, ash, molst to wet Fill — Black Sandy Silt, coarse Gravel, cinders, ash, molst to wet 7.5 Fill — Black and Olive Green Sandy Silt, Gravel, Clay seams, cinders, ash, slag, brick, cinders, ash, slag, moist to wet, septic odor 7.5 Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet 7.5 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, moist to wet, septic odor 7.5 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor 7.5 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor 7.5 Fill — Brown Gray Black Silty Sand, Gravelly, trace Cinders ash discussed the travelly, trace Fill — Cray Black Silty Sand, Gravelly, trace Fill — Cray Black Silty Sand, Gravelly, trace		Fill — Brown and Red Brown mottled Sandy Silt, brick, cinders, slag, dry		- CEMENT/ BENTONTE	155	X	
Fill — Brown, Red Brown, and Black Gray mottled Sandy Silt, ash, slag, concrete, cinders, dry 7.5 Fill — Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry 9.0 Fill — Red Brown, Black, Gray Green mottled Clayey Silt, Gravel, Clay seams, cinders, ash, slag, brick, moist to wet 7.5 Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet 7.6 Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet 7.5 Fill — White and Gray Green coarse Sand, Gravel 7.6 Fill — Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor 7.5 Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet 7.6 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor 7.5 Fill — Gray Black Silty Sand, Gravelly, trace 7.6 Fill — Gray Black Silty Sand, Gravelly, trace 7.7 Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor 7.7 Silty Sand, Gravelly, trace 7.7 Silty Sand, Gravelly, trace 7.7 Silty Sand, Gravelly, trace		Fill — Brown White and Olive Green mottled Sandy Silt, coal, metal, dry	572.6	GROUT	255	$\sqrt{}$	
mottled Sandy Silt, ash, slag, concrete, cinders, dry 7.5 Fill — Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry Fill — Red Brown, Black, Gray Green mottled Clayey Silt, Gravel, Clay seams, cinders, ash, slag, brick, moist to wet Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet Fill — White and Gray Green coarse Sand, Gravel Gravel Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet Fill — Brown Gray and Brown Black Silty Sand, Griders, ash, slag, brick, bross fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay lens cinders ash dry to evelly, trace Clay lens cinders ash dry to evelly, trace	4.5	Fill Prove Red Brown and Black Con-	570.6	7.5° BOREHOLE		\triangle	
7.5 Gravel, cinders, ash, metal, dry 9.0 Fill — Red Brown, Black, Gray Green mottled Clayey Silt, Gravel, Clay seams, cinders, ash, slag, brick, moist to wet 9.0 Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet 7.5 Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet 9.0 Fill — White and Gray Green coarse Sand, Gravell White and Gray Green Coarse Sand, Gravel 9.1 Fill — Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor 9.7 Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet 9.5 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor 9.5 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor 9.5 Fill — Gray Black Silty Sand, Gravelly, trace Clayey lens cinders ash day to wet	6.0	mottled Sandy Silt, ash, slag, concrete,			355		2
Fill — Red Brown, Black, Gray Green mottled Clayey Silt, Gravel, Clay seams, cinders, ash, slag, brick, moist to wet 563.7 Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet Fill — White and Gray Green coarse Sand, Gravel Fill — Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay lens cinders ask day to wet	7.5	Fill — Black and Black Gray Sandy Silt, fine Gravel, cinders, ash, metal, dry	568.6	2.0° ø B.i. PIPE	455		1
Fill — Black Sandy Silt, coarse Gravel, cinders, ash, moist to wet 563.7 Fill — White and Gray Green coarse Sand, Gravelly, brick, cinders, ash, slag, moist to wet, septic odor Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, slag, brick, cinders, ash, moist to wet Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, brick, cinders, ash, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay lens cinders ash day to wet	9.0	Clayey Silt, Gravel, Clay seams, cinders,	566.6		500		
Fill — White and Gray Green coarse Sand, Gravel Fill — Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay less cinders, ash, day, to wet		Fill - Black Sandy Silt, coarse Gravel,			355	$\langle $	1
Fill - Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor Fill - Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet Fill - Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill - Gray Black Silty Sand, Gravelly, trace Clay lens cinders, ash day to wet	2.0	Fill — White and Gray Green coarse Sand,			<u> </u>	7	
Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet 8.0 Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay lens cinders ash day to wet	3.5	Fill — Gray Black and Olive Green Sandy Silt, Gravel, brick, cinders, ash, slag, moist to wet, septic odor		Q ROC (A)	655		į
Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay lens cinders ask day to wet	5.0	Fill — Brown Gray Silty Sand, Gravelly, brick, cinders, ash, moist to wet	560.6				
Fill — Brown Gray and Brown Black Silty Sand, cinders, ash, slag, brick, brass fragments, shell fragments, moist to wet, septic odor Fill — Gray Black Silty Sand, Gravelly, trace Clay lens cinders ash day to wet	6.5				788	$\langle \mathbf{x} $	1
9.5 septic odor Fill - Gray Black Silty Sand, Gravelly, trace Clay lens cinders ask day to wat	8.0	Sand, cinders, ash, slag, brick, brass	557.6		855		4
Clay lens cinders ask day to weetly, trace	9.5	septic odor	555.6	1	. 655	\mathbb{N}	1
	OTES: (Clay lens, cinders, ash, dry to wet			955	10	2
		GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SAMPLE 🔀 WATER	FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: 0W293-87 (PAGE 2 of 2)
DATE COMPLETED: 5/22/87

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTHWEST OF A-PLANT

CRA SUPERVISOR: B. BURKETT

OCO TU	LCTD A TIOD ADUIG DECODIDATION & DEMARKS	Ter ever evel		T		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPLI Is Is	<u>, , , , </u>
		I AWOL		BECZ	S S A A	l À
19.5				B	S T A T U S	Ę
		555.6		855	/ V o	18
- 21.0	Fill — Gray Black Silty Sand, Gravelly, trace Clay lens, cinders, ash, dry to wet	333.8	- CEMENT/ BENTONITE GROUT	000	M_{\bullet}	0.7
-22.5			BOREHOLE	9SS		- 27
	Fill — Black Gray Silty Sand, Gravelly,	552.6	2.0" 6			
-24.0	trace Clay, wood, wet		20° ¢ B.I. PIPE	1055	$ $ $ $ $ $ $ $	23
		550.6				
-25.5	Gray Black Sand, wet, native			1155	$\bigvee_{\mathbf{o}}$	21
-27.0			SCREEN	1133		21
-28.5	same, with some Gravel	547.6	WELL SCREEN	12SS		14
-30.0	same, with shell fragments, no Gravel same, except coarse Sand, Gravel	545.8 545.6	SAND PACK OF ROCK OF			
- 31.5	Red Brown Silty Clay, native	544.6	Q ROC #1	13SS	$\mathbb{V}_{\mathbf{\Phi}}$	8
-33.0	Gray Black Gravelly Sand, wet, native	543.6	SCREEN DETAILS: Screened Interval: 550.1 to 545.1 Length -5.0 FT.	1 4 SS	D	5
34.5	Red Brown Sandy Silt, moist to wet, native, Till same, except Gravelly same, with Gray Brown, stiff, dry	541.7 541.6 540.6	Diameter — 2.0" ID Slot # 6 Material— STAINLESS STEEL	15SS		120
36.0	Red Brown Silty Sand, Gravelly, native, Till	539.6 538.8	Sand Pack Interval: 563.9 to 543.9	1600	Θ	>100
-37.5	Red Brown Sandy Silt, Gravel, native, Till END OF BOREHOLE AT 37.1 FT. BGS	538.5	·	16SS		>100
-39.0	NOTE: At completion the initial borehole was grouted to ground surface. In an adjacent borehole (5.0 ft. south) a 2.0° ID observation well was installed to 31.7 ft. BGS		·			
	5SS to 7SS, 9SS and 11SS — A 3.0" split spoon was used, 3.0 ft. long					
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/					
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	_	_	R FOUND	- VE	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT 🗷 STATIO	WATER LE	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW294-87 (PAGE 1 of 2)
DATE COMPLETED: 5/29/87

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF A-PLANT

CRA SUPERVISOR: B. BURKETT

<u></u>					
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPL N ISIS	
itt BG	REFERENCE ELEVATION GROUND ELEVATION	574.06 574.6	INSTALLA NON	N U M BE E	2 >.4 LDE
	augered to 1.0 ft. BGS, no sample	573.6	ROAD BOX		
- 2.5	Fill — Brown Gray Clayey Silt, trace Gravel, dry		- CEMENT/	155	10
Ì	Fill — Red Brown Gray Clay, dry Fill — Black cinders, ash, slag, dry	571.4 571.3	CEMENT/ BEN TONITE GROUT	255	8
- 5.0	Fill — Brown and White mottled Clayey Silt,	569.6 569.0	7.5°0 BOREHOLE	355	5
7.5	Fill - Brown Gray Clayey Silt, Gravel,	567.6 567.0		455	11
- 10.0	Fill — Brown Gray Sandy Silt, Clay, Gravel, slag, cinders, dry to moist Fill — Gray Black Red Brown Clayey Silt,	565.6	→ BENTONITE SEAL	588	6
	Tan brick, cinders, White ash, dry no recovery	562.6		, 333	
-12.5	Fill — Black Gravel, glass, cinders, ash, Gray slag, wet Fill — Black Silty Sand, Gravel, cinders,	561.6	2.0° # 8.1. PIPE	6SS	17
- 15.0	slag, ash, wet Fill — Black Sand, cinders, ash, wet, oily sheen, slight chemical odor	559.6 559.0		H	
-17.5	Fill — Black Gravelly Sand, tar, rubber, wet	556.6		7SS X 0	50
-20.0	Fill - Black Sand, cinders, ash, wet	554.6		855	35
	Black Gray fine to medium Sand, wet, native	552.6	SAND PACK Q ROC #1	955	4
-22.5	Black Gray Silty fine to medium Sand, wet, native	352.6		10SS 	4
-25.0		·		11SS 🗡 👁	8
-27.5			WELLEN	12SS 🔀 🛈	13
-30.0	Black Gray laminated Gravelly Sand, wet, native	545.6	SCREEN	13SS 	23
730.0	Gray fine to medium Sand, Gravel, White shell fragments, wet, native	544.6		14SS 🔀 🛈	1
-32.5	Red Brown Sandy Silt, Gravel, dry to moist, native, Till	542.6 541.0		1588	115
	augered to 36.2 ft. BGS, no sample				
NOTES:	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/			-	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND	
L	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA	SPUT / STATIO	WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: OW294-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/29/87

CLIENT:

OCCIDENTAL

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

DRILLING METHOD: HSA 7.5" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF A-PLANT

CRA SUPERVISOR: B. BURKETT

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAN	1PLE	
t BG		ft AMSL	INSTALLATION	X C Z	S	T	><
52.5			•	M B E R	ST ATE	Ŭ	A L
•	Red Brown Sandy Silt, Gravel, dry to moist, native, Till	F41.0	0005511 0557111 0	<u> </u>		J.	11
	augered to 36.2 ft. BGS, no sample	541.0	SCREEN DETAILS: Screened Interval:				
5.0			549.6 to 544.6 Length 5.0 FT.				
		538.4	Diameter - 2.0° ID				i
7.5	END OF BOREHOLE AT 36.2 FT. BGS NOTE: At completion the initial borehole		Slot # 6 Material— STAINLESS				
0.0	was grouted to ground surface. In an adjacent borehole (5.0 ft. west) a 2.0" ID observation well was installed to 30.0 ft. BGS		STEEL Sand Pack Interval: 564.7 to 544.6				
0.5	5SS to 7SS — A 3.0" split spoon was used,						
2.5	3.0 ft. long 14SS — sample was analyzed seperately		1				
5.0							
	•	·					
7.5		•	-				
	•					İ	
0.0			·				
			•				
2.5							
5.0							
			1				
7.5	·		·			Í	
, .5							
0.0				-			
ا ن.ر							
, [•					.	
2.5							
5.0							•
			•				
IES: I	SOIL SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS & DEC/E				ш		

DEC/EPA SPLIT

STATIC WATER LEVEL

OVERBURDEN BOREHOLES

BH100 - BH223

BOREHOLE LOCATIONS: SEE INFORMATION SUMMARY REPORT

VOLUME II - DRAWINGS

PLAN #1

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH100-87

PROJECT NO.: 1769

DATE COMPLETED: 2/9/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

WEST OF 53rd. STREET

CRA SUPERVISOR: D.C. MILLARD

200/11					
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAMPLE N ISIS I 1	'N'
ft BG	GROUND ELEVATION	ft AMSL 571.8	INSTALLATION	T M TÁLÁL A	, , ,
	augered through asphalt and Gravel to 2.0 ft. BGS	·	8,0°¢ BOREHOLE	R	<u>E</u>
- 2.5	Fill — Black and Brown Gravelly coarse Sand, some cinders and wood, dry	569.8		155 9	2
5.0	Fill — Black fine to medium Sand, trace cinders, moist	567.8	GROUT	2SS 1	0
7.5	same, with some brick, wet	565.8		388	8
7.5	Black to dark Gray fine Sandy Silt, Clayey, trace vegetation, moist, native	563.4 562.8		4SS 1	11
- 10.0	Brown, Red Brown, and Gray slightly mottled Silty Clay, some fine Sand, moist, native			5SS \	7
12.5	same, with trace Silt nodules, high plastic	559.8		6SS 1	3
- 15.0	same, with trace vegetation and Silt lenses	557.8		7SS 🗡 🖜	7
	same, with increasing Silt	555.8		855	9
17.5	same, except Brown and Red Brown	553.8		955	4
20.0	Brown and Red Brown Silty Clay, trace fine Sand lenses, wet, native	551.8		10SS W	Ή
-22.5				11SS W	H
-25.0				1255	1
-27.5				1355	2
- 30.0	Red Brown Silty Sand, Clayey, fine Gravel, wet, native, Till	541.3 539.8		14SS W	
- 32.5	same, except Red Brown to Gray Brown, rock fragments AUGERED TO REFUSAL	•		15SS W WI	00 00
02.0	END OF BOREHOLE AT 33.5 FT. BGS At completion borehole was grouted to ground surface	538.8 538.3			
NOTES	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	_			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA		R FOUND C WATER LEVEL	
L					

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH101-87

PROJECT NO.: 1769

DATE COMPLETED: 5/27/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

LOCATION:

CORNER OF 53rd. AND ADAMS

PTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	<u> </u>	SAME		
BG		ft AMSL	INSTALLATION	Z D M B M R	S T A T E	TATUS	acr≽ <z< th=""></z<>
	GROUND ELEVATION	571.2		R R	E	š	Ę
	augered through asphalt and Gravel to 2.0 ft. BGS	569.2	7.25° BOREHOLE				
.5	Fill — Black and Brown Sandy Gravel, cinders, flyash, slag, moist		- CEMENT/ BENTONITE GROUT	1SS	M		1
.0	Fill — Red Black Gravel, cinders, slag, moist	567.2	GROUT	2SS	M		
.5				388	M		
.5	Fill — Black and Brown Silt, moist to wet	563.2			H	ļ	
	Light Gray Silty Sand, moist to wet, native	562.2		4SS	IXI		
0.0	Gray and Red Brown laminated Silty Clay, moist to wet, native	561.2		588	M	•	
2.5	same, except Brown and Red Brown trace Sand, wet	559.2		655	M		
5.0	same, except soft, trace Gravel	557.2		755	M		
J.U	same, except faint laminations	555.2		855	\mathbb{H}	_	
7.5	same, except Brown, no laminations	553.2		955	\mathbb{H}		١ ١
0.0	same, except laminated Red Brown and Brown, numerous thin Silt seams	551.2		1055	\mathbb{H}	•	۷
2.5				1155	M		
5.0	same, except trace Silt seams	547.2		12SS	M	•	١
7.5		:		1355	M		
7.5	Red Brown and Gray Clayey Silt, Sandy, Gravelly, wet, native, Till	5.11 F		1455	M		١
0.0	Red Brown Silty Clay, Sandy, trace fine Gravel, wet, native, Till	541.5 541.2		15SS	\bigvee		١,
2.5	Red Brown Silt and Clay, Sandy, trace Gravel native, Till AUGER REFUSAL AND	539.2 538.7		16SS	V V	•	
	END OF BOREHOLE AT 32.5 FT. BGS At completion borehole was grouted to ground surface						
TES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TAE					
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EP/	N SPLIT	TER FOUND			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH102-87

PROJECT NO.: 1769

DATE COMPLETED: 5/26/87

STATIC WATER LEVEL

CLIENT:

OCCIDENTAL

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

DRILLING METHOD: HSA 7.5" OD

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR			SAMPL	
t BG		ft AMSL	INSTALLATI	ON	ECZ.	S S T A A T	Z < 4 L U
	GROUND ELEVATION	<i>571.8</i>			B E R	A A T U S	ν̈́Ε
	augered through asphalt and Gravel to	570.8	7.5	. " ø			
	Fill - Gray Gravel, dry	569.8 569.3	ВО	REHOLE	155	X	16
2.5	Fill — Red, Brown, and Green Clayey Silt, Gravelly, moist	568.8		MENT/		()	
	Fill - Black Silt, cinders, ash, slag, moist to wet	567.8	E E	MENT/ NTONITE OUT	2SS	X	2
5.0	Fill — Red, Olive Green, and Brown Silty Clay, trace Gravel, dry to moist				355	\bigvee	1 1
	Fill - Gray Gravel, dry	500.0				\square	
7.5	same, except Gray Black, wet same, with Black NAPL, chemical odor	566.8 566.2			455	X	-
•	same, with some brick, iridescent sheen	564.8 562.8					ļ
0.0	Black Gray Silty Clay, moist, native	562.0			555	V	
0.0	Black Gray and Brown fine to medium Sand, wet, native					()	
2.5	same, with fiberous material, iridescent sheen	560.0			6SS	X	1
2.5	same, except medium to coarse Sand, saturated with black NAPL	558.8				\bowtie	
	Red Brown Silty Clay, wet, native	558.1			7 S S	X)
5.0					,	(
					855	X	W
	·					(-)	
7.5					955	X) w
	same, with Gray Silt lenses, trace Sand	552.8		'		(
0.0	·				10SS	X) W
						(+)	
					11SS	XIO	W
2.5	same, with increasing Silt, trace Gravel,	548.8				(-)	
	iaminated	i			12SS	XIO	W
5.0						(
					1355	X a	W
						$\left(\cdot \right)$	
7.5					14SS	X a	
						(1
0.0	Red Brown laminated Clayey Silt, Sandy Gravelly, wet, native, Till	1			1555	X a	W
•	Gray Silty fine Sand, some rock fragments					$\left(-\right)$	
	moist to wet, firm				1655	X a	W
52.5	AUGERER REFUSAL AND END OF BOREHOLE AT 33.8 FT. BGS	538.9			1755	$\bowtie_{\mathbf{d}}$) >1
	At completion borehole was grouted to	538.4 538.0	\$500 DEC		55		
	ground surface	1					

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH103-87

PROJECT NO.: 1769

DATE COMPLETED: 5/26/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF SEWER DEPT. ON 53rd ST.

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	Ē
ft BG		ft AMSL	INSTALLATION	U Z	SST	Ά.
				M B E	S T A T U S	Å L U
	GROUND ELEVATION	572.1			E U	E
	augered through asphalt and Gravel to 2.0 ft. BGS					
		570.1	BÖREHOLE			
- 2.5	Fill — Brown Silty Sand, moist,	570.7		466	M	74
		568.4 568.1	CEMENT/ BENTONITE GROUT	155	\mathbb{N}	31
5 0	Fill — Brown, Green, and White Sandy Silt, Gravel, concrete, moist	300.1	GROUT		\square	40
- 5.0	Fill — Black flyash, cinders, moist to wet,	5001		255	M	12
	trace iridescent sheen	566.1 565.5		3SS	\boxtimes	>50
- 7.5	Fill — Red brick, wet augered to 8.0 ft. BGS, no sample					
	Fill - Black and Brown Gravelly Sand, NAPL,	564.1 563.6			\square	
	\\wet	562.6		455	IXI	4
-10.0	Fill — Black and Brown Silty Sand, wet				\mathbf{H}	ŀ
	Fill — Brown Silt, some vegetation, wet Green Brown Silty Sand, with light Gray	561.1		5SS	IXI	12
-12.5	Silt seams, wet, native				\mathcal{K}	
	same, with trace light Gray mottling	560.1		6SS	IXI	19
	same, with NAPL	558.1			\forall	
-15.0				7SS	IXI .	7
	Red Brown Silty Clay, trace Sand, wet, soft,	<i>556.1</i>			(+)	
175	native			888	X	4
-17.5					$\left(\cdot \right)$;
				988	XIO	1
-20.0	same, except laminated	552.1			\bowtie	
				1055	X	WH
					\square	
- 22.5				1155	Mo	WH.
		•		1100	M.	''''
- 25.0				1255	Mo	l _{wh}
20.0				1233		''''
				1700	Mo	,
- 27.5				13SS	M	2
		İ		4.00	\square	١ ۾
	;			1455	M	2
-30.0					\square_{\bullet}	_
	Red Brown Silty Clay, Sand and Gravel, wet, native, Till			15\$S	Ma	2
- 32.5	AUGERED TO REFUSAL			1655	Mo	54
	END OF BOREHOLE AT 34.1 FT. BGS	539.1 538.7		1033	M	5+
	At completion borehole was grouted to	<i>538.0</i>	20022577			
NOTES:	ground surface MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TAIR			<u>ı. </u>	L
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		ATER FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	•	_	ATIC WATER L	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH104-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/26/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

53rd ST., NORTH OF PARKWAY

CRA SUPERVISOR: B. BURKETT

LUCA	IION: SSER ST., NORTH OF PARKWAT		CRA SUPER	WISOR: B.	BURK	EII	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION				MPL	
ft BG		ft AMSL	INSTALLATIO				, Š,
	GROUND ELEVATION .	<i>572.5</i>		i i	Í Á	TUS	A L U
	augered through asphalt to 1.0 ft. BGS					1	
- 1.5	Fill — Brown Gray Sandy Silt, Gravelly, dry Fill — Gray Gravel, dry	571.5 571.1		HOLE 1S	s X		43
- 3.0	Fill — Brown mottled Clayey Silt, fine Gravel,	569.6 569.5	GRO	ONITE 15		$\frac{1}{2}$	
- 4.5	moist to dry Fill — Black, Gray Red Brown mottled Silty Sand, cinders, ash, slag, brick, wood, dry	568.7 568.5		25	s X		22
	Fill - Black Sand, cinders, ash, moist to wet Fill - Brown Black Clayey Silt, ash, cinder, moist to wet	567.7 567.5 567.0					
6.0	Fill — White quartz fragments, dry Fill— Brown Black Sandy Silt, ash, cinders,	566.7		35	s X		21
- 7.5	moist Fill - Brown Black Clayey Silt, fine Gravel, ash, cinders, some slag, trace Sand, dry	<i>565.5</i>		45	s X	1	1
9.0	Fill — Red Brown Silty Clay, fine Gravel, moist Fill — Brown, Red, Black and White Gray,	<i>563.5</i>					
- 10.5	Silty Sand, ash, cinders, slag, Gravel, coarse moist to dry Fill— Black Silty, Sand, cinders, wet, strong chemical odor	562.7		55	s		68
- 12.0		561.5		65	s X		30
	Fill— Black Silty, Sand, cinders, wet, strong chemical odor	559.7			/ /`	\bigvee	
-13.5	Gray Black laminated Sand, iridescent sheen, wet, native Gray, Black, and Olive Green laminated Silty	559.2		75	$\subseteq \bigvee$	7	15
- 15.0	Sand, iridescent sheen, wet, native						
- 16.5	same, with NAPL	556.5 555.0		88	s X		11
. = . •	Gray and Red Brown Silty Clay, laminated wet, native	333.9			\vdash	}	
-18.0	same, with Silt lenses, no laminations same, except no Silt lenses same, with laminations, trace fine Gravel	555.5 555.1 554.1		98	s X		WH
-19.5	same, with Silt lenses, no Gravel, no laminations	553.5		108	s	•	WH
NOTES	NEASCHEINE DOINT ELEVATIONE MAY SUMME TO STATE TO STATE TO				<u> </u>	V L	
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E. GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	LEVATION TABI	$\overline{}$	WATER FOUN	חו		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	→ DEC/LIFA	Y	STATIC WATE		L	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH104-87 (PAGE 2 of 2)
DATE COMPLETED: 5/26/87

PROJECT NO.: 1769

DRILLING METHOD: HSA 6.5" OD

CLIENT: LOCATION: OCCIDENTAL

53rd ST., NORTH OF PARKWAY

.5 Gray and Red Brown Silty Clay, trace Sand and Gravel, wet, native .0 same, with laminations	ft AMSL	INSTALLATION	Z J M BH C Z	S S T T A A T T E U
Gray and Red Brown Silty Clay, trace Sand and Gravel, wet, native	551.5		Ē	I F LILL
and Gravel, wet, native	551.5		5	S
O same with laminations	EE4E	6.5°¢ BOREHOLE	10SS	
Samo, war familiations	551.5	- CEMENT/		
5		—— CEMENT/ BENTONTE GROUT	1155	
.0			1255	
same, except no laminations	547.5			
.5			1355	
same, with laminations	545.5		1455	
.5			1433	
same, with increasing Silt and fine Gravel, no laminations	543.5		15SS	
.5	540.5		16SS	
Gray Red Brown Silty Clay, Sandy, trace fine Gravel, Silt lenses, native, Till				
Gray and Red Brown Sandy Silt, Clay and Gravel, moist to wet, hard, compact, native,	539.5 539.1		17 \$ \$	X 0 >
.5 AUGER REFUSAL AND END OF BOREHOLE AT 33.4 FT. BGS				
.0 At completion borehole was grouted to ground surface				
.5				
,				
.0				
ES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TABI	£	<u> </u>	
GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT ' WATE	R FOUND	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH105-87

PROJECT NO .:

1769

DATE COMPLETED: 3/09/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

ON 53rd ST. SOUTH OF ADAMS

CRA SUPERVISOR: C.H. PADGINTON

LUCA	TION. OR SOR ST. SOUTH OF ADAMS		CRA SUPERVISOR	0.11. I AL	GIITI	.
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			IPLE	
ft BG		ft AMSL	INSTALLATION	N S U A B E	S	, N,
	GROUND ELEVATION			B T E	A T U S	A L U E
	augered through pavement to 2.0 ft., BGS			"	1	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		8.5 BOREHOLE			
- 2.5	Fill — Brown Sandy Gravel, Silty	570.1		l	1	<u>.</u>
	wet		CEMENT/ BENTONITE GROUT	1SS X		21
	no recovery	568.1	GROUT	J \[1	_
5.0				2SS X]	7
				388	1	2
- 7.5		564.1		333		2
	Fill — Black, White, and Green flyash, some - Gravel, trace vegetation, wet, chemical odor	304.7		455	1	6÷
-10.0	Graver, trace vegetation, wet, chemical odd	•				•
	same, except dry to moist	561.1		5SS X		68
40.5		550.0				
-12.5	Fill - Black and Brown Silty Sand, trace	559.6 559.1		6SS X		39
	NAPL, moist Gray Green laminated Silty Sand, trace					
-15.0	Clay seams, moist to wet, native			7SS X		18
-17.5				8SS X		10
	same, except wet	554.1			1	
				955		4
-20.0	same, except Black and Green, trace shell fragments	552.1		1000	1	~
	name event Black Creen and Brown no	550.1		1055		3
-22.5	same, except Black, Green, and Brown, no shells	330.7		11SS X		12
	same, with trace Gravel and shell fragments	548.1				12
25.0		0,1001		1255		4
07.5	Red Brown and Gray laminated Silty Clay,	545.1		1355		2
-27.5	wet, native	540.7		(()		
				1455		1
-30.0	same, with Sand and Gravel	540.3		 		
	Red Brown and Gray Sandy Gravel, Silty,			15SS X		WR
-32.5	Trace Clay, moist to wet, dense, native, TII AUGERED TO REFUSAL	540.1 530.1		1655		98
	END OF BOREHOLE AT 33.1 FT. BGS	539.1 539.0				
	At completion borehole was grouted to ground surface					
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABL		•		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA	· · ·	R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		· X STATIO	C WATER LEVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH106-87

PROJECT NO.: 1769

DATE COMPLETED: 3/06/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

ON 53rd ST. EAST OF LAGOONS

CRA SUPERVISOR: D.J. OSCAR

EPTH t BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	- N		1PLE	Ŋ.
. 50	GROUND ELEVATION	571.6	WO TALLATION	N N N N N N N N N N N N N N N N N N N	S T A T E	STATUS	;>∢⊥∪
	augered through asphalt and Gravel to	371.6	ne ferialistis.	R	+	S	E
	2.0 ft. BGS Fill — Brown and Black Clayey Silt, Sandy,	569.6	6.5"ø BOREH	OLE			
2.5	fine to medium Gravel, trace asphalt, moist Fill — Gray, Black and rust Orange flyash,	568.8	- CEMEN BENTO GROUT	1SS	X		3
5.0	some Gravel, slag, trace glass, moist		GROUT	2SS	X		
7.5	no recovery	565.6		388			
	Fill — Gray Brown and Black flyash and cinders, trace Gravel, wet	563.6		455	X		
0.0				588	X		5
2.5				6SS	X		4
5.0	Fill — dark Gray Silty fine Sand, wet	557.2		755	X		
7.5				855	X		
	same, with glass and ceramic fragments	552.7		9SS	X		
0.0	Dark Gray Silty fine Sand, wet, native	551.6		10SS			
2.5	and the form and the Control	547.6		11 SS	X		
5.0	same, with trace rounded fine Gravel same, except no Gravel	546.8		1255			:
7.5		547.6		1355	X		
	same, with trace shells Red Brown fine Silty Sand, fine to medium	543.6 542.6		14SS	X		
0.0	angular to subangular Gravel, Clayey, moist wet native, Till Gray fine Sandy Silt with Gravel, Clayey,			15SS	X	•	,
2.5	moist, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 33.1 FT. BGS At completion borehole was grouted to ground surface	539.3 539.0 538.5		16SS	×	0	>
DIES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	ELEVATION TAB		WATER FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	UEC/EPA	Y	STATIC WATER			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH107-87

PROJECT NO.: 1769

DATE COMPLETED: 3/5/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION: EAST OF S-AREA, ALONG 53rd STREET

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	<u></u>	SAMPL	
ft BG		ft AMSL	INSTALLATION		S T A T U S	ַ קי>∢ר
	GROUND ELEVATION	571.1	50696060	E R	EUS	Ę
	augered through asphalt to 2.0 ft. BGS	569.1				
2.5	Fill — Red Brown, Brown, Gray, and Black brick, some Sand and Silt, glass, flyash, cinders, rusted iron, moist to wet	303.7	CEMENT/ BENTONITE GROUT	155		22
5.0				2\$\$	X	4
7.5	same, except Black, wet, chemical odor	563.1		355	\bigvee	3
10.0	same, with trace NAPL	561.1		455	A	4
12.5	Fill — Gray and Black Silty fine to coarse Sand, trace Gravel, cinders, wood,wet to dry/	559.8 559.1		5SS 6SS	\bigvee	60
	Fill — some Gravel, brick fragments, some NAPL, wet, iridescent sheen Fill — Gold Brown and Black medium to fine	557. 8		755	\bigcap	11
15.0	Sand and Silt, trace Gravel and glass, White waste material, moist to dry Gray and Brown mottled and laminated Silty	556.1 555.1		855	\bigcap	5
17.5	fine Sand, trace vegetation, moist, native Gray and Black Silty fine Sand, trace			955	\bigcirc	6
20.0	Gravel, some NAPL, wet, native			1055		12
22.5	Gray and Gray Black Silty medium Sand, trace Gravel with coarse Sand lenses, wet, native	549.1		11SS		10
25.0				1255		21
27.5	Red Brown Clay, trace Gravel, high plastic, soft, wet, native Red Brown Sandy Clay, some Silt and	544.6 543.9		1355	Ma	2 >50
	Gravel, wet, native, Till augered to 30.0 ft. BGS	542.6		1455		
30.0	same, with Gray rock fragments augered to 32.0 ft. BGS, no sample Gray rock fragments, wet, native, Till	541.1 540.9		15SS		>100
32.5	AUGERED TO REFUSAL END OF BOREHOLE AT 33.1 FT. BGS At completion borehole was grouted to ground surface	539.1 539.0 538.0		16SS		>100
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	ELEVATION TAB		R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	•	▼ STAT	IC WATER	LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH108-87

PROJECT NO.: 1769

DATE COMPLETED: 3/4/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

EAST OF S-AREA / ALONG 53rd STREET

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPL	
ft BG	GROUND ELEVATION	570.7	INSTALLATION	ana seca	S S T A T U S	10 T ▼ < 12
	augered to 2.0 ft. BGS	568.7	8.0°¢ BOREHOLE	<u> </u>		
2.5	Fill — Brown and dark Brown Gravelly fine to medium Sand, Silty, brick, trace Clay, moist to dry	566.7		155		14
5.0	Fill — Black, Red Brown, and Brown cinder, flyash, some Gravel, moist to wet		GROOT	255		10
7.5	same, with brick fragments, iridescent	562.7		3SS	X	25
-10.0	sheen, wet			455	X	17
12.5		EE 7.0		555	\bigvee	45
	Black to dark Gray Silty fine to medium Sand, trace fine rounded Gravel, trace vegetation, wet to moist, native	557.8 556.7		655	\bigvee	16
15.0	Gray and dark Gray laminated Silty fine Sand trace fine subrounded Gravel, trace NAPL, wet native			7SS 8SS	\bigcup	11
17.5	same, except Gray same, with trace thin Silt lenses	554.7 552.7		955	\bigvee	4
20.0	same, with increasing Silt	550.7		1055	\bigvee	6
-22.5	Gray fine to medium Sand and Silt, trace fine rounded Gravel, trace thin Silt lenses,	<i>548.7</i>		1155		15
-25.0	wet, native same, with increasing rounded Gravel	546.7		12SS		18
-27.5	Red Brown Silty Sand with subangular Gravel,	543.7		1355	\bigvee	16
	little Clay, moist to dry, native, Till same, except dry	542.7		1455	$\sqrt{\mathbf{q}}$	51
30.0	Red Brown, shattered rock fragments, wet, native	540.7		1588		49
32.5	AUGER REFUSAL AND END OF BOREHOLE AT 31.6 FT. BGS At completion borehole was grouted to ground surface	539.1				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAE DEC/EP/	A SPLIT YAT	ER FOUND	<u> </u>	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH109-87

PROJECT NO.: 1769

DATE COMPLETED: 3/03/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: H.S.A. 6.5" OD

LOCATION:

53rd ST. SOUTHEAST SIDE OF S-AREA

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMP	_
t BG	·	TT AMSL	·	N U M B	S S S	, A
	GROUND ELEVATION	<i>570.1</i>		E R	E U	Ę
	augered to 2.0 ft. BGS Fill — mottled Brown and Red Brown to Black	568.1	6.5 BOREHOLE			
2.5	coarse Sand with cinders, some flyash, trace Clay and vegetation, moist to dry	566.1	CEMENT/ BENTONITE GROUT	155	A	
5.0	Fill — Brown fine to medium Silty Sand, some Clay, flyash, cinders, moist same, except Yellow Brown and Red Brown, wet	• -		2SS 3SS	$\frac{\lambda}{\lambda}$	130
7.5	Fill - Black coarse Gravel some cinder,	<i>562</i> .1		4SS	$\frac{1}{2}$	
10.0	flyash, and wood, trace NAPL, wet,			5SS	\forall	1:
12.5	iridescent sheen Gray and dark Gray slightly mottled fine to medium Sand, some fine Gravel and vegetation, trace thin coarse Sand lenses,	557.3		6SS		1
15.0	wet, native same, except trace fine Gravel and vegetation, no mottling, moist to wet, native	556.1 554.1		755	X	19
17.5	Gray and dark Gray Silty fine Sand, trace thin Silt lenses, moist to wet, native, Till			9SS	X	2
20.0		5404		1055	\forall	
22.5	same, with trace fine rounded Gravel, wet	<i>548.1</i>		1155	X	2
25.0	Red Brown Sandy, Silt, some Clay, and fine Gravel, moist to wet, native, Till same, except Brown, subrounded fine to	545.6		1255	X	
27 .5	coarse Gravel, moist to dry same, with a 2.0° Clay lense	544.1 542.3		13SS 14SS	X) 5 >10
30.0	same, with rock fragments at tip of spoon	539.8 539.2		15SS	X X	>10
	AUGERED TO REFUSAL	<i>538.8</i>				
32.5	END OF BOREHOLE AT 31.3 FT BGS At completion borehole was grouted to ground surface					

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH110-87

PROJECT NO.: 1769

DATE COMPLETED: 2/27/87

CLIENT: LOCATION: OCCIDENTAL

SOUTHWEST OF S-AREA

DRILLING METHOD: H.S.A. 6.5" OD

GROUND ELEVATION Fill — Brown and Gray Gravelly Sand and Silt, trace vegetation, moist to dry Fill — Brown, Yellow Brown and Black mottled Gravelly coarse Sand, cinders, flyash, trace	569.5 565.5	INSTALLATION 3 8.5° BOREHOLE CEMENT/ BENTONITE CROUT	N U M B E R 1SS	ST AT US	30
Fill — Brown and Gray Gravelly Sand and Silt, trace vegetation, moist to dry Fill — Brown, Yellow Brown and Black mottled Gravelly coarse Sand, cinders, flyash, trace			B E R	T US	 E
Fill — Brown and Gray Gravelly Sand and Silt, trace vegetation, moist to dry Fill — Brown, Yellow Brown and Black mottled Gravelly coarse Sand, cinders, flyash, trace			1SS	Š	<u>├</u> -
Fill — Brown, Yellow Brown and Black mottled Gravelly coarse Sand, cinders, flyash, trace	565.5			A	3
Fill — Brown, Yellow Brown and Black mottled Gravelly coarse Sand, cinders, flyash, trace	565.5	GEMENT/TE	255	\	
O Gravelly coarse Sand, cinders, flyash, trace		PROPERTY OF THE PROPERTY OF TH		\triangle	3
	563.5	GROOT	355	X	2
.5 Fill — dark Gray to Black angular Gravel, wet			45\$	X	5
0.0			588	X	1
	557.5		655	\bigvee	
Same, with trace NAPL, irridescent sheen Gray and dark Gray slightly mottled fine to medium Sand and Silt, trace vegetation and fine Gravel, moist to wet, native	557.1		7 S S	X	1
5.0			855		
7.5			988	X	
0.0			1055		1
			1155	X	1
2.5			12SS	X	1
Red Brown Silt and fine Sand, some Clay, trace subrounded Gravel, moist, native, Till	544.5		1388	$\bigvee lacktriangle$	2
	543.5		14SS	$\sqrt{\mathbf{Q}}$	4
	570.5		1588	$\sqrt{\mathbf{e}}$	7
	539.5 538.4 538.1		16SS		>10
END OF BOREHOLE AT 31.4 FT. BGS At completion borehole was grouted to ground surface					
TES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEV	VATION TABL	£			
GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPUT WATER	R FOUND C WATER LE		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH111-87

PROJECT NO.: 1769

DATE COMPLETED: 2/26/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: H.S.A. 6.0" OD

LOCATION:

53rd ST., NORTH OF PARKWAY

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMI	PLE
ft BG	SHAMISIAN THE BESSAII HOLV & HELIMANIA	ft AMSL	INSTALLATION	N S	S 'N'
	CROUND ELEVATION	. 568.7		M A T E E	A L U
	GROUND ELEVATION Fill — Red Brown and Brown Silt, fine Sand	300.7	Service of the servic	1 /	
	and Gravel, trace vegetation, moist to dry,	566.7	6.0°¢ BOREHOLE	1SS	63
2.5	Fill — Gray and Brown Silt and angular Gravel, moist to dry		- CEMENT/	255	40
5.0	Fill — Brown and Gray Brown Silt and fine Sand, some Gravel and cinder, trace Clay and brick, moist to dry	564.7 563.7	CEMENT/ BENTONITE GROUT	355	17
	Fill — Brown, Black, and White mottled flyash and cinder, some Sand and glass,			455	5
7.5	moist same, except Yellow and Yellow Brown, wet same, except Black	562.7 561.7			
10.0	same, with some NAPL, iridescent sheen	560.7		555	44
	Black coarse to medium Sand and Silt, trace	557.7		655	26
12.5	fine Gravel and vegetation, wet to moist, native			755	14
15.0	<u>.</u>			855	6
	•	٠		955	7
·17.5				1055	4
20.0				1155	2
-22.5	same, with trace shell fragments, increasing Gravel	<i>546.7</i>		1255	22
-25.0				1355	26
20.0	Red Brown Silty Sand, subrounded fine	542.7			7.
-27.5	Gravel, Clayey, moist to dry, native, Till			14SS X	31
-30.0	same, with Gray rock fragments at tip of spoon, moist to wet	5 38 .7		15SS X	41 >100
70.5	loss of borehole fluids as bedrock encountered AUGER REFUSAL AND	537.3			
-32.5	END OF BOREHOLE AT 31.4 FT BGS At completion borehole was grouted to ground surface				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I	ELEVATION TAB		R FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	,		IC WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH112-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/19/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

SOUTHWEST OF BRIDGE BY PARKWAY

C.H. PADGINTON K.D. SCHMIDTKE CRA SUPERVISOR:

				K.D. SCHMI	DTKE
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMP	
ft BG		ft AMSL	INSTALLATION	N S S	
	GROUND ELEVATION	585.6		N STATE	4 L D F
	Fill — Red Brown Silty Clay, Gray angular Gravel, moist			1SS X	18
2.5	same, with some Sand, dry	583.6	6.0° BOREHO	LE	
- 2.5			CEMENT.	_ 2SS X	33
- 5.0		580.7	CEMENT BENTONI GROUT	388	72
5.0	Fill — Gray Silty Sand, angular Gravel, dry	579.8		Г	'-
	augered through "shot rock" to 20.0 ft. BGS			·	
- 7.5	·				
- 10.0					
10.5	·				
-12.5					
15.0					
-15.0					
- 17.5°					
- 17.5					
- 20.0		565.6			
- 20.0	Fill — Gray Silty Sand, Clayey, Gray angular Gravel, moist	564.3		455	>100
	augered to 22.0 ft BGS	563.6			
-22.5	Fill — Red, Green, and Black medium to coarse Sand material, glass, brick, wood,			588	9
-25.0	moist same, except wet	561.6		688	7
25.0	same, with asphalt fragments	559.6			
- 27.5				755	5
	Fill - Red Brown Silty Sand, Gravelly, trace	557.6		855	20
-30.0	Clay, wet	555.9		655	20
	Black and Gray Silty fine Sand, wet, native	.		988	8
- 32.5					
	same, with trace Gravel	551.6		10SS X	6
	<u></u>	<u> </u>		11SS M	
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	_			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	N SPLIT ✓	WATER FOUND	

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

Y STATIC WATER LEVEL

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

HOLE DESIGNATION: BH112-87 (PAGE 2 of 2)

DATE COMPLETED: 3/19/87

DRILLING METHOD: HSA 6.0" OD

LOCAT	ION: SOUTHWEST OF BRIDGE BY PARKWAY		CRA' SUPERVISOR:	C.H. PADGI K.D. SCHMI	NTON DTKE
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMP	
ft BG		ft AMSL	INSTALLATION	N S S T A T A T E U	, X
70.5		!		M A A T E U S	Ĺ
32.5	Black and Gray Silty fine Sand, wet, native			R	Ě
	,	551.6	6.0°¢ BOREHOLE	1055	'
35.0	same, with trace Gravel	. 557.6	BOREHOLE	11SS X	1.
33.0			CEMENT	1133	1
	, , ,		CROUT CROUT	1255	2
37.5	·			1233	'
				1388) 2
40.0	Red Brown Sandy Silt, Clayey, Gravelly, wet,	546.1		1355	1 4
- 0.0	native, Till becoming Silty Sand, and Gravel,	.		1455 🕅 🛛	2
	Clayey, wet, native, Till				"
- 42.5				1588	7
				,322 MC	Ί ΄
45.0		540.6		16SS 🔀 🛈	>50
,0.0	augered to 46.0 ft. BGS	539.6			_
	Gray rock fragments	539.0		17 SS	>5
47.5	AUGERED TO REFUSAL				1
	END OF BOREHOLE AT 48.4 FT. BGS	537.2	51.5		
50.0			•		
	At completion borehole was grouted to ground surface				
52.5					1
55.0					
		· 1			
,					
57.5					
60.0					
		· !			
		[1
62.5					
	.'		• ,		
65.0	,				
					\perp
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TAB			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	_	FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATIC	WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH113-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/24/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF BRIDGE ON PARKWAY

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR:

C.H. PADGINTON K.D. SCHMIDTKE

				K.D. S	CHMID	IKE
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			AMPLE	Ε
ft BG	GROUND ELEVATION	ft AMSL 584.9	INSTALLATION	8 m B K C Z	STATUS	ارت∢حخ
	Fill — Brown Clayey Silt, some Gravel, trace vegetation, moist		6.5°¢ BOREHOLE	1SS	X s	19
2.5	Fill — Red Brown Sandy Silt, some Gravel, trace Clay, moist	582.9	- CEMENT/ BENTONITE GROUT	288	\overrightarrow{A}	78
5.0	augered through "shot rock" to 18.0 ft BGS, no samples	580.9	GROUT	355		
- 7.5						
10.0						
12.5	·					
15.0						
17.5	Cill Deve and Cons Sandy Crayal Silby	566.9				
20.0	Fill — Brown and Gray Sandy Gravel, Silty, moist to wet no split—spoon advancement, augered to 22.0 ft. BGS, no sample	564.9		4SS 5SS	X	69 >100
22.5	Fill — Red Brown Clayey Silt, Gray angular Gravel, wet	562.9 562.0		6SS	\forall	11
25.0	Fill — Black Silty Sand, brick wood, wet Fill — Black Gravelly Sand, wood, wet	560.9		7SS		7
27.5	Black Silty fine Sand, wet, native	558.9		855	A	9
	same, except Black and Brown	556.9 554.9		988	$\overline{\mathbb{X}}$	14
-30.0	same, except Gray and Brown same, except Black and Brown Silty coarse	552.9		1055	Δ	6
-32.5	Sand, some wood same, except Brown, fine Sand, some Clay, no			1155	A	12
NOTES:	WOOD MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	ELEVATION TAE		12SS	<u> </u>	33
	ORAIN SIZE DIST. & ATT. FOR DOO & DEG /TDA SOUT	- JCO/27/	-	10 WATED 15		

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH113-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 5/24/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

ft BG 32.5 Black and Browood, wet, na same, except Clay, no wood -35.0 Red Silty Sand moist native, Red Sandy Silt Gravel, moist, Red Clay, som moist, native, Red Silt, some moist, native, Red Brown Silt SPOON REFUSAEND OF BOREL	Brown, fine Sand, some d, little Clay, rounded Gravel, Till t some Clay fine to medium native, Till le Silt, little Sand, trace Gravel, Till c Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till	538.3	INSTALLATIO		S S S S S S S	12	12 33 43 51 66 17 29 >60
32.5 Black and Browood, wet, na same, except Clay, no wood -35.0 Red Silty Sand molst native, Red Sandy Silt Gravel, moist, Red Clay, som moist, native, Red Brown Silt SPOON REFUSAEND OF BORELAT completion surface	tive Brown, fine Sand, some d, little Clay, rounded Gravel, Till t some Clay fine to medium native, Till te Silt, little Sand, trace Gravel, Till te Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	550.9 545.4 544.9 538.3	- 6.5° BOR	11S 12S 12S 14S 14S 16S 17S	S S S S S S S S S	4-5M	12 33 43 51 66 17
Black and Bro wood, wet, na same, except Clay, no wood 35.0 Red Silty Sand molst native, Red Sandy Silt Gravel, moist, Red Clay, som moist, native, Red Brown Silt 47.5 SPOON REFUSAEND OF BOREL At completion surface	tive Brown, fine Sand, some d, little Clay, rounded Gravel, Till t some Clay fine to medium native, Till te Silt, little Sand, trace Gravel, Till te Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	545.4 544.9 538.3		11S 12S 12S 14S 15S 16S 17S	S S S S S S S S S	4-5M	12 33 43 51 66 17
wood, wet, na same, except Clay, no wood 37.5 Red Silty Sand molst native, Red Sandy Silt Gravel, moist, native, Red Silt, some moist, native, Red Brown Silt SPOON REFUS/END OF BOREL At completion surface	tive Brown, fine Sand, some d, little Clay, rounded Gravel, Till t some Clay fine to medium native, Till te Silt, little Sand, trace Gravel, Till te Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	545.4 544.9 538.3		12S 12S 13S 14S 15S 16S	s s s	0	33 43 51 66 17 29
40.0 Red Silty Sand molst native, Red Sandy Silt Gravel, moist, Red Clay, som moist, native, Red Silt, some moist, native, Red Brown Silt SPOON REFUSAEND OF BOREMAT Completion surface	Till t some Clay fine to medium native, Till le Silt, little Sand, trace Gravel, Till c Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	5383		14S 15S 16S	s s s	0	51 66 17 29
moist native, Red Sandy Silt Gravel, moist, Red Clay, som moist, native, Red Silt, some moist, native, Red Brown Silt SPOON REFUSA END OF BOREL At completion surface	Till t some Clay fine to medium native, Till le Silt, little Sand, trace Gravel, Till c Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	5383		16 S	s X	•	17 29
42.5 Red Clay, som moist, native, Red Silt, some moist, native, Red Brown Silt 47.5 SPOON REFUSA END OF BOREH At completion surface	e Silt, little Sand, trace Gravel, Till Clay, some Sand, trace Gravel, Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	538.3		17S	s X		29
45.0 moist, native, Red Brown Silt 47.5 SPOON REFUSA END OF BOREL At completion surface	Till ty Clay, moist, native, Till AL AND HOLE AT 46.4 FT. BGS	538.3			- V \		İ
47.5 SPOON REFUSA END OF BOREH At completion surface	AL AND HOLE AT 46.4 FT. BGS			192	3		,
50.0 surface	porenole was grouted to ground	Π. Ι				1 1	1
52.5							
55.0		·					
57.5							
60.0							
52.5				•			
55.0							

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH114-87 (PAGE 1 of 2)

DATE COMPLETED: 6/1/87

PROJECT NO.: 1769

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

CLIENT: LOCATION:

NEAR PARKWAY ON NORTHERN SIDE

	·			,		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N S	AMPL	
IL BG	GROUND ELEVATION	583.6	INSTALLATION	U M B E R	ST AT US	ב> א בטב
	augered through dry Brown Clayey Silt with Gravel and vegetation to 1.0 ft. BGS Fill — Brown Clayey Silt, trace Gravel and	582.6 582.1	7.25°6 BOREHOLE	1SS	V	22
- 2.5	vegetation, dry Fill - Red Brown Silty Clay, Gravelly, dry, firm	580.6 580.1	CEMENT/ BENTONITE GROUT	255		45
- 5.0	Fill — Brown, White, and light Brown mottled Clayey Silt Fill — Brown to Red Silty Clay, some Gravel,	577.7	GROOT	355		32
7.5	moist same, except mottled Red, Brown, and Green fine Gravel	576.6 578.6		455		27
-10.0	Fill — Brown Sandy Silt, cinders, ash, slag, moist same, except Black Gray, slight chemical	574.6 576.7		555		5
- 12.5	odor Fill — Red Brown Clayey Silt, fine Gravel, dry to moist	376.7		6SS		17
12.5	Fill — Gray Sandy Gravel, Silty, dry			7 S S		17
-15.0	Fill - Red Brown Silty Clay, Gravel, dry	568.1 567.9 567.2		855	\overrightarrow{A} .	>100
-17.5	Fill — Gray Sandy Gravel, Silty, dry augered through "shot rock" to 25.0 ft. BGS, no samples					
20.0						į
- 22.5	s., .					
- 25.0	Fill — Brown and Black Sandy Silt, Gravel, cinders, ash, wet, slight chemical odor	558.6 558.0		955	×	100
-27.5	augered through "shot rock" to 28.0 ft. BGS, no samples 7 Fill — Black Silty Sand, some wood, trace	555.2 555.2				
- 30.0	Gravel, wet, iridescent sheen, slight septic odor Black fine Sandy Silt, wet, septic odor, native			1055	X	16
- 32.5				1155	$\frac{X}{2}$	7
	Black Silty fine to medium Sand, shell fragments, wet, native same, except no shell fragments, septic odor	550.6 549.6		12SS 13SS	$\frac{\lambda}{\lambda}$	14
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT YAT	TER FOUND	VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH114-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 6/1/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

LOCATION:

NEAR PARKWAY ON NORTHERN SIDE

LOCA	ION: NEAR PARKWAT ON NORTHERN SIDE		CRA SUPERVISOR:	B. BU	IKKELI	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
ft BG		ft AMSL	INSTALLATION	KCZ	SST	, A.
32.5				8	Î Î Î	E C L
	Black fine Sandy Silt, wet, septic odor, native	550.6	6	12SS	X s	14
	Black Silty fine to medium Sand, shell		7.25 BOREHOLE	1200	\triangle	'
35.0	fragments, wet, native same, except no shell fragments, septic odor	549.6		1355	M	18
1	same, with Gravel	547.6	- CEMENT/ BENTON/TE GROUT		\square	
- 37.5	Gray Red Sandy Clay, trace fine Gravel,	546.8	GROUT	1455	XIO	10
737.3	moist to wet, native, Till	545.8 545.6 545.1			(+)	
	Red Sandy Clay, moist, soft, native Gray Red Sandy Clay, fine Gravel, moist,	343.7		15 SS	X o	26
40.0	soft, native, Till			16ST		İ
	Red Silty Clay, Gravelly, moist to wet,	.		16SS	ΙVΙ	32
- 42.5	firm, native, Till same, with Gray White Gravel, dry to moist	543.4			M	52
	Red Silty Sand, Gravelly, Clayey	540.6		17DT	7 8	-
-45.0	moist to wet, native. Till same, except Silty, coarse Gravel, moist to	539.0				-
	dry	538.0		18SS 19SS	M	>50
	SDOON REFLICAL AND					
47.5	SPOON REFUSAL AND END OF BOREHOLE AT 45.6 FT. BGS					
-50.0	At completion borehole was grouted to ground]				
	surface					
- 52.5	NOTE: 16SS & 19SS - A 3.0 split spoon was used with a 300 lb. hammer					
	, and the second		· i			1
EE 0	NOTE: Insufficient recovery of shelbytube - 18ST (44.6-45.6 ft.) split spoon used to		•			
- 55.0	obtain sample - 18SS (44.6-45.6 ft.)					
1						
- 57.5	·					
			·			
60.0						
1					.	
L62 E						
-62.5			•			
			•			
65.0						
	·					
110	8				Ш	
1	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA	$\overline{}$	FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	WATER LE	EVEL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: 8H115-87 (PAGE 1 of 2) DATE COMPLETED: 6/3/87

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

LOCATION:

OFF PARKWAY ON NORTHERN SIDE

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMP	LÉ
ft BG		ft AMSL	INSTALLATION	N S S U T T	Ţ,ĥ.
	GROUND ELEVATION	583.2		N S S T A A A B E E S S	A L U
 	augered through dry Brown Silt	500.2		R	Ē
	with trace Sand and Gravel to 1.0 ft. BGS, no sample	582.2	7.25 BOREHOL	£ 155	32
2.5	Fill — Red Brown Clayey Silt, dry, firm	580.4			32
ĺ	augered to 3.0 ft. BGS, no sample	580.2	CEMENT/ BENTONIT CROUT	2SS X	60
5.0	Red Brown Clayey Silt, Gravelly, wood fragments, dry, firm	<i>578.2</i>	GROUT		
	same, with increased Clay, trace Sand, moist	577.7		355	24
7.5	Fill — Gray angular Gravel — "shot rock"			455	18
10.0	augered through "shot rock" to 25.0 ft. BGS,	574.2			
	no samples				
12.5					
	•				
15.0					
17.5					
- 20.0					
20.0	·				
-22.5					
	,				
-25.0	Black Sandy Silt, wet, NAPL, native	558.2			
				5SS X	10
-27.5	same, with vegetation, slight chemical odor	555.6		6SS	22
	same, except strong chemical odor	554.2			
-30.0				7SS X	5
	same, with shell fragments, wood	552.2			
-32.5	Black Silty Sand, wet, native	550.4		8SS X	11
	Black Sandy Silt, wet, native Black Silty fine Sand, wet, native	550.2 549.6		955	12
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA			1
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	_	ATER FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ s	TATIC WATER LEVEL	

PROJECT NAME: S-AREA

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

HOLE DESIGNATION: BH115-87 (PAGE 2 of 2)

DATE COMPLETED: 6/3/87

DRILLING METHOD: HSA 7.25" OD

LOCAT	ION: OFF PARKWAY ON NORTHERN SIDE		CRA SUPERVISOR:	B. BURKETT	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE	
ft BG		ft AMSL	INSTALLATION	N S S T A T A T E U	Ž,
32.5			NAMES CHANG	L R I IS I	A L U
	Black Sandy Silt, wet, native	550.2 549.6	7,25°€	1 1 1	11
-35.0	Black Silty fine Sand, wet, native	548.2	7.25°¢ BOREHOLE	955 1	12
33.0	same, with some fine Gravel	547.9	CEVENT/	10SS 10	1
- 37.5	Red Brown Silty Clay, trace Sand, wet, native same, with fine Gravel	547.1 545.4	— CEMENT/ BENTONITE GROUT	1033	,
	Red Brown Sandy Clay, Silty, fine Gravel,	545.4		11SS X 🛈	3
40.0	native, Till same, except subangular Gravel, dry to moist	544.2			
40.0		542.2		12ST	
1 .	augered to 42.0 ft. BGS, no sample	541.2			
- 42.5	Red Brown Silty Clay trace Sand, Gray thin Silt lenses, native, Till			13ST ⊗	
- 45.0	Red Brown Clayey Sand, trace Silt and coarse Gravel, moist to wet, native, Till	539.2 538.8 538.6		14ST	
	AUGERED TO REFUSAL END OF BOREHOLE AT 44.6 FT. BGS				
- 47.5	At completion borehole was grouted to ground				
	surface				
-50.0					
- 52.5		-	·		
- 55.0	·				.
	·			1 1 1	İ
[]					
57.5		r			
60.0			·		
	'				
62.5			·		1
	·	.]			
-65.0					ł
55.5					İ
	1				}
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE		
1 .	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		FOUND	
<u>`</u>	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIC	WATER LEVEL	\Box

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH116-87 (PAGE 1 of 2)

NEAR PARKWAY ON NORTHERN SIDE

DATE COMPLETED: 6/5/87

PROJECT NO.: 1769

DRILLING METHOD: HSA 7.25" OD

CLIENT: LOCATION: OCCIDENTAL

PTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	, 		MPL	<u> </u>
BG		ft AMSL	INSTALLATIO	<u> </u>	NUMBE STATE	STATU	
	GROUND ELEVATION	<i>582.7</i>			E E	ΰ S	١
	augered through fine Gravel and Silt to 1.0 ft. BGS, no sample	<i>581.7</i>	7.25	HOLE 1	ac		
5	Fill - Red Brown Clayey Silt, fine to	5 8 0.7	BORE	HOLE 1	ss 🔀	4	>10
3	\coarse Gravel, dry \augered through "shot rock" to 3.0 ft. BGS/	<i>579.7</i>	CEME	NT/ ONITE 2	\	7	
_	Fill — Red Brown Silty Clay, fine to coarse Gravel, trace cinders and ash, dry		GROU GROU	Y 2	ess X		-
.0	same, with trace Sand, no cinders and ash,	577.7 576.7]	sss 🛚	1	
_	Fill — Black Silt, cinders, ash, wood, thin	<i>575.7</i>			T (4	
.5	Rust Brown laminations, moist augered through "shot rock" to 20.0 ft. BGS,						1
	no samples	·					
0.0							
2.5							
	•]			
5.0							
				į			
7.5					ļ.		
					ļ		
0.0	Fill - Gray, Black, White, and Brown mottled	<i>562.7</i>			F	$\frac{1}{2}$	
	fine to coarse Gravel, ash, cinders, wood,	002.7		4	4SS X		
2.5	wet augered to 25.0 ft. BGS, no samples	560.7				1	
5.0	Fili - Black cinders, ash, cloth, fiberous material, wet, iridescent sheen, strong	557.7				_	
	chemical odor Fill - Gray Black Sandy Silt, vegetation, wet	556.8		;	5SS)		
7.5	same, with Gravel, ash, cinders	555.7			K	k	
7.5	iridescent sheen	554.1		'	6SS		
	Gray Black Sandy Silt, moist to wet, native Black Gray Silty fine Sand, wet, native	554.1 553.7			7SS \	7	
0.0	same, with iridescent sheen	551.7			/ 33 [/	\setminus	
	Samo, with indessent should	33			BSS 🖔		
2.5	same, with shell fragments	<i>549.7</i>			K	k	
				}	9SS	$\langle $	
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TAI	BLE		, <u>'</u>		
DIES:	MENDOLANO LONG PETERS AND AND AND AND AND AND AND AND AND AND		A SPLIT 🔽				

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH116-87 (PAGE 2 of 2)

STATIC WATER LEVEL

DATE COMPLETED: 6/5/87

PROJECT NO.: 1769

DRILLING METHOD: HSA 7.25" OD

CLIENT:

OCCIDENTAL

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

	ft AMSL	INSTALLATION	SAMPL N S S U T T	7
			M ATUS	
Black Gray Silty fine Sand, shell fragments, wet, iredescent sheen, native	549.7	7,25°0 BOREHOLE	8SS 9SS X	
Black Gravelly coarse Sand, shell fragments, wet, slight septic odor, native	547.7		1055	
Black medium to coarse Sand, wet, native	545.7	GROUY""	1155	
Black Gravelly coarse Sand, wet, native Red Brown Clay, Gray angular Gravel wet,	544.8 543.9 543.7		A	
native, Till, native no recovery, augered to 41.0 ft. BGS	541.7		12DT	
	547.2 540.9		130T	
\Sand, moist, native, Till \Red Brown fine Sandy Silt, fine to coarse	539.3		14SS X	1.
AUGERED TO REFUSAL	538.4	· 基础设置基础的。		
END OF BOREHOLE AT 44.3 FT. BGS		•		
At completion borehole was grouted to ground surface				
		·		
			•	
·				
		•		!
	Black medium to coarse Sand, wet, native Black Gravelly coarse Sand, wet, native Red Brown Clay, Gray angular Gravel wet, native, Till, native no recovery, augered to 41.0 ft. BGS Red Brown Clay, moist, firm, native Red Brown Clayey Silt, fine Gravel, trace Sand, moist, native, Till Red Brown fine Sandy Silt, fine to coarse Gravel, trace Clay, moist, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 44.3 FT. BGS At completion borehole was grouted to ground	fragments, wet, slight septic odor, native Black medium to coarse Sand, wet, native Black Gravelly coarse Sand, wet, native Red Brown Clay, Gray angular Gravel wet, native, Till, native no recovery, augered to 41.0 ft. BGS Red Brown Clay, moist, firm, native Red Brown Clayey Silt, fine Gravel, trace Sand, moist, native, Till Red Brown fine Sandy Silt, fine to coarse Gravel, trace Clay, moist, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 44.3 FT. BGS At completion borehole was grouted to ground	Black Gravelly coarse Sand, shell fragments, wet, slight septic odor, native Black medium to coarse Sand, wet, native Black Gravelly coarse Sand, wet, native Red Brown Clay, Gray angular Gravel wet, native, Till, native no recovery, augered to 41.0 ft. BGS Red Brown Clay, moist, firm, native Red Brown Clayey Silt, fine Gravel, trace Sand, moist, native, Till Red Brown fine Sandy Silt, fine to coarse Gravel, trace Clay, moist, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 44.3 FT. BGS At completion borehole was grouted to ground	Black Gravelly coarse Sand, shell fragments, wet, slight septic odor, native Black medium to coarse Sand, wet, native Black Gravelly coarse Sand, wet, native Red Brown Clay, Gray angular Gravel wet, native, Till, native, Till, native, Till, native, Till, native, Till Red Brown Clay, moist, fine Gravel, trace Sand, moist, native, Till Red Brown fine Sandy Silt, fine to coarse Gravel, trace Clay, moist, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 44.3 FT. BGS At completion borehole was grouted to ground

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH117-87 (PAGE 1 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 3/13/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

NORTH OF PARKWAY

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMI	
ft BG		ft AMSL	INSTALLATION	א אַ	\$ 'N'
	GROUND ELEVATION	. 582.1		N U M B E R	STATUS
-	Fill — Brown Silty fine Sand, angular Gravel, vegetation, moist	·	8.0° BOREHOLE	155	13
- 2.5	augered to 4.0 ft. BGS, no sample	579.6		2SS 🔀	>100
	Fill — Red Brown Silt, fine to medium Sand,	<i>578.1</i>	CEMENT/ BENTONITE GROUT		
- 5.0	and angular Gravel, trace Clay, moist to dry	<i>576.1</i>		355	20
	no recovery, augered to 8.0 ft. BGS	376.7		- X	22
- 7.5	Fill — Red Brown Silt, fine to medium Sand, and angular Gravel, trace Clay, moist to dry	574.1		455	30
10.0	petroleum odor			555	>100
- 12.5	augered to 13.0 ft BGS, no sample	570.7			•
12.3	Fill — Red Brown Silt, fine to medium Sand, and angular Gravel, trace Clay, moist to dry	569.1 568.3		6SS 🔀	>100
15.0	petroleum odor augered through "shot rock" to 15.0 ft. BGS,	567.1 566.6		- 🗷	>50
17.5	no recovery augered to 18.0 ft. BGS, no samples	564.1			
- 20.0	Fill — Black fine to medium Sand and Silt, cinders, trace vegetation, trace brick and	563.2		788	27
20.0	\slag, moist to dry Fill — Brown and Red Brown Silt, fine Sand, and Clay, trace Gravel, dry			855	15
22.5	same, except wet, iridescent sheen, chemical odor	560.1 559.3		955	46
25.0	Fill - Black Silty coarse Gravel, trace Clay, NAPL, wet	557.9		1055	10
	Black fine to medium Sand and Silt, trace rounded Gravel, vegetation, wet, native same, with NAPL, trace shell fragments, no	556.1		11SS X	48
-27.5	vegetation same, with trace Clay and thin Silt lenses	554.1		1288	6
-30.0	-			1355	5
- 32.5	same, except no NAPL	550.1			
	same, with iridescent sheen, trace NAPL, increasing fine Gravel	548.1		14SS X	19
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TAE	BLE	1 1000 10	<u> </u>
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	_	A SPLIT WAT	ER FOUND TIC WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH117-87 (PAGE 2 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 3/13/87

DRILLING METHOD: HSA 8.0" OD

CLIENT:

OCCIDENTAL

1	· GGG.BEITTAL		DITIELING WILLINGD.	nsk	0.0 0	,
LOCATI	ION: NORTH OF PARKWAY		CRA SUPERVISOR:	p.c.	MILLARI)
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ICI CVA TIONI	MONITOR			
	S THATISTAFFIIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
ft BG		ft AMSL	INSTALLATION	N	S S	, N
ŀ				M		Ä
32.5		1	İ	ā	A T T E U S	Ĺ
32.5					Š	Ĕ
L	Black fine to medium Sand and Silt, trace	1		1455	IXI	19
	rounded Gravel, shell fragments, Clay	i I	8.0		[N]	١,٠٠
	and thin Silt lenses, wet, native		8.0° BOREHOLE		\Box	
- 35.0	same, with iridescent sheen, trace NAPL,	548.1		1588	IVI	6
	increasing fine Gravel		A STATE OF THE STA	1000	$ \Lambda $	٦
1.	Black Silty medium to coarse Sand,	546.1			\mapsto	
	rounded and subrounded Gravel, some NAPL,	1 '1	GROUT"	1655	V	10
37.5	wet, native	544.5		1033	$ \Lambda $, ,
i i	\ \ 	544.1			\mapsto	
	Dark Gray Clayey Silt, wet, native	543.4		17 SS	Ma	24
	Red Brown Silt and fine Sand, angular and			1/33	X	24
40.0	subangular Gravel, some Clay, dry, native		2.5		\leftarrow	l
1 1		1		1855	XIO	30
	Red Brown and Brown Silty Clay, trace	540.8 540.3		1000		ا عن
1 1	Gravel, moist, native	340.3			H	ł
42.5	Brown Sand and Silt, angular to subangular	1				
	Gravel, trace Clay, wet, native, 1711	j l				
1 1	AUGERED TO REFUSAL	538.1				
45.0					1	!
75.0	END OF BOREHOLE AT 44.0 FT. BGS		l			
1 !						
1 1	At completion borehole was grouted to ground	1.			1 1	
47.5	surface				1 1	
1		١. ا	·			
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-50.0		}]		1	
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52.5		· 1	į		1 1	
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-57.5			İ			
37.3						
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60.0	,		ŀ			
55.5	5					
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62.5						
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-65.0			1			
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NOTES: M	HEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABL				
(GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT WATER	FOUND		
(GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	_		WATER LE	EVEI	
			31A11C		- V	

PROJECT NAME: S-AREA

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

HOLE DESIGNATION: BH118-87 (PAGE 1 of 2)

DATE COMPLETED: 3/12/87

DRILLING METHOD: HSA 8.0" OD

CRA SUPERVISOR:

C.H. PADGINTON ALONG PARKWAY LOCATION: D.C. MILLARD ELEVATION MONITOR SAMPLE DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS **INSTALLATION** ft AMSL ft BG Ā 581.2 GROUND ELEVATION Fill - Brown Silty fine Sand, some Gravel, **1SS** 24 some vegetation, moist 8.0"¢ BOREHOLE 2.5 255 17 CEMENT/ BENTONITE GROUT 576.6 355 15. 5.0 Fill - Green, Brown, Red Brown, and Black Silty fine Sand, wet, chemical odor **4SS** 17 7.5 573.2 same, with some Gravel 555 14 571.2 -10.0 augered to 14.0 ft. BGS, no samples 12.5 567.2 566.7 6SS 🖂 >100 Fill - Gray and Brown Silty fine Sand, 15.0 angular Gravel, wet gugered to 17.5 ft. BGS, no samples *563.7* 17.5 Fill - Brown and Gray Brown coarse Gravel, 63 **7SS** some Sand and Silt, wet augered to 20.0 ft. BGS, no samples 20.0 >151 855 Fill - Gray Black Silty Gravel, wet 559.9 augered to 22.0 ft. BGS, no samples 559.2 Fill - Gray Black Silty fine to medium Sand, 22.5 26 955 Gravelly, cinders, wet 558.1 Gray Black Silty fine Sand, vegetation, NAPL, wet, native **10SS** 16 25.0 *555.2* same, except no vegetation **11SS** 12 27.5 same, except fine to medium Sand 553.2 **12SS** 8 30.0 WR **13SS** 549.2 sample lost 32.5 Gray and dark Gray Silty fine to medium Sand, trace rounded Gravel, NAPL, wet, native 547.2 **14SS** 16

MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE NOTES:

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

DEC/EPA SPLIT

WATER FOUND \mathbf{Z} STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH118-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

ALONG PARKWAY

CRA SUPERVISOR: C.H. PADGINTON

Sample lost Gray and dark Gray Silty fine to medium Sand, trace rounded Gravel, NAPL, wet, native ft AMSL INSTALLATION N S S N Y A A A A A A A A A A A A A A A A A A A				, CRA SOPERVISOR:	D.C. MILLA	
sample lost Sample lost Gray and dark Gray Silty fine to medium Sand, trace rounded Gravel, NAPL, wet, native Trace Gravel, wet, native, Till Brown fine Sand and Silt, some Clay, trace Gravel, wet, native, Till Grayey, dry to moist 40.0 Brown rock fragments, some Silt and Sand, Clayey, dry to moist Trace Gravel, wet, native SPOON REFUSAL AND Trace Clay, wet, native SPOON REFUSAL AND At completion borehole was grouted to ground surface 47.5 Source Clay, wet, native SPOON REFUSAL AND Formation of Both Clay Andrew Clay, trace Clay, wet, native SPOON REFUSAL AND Formation of Both Clay Andrew Clay, wet, native SPOON REFUSAL AND Formation of Both Clay Andrew Clay, wet, native SPOON REFUSAL AND Formation of Both Clay Andrew Clay, wet, native SPOON REFUSAL AND Formation of Both Clay, wet,	DEPTH # BC	STRATIGRAPHIC DESCRIPTION & REMARKS				
sample lost 35.0 Gray and dark Gray Silty fine to medium Sand, trace rounded Gravel, NAPL, wet, native Sand, trace gravel, wet, native Brown fine Sand and Silt, subrounded Gravel, Clayer, dry to moist 42.5 Brown rock fragments, some Silt and Sand, Clayer, dry to moist 42.5 Brown rock fragments, some Silt and Sand, Clayer, dry to moist 42.5 Brown rock fragments, some Silt and Sand, Clayer, dry to moist 42.5 At completion borehole was grouted to ground surface 533.2 544.2 543.2 544.2 543.2 544.2 543.2 655.0 65.0 At completion borehole was grouted to ground surface 66.5 67.5 68.0 MACES: MEASURING POINT ELEVATIONS MAY CHANGE; REPER TO CURRENT ELEVATION TABLE 67.7 68.0 6	11. 86		TT AMSL	INSTALLATION	N ST	
sample lost Gray and dark Gray Silty fine to medium Sand, trace rounded Gravel, NAPL, wet, native 35.0 Gray Brown fine Sand and Silt, some Clay, trace Gravel, wet, native, fill provided Gravel, or form fine Sand and Silt, subrounded Gravel, Clayey, dry to moist 42.5 Brown rock fragments, some Silt and Sand, trace Clay, wet, native SPOON REFUSAL AND OF BOREHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface 47.5 -50.0 -57.5 -60.0 MILES: MEASURING POINT ELEVATIONS MAY CHANGE, REPER TO CURRENT ELEVATION TABLE GRANN SIZE DIST. & ATT. LIMITS FOR OCC O DEC/PA SPUT WATER FOUND	32.5				B T	ָּעַ עַ
Gray and dark Gray Silty fine to medium Sand, trace rounded Gravel, NAPL, wet, native 547.2 57.5 Gray Brown fine Sand and Silt, some Clay, trace Gravel, ext, native, Till Brown fine Sand and Silt, subrounded Gravel, Clayey, dry to moist 16SS 75 40.0 Brown rock fragments, some Silt and Sand, trace Clay, wet, native SPOON REFUSAL AND END OF BOREHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface Clay, wet, native SPOON REFUSAL AND END OF BOREHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface Clay. 47.5 56.0 MRIES WEASJRING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE OR ARM SIZE DIST. & ATT. LIMITS FOR DOC DEC/FPA SPUT WATER FOUND		sample lost				3 5
Sand, trace rounded Gravel, NAPL, wet, native 37.5 Croy Brown fine Sand and Silt, some Clay, trace Gravel, wet, native, Till Brown fine Sand and Silt, subrounded Gravel, Clayey, dry to moist 15SS 12 42.5 Brown rock fragments, some Silt and Sand, trace Clay, wet, native SPON REFUSAL AND END OF BOREHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface 47.5 -50.0 -57.5 -60.0 MOILS: MEASURING PONT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR COC DEC/PA SPUT WATER FOUND			547.2	BOREHOLE		
-37.5 Cray Brown fine Sand and Silt, some Clay, trace Gravel, wet, native Servel, wet, mative Servel, wet, mative Servel, wet, mative Servel, wet, native Servel, native Servel,	35.0	Sand, trace rounded Gravel, NAPL, wet, native	1.		1488	16
-37.5 Cray Brown fine Sand and Silt, some Clay, trace Gravel, wet, native Servel, wet, mative Servel, wet, mative Servel, wet, mative Servel, wet, native Servel, native Servel,		2	_	— CEMENT/ BENTONITE	$\left(\cdot \right)$	
Brown fine Sand and Slit, subrounded Gravel, Clayey, dry to moist 42.5 Brown rock fragments, some Slit and Sand, Varace Cloy, wet, notive SPOON REFUSAL AND ENO OF BORCHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface 47.5 -50.0 -52.5 -60.0 -62.5 -65.0 MALSURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC OCCUPAN SPUT WATER FOUND	37.5	Gray Brown fine Sand and Silt, some Clay,	1 [GROUT	15SS X	12
42.5 Brown rock fragments, some Silt and Sand, trace Clay, wet, native SPOON REFUSAL AND END OF BOREHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface 47.5 -50.0 -52.5 -60.0 -62.5 -65.0 MALSURING POINT ELEVATIONS MAY CHANGE: REPER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC OCCUPAN SPUT WATER FOUND		trace Gravel, wet, native, Till	543.2			ا
### HEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ##################################	40.0	Clayey, dry to moist			1655	75
#EASURING POINT ELEVATIONS MAY CHANGE, REPER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC Brown rock fragments, some Silt and Sand, trace Clay, wet, native SP00 REFUSAL AND END OF BOREHOLE AT 42.5 FT. BGS At completion borehole was grouted to ground surface 18SS \$\Bigsim \) 18SS \$\Bigsim \] 18SS \$\Bigsim \) 18SS \$\Bigsim \) 18SS \$\Bigsim \) 18SS \$\Bigsim \) 18SS \$\Bigsim \) 18SS \$\Bigsim \) 18SS \$\Bigsim \)	'0.0				1788 M	44
-45.0 -45.0 -45.0 -47.5 -50.0 -52.5 -60.0 -62.5 -65.0 MOITES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	l	Brown souls from onto some City and Cond	539.2		VV	-
At completion borehole was grouted to ground surface 47.5 -50.0 -52.5 -60.0 -62.5 -65.0 MIDIES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE Or GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPUT WATER FOUND	+42.5	trace Clay, wet, native	538.7		1855	>50
At completion borehole was grouted to ground surface 47.5 -50.0 -52.5 -55.0 -60.0 -62.5 -65.0 MATER FOUND At completion borehole was grouted to ground surface. Refer to current elevation table. Grain SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPUT WATER FOUND	1	SPOON REFUSAL AND		İ		1
Surface -47.5 -50.0 -52.5 -55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE Organia SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	45.0					
-50.0 -52.5 -55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND		surface				-
-52.5 -55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	47.5					
-52.5 -55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND						
-52.5 -55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	-50.0					
-55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	00.0					
-55.0 -57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	Í					
-57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	-52.5	•				
-57.5 -60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND		•				
-60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	-55.0				.	i
-60.0 -62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND			ļ			
-62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	-57.5		•			
-62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND				,		
-62.5 -65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	-60.0					
-65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND						
-65.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	62 5					
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND	02.5		1	1		
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND		2				
○ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ■ DEC/EPA SPLIT ☑ WATER FOUND	-65.0			·		
○ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ■ DEC/EPA SPLIT ☑ WATER FOUND	.]		. }			
○ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ■ DEC/EPA SPLIT ☑ WATER FOUND	NOTES: 1	FASILIBING POINT ELEVATIONS MAY CHANGE DESTRUCTION		<u> </u>		
			_		FOUND	
	(<u></u>		_		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH119-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/17/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

ALONG PARKWAY

CRA SUPERVISOR: C.H. PADGINTON

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		AME	-	*N*
BG	GROUND ÉLEVATION	ft AMSL 580.8	INSTALLATION	N D B B E R	S T A T E	ST ATUS	#CΓ><ヹ
<u></u>	Fill — Brown and Gray Gravelly Silt, Sandy, trace Clay, some vegetation, moist		6.5° BOREHOLE	155	X		39
2.5		576.B		2SS	X		2
5.0	Fill — Red, Brown, and Green laminated Clayey Silt, 'moist, low plastic	·	GROUT	355	X		1
7.5	Fill — Brown and Gray Gravelly Sand, Silty, moist to wet	<i>574.8</i>		4SS	X	İ	1
	no recovery	<i>572.8</i>		5SS			2
0.0	Fill — Gray "shot rock"	570.8		655	\bigvee		4
2.5				755	\bigvee	>	-10
5.0	augered through "shot rock" to 20.0 ft. BGS	566.8					
7.5							
0.0	Fill — Black and Gray flyash with some Sand and Silt, moist to wet	560.8		988	X		,
2.5	Fill - Black and Gray subangular Gravel, trace Silt and Sand, wet	558.8		1055			
5.0	Black and Gray Silty fine Sand, trace Gravel, wet, native	556.8		11SS			
				1255			
7.5				1355	\bigvee		
0.0	Dark Gray to Black Silty fine to medium Sand, wet, native	550.8		1455	$\langle \rangle$		
2.5	Sand, word native			1555	\bigvee		
	1	1	33 C C C C C C C C C C C C C C C C C C	1	17 \	1 I	

0 GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT

STATIC WATER LEVEL

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

ALONG PARKWAY

HOLE DESIGNATION: BH119-87 (PAGE 2 of 2)

DATE COMPLETED: 3/17/87

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: C.H. PADGINTON

LOUA			CRA SUPERVISI	л. с.п. Р	ADGIN	IION
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPL	
11. 50		IT AMSL	MOTALLATION	— KCZ	STATUS	× × ×
32.5				B E R	EUS	₩ LU
	Dark Gray to Black Silty fine to medium			15SS	XI	16
-35.0	Sand, wet, native		BOREHOLE	1 1		,
33.0			CEMENT/	1655	Δ	3
-37.5	2 . 2	543.8	CEMENT/ BENTONITH CROUT	17SS	Mo	27
F37.5	Red Brown laminated Silty Clay, Sandy trace Gravel, moist, native, Till	543.0			+	ŀ
1,00	Red Brown Silty Clay, Sandy, trace, Gravel, moist, native, Till			1855	$X _{lacktree}$	>50
40.0	Red Brown Silty Sand, Clayey, Gravelly,	540.3		1955	\$	>50
	\moist, native, Till AUGERED TO REFUSAL	538.5				
-42.5	END OF BOREHOLE AT 42.3 FT. BGS	338.3				1
45.0	NOTE: NO RECOVERY OF SPLIT SPOON 855					
	(20.0-21.1 FT.) SECOND SPLIT SPOON USED TO OBTAIN SAMPLE - 9SS (20.0-					
- 47.5	22.0 FT. BGS)					
	At completion borehole was grouted to ground surface					· .
-50.0						
- 52.5	·					
	·	1				
-55.0						
-57.5						
-60.0						
-62.5						
-65.0						
:	·					
NOTES: 1	L MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABLE	E			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	. —	TER FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ ST/	ATIC WATER LEV	ÆL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH120-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/13/87

CLIENT: OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATI	ION: NORTH OF PARKWAY		CRA SUPERVISOR:	D.J. OSCAR D.C. MILLAR	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPL	
ft BG		ft AMSL	INSTALLATION	N S S	Ž,
 	GROUND ELEVATION	580.8		N U M B E R	A L U
	Fill — Black Brown and Red Brown Silt with some fine Sand and Clay, some Gravel, asphalt, mottled, moist to dry	579.5 578.8	6.5°¢ BOREHOLE	155	>100
- 2.5	augered to 2.0 ft. BGS, no sample	578.8 578.4	CEMENT/ BENTONITE GROUT	255	>100
- 5.0	augered to 4.0 ft. BGS, no sample	576.8	GROUT	355	35
	Fill — Brown, Green Brown, and Orange Brown fine Sandy Silt, Gravelly, trace Clay, moist			455	17
- 7.5	no recovery	572.8 572.5		5SS ==	>100
-10.0	augered to 14.0 ft. BGS, no sample				
-12.5		500.0			
- 15.0	Fill - Gravel Fill - Brown Silty Clay, moist Fill - Brown, Red, Green, and Black Sandy	566.8 566.3 566.0 564.8 564.5		6SS	19
-17.5	Silt, trace Clay, moist	564.0 562.8		7SS X	50 >100
-20.0	Fill — Brown, Red, Green, and Black Sandy Silt, trace Clay, moist Fill — Gray, White, Blue, and Yellow Gravel,	562.5 560.8		988	>100
20.5	some Silt and Sand, wet Fill - Gray Gravel, wet				
-22.5	augered to 20.0 ft. BGS, no sample no split spoon advancement, no recovery,	556.8			
- 25.0	Gray Silty Sand, wet, native			10SS	14
-27.5				1155	21
70.0				12SS	19
-30.0				1388	5
- 32.5				1488	17
	Red Brown laminated Silty Clay, Sandy, Gravelly, moist, native	546.3		1588	38_
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	ELEVATION TAE DEC/EP/	A SPLIT 💆 WATEI	r found C water level	
<u> </u>	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		-E- SIAIII	- 1141 UK LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH120-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/13/87

CLIENT:

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTH OF PARKWAY

OCCIDENTAL

CRA SUPERVISOR: D.J. OSCAR

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
t BG		ft AMSL	INSTALLATION	36 K C Z	S S T A T E U	mcr≯ <z< th=""></z<>
32.5			national state of the	_ R	A A T E U S	_
	Gray Silty Sand, wet, native		8.5 e BOREHOLE	1455	Д	1
55.0	Red Brown laminated Silty Clay, Sandy, Gravelly, moist, native, Tili	54 6.3		15SS	X o	38
7.5	Red Brown Silty Sand, Gravelly, Clayey, moist to wet, native, Till	<i>544.3</i>	ENDIT/ BATTOMITE CROUT	16SS		9:
				17 SS		>10
Ю.О	AMOSPER TO REFLICA	540.0 539.9		18SS		>10
2.5	AUGERED TO REFUSAL	003.3	·			
2.5	END OF BOREHOLE AT 40.9 FT. BGS					
5.0						
	At completion borehole was grouted to ground surface	.				
7.5			·			
0.0						} }
0.0						
2.5					.	
5.0						
	· .					
7.5	·					
0.0			,			
2.5	•					
5.0						
		,		1		
	EASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	DEC/EPA	_	R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	₩ 05C/EPA		IC WATER L	evei	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH121-87

PROJECT NO.: 1769

DATE COMPLETED: 2/19/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION

NEAR PARKWAY

LOCATI	ION: NEAR PARKWAY		CRA SUPERVISOR:	D. BLACH D.C. MILL	< _ARD
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		MPLE
100	GROUND ELEVATION	566.8	INSTALLATION	N S M A T E	ST A L UE
	Fili — Brown and Black Gravelly Silt, mottled, dry	564.0		1SS	86
2.5	Fill — Yellow Brown Gravelly coarse Sand, dry Fill — Black Sandy Silt, Gravelly, trace \[\] \	564.8 564.0 563.8 562.8	- CEMENT/ BENTONITE GROUT,	255	33
- 5.0	Fill — Gray Black and Gray White coarse material, moist		GROOT,	388	14
- 7.5	Fill — Black and Gray White medium to coarse Sand, Gravelly, some Silt, wet			488	2
- 10.0				588	13
- 12.5	Black medium to fine Sand, trace Gravel,	554.8		6SS X	12
12.5	wet, native			7SS X	8
-15.0				855	8
17.5	·			955	9
-20.0				10SS X	18
-22.5	Black Sandy Gravel, wet, native	544.8 543.5		12SS X	12
-25.0	Red Brown Clayey Sand, trace Gravel, dry, dense, native, Till	·		1388	46
-27.5	Red Brown Silty coarse Sand, Clayey, trace Gravel, moist to wet, native, Till	540.8 540.4		14SS 🔀	>100
'	AUGERED TO REFUSAL END OF BOREHOLE AT 28.5 FT. BGS	538.3			
30.0	LND OF BUREHOLE AT 28.3 FT. BGS				4
-32.5	At completion borehole was grouted to ground surface				
•	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATER		
			SIAIIC	WATER LEVEL	·

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH122-87

PROJECT NO.: 1769

DATE COMPLETED: 1/12/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF LAGOON IN PARKING LOT

CRA SUPERVISOR: K.D. SCHMIDTKE

LOÇAT	ION: WEST OF LAGOON IN PARKING LOT		CRA SUPERVISOR:	K.D.	SCHI	טוא	IKE
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAM	IPLE Ş	
100	GROUND ELEVATION	567.9		N U M B E R	ST A T E	TATUS	וכר > < בְ
	Fill — Gray, Brown, and Black Silty Sand, Clayey, angular Gravel, brick, moist	565.0		1SS	M	2	15
- 2.5	Fill — Red Brown Clayey Silt and Gravel Fill — Brown to Gray Silty Sand, trace	565.9 565.8		288	M		28
- 5.0	Gravel, moist Fill — Gray coarse Sand to Black Silty Sand,	563.9	—— CEMENT/ BENTONITE GROUT	388	M		28
	angular Gravel, brick, wet Fill — Black Gravelly coarse Sand, Silty, wet	561.9			Θ		
- 7.5	Plack Silty for Sand wat native	559.9		455	A		12
-10.0	Black Silty fine Sand, wet, native			5S S	М		9
				6SS	X		19
-12.5		557.0		755	M		16
-15.0	same, with sulphur odor	553.9		855	M		6
-17.5	same, except no sulphur odor	549.9		955			8
- 20.0				10SS	M		2
				11 S S	M		WR
22.5		544.1 544.0		12SS	X		13
-25.0	Black Gravelly Sand with some Silver Gray flakey material, wet, native Black Clay, wet, native	544.0 543.9 542.6		13SS	M	•	14
-27.5	Red Brown Silty Clay, wet, native Red Brown Clayey Silt, Sandy, some rounded Gravel, moist, native, Till	541.9					
-30.0	SPOON REFUSAL AND END OF BOREHOLE AT 26.0 FT. BGS						
32.5	At completion borehole was grouted to ground surface						
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	LEVATION TAB	SPLIT WATER	FOUND WATER L	EVEL		

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

WEST OF LAGOONS IN PARKING LOT

HOLE DESIGNATION: BH123-87

DATE COMPLETED: 1/12/87

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: K.D. SCHMIDTKE

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	<u> </u>	AMPL	F
ft BG		ft AMSL	INSTALLATION		SS	<u>T 75'</u>
	GROUND ELEVATION	568.3		M B E R	A A T US	A LUE
	Fill — Gray Brown Clayey Silt, angular Gravel, moist			155		22
- 2.5		564.5		255	7	50
- 5.0	Fill — Red Brown Silty fine Sand Fill — Black and Gray Brown Silty Sand,	564.5 564.3	CEMENT/ BEN TONITE GROUT	· 	k	
	Gravel, moist Fill — Gray Black Sandy Silt, Gravel, Brown	562.3		355		56
7.5	fine Sand lenses, glass, wet			455		28
	Gray Black and Gray Brown Silty Sand, fine	559.4		588	1	31
-10.0	Brown Sand lenses, moist, native, chemical odor	558.3		K		
-12.5	Black and Brown laminated Silty fine Sand, trace layers of fine Gravel, moist, chemical odor, native			655		24
	same, except trace Silt lenses, wet, slight chemical odor	<i>556.3</i>		7SS X		14
-15.0	same, with chemical odor	554.3		888	1	4
12.0	same, except slight chemical odor	552.3		955		8
17.5				(ĺ
- 20.0		_		1055		11
	Black Clay, wet, native	547.6 547.3		1155	101	4
-22.5	Red Brown Clay, wet, native			12SS X		2
- 25.0	same, except Sandy	544.3	,			-
725.0				13SS X		WH
-27.5		540.6		1455		52
	Red Brown Silty Sand with Gravel, wet, native, Till	540.4	atom one at the	<u> </u>		ł
-30.0	SPOON REFUSAL AND END OF BOREHOLE AT 27.9 FT. BGS					
-32.5	At completion borehole was grouted to ground surface					
	EASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELL O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	_	—			-
		DEC/EPA S		FOUND WATER LEVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH124-87

PROJECT NO.:

1769

DATE COMPLETED: 1/13/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF LAGOON IN PARKING LOT

CRA SUPERVISOR: K.D. SCHMIDTKE

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMP		
t BG		ft AMSL	INSTALLATION	Ü	SIS	:	,N,
	GROUND ELEVATION	568.5		Z J 3 8 6 6	ST ATE	<u> </u>	L L DE
	Fill — Brown and Gray Silty Sand, angular Gravel, brick, moist	500 F	8.5°¢ 80REHOLE	1SS	X		28
2.5	Fill — Gray Brown Silty Clay, moist Fill — Black Silty medium Sand with angular	566.5 566.0		255	\bigvee		3:
	Gravel, brick, moist to wet		SHOUT THE	3SS	\bowtie		20
5.0	same, with iridescent sheen, chemical odor	562.5			Θ		
7.5		560.5		4SS	Å	;	2
0.0	Gray Black and Brown laminated Silty fine Sand, iridescent sheen, wet, chemical odor, native	:		5SS	X	7	2
	,			6SS	X		1
2.5				7SS	X		2
5.0	Black and Red Brown Clay, wet, native	554.2		855	M		
17.5	same, except Red Brown, some Sand same, except trace Sand	551.1 550.5		9SS	X		
20.0				10SS	()		W
22.5				1155	()		
	same, with increasing Sand	544.5		12 S S	М	ال	•
25.0				1355	M) v	W
27.5	Red Brown and Gray Silty Clay with Gravel,	540.8 540.5		14SS	X) :	2
50.0	vmoist, native, Till SPOON REFUSAL AND END OF BOREHOLE AT 28.0 FT. BGS						
52.5	At completion borehole was grouted to ground surface						
OTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	ELEVATION TAB		R FOUND			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH125-87

PROJECT NO.: 1769

O

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

DATE COMPLETED: 2/17/87

DRILLING METHOD: HSA 6.0" OD

CLIENT: LOCATION: OCCIDENTAL ADAMS AVE.

 ∇

DEC/EPA SPLIT

WATER FOUND

STATIC WATER LEVEL

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPL	
BG		ft AMSL	INSTALLATION	N U M BER	
	GROUND ELEVATION	570.5	\$15-22500	R E Ú	
2.5	augered to 2.0 ft. BGS through asphalt Fill — Black, Gray, and Yellow coarse Sand,	568.5	6.0°¢ BOREHOLE		
	cinders, some Silt, trace Gravel, dry to moist same, with some flyash, wet	566.5	CEMENT/ BENTONITE GROUT	1SS	2
5.0		52.5		255	
7.5	Fill — Black coarse Sand, cinder, wood, NAPL, wet	564.5		355	
0.0	Dark Gray Silty fine to medium Sand and Silt	560.8		455	1
	trace vegetation and subrounded Gravel, moist to wet, native same, with NAPL, dry to wet	560.5		588	1
2.5	Dark Brown Silty Clay, moist to wet, high plastic, native same, trace Sand, trace Gravel	560.5 558.0		655	
5.0	Sume, trace Suma, trace Staver			755	
7.5		552.5		888	
0.0	Brown and Red Brown alternating bands of Clay and Silt, trace fine Sand, moist to wet, native			988	
J. J	same, with occasional thin fine Sand lenses and Gravel, wet	550.5		10SS 	
2.5		•		1155	
5.0				12SS (
7.5		F40 F		1388	
	Red Brown Clayey Silt, Sandy, with Gravel, moist to wet, native, Till	542.5 542.0		14SS 🔀 🛈	>2
0.0	AUGERED TO REFUSAL	540.9			
2.5	END OF BOREHOLE AT 29.6 FT. BGS		•		
	At completion borehole was grouted to ground surface				

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH126-87

PROJECT NO.: 1769

DATE COMPLETED: 2/16/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

ADAMS AVE.

HIG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPL	
BG		ft AMSL	INSTALLATION	T T T T T T T T T T T T T T T T T T T	STATUS	1
	GROUND ELEVATION	570.7		Ę.	EUS	E
	augered to 4.0 ft. BGS		6.5° BOREHOLE			
2.5		,	CEVENT/			
	Fill — Black and White coarse Sand, cinder, brick, wood, wet	566.7	GROUT GROUT		\forall	
.0	Fill — Black and Gray Silty coarse Sand, some Gravel, trace cinder, unknown Green	564.7		1SS	Д	
e	granular material, wet same, with NAPL	563.6		255	X	
7.5	same, except no NAPL Gray and Gray Brown laminated Sand and Silty	563.4 562.6		700	\forall	1
0.0	Sand, trace vegetation and Gravel, some Black NAPL, moist, native			388	\triangle	. '
				455	X	
2.5	·			5SS	\bigvee	
	Brown and Dark Brown Silty Clay, trace Silt lenses and vegetation, trace NAPL in soil	557.4			()	
5.0	partings, moist to wet, native same, except no NAPL, trace Sand, trace	<i>556.7</i>		6SS	X	٧
	Gravel, wet			7 SS	\bigvee a	
7.5	Red Brown Clay and Silt, trace fine Sand	552.7			H_	
0.0	and Gravel, trace Silt lenses, native			8SS	Ma	'
U.U				988		۷ N
2.5	Brown and Red Brown Silty Clay, trace Sand	5 48 .7		1055	\bigvee a	
	moist to wet, native same, trace Gravel	546.7		1033	\square	
5.0				1155		۱
				12SS	\int_{0}^{∞}	
7.5		542.7			()	
	Red Brown Silty Clay, some fine to medium Sand, trace Gravel, wet, native, Till	540.9		13SS	Μa	N N
0.0	AUGER REFUSAL AND END OF BOREHOLE AT 29.8 FT. BGS	370.3				
2.5	At completion borehole was grouted to ground surface					
		ELEVATOR: TAX	u c			
)TES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH127-87

PROJECT NO.: 1769

DATE COMPLETED: 2/13/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

ADAMS AVE.

		ן פר ארוכו ן	INSTALLATION .	N I	919	''
BG		ft AMSL	INSTALLATION .	N U X	3 1 4 1 0	CLACZ
-	GROUND ELEVATION	<i>570.8</i>		M B E R	A T U S	į
	augered to 2.0 ft. BGS through asphalt	ļ, 	6.0°6 BOREHOLE		1	
2.5	Fill — Black coarse Silt and Sand, cinder, slag, trace coarse angular Gravel, wet	568.8		155	\forall	
	same, with NAPL	566.8	BENTONITE GROUT		+	
5.0				255.	$\Delta \mid$	
7.5				388	X	
	Black, Brown, and Gray Silty fine to medium Sand, trace vegetation, NAPL, moist to wet, native	562.8		455	$\overline{\mathbf{X}}$	
0.0	native			555	\overrightarrow{A}	
2.5		ce= e		655		
	Brown Silty Clay, wet, native Brown to Red Brown Silty Clay, trace fine	557.5 556.8			()	
5.0	Sand lenses, trace Gravel, moist to wet, native			755		
7.5				855	X	
	Brown and Red Brown Silty Clay, trace fine Silt lenses, wet, native	552.8		988		
0.0				1055		
2.5				1155		
				1.222	(\cdot)	
5.0				12SS	$\bigvee_{i=1}^{n}$	
7.5				1355	XI •	
	•	<i>541.3</i>		1455	\bigvee	
0.0	Red Brown and Gray Clayey Sand, Silty, trace Gravel, wet, native, Till	539.6		1555	Z	>
2.5	AUGER REFUSAL AND END OF BOREHOLE AT 31.2 FT. BGS					
:	At completion borehole was grouted to ground surface					
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I	ELEVATION TAE DEC/EP/	,	R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH128-87

PROJECT NO.: 1769

DATE COMPLETED: 2/12/87

CLIENT: OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

ADAMS AVE.

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAME	
ft BG	GROUND ELEVATION	ft AMSL 570.9	INSTALLATION	N STATE	
	augered to 2.0 ft. BGS through asphalt	370.3	8.074	R	<u> </u>
2.5	Fill — Black and Brown Gravelly coarse Sand, Silty, moist to dry	568.9	8.0° 8 BOREHOLE	155	3
5.0	same, except some cinders, brick, wet	566.9	CEMENT/ BEN TONITE GROUT	255	
7.5	Fill — Black Sandy Gravel, cinder, some NAPL, wet, chemical odor	564.9		355	
7.5	Black and Gray Black Silty fine Sand, vegetation, NAPL, wet, native	562.9		455	
0.0				5SS X	
2.5		557.7		655	
5.0	Red Brown to Brown Silty Clay, trace vegetation, moist to wet, native			7SS (V
7.5	same, except trace Silt nodules, wet	552.9		855	
0.0	same, except trace fine Sand lenses	550.9		955	
				1055) v
2.5	·			1155	•
5.0				1255	
7.5				1388	
0.0	Red Brown and Gray Silty Clay, Sandy with Gravel, wet, native, Till	542.4		14SS (>
2.5	AUGERED TO REFUSAL	538.9 538.7		1588	W
	END OF BOREHOLE AT 32.2 FT. BGS At completion borehole was grouted to ground				
DTES: N	SURFACE MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I	ELEVATION TABI	LE		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		FOUND	
•	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		■ STATIC	WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH129-87

PROJECT NO .:

1769

DATE COMPLETED: 2/11/87

CLIENT:

LOCATION:

OCCIDENTAL ADAMS AVE. DRILLING METHOD: H.S.A. 6.5" OD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAM		
ft BG	GROUND ELEVATION	ft AMSL 571.0	INSTALLATION	N D M B E Q	STATE	STATUS	#G > ≪ Z
	augered through moist coarse Gravel and some	077.0	. 5-4	R		S	E
2.5	Sand to 4.0 ft. BGS		BOREHOLE				
= 0	Fill — Black coarse Sand and Gravel, wet	567.0	CROUT GROUT	166			
5.0	same, with some cinder, iridescent sheen, chemical odor	565.0		155			2
7.5	same, with Pink Silt waste same, except no Pink Silt	563.4 563.2		255	X		2
	Fill — Black coarse Sand and Silt, some Gravel and vegetation, moist	563.0 562.4		355	X		14
10.0	Gray Black to Yellow Gray Silty fine Sand, some vegetation, trace NAPL, moist to wet, native	561.0		455	X		5
12.5	Yellow Gray to Gray Black laminated fine to coarse Sand and Silt, trace vegetation, NAPL, moist to wet, native	558.1		5SS	X	•	3
15.0	Brown Silty Clay, trace vegetation, moist to wet, high plastic, soft, native same, with trace Silt nodules	557.0		655	X	•	1
17.5	same, except Brown and Red Brown	554.0		7SS	X	•	2
20.0				855	X	•	1
20.0				955	X	•	w-
22.5	same, with trace fine Sand lenses	549.0		1055	X	•	W⊦
25.0				1155	X	•	WI-
27.5				1255	X	•	1
				1388	X	•	WF
30.0		540.0		1455		•	· WF
32.5	Red Brown Sand, Clay, and Silt, some fine Gravel, wet, native, Till			15SS 16SS	\bigotimes		>100
	SPOON REFUSAL AND END OF HOLE AT 33.0 FT. B.G.S. At completion borehole was grouted to ground s	538.0	INTERPREPARE				
OTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E		LE	J.,	ч.	-	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA	<u> </u>	ER FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STA	TIC WATER L	EVEL.		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH130-87

PROJECT NO.: 1769

DATE COMPLETED: 3/10/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

INTERSECTION OF 53rd. AND ADAMS AVE.

LOCA	HON. INTERSECTION OF SSIG. AND ADAMS AV	L.	CRA SUPERVISO	, D.O. 10		
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG		ft AMSL	INSTALLATION		SST	Ä.
	GROUND ELEVATION	571.1		N BER	A T T U S	Å L UE
	augered through asphalt to 2.0 ft. BGS	569.1	6.5°¢ BOREHOLE			
- 2.5	Fill — Brown and Red Brown Gravelly coarse Sand, brick fragments, moist		—— CEMENT/	1SS	X	4
5.0	Fill — Brown Sandy Coarse Gravel, brick, moist	567.1	CEMENT/ BENTONITE CROUT	255	X	4
7.5	Fill - Black coarse Sand and Gravel, some Silt, trace Clay, wet, iridescent sheen	565.1 564.1		355		11
7.5	Black to Gray Black mottled Silty fine Sand, some Clay, trace vegetation, wet, native same, with trace subrounded to rounded	563.1		455	\forall	9
10.0	Gravel, trace thin coarse Sand lenses, moist, iridescent sheen	560.1		555	₩.	9
12.5	Brown Silty Clay, trace Silt nodules, wet, plastic, native	559.1			Θ	
	Red Brown Silty Clay, wet, native same, except Brown and Red Brown, high plastic, soft	557.1		6SS	Θ_{-}	4
15.0				7SS	$igwedge^{ullet}$	2
-17.5				8SS		4
20.0	same, with trace Silt nodules and fine lense	551.1		9SS 10SS		1
- 22.5	same, except laminated Brown and Red Brown, trace Silt lenses	549.1		1155		WH 1
-25.0				1255		
- 27.5				1355		2
27.5	Red Brown and Gray Brown Sand, Silt, and	,		14SS		2
-30.0	Clay, trace rounded and subrounded Gravel, wet, native, Till Red Brown Sand, Silt, and Gravel, some Clay,	541.1		15SS		2
-32.5	moist to wet, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 32.8 FT. BGS	539.1 538.8 538.3		16SS		>100
	At completion borehole was grouted to ground surface					
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	_	$\overline{}$			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA		TER FOUND	EVIEI	
l	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_ Si.	ATIC WATER LE	.VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH131-87

PROJECT NO.: 1769

DATE COMPLETED: 1/28/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION: EAST OF BUILDING V-70

CRA SUPERVISOR: D.C. MILLARD

EPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPL	
11 00	GROUND ELEVATION	569.5	III OTALEATION	NUMBER	S T A T U S	חכר ∢<בֿ
	Fill — Black, Brown, and Red Brown Gravel and coarse Sand, quartz, cinders, slag, dry to moist	567.5	BOREHOLE	1 S S		81
2.5	Fill — Black and Rust Red cinders and slag, some White waste material, wet same, with coarse Gravel	565.5		255		28
5.0	same, with NAPL		GROUT	355	\mathbb{N}	6
7.5	Gray and dark Gray Silt and fine to medium Sand, some fine Gravel and vegetation, Brown	563.5 563.2		455	M	6
	NAPL, wet, strong chemical odor, native Dark Brown and Gold Brown laminated Silty fine to medium Sand, trace vegetation, native	561.5		555	M	9
10.0	Dark Gray Silt and Sand, NAPL, wet, native Brown Clay, trace vegetation and Silt	559.5 559.3		6SS		2
12.5	nodules, moist, high plastic, native		,	755		2
15.0				855		2
17.5		551.5		955	\bigvee $lacktriangle$. 2
20.0	Brown and Red Brown laminated Clay, trace Red Gray Silt lenses, wet, native	357.5		1055	Ma	2
20.0				11SS	\bigvee $lacktriangle$	w⊦
22.5	`.			12SS	\bigvee $lacktriangle$	2
25.0				1355	\bigvee $lacktriangle$	2
27.5		E41 E		1 4 SS	\bigvee	2
	Red Brown Silt and Clay, Sandy, fine Gravel, wet, native, Till	540.5		1555	X	>100
30.0	SPOON REFUSAL AND END OF BOREHOLE AT 29.0 FT. BGS At completion borehole was grouted to ground					
32.5	surface					
OTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAE DEC/EPA	A SPLIT WATE	R FOUND	D.E.	<u> </u>

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH132-87

PROJECT NO.: 1769

DATE COMPLETED: 1/30/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCAT	ON: EAST OF BUILDING V-70		CRA SUPERVISOR:	D.E. BL D.C. MI)
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			AMPL	
ft BG		ft AMSL	INSTALLATION	Ü	S S T T	, Ń.
	GROUND ELEVATION	569.4		M B E R	A T US	A LUE
	Fill - Black cinders, some fine Gravel, dry	568.6 568.4		100	$\sqrt{}$	160
	Fill — Purple Gravel, dry Fill — Sand, cinders, concrete, dry		6.0°5 BOREHOLE	1SS	Λ	168
2.5	Fill - Purple Gravel, dry	567.6 567.4 567.1		000	7	~~
Ì	Fill — Sand, concrete, dry		CEMENT/_	255	X	36
	Fill - Brown Gravelly Silt, cinders,	565.4	CEMENT/ BENTONITE GROUT	Ţ.	7	
5.0	concrete, sawdust, dry			3SS	XΙ	6
[same, except Black, wood, slag, no concrete and sawdust, moist	566.2		K	-	
7.5	Fill - Black Gravel, cinders, concrete,	562.2		455	Χl	5
[/.5	brick, wet	· 561.9 561.4		K	_}	
	Black Silt, trace Clay, moist, native			555	XI 🖜	3
10.0	same, with some wood			Ľ	7	
	Red Brown and Gray mottled Silty Clay, moist, native			655	Λ	7
	molog nadra			V /	$\sqrt{2}$	•
12.5	arma avant artter	557.4				
	same, except softer	337.4		755	V	10
				Ī	7	
15.0		·		8SS	X I 🗨	1
	same, except wet, plastic	553.4		K	- }	
17.5				955	$\langle 0 \rangle$	2
''	Red and Gray laminated Clay, wet, native	551.4		K)	
	Red that Gray idifiliated Clay, wet, native	,		1055	(●	1
20.0		549.4		K	_)	1
i i	Red Brown and Brown Clay, trace Silt nodules, wet, native			1155		1
<u> </u>	Hoddies, well Hedive			<u>L</u>	7	
22.5				1255		1
				1233	\setminus	'
25.0		ŀ		1700	7	
25.0	same, with some Sand and fine Gravel	543.6 543.4		13SS		1
	Red Brown and Gray Sandy Clay, some Gravel,	543.4			7	
-27.5	trace Silt lenses, wet, native, Till			14SS	⟨┃▀┃	4
	same, with Silt, rock fragments	541.4		1588	<i> </i>	>100
	· · · · · · · · · · · · · · · · · · ·	540.4		1333	K	/100
-30.0	SPOON REFUSAL AND					
	END OF BOREHOLE AT 29.0 FT. BGS					
	,		,			ĺ
32.5	At completion borehole was grouted to ground surface		1			
		•				
	<u></u> _					
NOTES: W	EASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABL				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	_			J
<u> </u>	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIC	WATER LEVI	EL.	i

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH133-87

PROJECT NO.: 1769

DATE COMPLETED: 2/2/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

EAST OF V-68

CRA SUPERVISOR: D.C. MILLARD

LOCAT	ON: EAST OF V-68		CRA SUPERVISOR:	D.C. N			
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAM		
IT BG		IL AMSL	INSTALLATION	M C Z	S T A T	STA	, V,
	GROUND ELEVATION	571.8		M B E R	Ę	A T U S	Ą L DE
	augered to 0.5 ft. BGS	571.3			H		
- 2.5	Fill — Gray and Black Gravel and coarse Sand, some cinders and brick, some glass moist	569.3	8.5°¢ BOREHOLE	1SS	Д		1.10
	Fill — Gray, Yellow, and light Brown cinder and flyash, some coarse Sand and Gravel,		- CEMENT/ BENTONITE GROUT	255	X		81
- 5.0	moist relocate borehole 3.0 ft. east then 3.0 ft. northeast	567.3 565.9		3SS	M		152
- 7.5 ·	Fill - Gray and Yellow Black Sand, rock	565.3		488	M		42
	fragments, brick, moist Fill - Yellow Black fine Sand, brick, moist	563.4		5SS	M		14
- 10.0	Fill — Black angular Gravel, Green inclusions, wet Gray and Black fine Silty Sand, moist, native	561.6			()		
-12.5	Red Brown Silty Clay, moist, native same, with trace fine Sand lenses	561.3		6SS	A		16
-15.0	same, no Sand lenses	559.3		7SS	X	•	28
15.0				855	Д		3
-17.5	· ·			9SS	M	•	4
-20.0				1088	M	•	2
-22.5				1155	M	•	WH
22.5				1255	M	•	1
-25.0		,		1388	M	•	WH
- 27.5	Red Brown Clayey Silt, Sandy, some rounded Gravel, wet, native, Till	544.1 543.3		1455	M		4
-30.0	Red Brown Sandy Clay, coarse Gravel, wet, native, Till same, with rounded Gravel			1555	M	•	16
- 32.5	SPOON REFUSAL AND END OF BOREHOLE AT 31.0 FT. BGS At completion borehole was grouted to ground surface	541.3 540.8		16SS			>100
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAB	A SPUT WATER	R FOUND	EVEL.		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH134-87

PROJECT NO.: 1769

DATE COMPLETED: 2/4/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

EAST OF V-70

CRA SUPERVISOR: K.D. SCHMIDTKE

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPLE	•
ft BG		ft AMSL	INSTALLATION	N S S U T T	,Ñ,
	GROUND ELEVATION :	571.8		H A A T T E U S	A L UE
	Fill — Black and Gray Silty medium Sand with angular Gravel, brick, concrete, moist		6.0° € BOREHOLE	155	36
- 2.5	Fill — Red Brown Silty Clay with Gravel and some Sand, moist	569.8		255	14
- 5.0	Fill — Gray Black medium Sand, angular Gravel, brick, concrete, moist	567.8	- CEMENT/ BENTONITE GROUT	355	19
- 7.5	Fill — Black Brown and Red Brown Silty Clay, some angular Gravel, moist	565.9		455	11
10.0		561.8		588	12
-10.0	Black fine Sand, wet, native	560.8		655	-14
	Red Brown Silty Clay, wet, native			633	11
-12.5	Red Brown Clay, trace vegetation, moist, native	<i>559.8</i>		788	21
-15.0	same, except no wood, wet	<i>557.8</i>		855	5
-17.5				955	_. 5
-20.0				10SS	1
·	·			·11SS	WR
-22.5				12SS 	2
-25.0				1355	WH
-27.5	Red Brown Sandy Clay, Silty, Gravel, wet, native, Till	545.0		14SS •	5
-30.0				1588	4
	same, with rock fragments, moist	539.8		16SS	6 >50
-32.5	SPOON REFUSAL AND END OF BOREHOLE AT 32.2 FT. BGS	539.6			
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	LEVATION TABI		R FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	<u> </u>		C WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH135-87

PROJECT NO.: 1769

DATE COMPLETED: 2/4/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION: SOUTHWEST OF FIELD TRAILERS

CRA SUPERVISOR: D.J. OSCAR

200711	Total of Field Whitelia		GIAT OUT ELEVIOR	5.0. (300,	ļ
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG		ft AMSL	INSTALLATION	WCZ H	TATA	Ž.
	GROUND ELEVATION	570.9		8 E R	A T T U S	A L U E
	Fill — Brown and Gray Brown Sand, Silt, and Gravel, moist	570.4	6.5	155	M	71
1	Fill - Gray Gravel, slag, some Sand, moist	568.9	8.5° BOREHOLE		\bowtie	
- 2.5	Fill — Brown Gray Silt and Sand, some Gravel, trace Clay, moist	568.6		255	IXI	24
	same, except Gray Brown, trace brick no Clay	<i>568.2</i>	CEMENT/ BENTONITE CROUT		\mathbb{H}	
- 5.0	Fill — dark Brown flyash, trace brick and glass, moist			388	Ă	25
- 7.5	same, except wet	566.9		455	\mathbb{M}	21
/.3	Fill - Black Silt, some Clay, trace fine	562.9			(+)	
	Sand, trace thin flyash lenses, moist	561.8		5SS	IXI	3
- 10.0	Gray fine to medium Sand, some Silt, wet,	560.7			()	
	Red Brown mottled Clay, some Silt, trace			6SS	X	6
-12.5	fine Gravel, Silt nodules, moist, native no recovery	558.9		755	\square	
		556.9		/ / / /	\triangle	
-15.0	Red Gray Silt, some Clay, wet, native			888		3
	same, with thin Gravel lense	554.7 554.3			H	
- 17. 5	Gravel, wet, native	55 4 .1		955	X	4
F 17.3	Red Gray Silt, some Clay, wet, native same, except Red Brown	553.6			H	
				1055	X	WH
-20.0					\bowtie	
				11SS	X	WH
-22.5		1			\mathcal{H}_{-}	
	Red Brown and Gray laminated Silty Clay and	547.8		12SS		1
	Clayey Silt, wet, native	546.9			M_{\bullet}	
-25.0	Red Brown Silty Clay, trace Sand nodules, wet, native			1355	X	1
	modules, wet, marve	1		1455	M_{\bullet}	
- 27.5				1433		
1	Red Brown Sand, Silt and Clay with some			15SS	M	1
-30.0	rounded Gravel, wet, native, Till same, with increased Gravel	541.3 539.4		1000		
	Gray Silt, some fine Sand, trace Gravel,	333.4		1655	X	5
-32.5		538.7 538.4		1755		>50
	SPOON REFUSAL AND END OF BOREHOLE AT 32.5 FT. BGS	555.7				
	At completion borehole was grouted to					
NOTES:	ground surface MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I	ELEVATION TAR	LE			Щ.
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	$\overline{}$	ATER FOUND		
	GRAIN SIZE DIST. & ATT. FOR CCC & DEC/EPA SPLIT	• • • • •		ATIC WATER	LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH136-87

PROJECT NO.: 1769

DATE COMPLETED: 2/6/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF 53rd. STREET

CRA SUPERVISOR: D.C. MILLARD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMP	
ft BG	ODOUND FLEVATION	ft AMSL 570.6	INSTALLATION	7 J. J. B. E.	S T A T U S	Z><
	GROUND ELEVATION	370.6		R.	EUS	Į.
	Fill — dark Brown coarse Sand, Gravelly, brick, concrete, dry	568.6	6.5°6 BOREHOLE	155	X	158
- 2.5	Fill — Brown Sand and Silt, some Gray Gravel, some cinders, moist	566.6	- CEMENT/ ENTONITE GROUT	255	X	13
- 5.0	same, except wet		GROUT	355	X	3
- 7.5	no recovery	564.6		4SS	X	4
7.5	Fill — dark Gray to Black coarse Sand and Gravel, wet	562,6 562,4 562,4		5SS		8
- 10.0	Dark Gray fine to medium Sand and Silt, wet, native Brown and Gray slightly mottled Silty Clay,	560.6		6SS	aggregation	7
-12.5	moist, native Brown and Gray slightly mottled Clay, trace vegetation, native			7 S S	abla	10
-15.0	same, except Brown, no mottling, high plastic same, except no vegetation	558.6 556.6		855	abla	2
-17.5	Red Brown and Brown Clay, trace fine Sand, trace fine Gravel, wet, soft, native trace Silt nodules	554.6 552.6		9SS		4
		550.6		1055	igwedge	WH
-20.0	trace Silt and fine Sand lenses	330.0		1155	\bigvee $lacktriangle$	WR
-22.5				1255	igwedge	WH
-25.0	·			1355		WH
-27.5	same, with increased Sand	542.6		1455	X	1
- 30 0	Red Brown fine to medium Sand and Silt,	540.9		15\$\$	X.	WH
-30.0	trace fine Gravel, wet, native, Till same, except some Clay, Gravel, moist to wet	540.6 539.1		16SS	X	WH
- 32.5	AUGER REFUSAL AND END OF BOREHOLE AT 31.5 FT. BGS At completion borehole was grouted to ground surface					
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAE DEC/EP/	A SPLIT VATE	R FOUND C WATER L		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH137-87

PROJECT NO.: 1769

DATE COMPLETED: 3/26/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTHWEST CORNER OF LANDFILL

DEDTU	STRATIGRAPHIC DESCRIPTION & REMARKS	C CVATION!	MONUTOS			
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	Ü	SAMPLI STS	Ä.
	GROUND ELEVATION	570.9		U M B E R	T A A T U S	VALUE
	Fill — Black and Brown Silty Clay, Sandy, Gravelly, moist		6.5°¢ BOREHOLE	155		15
- 2.5	Fill — Black Sandy Gravel, Silty, Clayey, moist to wet	568.9	CEMENT/ BENTONITE GROUT	255		12
- 5.0	Fill — Black Clayey Gravel, Silty, NAPL, wet	566.9	GROUT	355		2
- 7.5	Fill — Black flyash, some Silt, glass, NAPL, wet	564.9		4SS	\overrightarrow{A}	13
,.0	same, with some brick	562.9		555	\overrightarrow{A}	6
-10.0	Black and Gray Silty Sand, NAPL, wet, native	560.5		6SS	$\stackrel{\cdot}{\bigvee}$	6
-12.5				755	\overrightarrow{A}	11
-15.0	Red Brown laminated Silty Clay, moist to wet, native	556.9		855		2
47.5	same, with thin Silt seams, NAPL in seams	554.9		955		2
-17.5	same, except Red Brown and Gray, no Silt seams, no NAPL	<i>552.9</i>		1055		. 1
-20.0		·		11SS		WH
-22.5				1255		1
-25.0	***			1355		2
- 27.5	Red Brown Silty_Clay, Sandy, Gravelly, moist	543.6		14SS		4
-30.0	to wet, native, Till AUGERED TO REFUSAL	541.8 541.0		15SS		>100
- 32.5	END OF BOREHOLE AT 29.9 FT. BGS At completion borehole was grouted to ground surface					·
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAB	SPLIT WATER	R FOUND	VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH138-87

PROJECT NO.: 1769

DATE COMPLETED: 3/27/87

CLIENT: OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION: WEST OF S-AREA LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPL	
ft BG		ft AMSL	INSTALLATION	N S S	, Ņ.
	GROUND ELEVATION	571.3		STATUS STATUS BER	♣ LUE
	Fill — Brown and Gray Sandy Silt, Gravelly, moist		6.5° BOREHOLE	1SS	16
2.5	Fill — White Silt, moist	568.8	CEMENT/	255	21
- 5.0	same, except Black and White, Sandy	567.3	DEMINT/ BENTONITE GROUT	355	8
	Fill — Black Silty Sand, NAPL, wet	565.3		455	7
7.5	same, with Gravel	563.3			
10.0	Fill — Black Sandy Silt, wood, NAPL, wet	561.3		5SS X	24
		559.3		6SS	7
12.5	Black and Brown Silty Sand, NAPL, moist, native			7SS X	17
15.0		·		855	11
-17.5				988	16
		·		1055	12
20.0	Red Brown and Gray laminated Silty Clay, trace	<i>550.9</i>		1155	3
22.5	Sand, trace NAPL, moist to wet, native same, with Silt seams containing NAPL	549.3 548.7		1255	4
	Red Brown Silty Clay, trace Gray laminations trace Sand, trace Gravel, moist to wet, native				
25.0	Red Brown Silty Clay, Sandy, Gravelly,	545.3		13SS X 0	WH
-27.5	wet, native, Till			14SS X 0	2
70.0	Red Brown Sandy Silt, Clayey, Gravelly, wet	542.3		1555	1
-30.0	native	540.2		16SS (1)	>50
-32.5	AUGER REFUSAL AND END OF BOREHOLE AT 31.1 FT. BGS				
	At completion borehole was grouted to ground surface				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	ELEVATION TAB		R FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	- ·	_	C WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH139-87

PROJECT NO.: 1769

DATE COMPLETED: 3/30/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

WEST OF S-AREA LAGOONS

CRA SUPERVISOR: C.H. PADGINTON

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	S	AMPL	E
t BG		ft AMSL	INSTALLATION	, N U	S S T T	7\
	GROUND ELEVATION	<i>570.9</i>		M B E R	A T T U S	L
	Fill — Red Brown Silty Sand, Gravelly, trace Clay, moist	569.7	8.0°¢ BOREHOLE	155	4	>5
2.5	augered to 2.0 ft. BGS, no sample Fill — White and Red Brown Sandy Silt, some	568.9		288	$\langle $	
5.0	Gravel, moist Fill — Black and Brown Silty Sand, NAPL, wet	566.9	- CEMENT/ BENTONITE GROUT	355	\overrightarrow{A}	
7.5	Fill — Black and Brown Silt, angular Gravel, ash, NAPL, wet	564.9		488	$\langle \rangle$;
7.5	Fill Black flyash, Sand and Gravel, brick, NAPL, wet	562.9		5SS	\overrightarrow{X}	
0.0	Black Silty fine Sand, NAPL, wet, native	560.9		655	\overrightarrow{X}	
2.5				7SS	\overrightarrow{A}	
5.0				855	$\overline{\langle}$	
7.5				988		
				1055	A	
20.0		;		1155	Δ	١
22.5				1255	A	
25.0	Red Brown Clayey Silt, Sandy, Gravelly, wet, native, Till	<i>546.4</i>		1355	$\sqrt{\circ}$	
27.5				1455		
70.0	augered to 30.0 ft. BGS, no sample	541.7 540.9		1555		İ
50.0	rock fragments AUGERED TO REFUSAL	540.9 540.6 540.3		16SS =		>
52.5	END OF BOREHOLE AT 30.6 FT. BGS At completion borehole was grouted to ground surface					

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH140-87

PROJECT NO.: 1769

DATE COMPLETED: 4/2/87

CLIENT:

DRILLING METHOD: HSA 6.5" OD OCCIDENTAL

LOCATION:

WEST OF S-AREA, INSIDE FENCE AREA

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG		ft AMSL	INSTALLATION	נכב	ST	,N,
	GROUND ELEVATION	571.6		M B E R	STATUS	A L U
- 	Fill — White, Black, and Brown Silty Sand, Gravelly, moist to wet	500.0	8.5°6 BOREHOLE	1SS	X	16
- 2.5	Fill — Black, White, and Gray Silty fine Sand, some brick, moist to wet	569.6	- CEMENT/ BENTONTE GROUT	255	X	30
- 5.0	Fill — White Sand, moist	567.6	GROUT	388	\bigvee	2
	same, except Silty, trace Gravel, wet, iridescent sheen	565.6		4SS	∅.	29
- 7.5	Fill - Black and Brown Gravelly Silt, wood,	563.6		555		16
- 10.0	NAPL, wet Fill — Black and Gray Gravel, flyash, wood,	561.6		688)	11
- 12.5	moist Silty fine Sand, trace Gravel, wet, native	559.6		755	\bigvee	32
	Gray and Brown laminated Silty Sand, trace	557.6			Θ	
-15.0	Gravel, wet, native same, with trace NAPL	<i>555.6</i>		855	A	19
-17.5				988	X	13
-20.0				1055	X	9
-22.5	same, with increased NAPL	549.6		11SS 12SS		17
-25.0	Black and Brown fine Sand, abundant NAPL, wet, native	547.6		1388		15
- 27.5	Gray Silty Clay, wet, native	544.8 544.6		1455	a	5
27.3	Red Brown Silty Clay, Gravelly, wet, native, Till Red Brown Sandy Silt, some Clay, Gravelly,	543.6		1555	\bigvee c) wh
-30.0	wet, native, Till same, with increasing Sand	541.6 540.8		16SS	⊠ c	>100
-32.5	AUGER REFUSAL AND END OF BOREHOLE AT 30.8 FT. BGS At completion borehole was grouted to ground surface					
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAR	A SPLIT 💆 WATE	R FOUND C WATER L	EVE!	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH141-87

PROJECT NO.: 1769

DATE COMPLETED: 4/6/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF S-AREA LAGOONS

LUCA	TION: WEST OF S-AREA LAGOUNS		CRA SUPERVISUR:	C.H. PAD	GINTON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			IPLE
ft BG		ft AMSL	INSTALLATION	N S	S N'
	GROUND ELEVATION	572.3		M A T E	A LUS
	Fill — Brown and Blue Gravelly Silt, moist		6.5	1SS X	16
- 2.5	same, with some Sand	570.3	BOREHOLE	255	4
	note: site moved augered to 4.0 ft. BGS, no sample	569.3 568.3	CEMENT/ BENTONITE GROUT		
- 5.0	no recovery		GROOT	388	>50
7.5	Fill — Black and Brown Sandy Silt, Gravelly, NAPL, wet	566.3		4SS X	WH
- 7.5	void, augers drop to 10.0 ft. BGS, no recovery	564.3		5SS X	_
-10.0	Fill - White Clayey material, wet, non-plastic_	562.3 561.7			
	Fill — Black and Brown Silty Sand, NAPL, wet void, augers drop to 14.0 ft. BGS, no	560.3		6SS X	WH
-12.5	recovery	550 7		755	_
-15.0	Brown Gray and Black laminated Silty Sand, wet, native	558.3		855	17
-17.5				955	16
-20.0				1055	_
- 22.5	same, with NAPL	550.3		11SS X	4
22.0				12SS X	17
-25.0				1388	10
-27.5				1455	28
-30.0	Gray Silty Sand Clayey, Gravelly, wet, native,	542.3		1588	-
50.0	Gray and Brown rock fragments, Silt, dry to moist, native	541.8 541.5		16SS X	O >100
-32.5	AUGERED TO REFUSAL END OF BOREHOLE AT 32.0 FT. BGS At completion borehole was grouted to ground surface	540.3	The second secon		
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	_			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	_	FOUND WATER LEVEL	
	<u> </u>		JIAIIO		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH142-87

PROJECT NO .:

1769

DATE COMPLETED: 2/20/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATI	ON: SOUTHWEST OF S-AREA		CRA SUPERVISOR:	D.C. N		D
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPL	
ft BG	GROUND ELEVATION	ft AMSL 567.8	INSTALLATION	N D M D E.	TATUS	וכר≽<בֿ
	Fill — Brown and Red Brown coarse Sand and Silt, some Clay, trace Gravel and	567.1	8.5° BOREHOLE	1SS	S	45
- 2.5	vegetation, moist to dry Fill — Brown and Gray coarse Sand and Gravel some Silt, moist	565.8		2SS		63
- 5.0 ·	Fill — Red Brown Silt and fine to medium Sand, trace Gravel, dry	563.8 563.3	- GENERAT/ GROUT	3SS		>100
	Fill — Green and White slag, dry augered to 6.0 ft. BGS, no sample	561.8		4SS		14
- 7.5	Fill — Black fine to medium Sand, wet same, except dark Brown, NAPL same, with trace Silt	559.8 558.8		5SS	\bowtie	6
-10.0	Fill — Black Silty fine Sand, NAPL, wet	557.4		6SS	\bigvee	9
12.5	Fill — Black fine to medium Sand, NAPL, wet same, except Black Brown same, with trace glass, no NAPL	556.7 556.2 555.8		7 SS		10
- 15.0	Black fine to medium Sand, wet, native	553.8		855	\bigvee	8
				988	\bigvee	8
-17.5				10SS	\forall	3
-20.0	augered to 24.0 ft. BGS, no samples	547.8				
-22.5		5438				
-25.0	Black fine to medium Sand, wet, native Brown fine Sandy Silt, some Gravel, moist, native	543.8 543.6 542.3 547.8	n#	11SS	$igwedge egin{array}{c} oldsymbol{\bullet} \end{array}$	94
-27.5	Red Brown fine Silty Sand, moist, native, Till AUGERED TO REFUSAL	541.0				
-30.0	END OF BOREHOLE AT 26.8 FT. BGS					
70 5	At completion borehole was grouted to ground surface					
-32.5		.				
1	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I	_			1_1_	L
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	R FOUND WATER L	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH143-87

PROJECT NO.: 1769

DATE COMPLETED: 2/23/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF S-AREA

CRA SUPERVISOR: D.C. MILLARD

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	<u> </u>	SAM		
t BG	GROUND ELEVATION	ft AMSL 567.3	INSTALLATION	N U M B E R	S T A T E	STATUS	ηCΓ><Ζ
·······	Fill — Brown and Red Brown coarse Sand and Silt, some Gravel, trace vegetation and cinder, dry		-6.5°¢ BOREHOLE	155	M		22
2.5	same, with some Clay	<i>565.3</i>	CEMENT/	255	M		41
5.0	Fill — dark Gray and Black Silty fine to medium Sand, trace fine Gravel, moist	563.5		355	M		55
	same, with some flyash and coal, wet to moist Fill — Black coarse Sand and Gravel, some brick fragments, NAPL, wet	563.3 561.3		455	M		19
7.5	Black Silty fine to medium Sand, trace shell	559.1		5SS	\forall		12
10.0	fragments and vegetation, trace NAPL, wet, native same, with trace fine Gravel	<i>557.3</i>		6SS	\bigvee		9
12.5				7SS	\bigvee		
15.0	same, with iridescent sheen, no NAPL, no Gravel	553.3		855			,
17.5	same, except no vegetation and iridescent sheen	549.3		9SS 10SS			1:
20.0	·	546.3		4466	\mathbb{H}		
22.5	Black coarse Sand, Silt, and Gravel, trace NAPL, wet, native, Till same, except Black to dark Brown, some Silt, NAPL	545.3		11SS 12SS			10
25.0	same, with Clay and Silt same, except Red Brown, trace NAPL, rock fragments, moist	543.7 543.3 542.3		1355		•	7:
.	AUGERED TO REFUSAL	540.3					
27.5	END OF BOREHOLE AT 27.0 FT. BGS At completion borehole was grouted to ground						-
30.0	surface						
32.5							
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	ELEVATION TAB	N.E.			Ш	
	•		SPUT WATE				

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH144-87

PROJECT NO.: 1769

DATE COMPLETED: 2/24/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF S-AREA

CRA SUPERVISOR: D.C. MILLARD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAME	
ft_BG_	GROUND ELEVATION	ft AMSL 567.7	INSTALLATION	N S S S S S S S S S S S S S S S S S S S	<u>.</u>
	Fill — Brown and Red Brown Sandy Silt, trace Clay, cinders, vegetation, and White waste material, dry		8.5°6 BOREHOLE	1SS	14
2.5	same, except Brown and dark Gray, trace Gravel	565.7		255	27
	same, except Black	563.7 563.2	CEMENT/ BENTONITE GROUT		
5.0	Fill — Gray and Gray White laminated waste material, moist to wet same, with trace wood	561.7		3SS X	18
7.5				433	"
	Black coarse to medium Sand and Silt, wet,	559.2		588	12
-10.0				6SS	8
12.5	same, with trace subrounded fine Gravel	555.7		755	11
-15.0	·			855	4
-17.5				9SS X	9
· (7.3	same, with trace vegetation	549.7		10SS	13
-20.0	same, except dark Red Brown, trace shell	546.7		1155	9
- 22.5	fragments, NAPL Dark Red Brown Sand, Silt, and Gravel, dark Brown NAPL, wet, native	545.7 544.7		1255	19
-25.0	Dark Gray, Black, and Red Brown Silt, Clay, Sand, and fine Gravel, wet, native, Till augered to 24.5 ft. BGS, no sample	543.7 543.2 542.9		1355	89
	Dark Gray, Black, and Red Brown Silt, Clay, Sand, and fine Gravel, wet, native, Till	542.4 541.7 541.4		14SS	>50
-27.5	Brown and Red Brown Clay, Silt, trace fine Gravel, moist, native, Till	5.39.9			
-30.0	same, with coarse to medium Sand Red Brown Silty coarse Sand, wet, native, Till				
-32.5	END OF BOREHOLE AT 27.8 FT. BGS				
	At completion borehole was grouted to ground surface				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC			R FOUND	
NO ILLA	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EP	A SPLIT \sum WATE	R FOUND IC WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH145-87

PROJECT NO.: 1769

DATE COMPLETED: 2/25/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

SOUTHWEST OF S-AREA

CRA SUPERVISOR: D.C. MILLARD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPI	-E -N•
ft BG	GROUND ELEVATION	ft AMSL 567.2	INSTALLATION	223866	S S T A T A T U S	
	Fill - Brown and Red Brown Sandy Silt,	007.2	And the second	— "	l s	E
	Gravelly, trace Clay and vegetation, dry	<i>565.2</i>	6.0°¢ BOREHOLE	1SS	X	10
2.5	Fill — Black fine to medium Sand and Silt, some cinder and Gray waste material, trace Gravel, moist to wet	563.2	CEMENT/ BENTONITE GROUT	255	X	2
5.0	Fill — Black and Red Brown Silt and Sand, some Gravel and cinders, moist		GROUT	388	\mathbb{X}	2.
7.5	Fill — Black Silty coarse Sand and Gravel, wet	561.2		455	M	1.
,.0	Black fine to medium Sand and Silt, some	558.3		5SS	M	1:
10.0	vegetation, trace rounded fine Gravel, wet to moist, native same, with trace iridescent sheen	557.2		655		2
12.5	same, with NAPL	555.2		7 SS		
15.0	same, except trace vegetation, no NAPL	553.2		855		
10.0				988	\emptyset	
17.5		:			\mathbb{H}	1
20.0				1055	\mathbb{A}	
				11SS	A	į
-22.5	same, except Black and dark Red Brown, dark Brown to Black NAPL, wet	544.1 543.2		1255	A	1
-25.0	same, with increasing round to subrounded fine Gravel, trace shell fragments	541.2		1355	\mathbb{X}	5
-27.5	Black to Gray Brown Sandy Gravel, Silty, rock fragments, trace Clay, Red Brown NAPL, wet, native, Till	539.8 539.2		1455	A	>10
-30.0	AUGERED TO REFUSAL END OF BOREHOLE AT 28.0 FT. BGS					
-30.0	At completion borehole was grouted to ground	H				
-32.5	surface					
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT					

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

Y STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH146-87

PROJECT NO.: 1769

DATE COMPLETED: 4/21/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 7.25" OD

LOCATION:

SOUTHWEST CORNER OF LANDFILL

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAMPLE	
t BG	GROUND ELEVATION	ft AMSL 570.4	INSTALLATION	STATUS STATUS BER	mcr≽ <z< th=""></z<>
	Fill — Gray Silty Gravel, wet Fill — Red, Purple, Brown, Tan Gravelly	569.4	7.25°¢ BOREHOLE	1SS S	1!
2.5	Silt, Sandy, slag, moist	500.4	CEMENT/ BENTONTE GROUT	255	4
5.0	same, with brick	566.4 564.4	GROUT"	355	
7.5	Fill — Black Silty fine Sand with angular Gravel, wet	562.4		4SS X	2
	Fill — Black Gravelly Silt, Sandy, iridescent sheen, wet	562.4		588	2
0.0	Fill — Sandy Silt, Gravelly, slag, trace NAPL	560.4 558.4		655	2
2.5	Gray to dark Gray laminated Silty fine Sand, trace fine Gravel, wet, native same, with NAPL in some laminations	556.4		7SS	;
5.0	same, with NAPL in some idminations	330.7		855	
7.5		552.4		955	
0.0	Black Silty fine Sand, trace NAPL, wet, native	552.7		1055	
0.0	Gray to dark Gray laminated Silty fine Sand,	549.4		1155	
2.5	wet, native same, with NAPL	546.4		1255	
5.0	same, with fine Gravel	544.4		1388	
7.5	Red Brown Clayey Silt, Sandy, increasing Clay with depth, wet, native, Till	543.4 542.4		14SS ①	
0.0	Red Brown Silty Clay, trace fine Gravel, wet, native, Till			15SS O	
	Red Brown Silty Sand, Gravelly and Clayey, wet, native, Till	540.0 539.4 539.0		16SS X O	
52.5	AUGERED TO REFUSAL END OF BOREHOLE AT 31.4 FT. BGS At completion borehole was grouted to ground surface				
OTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	ELEVATION TAB	$\overline{}$	R FOUND	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH147-87

PROJECT NO.: 1769

DATE COMPLETED: 4/22/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 4.75" OD

LOCATION:

SOUTHWEST CORNER OF LANDFILL

CRA SUPERVISOR: C.H. PADGINTON

LOCATI	ON: SOUTHWEST CORNER OF LANDFILL		CRA SUPERVISOR:	C.H. PAL	JGIN IOI	N
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		MPLE Is I	Д.
ft BG	GROUND ELEVATION	569.1	INSTALLATION.	N U M BEB		V A L U E
	Fill — Brown and Gray Silty Sand, Gravel, dry		BOREHOLE	155	T	25
- 2.5	Fill — Black and Gray Silty Sand, Gravel, trace Clay, dry	567.1	GEMENT/ BENOTONITE	255		66
- 5.0	Fill — Black Silt, wood, trace NAPL, moist to wet	565.1	GROUY ""E	388		13
- 7.5	Fill — Black Silt, Gravel, flyash, wood, NAPL, wet	563.1		455		16
				588		20
-10.0	Fill — Red Silty Sand, trace NAPL, wet Brown and Gray laminated Silty Sand, some	559.1 558.1		6SS		18
-12.5	fine Gravel, trace NAPL, wet, native			755		20
-15.0	same, except no fine Gravel	555.1		855		11
-17.5	same, with Red and Black laminations, NAPL	553.1		988		11
	same, with trace NAPL	551.1		1055		17
-20.0	same, with abundant NAPL	549.1		1155	7	20
-22.5	same, with trace NAPL Red Brown Sandy Silt, Clayey, trace fine Gravel, wet, native, Till	547.1		1255		27
-25.0	Red Brown Silty Clay, Sandy, trace gravel Clay, trace Clay seams, wet, native, Till augered to 28.0 ft. BGS, no sample	544.1		1355		7
-27.5	Red Brown Silty Sand, Clayey, Gravelly, trace Clay seams, wet, native, Till	543.1		1455		76
70.0	Gray rock fragments, wet, native augered to 30.0 ft. BGS, no sample	541.1 539.5 539.2		15SS 16SS	N I	59 100
-30.0	no split spoon advancement AUGERED TO REFUSAL	539.1 537.9				
-32.5	END OF BOREHOLE AT 31.2 FT. BGS At completion borehole was grouted to ground surface					
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	_	A SPLIT 🔀 WATE	r found C water lev	EL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH148-87

PROJECT NO .:

1769

DATE COMPLETED: 4/23/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

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CRA SUPERVISOR: C.H. PADGINTON

STATIC WATER LEVEL

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		E T w	
t BG	GROUND ELEVATION	ft AMSL 569.1	INSTALLATION	A THE RECE	STATUS	C -> < 2
	Fill — Brown Sandy Silt, Gravelly, moist	000.7		<u> </u>	E Ü S	E
		<i>567.3</i>	6.5° BOREHOLE	155	Д	2
2.5	Fill - Black flyash, moist Fill - Silt, some brick, wood, trace	566.7	CEMENT/	255	X	2
F 0	Gravel, wet Fill - Brown fine Sand with trace Silt, wet	565.1	- CEMENT/ BENTONITE GROUT	388	\forall	2:
5.0		563.1			()	
7.5	Fill — Black, White, and Brown flyash, slag, wood, brick, bottom ash, iridescent sheen, wet	561.1		4SS	Δ	2
	same, with some Silt	307.7		5SS	X	
0.0	Black and dark Gray Silty fine Sand, trace	<i>559.1</i>		655		2
	fine subrounded Gravel, trace NAPL, wet, native	·		033	\bigcirc	
12.5	Brown and Gray laminated Silty fine Sand,	556.1		7 SS	X	2
15.0	trace NAPL, wet, native			888	M	
				988	\forall	1
17.5	same, with NAPL	<i>551.1</i>		333	A	'
	·			1055	X	1
20.0				11SS	M	1
22.5				1000	\forall	3
				1255		3
25.0		543.2		1355	X	w
	Red Brown Silty Clay, Sandy, trace Gravel, wet, native, Tili	543.1 542.1		1455	∇	1
27.5	Red Brown Clayey Silt, Sandy and Gravel, wet, native, Till	541.1			$\mathbb{H}_{\mathbf{a}}$	
30.0	Red Brown Silty Clay, wet, native, Till Red Brown Clayey Silt, Sandy and Gravelly,	539.3		15SS	Ma	
JU.U	trace Silty Clay seams, wet, native, Till Gray rock fragments, wet, native	538.1		16SS	M	5
32.5	AUGERED TO REFUSAL	537.3	and the second second			
	END OF BOREHOLE AT 31.8 FT. BGS At completion borehole was grouted to ground					
IOTES:	SURFACE MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	<u> </u>				

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH149-87

PROJECT NO.: 1769

DATE COMPLETED: 4/24/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS

	ION: SOUTH OF LAGOONS		CRA SUPERVISO	K. C.II.	. ADGIN	, 0, 1
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG	GROUND ELEVATION	ft AMSL 569.1	INSTALLATION	N U M B E	S S T A A T E U	Cr> <z< td=""></z<>
	Fill — Brown, Black, and Red Gravelly Silt,			ISS	ĖŸ	19
- 2.5	brick, slag, flyash, moist		BOREHOLE		Θ	'3
2.0		<i>565.1</i>	CEMENT/ BENTONITE GROUT	2SS	\bowtie	61
- 5.0	Fill — Black and Brown flyash, cinders, moist		GROOT	355	\mathbb{N}	16
- 7.5	Fill — Black cinders, trace Gravel, wet, iridescent sheen	<i>563.1</i>		488	\square	9
7.5	same, with increased Gravel	<i>561.1</i>		5SS	M	2
-10.0	same, with NAPL	559.1		655	\mathbb{H}	15
-12.5	Gray and Brown laminated Silty fine Sand, trace NAPL, wet, native	55 8 .1 557.1		055	\bigcap	16
12.5	Black and Gray Silty fine Sand, trace fine Gravel, wet, native			7SS	A	27
15.0	and another Const	553.1		855	\mathbb{X}	. 8
·17.5	same, except no Gravel			988	M	14
	Brown and Gray laminated Silty fine Sand, trace NAPL in some laminations, wet, native	<i>551.1</i>		1055	\square	12
-20.0				1155		6
-22.5				1255		28
25.0	Red Brown Clayey Silt, Sandy and trace fine	544.1		1355		4
·27.5	Gravel, wet, native, Till Red Brown Silty Gravel, Clayey, Sandy, wet, native, Till	542.6 542.1		1455		20
	Red Brown Clay, Silty, trace Sand and Gravel, wet, native, Till	541.1		15SS		66
30.0	Red Brown Silty Sand, Clayey and Gravelly, wet, native, Till augered to 30.0 ft. BGS, no sample	539.2 539.1 538.8		1655		>10
	no split spoon advancement AUGERED TO REFUSAL					
-32.5	END OF BOREHOLE AT 30.3 ft. BGS					
	END OF BOREHOLE AT 30.3 ft. BGS At completion borehole was grouted to ground surface					
	END OF BOREHOLE AT 30.3 ft. BGS At completion borehole was grouted to ground	ELEVATION TAB		TER FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH150-87

PROJECT NO .:

1769

DATE COMPLETED: 4/27/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOON

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR: C.H. PADINGTON

STATIC WATER LEVEL

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG	GROUND ELEVATION	ft AMSL 569.0	INSTALLATION	2 U M B E B	ST AT US	ฅ๘୮><๕๋
	Fill — Brown Silt, vegetation, trace Clay and medium Sand, moist	567.2	6.5°¢ BOREHOLE	1SS	M	5
- 2.5	Fill — Black flyash, moist Fill — Black, Brown, and Gray Silt, slag, wood, flyash, trace Sand, moist	567.2 567.0		255		35
- 5.0	no recovery	565.0		355	M	13
- 7.5	Fill — Black and dark Gray Silty Sand, fine to medium Gravel, wet, iridescent sheen	563.0		455	M	12
7.5	Fill — Black, Gray, and Red Gravel and brick, wet. iridescent sheen	561.0		5SS	M	4
- 10.0	Fill — dark Gray to Black Silty Sand, trace NAPL, wet	559.0		6SS	M	23
- 12.5	Brown and Gray laminated Silty fine Sand, trace NAPL, wet, native	557.5		7SS		10
- 15.0	·			855		. 7
- 17.5	Black and dark Gray Silty fine Sand, trace NAPL, wet, native	553.0 551.0		988		8
200	same, except no NAPL	337.0		10SS	M	14
-20.0				1155		11
-22.5	Brown and Gray laminated Silty fine Sand,	546.0		12SS	M	21
-25.0	NAPL, wet, native same, with subrounded fine Gravel	545.0 543.2		13SS	\bigvee \circ	5
- 27.5	Red Brown Sandy Silt, some Gravel, Clayey, wet, native, Till	0 /0.2		14SS		32
-30.0	\augered to 30.0 ft. BGS, no sample /	539.1 539.0		15SS 16SS		33 >50
	no split spoon advancement AUGERED TO REFUSAL	<i>538.1</i>				
-32.5	END OF BOREHOLE AT 30.9 FT. BGS At completion borehole was grouted to ground					
	surface	l.,l		<u> </u>		L
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I	ELEVATION TAB	$\overline{}$	R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH151-87

PROJECT NO.: 1769

OCCIDENTAL

DATE COMPLETED: 4/28/87

CLIENT:

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N	SAMPLE N S S U T T	
10 00	GROUND ELEVATION	569.6	NOTALLY HOW	Z D B B E R	S S T A T E U	
	Fill — Red Brown Silty Clay, some vegetation, moist	569.3	8.5*4	155	M	E
2.5	Fill — Brown and Gray Gravelly Silt, Sandy, moist	567.6	8.5°6 BOREHOLE	255	\bowtie	
	same, except trace glass Fill — Red Brown Clayey Silt, Gravelly,	565.6	CEMENT/ BENTONITE GROUT	255	\square	4
5.0	brick, moist	563.6		355	M	2
7.5	Fill — Black and Brown Gravelly Silt, trace Clay, wet, iridescent sheen			4SS	\mathbb{X}	2
	no recovery	561.6		555	\square	
10.0	Fill — Black and Brown Silt, some flyash, wood, fiberglass, wet, iridescent sheen	559.6		6SS	\bigvee	5
12.5	Fill — Black flyash, Gravel, wood, wet,	557.6			Θ	
	iridescent sheen Brown and Gray laminated Silty fine Sand,	555.6		7SS	A	1
15.0	wet, native			888	\mathbb{Z}	
17.5				988	X	
				1055	M	1
20.0	same, except faint laminations, dark Gray and Brown, trace Silt	549.6		1155		
22.5	same, with NAPL	546.6		1255	\square	2
25.0	Red Brown Sandy Silt, some Clay and fine Gravel, wet, native, Till	544.0		1355	\mathbb{H}_{a}	
25.0	same, with some Gravel and Sand augered to 28.0 ft. BGS, no sample	544.6 543.6 543.3		1455	Ma	>5
27.5	Red and Brown Silty Clay, wet, plastic, native, Till Red Brown Clayey Silt, some Sand and	541.6				
70.0	Gravel, wet, native, Till augered to 30.0 ft. BGS, no sample			15SS	X a	2
30.0	Red Brown Clayey Silt, rock fragments, wet, native, Till	540.6 539.6 539.2 539.2		16SS		>5
52.5	AUGERED TO REFUSAL END OF BOREHOLE AT 30.4 ft. BGS At completion borehole grouted to ground surface	,				
NOTES; N	At completion borehole grouted to ground	ELEVATION TABLE DEC/EPA	~~	R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH152-87

PROJECT NO .:

1769

DATE COMPLETED: 4/29/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR: C.H. PADGINTON

STATIC WATER LEVEL

PTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MON		<u> </u>	SAMP	뚜-	
BG		ft AMSL	INSTAL	LATION	N C Z	S S T A A A		, N
	GROUND ELEVATION .	569.5			B E R	A A T T E U S		į
	Fill — Brown and Orange Sandy Silt, trace Clay and Gravel, wood, moist			8 5"d	155	M	Ì	,
		567.5		BORÉHOLE		\bowtie		
.5	Fill — Gray angular Gravel, dry			—CEMENT/	2SS	IXI		
	augered to 6.0 ft. BGS, no sample #3SS	565.5		CEMENT/ BENTONITE GROUT		H		
0		563.5		•				
	no recovery	303.3			455	M		
5		561.5		•		()		
	Fill — Black and Brown flyash, slag, cinders, wood, wet, iridescent sheen				5SS	IXI.		
.0	same, except no cinders and slag, no iridescent sheen	559.5						
•	Fill — Black Sandy Silt, wet	558.5			6SS	\triangle		
.5	Brown and Black Silty fine Sand, some	557.5			788	M		
	laminations, wet, native same, with trace gravel	555.5				H .		
.0	Suite, with trace graves				888	IXI		
	same, with no gravel	553.5				\mathcal{K}		
.5	same, with trace gravel	551.5			955	M		
	,				1055	M		
0.0	same, with no gravel	549.5				()		
				·	1155	IXI		
2.5	same, with trace NAPL	547.5				M		
	Orangi MARI	545.5			12SS	\triangle		
5.0	same, with some Gravel, NAPL Red Brown Silty Sand, Some Clay,	340.9			1355	M_{c}		
	wet, native Till same, with some Gravel	543. 3				()		
'.5	same, with Clay seam	542.5			1455	X		
.5	same, with Clay seam	541.2			1555	M		
		5 30 5			1555	\square		
0.0	AUGERED TO REFUSAL	539.5 539.3	Para transfer			1		
	END OF BOREHOLE AT 30.2 FT. BGS At completion borehole was grouted to ground							
2.5	surface			•		.		
								1

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH153-87

PROJECT NO.: 1769

DATE COMPLETED: 4/30/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

				·		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPLI	. W.
10 00	GROUND ELEVATION	569.2	INC IXED VIION	NU M BER	STATUS	S & LUE
	Fill — Brown and Green Silt, trace Sand, flyash, wood, glass, slag, dry		8.5° BOREHOLE	155	X	19
- 2.5	Fill — Black and dark Gray Silt, flyash, trace Sand, moist	567.2 566.2		255		30
- 5.0	Fill — Red Brown fine Gravelly Silt, Clayey, moist augered through "shot rock" to 6.0 ft. BGS,	565.2	- CEMENT/ BENTONITE GROUT			
	no samples Fill - slag (at tip of split spoon)	563.2		355	\forall	18
- 7.5 -	Fill — Red, Brown, and Black slag, brick, wood, White powder, trace NAPL, wet	561.2		455	\forall	4
-10.0	Fill — Brown, dark Gray and Orange Silty fine Sand, trace Gravel, wet, some rust	559.2		5SS	\forall	13
- 12.5	staining			6SS	Θ	30
	Light Gray and Brown Silty fine Sand, trace	555.2			Θ	
- 15.0	Gravel, wet, native same, except dark Gray and Brown, laminated, no Gravel	553.2		7SS	Θ	27
-17.5	·			855	A	12
-20.0				9SS	A	12
-22.5	same, with Gravel, faint laminations	547.2		1055	A	11
				1155	A	21
-25.0	Red Brown Sandy Silt, Gravelly, Clayey, wet,	543.7		1255	\bigwedge	1
-27.5	native, Till			1355	\bigwedge	25
- 30.0		5322		14SS 15SS		39 >33
	Red Brown Sandy Clay, Silty trace Gravel, wet- native, Till AUGERED TO REFUSAL	539.2 538.8 538.7	- Mariana Maria	1555		
-32.5	END OF BOREHOLE AT 30.5 FT. BGS At completion borehole was grouted to ground surface					
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	ELEVATION TAE DEC/EP/	A SPLIT WATE	R FOUND C WATER LI	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH154-87

PROJECT NO.: 1769

DATE COMPLETED: 4/30/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

CRA SUPERVISOR: C.H. PADGINTON

ft BG						'N'
	GROUND ELEVATION	ft AMSL 569.7	INSTALLATION	N D M BE	ST AT US	ZV ALUDE
	Fill — Brown and White Sandy Silt, some			Ř	- <u>s</u>	Ě
	Gravel, trace Clay, wood, glass, tile, moist		6.5°¢ BOREHOLE	155	XI^{-1}	27
2.5	same, except no Clay	567.7		255	\nearrow	38
	same, with increasing Sand	565.7	BENTONITE GROUT		(
5.0		563.7		355	Δ	9
7.	no recovery	363.7		455	X	2
7.5	Fill - Sandy Gravel, brick, tile, wet,	561.7			 	
10.0	iridescent sheen	FF0.7		5SS /	$\sum_{i} i ^2$	5
10.0	Dark Gray Silty fine Sand, wet, iridescent sheen, native	559.7		655	\bigwedge	7
12.5	Black and dark Gray fine Sand, trace Silt,	557.7				
	wet, native same, dark Gray to light Gray, NAPL	555.7		7 SS	Δ	13
15.0	surie, dark ordy to light ordy, NAI E	330.7		855	X	8
	same, with iridescent sheen	553.7		200	(_
17.5		551.7		988	Δ	7
	Brown and Gray laminated Silty fine Sand, wet, NAPL, iridescent sheen, native			1055	X $ $	18
20.0	Dark to Light Gray fine Sand, trace Silt, NAPL, wet, iridescent sheen, native	549.7		11SS	$\sqrt{}$	13
22.5				1255	$\sqrt{1}$	15
	same, with Gravel, no iridescent sheen	<i>545.7</i>				
25.0		543.7		1355	X	7
	Silty Sand, some Gravel, Clayey wet, native,			14SS		50
27.5	Red Brown Silty Clay, Sandy, trace Gravel, wet, plastic, native Till	542.2		1500		
30.0	Silty Clay, some Sand and trace Gravel,	539.7		15SS		11
	wet, native, Till same, except Gray, increased Sand and Gravel	538.7		16SS	X	>66
32.5	AUGERED TO REFUSAL	538.4 537.2				
	END OF BOREHOLE AT 32.5 FT. BGS At completion borehole was grouted to ground					
	Surface SEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	<u> </u>		LL		

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH155-87

PROJECT NO.: 1769

DATE COMPLETED: 5/1/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST CORNER OF LANDFILL

PTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		AMPLE	
BG	GROUND ELEVATION	ft AMSL 572.8	INSTALLATION	Z U 35 B E B	STATE U	חכר≽<בֻ
	Fill — Brown and Gray Gravelly Silt, vegetation, dry		6.5°s BOREHOLE	155		14
2.5	Fill — Brown, Yellow, and Black Gravel, slag brick, flyash, dry	570.8		255	$\sqrt{}$	11
5.0	same, with some Sand	568.8	- CEMENT/ BENTONITE CROUT	355	\overrightarrow{A}	15
	no recovery	566.8		455	\overrightarrow{A}	12
7.5	Fill — Black, Red, and Gray Silt and Gravel, brick, moist to wet	564.8		555		7
0.0	and with inidepend there	560.8		655	X	5
2.5	same, with iridescent sheen			755	X	10
5.0	Fill — Gray Silty fine to medium Sand, wet	558.8		855		16
7.5				955	A	. 7
0.0	Brown and Gray laminated Silty fine Sand, NAPL, wet, native	553.8		1055	X	13
		550.8		1155	X	3
2.5	Brown and Gray Silty fine to medium Sand, wet, native			1255	X	6
5.0	same, with some Gravel	546.8		1355		14
7.5	·		*	1455		21
0.0	Red Brown Sandy Silt, Clayey, Gravelly, wet,	543.4		15SS		3
	native, Till same, with decreasing Silt	540.8		16SS		18
2.5	AUGERED TO REFUSAL END OF BOREHOLE AT 34.2 FT. BGS At completion borehole was grouted to	539.5 538.6		17SS	X	>84
OTES:	ground surface MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC			R FOUND	1	<u>L</u> .
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	— 524/27		IC WATER LE	VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH156-87

PROJECT NO.: 1769

DATE COMPLETED: 4/15/87

CLIENT: OCCIDENTAL

DRILLING METHOD: HSA 6.75" OD

LOCAT	ION: NORTHWEST CORNER OF LANDFILL		CRA SUPERVISOR:	C.H.	PADGIN	TON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	E
ft BG		ft AMSL	INSTALLATION	N U	SST	, Å,
	CROUND ELEVATION	<i>572.8</i>		N B E R	A T US	ÅLU
<u> </u>	GROUND ELEVATION	372.6	2000 CONT.	R	 s -	E
	Fill — Brown, Gray, and Black Gravelly Silt, Sandy, moist	570.8	6.75 ° BOREHOLE	155		25
- 2.5	same, with trace Clay, some glass	569.0	- CEMENT/	2SS	\mathbb{X}	35
1	Fill — Brown and Gray Silty Sand, moist	568.8	- CEMENT/ BENTONITE CROUT			
- 5.0	Fill — Black, Brown, and Red Brown Sand and Silt, Gravel, brick, fiberous material, wet	566.8		388	\square	6
- 7.5	Fill — Clayey Silt with some Gravel and brick, trace wood and fiberous material, wet			455	\mathbb{X}	7
	no recovery	564.8		5SS		-
-10.0	Fill — Red Brown Silty Sand, coarse angular Gravel, iridescent sheen, moist	562.8		655		13
-12.5	Fill — Red Brown Silty Sand, angular Gravel, NAPL, wet	560.8		755	\bigvee	32
	Gray and Green Silty fine Sand, Clayey, moist, native	559.3 558.8		ST	NR	
- 15.0	Gray and Green Silty fine Sand, some Gravel, wet, native same, with NAPL and no Gravel	558.3		855		16
-17.5		554.8		ST	NR	
	no recovery Clay noted on outside of Shelby tube	554.3		ST	NR	
-20.0		552.8				
	Red Brown Clay, some Silt moist, native			1ST	4-	
-22.5	same, except wet	550. 8		2ST	lacksquare	
- 25.0				3 ST	\otimes	
-27.5				4ST	\otimes	
-30.0	Red Brown Silty Clay, Sandy, wet, native,	543.8		5ST	4	
30.0	same, with some Gravel	542.8		6ST	\otimes	
-32.5	same, with Gray Green rock fragments AUGER REFUSAL AND END OF BOREHOLE AT 32.5 FT. BGS At completion borehole was grouted to ground	540.8 540.3		955	X	>100
	surface			L		
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	_ :	SAMPLE SPLIT VATE			
[GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA		R FOUND	. EVE	
L	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		- SIAII	C WATER		

PROJECT NAME: S-AREA

1769

PROJECT NO.: CLIENT:

LOCATION:

OCCIDENTAL

NORTH OF LAGOONS

HOLE DESIGNATION: BH157-88 (PAGE 1 of 2)

DATE COMPLETED: 1/26/88

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: P.H. SMITH

				N.W. ⁻	НОМЕ	SON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	-
ft BG	GROUND ELEVATION	ft AMSL 586.2	INSTALLATION	2 DAMBECZ	STATUS	N' A
<u> </u>		300.2		E R	ĖÝ	Ū E
İ	Fill - Gray fine to coarse Sandy Gravel, dry	585.2	6.5	155	M	39
- 2.5	Fill — Red Brown Clayey Silt, dry same, with trace fine Gravel and moist	584.2	BOREHOLE		()	
2.5		500.0	CEMENT/ BENTONITE GROUT	255	X	21
- 5.0	no recovery .	582.2	GROUT"	355	\bigvee	30
	Fill - Red Brown Clayey Silt, trace fine	580.2			()	
7.5	Gravel, dry			4SS	X	33
	same, with occasional Gray mottling	578.2		500	\forall	40
10.0				5SS	Δ	18
				6SS	M	12
- 12.5		573.7			(\cdot)	
12.5	Fill — dark Gray Silty fine Sand, trace fine to coarse Gravel, moist to wet	1		7SS	X	43
-15.0	Fill - Tan Silt, some White chalky ash,	572.7 572.2		855	\forall	1
13.0	trace brick, dry Fill — dark Gray and Black fine to coarse	570.2		033	\triangle	'
- 17.5	Sandy Silt, trace fine Gravel			988	X	8
[17.3	Fill — dark Brown and Black Silty fine Sand, trace fine Gravel and Clay, trace wood,	568.2			$\left\langle \cdot \right\rangle$	
	NAPL, wet Fill - Red Brown Clayey Silt, dry	566.9		1055	X	12
-20.0	Fill - Black Silty fine Sand, moist,	566.2		4400	\forall	4.0
	\\ \text{iridescent sheen} \\ \text{no recovery} align*	564.2		1155	\triangle	16
-22.5	Fill — Black Silty fine Sand, trace fine Gravel, wet, iridescent sheen			1255	X	6
- 25.0	,			1388	\bigvee	23
	,				$\langle \cdot \rangle$	
- 27.5	0 000	558.9		1455	XI	29
	Gray Silty fine Sand, moist, native				()	
- 30.0	Gray Silty Clay, moist, plastic, native	557.2		15SS	X	6
30.0	some, except grading to Red Brown	556.2		16SS	Хc	1
-32.5	same, except Red Brown, wet	554.2				
				17ST	lacksquare) ·
				18ST	78	
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	= '	SAMPLE			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	• —	TER FOUND	7.63	
<u></u>	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		- - - SIA	TIC WATER LE	VET.	

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) HOLE DESIGNATION: BH157-88 (PAGE 2 of 2) PROJECT NAME: S-AREA PROJECT NO .: 1769 DATE COMPLETED: 1/26/88 CLIENT: **OCCIDENTAL** HSA 6.5" OD DRILLING METHOD: LOCATION: NORTH OF LAGOONS P.H. SMITH CRA SUPERVISOR: N.W. THOMPSON DEPTH | STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE ft BG INSTALLATION ft AMSL 32.5 Red Brown Silty Clay, wet, plastic, native 17ST 6.5°¢ BOREHOLE -35:0 8 **18ST** 19ST - 37.5 8 20**S**T 40.0 8 21ST same, with trace Sand 543.2 42.5 8 **22ST** 8 23ST 45.0 540.3 Red Brown Silty Clay, trace Sand and fine subangular Gravel, wet, native, Till 539.7 AUGERED TO REFUSAL 47.5 END OF BOREHOLE AT 46.5 FT. BGS At completion borehole was grouted to ground surface 50.0 NOTE: Injection test conducted (9.0-29.0 ft) Sampling continued in same borehole -52.5 - 55.0 -57.5 -60.0 62.5 65.0 NOTES: 8 PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SAMPLE 0 ∇ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND Y GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH158-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/23/87

CLIENT:

DATE COMITEETED. 12

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTHWEST OF EAST LAGOON

OCCIDENTAL

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPLE	
ft BG		ft AMSL	INSTALLATION	N S S T	,Ñ,
	GROUND ELEVATION	576.1		M A A T T U S	A L U E
<u> </u>	Fill - dark Brown medium Sand medium to	070.7		+ R $+$ S $+$	<u> </u>
	fine angular Gravel, ash, glass, slag, dry		6.5° BOREHOLE	1SS X	15
- 2.5	Fill - Brown medium Sand, brick, sulphur, dry	574.1	BOREHOLE		
2.5	The Brown Median Sand, Stron, Surpride, and		CEMENT/	255	21
	Fill — dark Brown medium Sand, fine to	572.1	CEMENT/ BENTONITE GROUT		
- 5.0	medium rounded to subrounded Gravel,			3SS X	9
	trace light Brown Silt, vegetation, brick, trace NAPL, dry	570.1			
- 7. 5	Fill — Black and Brown Silty medium to	500:0		4SS X	9
[/. J	coarse Sand, vegetation, moist	568:2 568.1			
	Fill - Red Brown Silty Clay, moist Fill - Brown fine to coarse Sand fine			5SS X	38
- 10.0	angular Gravel, wet	566.1		 	
	Fill - Black Silty Sand, fine to coarse			6SS X	10
- 12.5	angular Gravel, trace Red Brown Silty Clay, vegetation, wet	664.1			
F 12.3	no recovery			7SS X	3
ĺ	Fill — Black medium Sand, ash, wet	562.1 561.6		 	
- 15.0	Dark Brown Sand, vegetation, wet, native	307.0		8ss X	12
	same, trace NAPL	560.1		 	
- 17.5				ass X	19
\ '/.5		557.6			
	Red Brown Silty Clay, wet, native	357.0		10SS X 1	2
-20.0	same, trace Sand	<i>556.1</i>			
				11ST ⊗	
-22.5					
				12ST ⊗	
- 25.0				13ST ⊗	
- 27.5				14ST ⊗	
				7	
		ļ l		15ST	
-30.0					•
l				16ST ■	
-32.5					
		542.5		17SS X 🛈	WR
	Red Brown fine Sandy Clay, fine subangular Gravel, wet, native, Till	372.3		1857 🕢 ⊗	
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EP/	A SAMPLE		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		TER FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ ST	ATIC WATER LEVEL	

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

HOLE DESIGNATION: BH158-87 (PAGE 2 of 2)

DATE COMPLETED: 12/23/87

DRILLING METHOD: HSA 6.5" OD

LOCAT	ON: NORTHWEST OF EAST LAGOON		CRA SUPERVISOR:	N.W. THOMPSON
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
π BG		ft AMSL	INSTALLATION	N S S Y A A A A A A A A A A A A A A A A A
32.5				M A A A A B T T L U S E
	Red Brown Silty Clay, trace Sand, wet, native	542.5	650	17SS X WR
- 35.0	Red Brown fine Sandy Silt, Clayey and Gravelly, wet, native, Till	72.0	BÖREHOLE	18ST 2 ⊗
00.0	ALIOEDED TO DESILOAL	540.1	CEMENT/ BENTONTE CROTTE	18ST ⊗
- 37.5	AUGERED TO REFUSAL	538.6	GROUT	
37.3	END OF BOREHOLE AT 37.5 FT. BGS	555.5	÷	
- 40.0	At completion borehole was grouted to ground surface			
	NOTE: INJECTION TEST CONDUCTED (7.8 -18.5 FT.)	İ	·	
-42.5	RELOCATED BOREHOLE 3.0 FT. NORTH AUGERED TO 20.0 FT. AND CONTINUED SAMPLING			
- 45.0	JAMI LING			
45.0	•	'		
- 4 7.5			·	
7/.5				
- 50.0				
55.5				
 -52.5				
	·		•	
-55.0		,		
-57.5	·		_	
			·	
-60.0				
-62.5	·		•	
-65.0			•	
NOTES: (PERMEABILITY, CRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMBLE	
(GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPUT WATER	5
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT		▼ STATIC	WATER LEVEL

PROJECT NAME: S-AREA

PROJECT NO .: 1769

CLIENT:

OCCIDENTAL

LOCATION:

NORTHEAST OF LAGOONS

HOLE DESIGNATION: BH159-87 (PAGE 1 of 2)

DATE COMPLETED: 12/30/87

DRILLING METHOD: HSA 6.5" OD

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		PLE	
ft BG		ft AMSL	INSTALLATION	N S	S T A T U	Ä,
	GROUND ELEVATION	575.1		M A T E	Ť	ñ
	Fill - Brown Silty Sand with medium to	0,01,		R	S	_ <u>E</u>
	coarse angular Gravel, roots, fire brick, dry		8.5° BOREHOLE	155		11
2.5	same, with fire brick, Red Brown Silty Clay at bottom	573.1		255		20
		<i>571.1</i>	CEMENT/ BENTONITE GROUT	233		
5.0	Fill — dark Brown Silty Sand with medium to coarse angular Gravel, brick, slag, Red Gray	377	GROUT ,	355		23
	Silty Sand at bottom, moist Fill — Black Silty Sand with fine to medium	569.1				
7.5	rounded Gravel, fibrous material, wet			4SS X		13
7.5	Fill — Black coarse angular Gravel, Silty	567.1				
	Sand with brick, fibrous material, trace NAPL, wet			5SS X		17
10.0	Fill — Black Silty Sand with medium to	565.1		 		
	coarse angular Gravel, brick, fibrous material, trace NAPL, wet	563.1		6SS X		15
12.5	same, with fine subrounded to angular Gravel brick, wood	363.7		7SS \		14
	Shown medium to coarse Sand with roots, wet,/	561.2 561.1		/33 🛆		17
15.0	\native /	567.7		BSS X		12
	Black medium Sand with Silty Sand lenses, roots, wet, native					
17.5	same, except no silty sand lenses, roots	559.1 557.6		988 🔀	0	12
17.5	Red Brown to Gray Silty Clay, wet, native	557.1				
				1ST	\otimes	
20.0	same except no Gray	555.1		207		
				2ST	\otimes	
22.5				3ST 2		
25.0				4ST	⊗	
,	,					
27.5				5ST	⊗	
	·			7		
70 0				6ST	\otimes	
30.0				75T V		
	same, except trace Sand	543.1		7ST X		
32.5		5.70.7		8ST	\otimes	
		541.1				
OTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	<u>l</u>	SAMBLE	9ST	OL.	
MIE2:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	C WATER LEVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH159-87 (PAGE 2 of 2)

PROJECT NO.: 17

1769

DATE COMPLETED: 12/30/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTHEAST OF LAGOONS

LUCAT	IUN: NORTHEAST OF LAGOONS		CRA SUPERVISOR:	14.11.	1110	JIVII .)OI4
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	M		MPL	
ft BG		ft AMSL	INSTALLATION	ZUMBE	STA	> ⊣S	, > <z< td=""></z<>
32.5				8 8	A T E	ATUS	Y L U
	Red Brown Sandy Clay, wet, native	_		8ST		8	
	Red Brown Silt, some Sand, Clayey, with	541.1	6.5 BOREHOLE			1_	1
35.0	fine angular Gravel, Till	5701	654547	9ST		0	I
	AUGERED TO REFUSAL	539.1	CEMENT/ BENTONITE GROUT				I
37.5	END OF BOREHOLE AT 37.5 FT. BGS	537.6	·		1.		
	At completion borehole was grouted to ground surface		·				l
40.0	NOTE: Injection test conducted (3.2-17.5 ft) Sampling continued in same borehole				,		
42.5							
		,					l
45.0							
							ı
47.5							
50.0			,				
52.5							
	·						
55.0		-					
	' '						
57.5							
60.0							
62.5							
J							
65.0							
							•
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA					
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA		FOUND WATER 1	LEVEL	_	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH160-88 (PAGE 1 of 2)

PROJECT NO .:

DATE COMPLETED: 1/4/88

CLIENT:

OCCIDENTAL

1769

DRILLING METHOD: HSA 6.5" OD

LOCATION:

EAST OF LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	1 .	SAMPL	F
ft BG		ft AMSL	INSTALLATION	N U		<u> </u>
	GROUND ELEVATION	578.1		338E0	STATUS	Ă L ÜE
	Fill — Orange Yellow Silty Sand, slag, wood, dry		8.5° BOREHOLE	155	M	9
2.5	same, with trace coarse angular Gravel, dry to moist	576.1		2SS	\forall	13
- 5.0	Fill — dark brown to Black Silty Sand,	574.1	- CEMENT/E GROUT		Θ	
	slag, brick, moist	572.1		355	Θ	5
- 7.5	same, with vegetation, trace NAPL, no slag, moist Fill — Black Silty Sand, fine to medium	570.1		4SS	Δ	5
-10.0	subrounded Gravel, vegetation, trace NAPL, wet	568.1		5SS	X	3
10.0	Fill — Black medium Sand, medium to coarse angular Gravel, NAPL, wet	366.7		655	X	9
-12.5	same, with wood, fire brick, no Gravel	566.1		7 SS		25
-15.0	same, with fine to medium angular Gravel, glass, rubber, no fire brick	564.1		855		29
- 17.5	Fill — Black medium to coarse Sand, fine to medium angular Gravel, brick, wet	562.1 560.6		955	\forall	42
.17.5	Brown laminated Silty Sand, wet, native same, with vegetation, trace NAPL	560.1		1055	\forall	25
20.0	same, except no NAPL	558.1			Θ	
-22.5	Gray Silty Clay, wet, native attempted Shelby tube — no recovery,	556.2 556.1		11SS	Δ	8
	ditempted Shelby tube — no recovery,	554.1		12ST	NR	
25.0	Brown Silty Clay, wet, native same, except Red Brown	552.1		13ST	$oldsymbol{A} \otimes$	
·27.5	augered to 30.0 ft. BGS, no sample	550.1		14ST	4-	
30.0	same as above	548.1		1607		
32.5	same, except Sandy	546.1		16ST	4	
J .	Red Brown Silty Clay, Sandy, fine to coarse subrounded to angular Gravel, wet, native, Till	544.1		17ST	lacksquare	
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPUT VATER	18ST	A W	1
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATIO	WATER LE	VEL	

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

EAST OF LAGOONS

HOLE DESIGNATION: BH160-88 (PAGE 2 of 2)

DATE COMPLETED: 1/4/88

DRILLING METHOD: HSA 6.5" OD

4 00 1	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE	
ft BG		ft AMSL	INSTALLATION	N SS U T T	×<.
32.5					6
	Red Brown Sandy Clay, wet, native			R S S 17ST ▲ ⊗	E
35.0	Red Brown Silty Clay, Sandy, fine to coarse subrounded to angular Gravel, wet, native, Till	544.1	SOREHOLE CEMENT/ ENTONITE CROUT	18ST ⊗	
37.5		540.5	GROUT	19ST 1 9ST 1 9SS	Wŀ
37.3	AUGERED TO REFUSAL	. 540.5			
40.0	END OF BOREHOLE AT 39.5 FT. BGS	538.6			
10.0	At completion borehole was grouted to ground				ĺ
42.5	surface NOTE: Injection test conducted (7.0—21.9 ft) Relocated borehole 3.0 ft north augered to 22.0 ft and continued sampling	·			
45.0	NOTE: Insufficient recovery of shelby tube — 19ST (36.0—37.6 ft.) consolidated with split spoon sample — 20SS (36.0—37.6 ft)	•			
47.5	,				
50.0			,		
ł			•		
52.5		,		·	
55.0					
	57.4				
57.5		l			
		ļ			
50.0					
	·				
52.5					
		.	,		
55.0			•		
			,		
OTES: (PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC		SAMPLE		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH161-88 (PAGE 1 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 2/2/88

DRILLING METHOD: HSA 6.5" OD

CLIENT: LOCATION: OCCIDENTAL

BETWEEN LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	<u> </u>	SAMI	PI F	
ft BG	STATE OF THE SECOND TIES OF THE STATE OF THE SECOND TIES OF THE SECOND	ft AMSL	INSTALLATION	U Z			Ά,
	GROUND ELEVATION	585.9) MBER	A T E	STATUS	Ă L U E
	Fill - Brown coarse Gravelly Sand, dry, firm	584.4	8.5°0 BOREHOLE	155	M		25
- 2.5	Fill — Red Brown Silty Clay, dry, firm			255	M		27
- 5.0	same, with trace medium rounded Gravel	581.9	CROUT	355	M		22
	same, except no Gravel	579.9		455	\forall		42
- 7.5	·				\mathbb{A}		42
- 10.0				555	A		30
	Fill — Brown medium angular Gravelly Sand, Silty, dry	574.9 573.9		6SS	M		28
-12.5	Fill — Brown fine Sand, some fine angular Gravel, and slag, coal, and ash, dry			755	M		22
-15.0	Fill - Brown fine sand, trace metal, dry Fill - Black Silty Sand, NAPL, moist to wet	571.9 571.4		855			9
-17.5	same, with trace fine angular Gravel porcelain, slag, wood and ash, wet same, except medium angular Gravel and no	569.9 567.9		988	\mathbb{N}		23
- 20.0	porcelain or ash Fill — Brown to dark Brown laminated Silty Sand, trace vegetation and medium angular	567.4 565.9		1055	M		35
20.0	Gravel, moist no recovery			1155	M		16
-22.5				1255	M	ļ	10
- 25.0	Fill - Black Silty Sand, trace wood and ash, wet	561.9		1388	M		8
- 27.5	Dark Brown and Black laminated Silty Sand, wet, native	559.9		1455	M		38
				15SS	M		21
-30.0				16SS	M		21
- 32.5	•			17SS	M		19
	Red Brown and Gray mottled Silty Clay, wet, native	551.9		1855	M		WH
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATE	ER FOUND	EVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH161-88 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 2/2/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATI	ON: BETWEEN LAGOONS		CRA SUPERVISOR:	N.W.	THOMPSON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPLE
ft BG		ft AMSL	INSTALLATION	N U	S S N
				M B E	
32.5				Ē	A A L L U U S E
	Dark Brown and Black laminated Silty Sand,			17SS	X 19
1	wet, native	551.9	8.5 BOREHOLE		\square
-35.0	Red Brown and Gray mottled Silty Clay, wet,] 007.5		1855	V WH
	native	549.9	- CEMENT/ BENTONITE GROUT		\square ""
	NOTE: INTITIAL BOREHOLE SAMPLED TO 36 FT.		GROUT		
}	INJECTION TEST CONDUCTED		,		
]	(7.2 — 34.0 FT.) RELOCATED BOREHOLE 3 FT. NORTH] [
	AUGERED TO 34.0 FT. AND COMMENCED				1 1
 	SAMPLING		·		
	•			•	
1			•		
-34.0	Red Brown Silty Clay, moist,native	<i>551.9</i>			
				19ST	$\blacksquare \otimes$
-36.5	same, except wet	549.9		0007	
	ounts, except not			20ST	$ A \otimes $
-39.0	•			21ST	$ \blacktriangle \otimes $
			6.5*0		
,			8.5 BOREHOLE	22ST	$\blacksquare \otimes \blacksquare$
- 41.5			CEMENT/_		
	•	542.9	CEMENT/ BENTONITE GROUT	23ST	
44.0	Red Brown clayey Silt, some Sand and	J+2.9			
F##.U	subangular Grávél, wet natíve, Till	540.0		24DT	
	AUGERED TO REFUSAL	540.9			
-46.5	END OF BOREHOLE AT 46.2 FT. BGS	<i>539.7</i>	AND ACCUSED.		
	At completion both boreholes were grouted				
49.0	to ground surface				
- 51.5					
-54.0	•				
57.5					
	1				
-56.5					
'			· .		
			٠.		
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC ATO	SALUBI E	···	<u> </u>
		DEC/EPA	A SAMPLE A SP⊔T	FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	- 0.0/67		WATER I	EVEL
L					

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH162-88 (PAGE 1 OF 2)

PROJECT NO .:

1769

DATE COMPLETED:

1/19/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

N.W. THOMPSON CRA SUPERVISOR:

WEST OF LAGOONS LOCATION:

DEPTH I STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE ft BG ft AMSL INSTALLATION Ā 573.2 GROUND ELEVATION Fill - Brown Silty Sand, trace medium to **1SS** >65 coarse angular Gravel and wood, trace slag *572.3* 6.5°¢ BORÉHOLE and plastic, dry 571.2 2.5 augered to 2.0 ft. BGS, no sample **2SS** 13 Fill - Brown Silty Sand, trace medium 569.2 angular Gravel and coal, dry Fill - White coarse Sand, trace dark Brown 5.0 **3SS** 17 Silty Sand and wood, dry to moist 567.2 Fill - Black fine Sand, trace White coarse **4SS** 7 Sand, NAPL, wet - 7.5 same, with trace wood, no White coarse Sand 565.2 555 18 -10.0 same, with glass and medium angular Gravel 563.2 655 16 same, except no wood, glass, or Gravel 561.2 -12.5 **7SS** 10 559.4 Brown laminated Silty Sand, trace vegetation, NAPL, wet, native 888 -15.0 17 *559.2* same, except Black and Brown 557.2 same, with Gray Silt 988 21 -17.5 **10SS** 14 -20.0 **11SS** 7 551.2 22.5 no recovery **12SS** 6 549.2 Red, Brown Silty Clay, wet, native **13SS** WR 25.0 547.2 NOTE: Initial Borehole Sampled to 26.0 ft Injection test conducted (3.4 - 23.0 ft)-27.5 Relocated Borehole 3 ft North Augered to 22.0 ft and commenced sampling 8 NOTES: DEC/EPA SAMPLE PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ∇ \circ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

DEC/EPA SPLIT

WATER FOUND STATIC WATER LEVEL

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH162-88 (PAGE 2 OF 2)
DATE COMPLETED: 1/19/88

PROJECT NO.: 1769

DRILLING METHOD: HSA 6.5" OD

CLIENT:

OCCIDENTAL

PTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAN	IDI F	
BG	STRATIGNAFFIC DESCRIPTION & NEMARKS	ft AMSL	INSTALLATION	N U			, Ņ,
				O M B E R	A T E	STATUS	Ă L U
				E R	E	Ů S	Ų
	Black Sandy Silt, NAPL, wet, native	551.2	8.5°¢ BOREHOLE		ļ.,		
5	Gray to Red Brown Silty Clay, wet, native	550.4 550.2		14SS	X		,
ļ	augered to 24.0 ft. BGS, no sample	549.2	CEMENT/ BENTONITE GROUT				
i.o	Red Brown Silty Clay, wet, native			15ST		⊗	
				!			
5 '.5	•			16ST			
.,	Pad Brown Sandy Silt some clay and fine to	<i>545.2</i>				·	
-	Red Brown Sandy Silt, some clay and fine to medium subrounded Gravel, wet, native, Till			17 S T		⊗	
).o	attempted Shelby tube and split spoon,	543.2		18ST		NR.	w
ļ	no recovery AUGERED TO REFUSAL	541.7		18ST 19SS			••
.5	FND OF BORFHOLF AT 32.1 FT. BGS	541.1	OSSESS CONTRACTOR				
	At completion both boreholes were grouted to ground surface	·					
	ground surface						
5.0	•						
j							
İ		-					
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l			•				
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ļ			·				
1							
	•						
		·					
					1		
TES:	DEDMEABILITY COAIN SIZE DIST & ATT LIMITS FOR OCC	■ DEC ÆBA	SAMPIF		1.	<u> </u>	—
4	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT				PA SPLIT WATER FOUND	PA SPLIT WATER FOUND	$\overline{}$

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH163-87

PROJECT NO.: 1769

DATE COMPLETED: 1/22/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WEST OF S-AREA

CRA SUPERVISOR: D.C. MILLARD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPL	
ft BG	GROUND ELEVATION	ft AMSL 567.5	INSTALLATION	210ECZ	STATE	וכר><כ <u>ל</u>
2.5	Fill — Brown and dark Gray Brown coarse Sand and Gravel, trace cinder and Silt, trace unknown White material, moist Fill — Black, dark Gray and White fine	565.5	B.O°¢ BOREHOLE	1SS 2SS		18
	grained waste material, some Gravel and coarse Sand, wet, nonplastic Fill — White and Black to Black Gray	563.5	CEMENT/ BENTONITE GROUT		$\frac{A}{A}$	
5.0	laminated fine grained waste material, wet Fill — Gray fine grained waste material,	561.5		355	$\stackrel{\wedge}{\rightarrow}$	7
7.5	wet, soft Fill - dark Brown coarse Sand, White waste	559.5 559.4		4SS	Δ	WH
-10.0	material, NAPL, wet Dark Gray to Black fine Sand and Silt, trace vegetation, trace NAPL, wet, native	557.5		5SS 6SS	X) .	. 15 15
12.5	same, except moist same, except Black, trace White shell fragments	557.5 555.5		7SS	$\frac{1}{2}$	16
15.0	same, except Black to dark Gray, trace Silt lenses, some vegetation, wet	553.5		855		6
17.5	Black fine to medium Sand and Silt, trace	549.5		955		6
20.0	vegetation and Gravel, wet, trace iridescent sheen, native			10SS 11SS	X	3
22.5	Black to dark Gray Clay, wet, low plastic, soft, native same, except Red Brown	545.1 544.0		12 S S	\bigcirc	wн
25.0	Red Brown Clay, increasing Sand with depth, trace fine Gravel, wet, native, Till	543.5		1355	o	WH
· 27.5	augered to 26.3 ft. BGS, no sample Red Brown Sandy Clay, Gravelly, wet, native, Till AUGERED TO REFUSAL	541.5 541.2 540.5 539.5		14ST	⊿ ⊗	
30.0	END OF BOREHOLE AT 28.0 ft. BGS At completion borehole was grouted to ground surface					
32.5	NOTE: No recovery of shelby tube -13ST (24.0-26.0 ft) Split spoon used to obtain sample -13SS (24.0-26.0 ft)					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT.	■ DEC/EPA ■ DEC/EPA		R FOUND C WATER LE	.VEL	<u> </u>

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH164-87

PROJECT NO.: 1769

DATE COMPLETED: 1/23/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCAT	ION: WEST OF S-AREA		CRA SUPERVISOR:	D.C. N K.D. S		
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPI	E.
ft BG		ft AMSL	INSTALLATION	N U	SST	,A,
	GROUND ELEVATION	568.3		M B E R	ST AT US	Å L UE
	augered to 0.5 ft. BGS	567.8			H	
	Fill — Brown and Red Brown Silt and Sand, trace Clay, some Gravel, cinder, moist	566.3 566.7	BOREHOLE	1SS	X	47
- 2.5	Fill — Gray and Red Brown Sandy Gravel, Silty, moist	300.7	SEMENT/IE SERIOU	2SS	X	47
- 5.0	Fill — White medium Sand size waste material, nonplastic, moist	563.3	CROUT	355	M	10
3.0	same, with Black Gray sludge—like Silt size	564.3 562.3		i	()	
- 7.5	Fill — Black Silty medium to coarse Sand, cinder, moist to wet			455	Ä.	11
10.0	Fill - Black Gravelly coarse Sand, trace brick fragments, cinder, wet, strong	559.3		5 SS	X.	18
- 10.0	chemical odor, NAPL same, with Silt, some wood, moist to wet	560.3		6SS	M_{\cdot}	18
12.5	Dark Gray Silty fine to medium Sand, trace vegetation, moist, native no recovery	558.3		7 S S	\square	22
		554.3			(-)	
- 15.0	Black to dark Gray Silty fine to medium Sand, trace vegetation, moist to wet, native			888	X	7
- 17.5				988	X	4
717.5	same, with trace fine Gravel, wet	550.3		1055	M	5
-20.0					Θ	
	·	546.7		11 SS	\triangle	10
-22.5	Black Silty fine Sand, wet, chemical odor, native	546.3		12SS	M	WR
	attempted Shelby tube — no recovery,	544.3			H	
25.0	Red Brown Silty Sand, rounded Gravel, moist,	543.3		13SS	М	WR
	native, Till same, with Clay	542.3		14SS		132
-27.5	AUGERED TO REFUSAL	540.3 540.0			H	
-30.0	END OF BOREHOLE AT 28.3 FT. BGS					
	At completion borehole was grouted to ground surface					
-32.5			,			,
<u></u>						
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	_		- CULING		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA		R FOUND		
Į.	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_ _ SIATI	C WATER L	£ VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH165-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/11/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION: LANDFILL, SOUTHEAST OF EAST LAGOON

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMP	
IL BG		ft AMSL	INSTALLATION	N S S	, Ņ,
	GROUND ELEVATION	575.3		N STAT	A L U
	Fill — Red Brown Silty Sand, coarse angular Gravel, vegetation, brick, coal, dry		6.5"4	155	9
- 2.5	same, with flyash, no coal, wet	573.3	6.5° BOREHOLE	355	40
	Fill — dark Brown to Black Silty Sand,	571.3	CEMENT/ BENTONITE GROUT	2SS X	40
- 5.0	coarse angular Gravel, coal, glass, vegetation, moist to wet	569.3		388	12
- 7.5	Fill — dark Brown Silty Sand, fine angular Gravel, coal, vegetation, moist to wet	:		455	31
	Fill — dark Brown to Black Silty Sand, medium to coarse angular Gravel, ash, glass,	567.3		5SS	10
-10.0	brick, wet Fill — Black and Red Brown Silty Sand, fine rounded Gravel, ash, vegetation, wet	565.3		6SS	11
-12.5	same, with medium to coarse Gravel, wood, glass, NAPL, wet	563.3		7SS X	10
-15.0	Fill — Black Silty Sand, fine to medium angular Gravel, glass, porcelain, NAPL, wet	561.3 560.4			
- 15.0	Brown Silty Sand, fine rounded Gravel, wet, native	300.7		8SS X	28
-17.5		557.3		9SS X	72
-20.0	Red Brown Sandy Silt, wet, native			1055	9
2010				1155	7
-22.5		·		12SS	8
-25.0		·		1388	8
-27.5	Dade Brown to Black City Cond Co.	<i>547.8</i>		1488	12
	Dark Brown to Black Silty Sand, fine to coarse subrounded Gravel, shell fragments, wet, native	547.3		1588	WH
-30.0	Red Brown Silty Clay, wet, native			16SS &	
32.5	same with trace Sand	543.3			
	Red Brown Silty Clay with some Sand, trace fine subrounded Gravel, wet, native, Till same, with fine to coarse angular Gravel	542.3		1755	
NOTES: (PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	541.3	CAMPLE	18SS \/ (1	'1.
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA		R FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	₩ DEC/EPA		r found C water level	
	and the second s		3IAII'	- TAILN LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH165-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/11/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL, SOUTHEAST OF EAST LAGOON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
ft BG		ft AMSL	INSTALLATION	N S S N
32.5				M AT U S E R
	Pad Pages Silly Clay with access Cond	542.3		17SS
-35.0	Red Brown Silty Clay with some Sand, trace fine subrounded Gravel, wet, native, Till same, with fine to coarse angular Gravel	541.3	6.5° Ø BOREHOLE	18SS 16
		539.0	CEMENT/ BENTONITE GROUT	19SS > 100
-37.5	AUGERED TO REFUSAL	537.7	GROUT	
	END OF BOREHOLE AT 37.6 FT. BGS	00,.,		
-40.0	At completion borehole was grouted to ground surface			
			,	
40.5				
-42.5		,		
-45.0				.
47.5				
-47.5				
	·			
-50.0	·	1		
1		1		
50.5				
-52.5		Ī		
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·55.0 `				
E7 E				
57.5				
				·
60.0				
ļ		•		
62.5				
65.0	·			.
·				
}	·			
NOTES; (PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		FOUND
(GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT		STATIC	WATER LEVEL

PROJECT NAME: S-AREA

PROJECT NO .: 1769

CLIENT:

OCCIDENTAL

LOCATION:

LANDFILL, EAST OF EAST LAGOON

HOLE DESIGNATION: BH166-87 (PAGE 1 of 2)

DATE COMPLETED: 12/10/87

DRILLING METHOD: HSA 6.75" OD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG		ft AMSL	INSTALLATION	CZ	SS	, X,
	GROUND ELEVATION	<i>573.4</i>		M B E	A A T E U S	A L U
	Fill — Brown Silty Sand, coarse angular Gravel, trace vegetation, brick, ash, rusted metal, dry		6.75°0 BOREHOLE	1SS	M	36
2.5	same, with wood, fine to coarse angular Gravel, no vegetation, no rusted metal	<i>571.4</i>		288		42
5.0	same, except Red Brown, with glass, coarse angular Gravel, no wood, moist	569.4		388	M	9
7.5	Fill — dark Brown Silty Sand, medium to coarse angular Gravel, trace fire brick, NAPL, wet	567.4		455	M	7
	Fill — Black Sandy Silt, coarse angular Gravel, trace brick and ash, NAPL, wet	565.4		5SS	M	12
10.0	Fill — Black Silty Sand, medium to coarse angular Gravel, trace wood and glass, NAPL, wet	<i>563.4</i>		6SS		18
12.5	no recovery	561.4		7SS	M	10
15.0	Black to dark Brown Silty Sand, wet, native	559.4		855	M	10
17.5	same, with coarse Sand, trace NAPL	<i>557.4</i>		955	M	20
17.5	same, except no NAPL	<i>555.4</i>		10SS	\bigvee	13
20.0	0			11SS	\emptyset	6
22.5				12SS	\emptyset	7
25.0	Black coarse Sand, trace NAPL, wet, native	549.4		13SS	\forall	12
	Red Brown Silty Clay, wet, native	547.9		14ST		
27.5	augered to 29.0 ft. BGS, no sample	545.4 544.4				·
30.0	Red Brown Clay, wet, native Red Brown Clay, fine to medium subrounded Crayel wet native Till	543.4 542.4		15ST	lacksquare	
32.5	Gravel, wet, native, Till Red Brown Sandy Clay, medium to coarse angular Gravel, trace vegetation, native,	540.6		16SS	M	52
	AUGERED TO REFUSAL					
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA		FOUND	<u></u>	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	WATER LE	EVEL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH166-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/10/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.75" OD

LOCATION:

LANDFILL, EAST OF EAST LAGOON

DEPTH S ft BG	TRATIGRAPHIC DESCRIPTION & REMARKS			
	MATTORIAL THE BESCHIE HOLL & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPLE N S S 'N'
32.5				M A A A A L B E U U B S E
-35.0	AUGERED TO REFUSAL	540.6	→ 6.75" BOREHOLE CEMENT/ BENTONITE GROUT	16SS 52
	END OF BOREHOLE AT 35.1 FT. BGS	538.3	GROUT	
- 37.5	At completion borehole was grouted to ground surface			
-40.0				
-42.5				
-45.0	•			
-47.5				
-50.0				
52.5				
55.0				
57.5		·		
60.0				
62.5				
65.0	·			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH167-87

PROJECT NO.: 1769

DATE COMPLETED: 12/12/87

CLIENT: OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATI	ION: LANDFILL, SOUTH CENTRAL		CRA SUPERVISOR:	N.W.	THOME	'SON
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPI S S	E .
	GROUND ELEVATION	569.8	·,	NUMBER	T A T US	A LUE
	Fill — coarse angular Gravel, vegetation, dry	500.5		1SS	M	>100
- 2.5	augered to 2.0 ft., no sample Fill — dark Brown and Black Silty Sand, fine to coarse subangular Gravel, brick,	568.5 567.8	8.5° BOREHOLE	255		54
- 5.0	vegetation, dry Fill — dark Brown coarse Sand, medium to coarse angular Gravel, ash, brick,	565.8		3SS		20
- 7.5	vegetation, wood, dry to moist Fill — Black Silty Sand, medium to coarse Gravel, vegetation, wood, brick, glass,	563.8		4SS		32
7.5	NAPL, wet same, with fine angular Gravel, no brick and	561.8		5 S S	M	7
-10.0	glass same, except no wood and vegetation	559.8			\mathbb{H}	
	Dark Brown fine angular Gravelly coarse Sand, vegetation, wet, native	558.8 557.8		6SS	Д	25
-12.5	Dark Brown Silty Sand, trace coarse rounded Gravel, vegetation, wet, native			7 SS	\boxtimes	24
-15.0	same, with wood, no vegetation	555.8		855	\mathbb{N}	18
-17.5	Black Silty Sand, some Silt lenses, wood, wet, native	553.8		9SS	\mathbb{X}	12
	same, except no Silt lenses and wood	551.8		10SS	\mathbf{M}	10
-20.0				11SS	M	6
-22.5				12 S S		21
-25.0	Red Brown Clayey Silt, Sandy medium to coarse subangular Gravel, wet, native, Till	545.8		1355		3
-27.5	augered to 28.0 ft., no sample	543.5		14SS		>100
	Red Brown Clayey Silt, Sandy medium to coarse subangular Gravel, wet, native, Till	541.8		15SS		15
-30.0	AUGERED TO REFUSAL	540.3 539.8			H	
- 32.5	END OF BOREHOLE AT 30.0 FT. BGS					
	At completion borehole was grouted to ground surface					
	ground surface MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAB	A SPLIT WATER	FOUND WATER L	EVEL.	<u></u>

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH168-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/8/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTHEAST OF EAST LAGOON

CRA SUPERVISOR: N.W. THOMPSON

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAME		
BG	GROUND ELEVATION	ft AMSL 578.2	INSTALLATION	7 3 8 C Z	S A A T E		, A L L
		370.2	56250000	R	-	1	E
2.5	Fill — Brown Silty Sand, fine to medium subrounded Gravel, trace vegetation, dry same, except Brown to Black, no vegetation	<i>576.2</i>	8.5°6 BOREHOLE	1SS 2SS	A		13
		574.2	CEMENT/ BENTONITE GROUT	233	\triangle	ı	•
.0	no recovery	,	GROOT	355	X		2
.5	Fill — Black Silty Sand, trace fine to medium angular Gravel, wet	572.2		455	X		
.5	Fill — dark Brown to Black fine Sandy Silt, trace sulphur, wet	570.2		5SS	X		2
0.0	Fill — dark Brown to Black compacted Silty Sand, wet	568.2		6SS			9
2.5	Fill — Black Silty Sand, trace medium angular Gravel, trace tar, wet	566.2		7SS			(
5.0	same, trace fine angular Gravel, NAPL, no tar	564.2		855	\forall	l	:
	same, trace fine to coarse angular Gravel, paper	562.2		955	\forall		8
7.5	Fill - Brown to Black Silty Sand, NAPL, wet	560.2		1055	\forall		1.
0.0		·		11SS	\forall		
2.5	Brown to Black Silty Sand, trace roots, wet,	556.2			$\left(\cdot \right)$		
2.3	native Red Brown to Gray Clay, wet, native	<i>555.2</i>		12SS	X		
5.0	same, trace Silt seams, trace Sand	552.2		13SS	Χľ	3	W
7.5				1455	X	•	
	same, except no Silt seams, trace Gravel	550.2		15SS	X	•	W
0.0				1655	X	•	WI
2.5				17SS	X		W
		.		1 8 SS	\sum		W

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

PROJECT NO.: 1769

HOLE DESIGNATION: BH168-87 (PAGE 2 of 2)

DATE COMPLETED: 12/8/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTHEAST OF EAST LAGOON

CRA SUPERVISOR: N.W. THOMPSON

32.5 Red Brown to Gray Clay, wet, native 35.0 Red Brown Clayey Silt, Sandy, trace medium 542.7 Red Brown Clayey Silt, Sandy, trace medium	Red Brown to Gray Clay, wet, native Red Brown Clayey Silt, Sandy, trace medium angular Gravel, wet, native, Till same, trace fine angular Gravel AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 — 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 50 51 52 53 63 64 65 65 66 67 67 67 67 67 67 67	t BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
Red Brown to Gray Clay, wet, native Red Brown Clayey Silt, Sandy, trace medium angular Cravel, wet, native, Till same, trace fine angular Gravel AUGERED TO REFUSAL. END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 – 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE AUGERED TO REFUSAL. END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 – 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE AUGERED TO REFUSAL. END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 – 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE AUGERED TO REFUSAL. SJ9.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 S19.0 SJ8.2 SJ9.	Red Brown to Gray Clay, wet, native Red Brown Clayey Silt, Sandy, trace medium angular Gravel, wet, native, Till same, trace fine angular Gravel AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE Solution of the same of the	LBG		ft AMSL	INSTALLATION	N S S T
Red Brown to Gray Clay, wet, native Red Brown Clayey Silt, Sandy, trace medium angular Gravel, wet, native, Till same, trace fine angular Gravel AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 — 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE AT.5 So.0 So.0 So.5 So.0 So.5 So.0 So.5 So.0 So.0 So.5 So.0	Red Brown to Gray Clay, wet, native Red Brown Clayey Silt, Sandy, trace medium orgular Gravel, wet, native, Till same, trace fine angular Gravel ACCEPTED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE STAND OF BOREHOLE AT 40.0 FT. BGS AT COMPLETED TO SAME BOREHOLE SAMPLING CONTINUED IN SAME BOREHOLE SAMPLING CONTINUED IN SAME TO SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME BOREHOLE STAND OF SAMPLING CONTINUED IN SAME TO SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME TO SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME TO SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME TO SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME TO SAMPLING CONTINUED IN SAME STAND OF SAMPLING CONTINUED IN SAME TO SAMPLING CONT	32.5		_		L Ř I S I
Red Brown Clayey Silt, Sandy, trace medium angular Gravel, wet, native, Till same, trace fine angular Gravel 540.2 AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME 7.5 0.0 2.5 5.0 7.5 0.0 2.5 0.0 2.5	Red Brown Clayey Silt, Sandy, trace medium angular Gravel, wet, native, Till same, trace fine angular Gravel 340.2 339.0 40.2 END OF BOREHOLE AT 40.0 FT. BGS At campletion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 50.0 51.0 52.0 53.0 53.0 54.2 540.2 539.0 538.2 540.2 550.0 550.0 560.0 570.0 580.0 5		Red Brown to Gray Clay, wet, native		BOREHOLE	17SS W W
angular Gravel, wet, native, Till same, trace fine angular Gravel same, trace fine angular Gravel 340.2 AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME 7.5 0.0 2.5 5.0 7.5 0.0 2.5 0.0 2.5	angular Gravel, wet, native, Till same, trace fine angular Gravel 540.2 AUGERED TO REFUSAL 5.39.0 END OF BORCHOLE AT 40.0 FT. BGS At campletion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 50 51 51 51 51 51 51 51 51 51 51 51 51 51	5.0		542.7		18SS X 🕦 w
AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME 800 800 800 800 800 800 800 800 800 8	AUGERED TO REFUSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 5 0 5 0 5 0 5 0 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		Red Brown Clayey Silt, Sandy, trace medium angular Gravel, wet, native, Till		EN TONTE	1955 🗙 🗗 >10
AUGENED TO REPSAL END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME 7.5 0.0 7.5 0.0 7.5 0.0 2.5	Alt completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 – 23.0 F.) SAMPLING CONTINUED IN SAME BOREHOLE 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 6 6 6 7 7 7 7 7 7 7 7 7 7	7.5	same, trace fine angular Gravel	540.2		
END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 7.5 0.0 2.5 5.0 7.5 0.0 2.5	END OF BOREHOLE AT 40.0 FT. BGS At completion borehole was grouted to ground surface NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 5 0 5 0 5 0 5 0 6 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	•	AUGERED TO REFUSAL			
2.5 surface NOTE: INJECTION TEST CONDUCTED (18.0 – 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 7.5 0.0 7.5 0.0 2.5 0.0 2.5	NOTE: INJECTION TEST CONDUCTED (18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 5 0 5 0 5 0 5	0.0		538.2		
(18.0 – 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE 7.5 0.0 7.5 0.0 2.5 2.5	(18.0 — 23.0 FT.) SAMPLING CONTINUED IN SAME BOREHOLE .5 .0 .5 .0 .5 .0 .5 .0 .5 .0 .0 .5 .0 .0 .5 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	2.5	At completion borehole was grouted to ground surface			
0.0 2.5 5.0 7.5 0.0 2.5	5 0 5 0 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.0	(18.0 - 23.0 FT.) SAMPLING CONTINUED IN SAME			
2.5 5.0 7.5 0.0 2.5	5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7.5				
5.0 7.5 0.0 2.5	0	0.0				
7.5	5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2.5				
2.5	0	5.0			·	
2.5	5	7.5				
	o	0.0	·			
5.0		2.5				
	SC. MEASURING POINT ELEVATIONS MAY GUANGE PETER TO GUERRAL TO A TON TO THE	5.0			·	.

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT

STATIC WATER LEVEL

TABLE
STRATIGRAPHIC SUMMARY LOGS
UTILITY BEDDING INVESTIGATION
S-AREA SUBSURFACE INVESTIGATION

Excavation			Wa	ter	Sampled	l
Number	Depth	Description	Le	<u>vel</u>	Depth	_
	(ft. BG)		(ft.	BG)	(ft. BG)
	10.7-16.5	Red and Black clayey silt, trace gravel and cinders,				
		iridescent sheen noted in black				
		silt layer from 15.8-16.0 ft.				
		Moist. (FILL)				
	16.5-18.5	Black silty fine sand, trace				
		iridescent sheen noted from				
		18-18.5 ft. Wet. (FILL)				
	18.5-24.0	Brown fine to medium sand.	•			
		Wet. (FILL)				
	24.0-27.5	Gray coarse to fine gravel and				
		fine to medium sand.				
		Wet. (FILL)			-	
	27.5-28.0	Red gravelly silt.				
		Moist. (NATIVE)				

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH169-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/17/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION: EAST OF NORTH END OF LAGOONS

DEPTH	ISTRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAM	PIF
ft BG		ft AMSL	INSTALLATION		ž , 'n,
	GROUND ELEVATION	57 8.8		NU ATE	& LUE
	Fill — Brown Sand, medium to coarse angular Gravel, trace roots and slag, dry	570.0	8.5° BOREHOLE	1SS	23
- 2.5	Fill — dark Brown Silty Sand, fine to medium angular Gravel, trace Red Brown Silty Clay, vegetation, moist	576.8 574.8	SEMENT/ SENTONITE	255	27
- 5.0	same, except no vegetation		GROUT ***	3SS 🔀	>100
	augered to 8.0 ft. BGS, no sample	<i>573.6</i>			
- 7.5		570.8			
-10.0	Fill — Brown to Black Silty Sand, Gravelly, NAPL, wet	568.8		4SS X	7
	Fill - Brown to Black Silty Gravel, NAPL, wet			555	4
-12.5		564.8		655	17
-15.0	no recovery			7SS X	24
-17.5	Fill — Brown Silty Sand,trace ash, glass, and wood, NAPL, wet	562.8		8SS	8
-20.0	Brown to Black laminated Silty Sand, NAPL, wet, native	560.8		9SS 10SS	27 10
-22.5	Black laminated Silty fine to medium Sand, trace coarse subrounded Gravel, native, wet	556.8 555.8		1155	8
-25.0	Gray to Red Brown Silty Clay, wet, native note: relocate borehole 3.0 ft. north, augered to 24.0 ft. BGS, no samples	554.8		1255	1
-27.5	Red Brown Silty Clay, trace Sand, wet, native			1355	2
70.0				1455	→ WH
-30.0				15SS	⊕ wh
-32.5				1655	1
				17SS V	● WR
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	R FOUND C WATER LEVEL	

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION: EAST OF NORTH END OF LAGOONS

HOLE DESIGNATION: BH169-87 (PAGE 2 of 2)

DATE COMPLETED: 12/17/87

DRILLING METHOD: HSA 6.5" OD

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS			SAMPLE
11. 00		H AMSL	INSTALLATION	N S S Y
32.5				M A A A B T T L U U S E
	Red Brown Silty Clay trace Sand wet native			
	industrial strains and strains		6.5 ¢	
-35.0		Silt, some Sand, Clayey, little lative, Till Silty Clay, fine to coarse ravel, wet, native, Till HDLE AT 40.2 FT. BGS I test conducted (6.0–23.0 ft.) hole 3.0 ft. north augered is continued sampling	17SS X WR	
			BENTONITE GROUT	18ST Ø
-37.5		540.8		
	Red to Brown Silt, some Sand, Clayey, little Gravel, wet, native Till			19ST ⊗
40.0	Red to Brown Silty Clay, fine to coarse	<i>539.1</i>		
	subrounded Gravel, wet, native, Till	538.6		
- 42.5	AUGERED TO REFUSAL			
42.5	Red to Brown Silt, some Sand, Clayey, little Gravel, wet, native, Till Red to Brown Silty Clay, fine to coarse subrounded Gravel, wet, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 40.2 FT. BGS At completion borehole was grouted to ground surface NOTE: Injection test conducted (6.0—23.0 ft.) Relocated borehole 3.0 ft. north augered to 24.0 ft. and continued sampling			
			·	
-45.0	At completion borehole was arouted to			
	ground surface		·	
47.5	NOTE: Injection test conducted (6.0-23.0 ft.)			
	Relocated borehole 3.0 ft. north augered			
	to 2 % Tt. and continued sampling			
-50.0		ľ		1 1 1
-52.5				
ŀ				
55.0		.	Ì]]]
-55.0	•			.
				.
-57.5				
<u> </u> -				
-60.0				
00.0				
	·			
62.5				
	,			
65.0	·		·	
NOTES: (PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE	
(GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT WATER	FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIC	WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH170-87 (PAGE 1 of 2)

PROJECT NO .:

DATE COMPLETED: 12/21/87

CLIENT:

OCCIDENTAL

1769

DRILLING METHOD: HSA 6.75" OD

LOCATION:

LANDFILL, EAST OF LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAM		
ft BG		ft AMSL	INSTALLATION	N S T	: 1	,Ń,
•	GROUND ELEVATION	578.3	•	M A T E E	Ţ	A LUE
,	Fill — dark Brown fine Sand, dry			1 \		
	same, with sulphur	577.3 576.3	6.75°0 BOREHOLE	1SS X		64
2.5	same, with trace slag and brick same, except no sulphur	576.3 576.1	JOKE 1022	1 []		
2.5	Surrie, except no sulphu	370.7	CEMENT /	2SS X		12
		574.3	CEMENT/ BENTONITE GROUT			
5.0	Fill — Black fine Sand, vegetation, thin		GROOT	355		6
5.5	Brown clay seam, moist	572.3		333 M		Ū
	Fill — Black Silty Sand, fine rounded			l 🗖		_
7.5	Gravel, NAPL, wet			4SS X		6
7.3	Sill Black Cond. Cit. and discrete	<i>570.3</i>		1 []		
	Fill — Black Sandy Silt, medium to coarse angular Gravel, trace slag, NAPL, wet			555		8
10.0	same, except Silty Sand, coarse angular	568.3				
10.0	Gravel	300.5		M		
		l [6SS X		16
12.5	same, with brick, caulking compound, no slag	566.3				
12.0				7SS X	Ì	12
				l H		
15.0	·			855		5
		562.7		1 202 M		. •
	same, with vegetation, no caulking compound	562.3				
17.5		560.8		9SS X	-	13
17.5	Brown medium Sand, laminated, wet, native	560.8 560.3		1 []		
	Dark Brown medium to coarse Sand, laminated			10SS X	ĺ	15
20.0	wet, native					
				1155	1	4.4
				''ss \/		14
22.5		555.6		1 7		
	Red Brown Silty Clay, wet, native	333.6		12SS X	이	2
	• • •			l H	ł	
25.0	·			_{13SS}		1
					"	·
				I 🔯	. ا	
27.5				14SS X	U	WH
_,,,						
				15SS X	(1)	WR
30.0				l KA	ļ	
_ 				1 1/1		
				,,,, \/		
32.5	same, with trace medium rounded Gravel	545.8		16SS X	• •	WR
		3 . 3.3] / \		
		}		i H		
				17SS V		MH
OTES: 1	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABL				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATIO	C WATER LEVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH170-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 12/21/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.75" OD

LOCATION: LANDFILL, EAST OF LAGOONS

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	S	AMPL	Ē
t BG		ft AMSL	INSTALLATION	, N	SST	<u>,</u> ,
32.5			,	M B E R	A T U S	A LUE
35.0	Red Brown Silty Clay, trace medium rounded Gravel, wet, native	540.7	6.75° BOREHOLE	16SS 17SS		Wi
37.5	no recovery, Till contact inferred due to Shelby tube resistance	542.3 540.8 540.3	- CEMENT/ ENTONITE GROUT	18ST	NR	
0.0	Gray to Brown Silty Clay, fine to coarse rounded to angular Gravel, vegetation, wet, native, Till AUGERED TO REFUSAL	538.6 538.2		20SS	Xo	>100
42.5	END OF BOREHOLE AT 40.1 FT. BGS	·				
45.0	At completion borehole was grouted to ground surface					
1 7.5	NOTE: Injection test conducted (5.9-22.7 ft.). Relocated borehole 3 ft. north. Augered to 24.0 ft. and continued sampling					
50.0	NOTE: Sample 16SS — spoon and rods fell from ground surface penetrating 4 ft. of soft clay material					
52.5	NOTE: No recovery of Shelby tube — 19ST (38.0—39.0 ft.). Split spoon used to obtain sample — 20SS (38.0 — 39.7 ft.)			-		
5.0						
7.5			•			
0.0						
2.5	.	:				
5.0						
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABLE DEC/EPA		FOUND	<u> </u>	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH171-87

PROJECT NO.: 1769

DATE COMPLETED: 4/17/87

CLIENT:

OCCIDENTAL

LOCATION:

WEST OF LAGOONS

DRILLING METHOD: HSA 4.5" OD

CRA SUPERVISOR: K.D. SCHMIDTKE

	Lamina DEGOODETON A DENARKO	ELEVA TON	MONITOR	CAMPLE	-
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPLE N ISISI	<u>, A, </u>
ft BG		IL AMSL	INSTALLATION.	N SST U A A B TT	À
	GROUND ELEVATION	572.0	•	M A A T T E U S	E L
	Fill — Black and Brown to light Brown Silty			100 M	70
<u> </u>	Clay, Gray coarse angular Gravel, iron nodules, White coarse Sand at tip, dry		4.5 BOREHOLE	1SS X	39
- 2.5	no sample recovered	570.0			
2.5			CEMENT/	X	- 14
	Fill D City Cond to White course	568.0	CEMENT/ BENTONITE GROUT		
- 5.0	Fill — Brown Silty fine Sand to White coarse Sand, brick, wood, moist			2SS X	2
5.5		566.0			
	Fill - Gray White to Black Silty fine Sand,	565.7		3SS X	4
7.5	\wet	5040			7
	Fill - Black Silty medium Sand, wet	564.0		│	
	Fill — Brown Black fine to coarse Sand, brick, wood, NAPL			4SS X	18
10.0	Brick, Wood, NAFL				
				5SS X	4
	,				
-12.5		558.8		655	14
	Gray Green Silty fine Sand, NAPL, moist,	5500			
	native	<i>558.0</i>		755	14
15.0	Brown Silty fine to medium Sand, NAPL, native			/33	17
	Brown Silty fine Sand, fine Gravel,	556.0			
	NAPL, native	555.0		8SS X	13
-17.5	Gray Green Silty fine Sand, NAPL, native			1 () 1	
ľ				9SS X	5
- 20.0					
F 20.0	•			10SS X	8
1				1033	
-22.5				I M	
22.5				11SS X	9
1	•				
-25.0		1		12SS X	7
				13SS X O	8
-27.5		544.4 544.0			
	Red Brown Clay, wet	7 344.0		1455 Ma	2
1	. Red Brown Gravelly Clay, wet, native, Till	542.3		14SS X 🛈	~
30.0	Red Brown and Gray Silty Sand, Gravelly,			15SS XO	>50
	becoming a Gray Green Silty Sand with	541.0			
	angular Gravel, native, Till	540.0			
32.5	AUGERED TO REFUSAL END OF BOREHOLE AT 32.0 FT. BGS				ļ
	At completion borehole was grouted to ground				
	surface				<u> </u>
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TA			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EP		ER FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STA*	TIC WATER LEVEL	

PROJECT NAME: S-AREA

CLIENT:

PROJECT NO.: 1769

OCCIDENTAL

HOLE DESIGNATION: BH172-87 (PAGE 1 of 2)

DATE COMPLETED: 4/10/87

DRILLING METHOD: HSA 6.5" OD

LOCATION: SOUTHWEST CORNER OF LAGOONS CRA SUPERVISOR: C.H. PADGINTON

t BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAM		
. 60	GROUND ELEVATION	586.2	INSTALLATION	Z J M B E B	S T A T E	ST ATU	ACL P<
	Fill — Brown Silty Gravel, trace Sand, dry to moist	584.4	6.5° BOREHOLE	1SS	M		16
2.5	Fill — Red Brown Silty Clay, dry to moist, plastic	304.4	- CEMENT/	255	M		1
5.0	same, with trace subrounded fine Gravel	582.2	- CEMENT/ BENTONITE GROUT	355	M		ϵ
				4SS	M		15
7.5	same, except dry	578.2		5SS	\bigvee		12
0.0				6SS	\forall		12
2.5					\forall		
	Fill - Black, Brown, Red Brown Gravelly	572.2		7SS 8SS	A		15 29
5.0	Silt, trace Sand, slag, insulation, etc., dry	570.2			Ä		2.
7.5	Fill - Gray fine Sand, trace Silt, moist	568.2		9SS	X		15
0.0	Fill — White and Yellow fiberglass, insulation, dry to moist Fill — Brown and Gray Gravelly Silt, Sandy,	567.2 566.9		1055	X	>	50
0.0	\trace vegetation, wet relocate borehole 5.0 ft. east,						
2.5	augered to 22.0 ft. BGS through "shot rock", no samples Fill - Black and Brown Gravelly Silt, Sandy,	564.2		1155	X		18
5.0	Fill - Brown Sand and Silt, wood, some	562.2		1255	M		2
	vegetation, NAPL, wet	559.2		1355	\forall		18
7.5	Brown and Brown Gray laminated Silty fine Sand, trace NAPL, wet, native same, with NAPL in laminations	558.2		14SS	\forall		14
0.0				,	\bigcap		
2.5	same, except dark Gray, trace NAPL, no laminations	554.2		15SS	A		9
- -	same, with NAPL	<i>552.2</i>		1655	\bigvee		19

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH172-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 4/10/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST CORNER OF LAGOONS

CRA SUPERVISOR: C.H. PADGINTON

LOCAT			CRA SUPER'	VISOR: C.H.	PADGIN	IUN
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPLE	
ft BG		ft AMSL	INSTALLATION		1 7 7	Ŋ,
32.5	·			Z J M B E R	A T U S	L
	Dark Gray Silty fine Sand, NAPL, wet, native			1655		19
			95ré		H	
35.0		,		1755	: X -	10
	·			NITE	\mathcal{H}	
37.5		548.2		1855	' M I	4
	Gray and Brown laminated Silty fine Sand,	340.2		1955	$M \mid$	9
40.0	NAPL, wet, native same, trace fine subrounded Gravel	546.2		1933	'МІ	3
,0.0	•			2088	: M	21
	·				\square	
42.5	Clay noted on spoon tip at 44.0 ft.			21 SS	: X	10
	augered to 45.0 ft. BGS, no sample	542.2			H_{-1}	
45.0	Red Brown Silty Sand, Gravelly, Clayey,	541.2		2255		28
	wet, native, Till	539.4				
47.5	SPOON REFUSAL AND END OF BOREHOLE AT 46.8 FT. BGS	333.4				
		1				
50.0	At completion borehole was grouted to ground surface					
52.5						
J2.J		·				
55.0				ł		
57.5						
]]]	
60.0		,				
	•					
62.5						
65.0	,		•			
NOTES: 8	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TAR	Æ			
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		WATER FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT			STATIC WATER	LEVEL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH173-87 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 4/14/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.75" OD

LOCATION:

SOUTH END OF LAGOONS

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR: C.H. PADGINTON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	
ft BG	GROUND ELEVATION	ft AMSL 586.3	INSTALLATION	BECX	STATUS	ָ הר≽<עֿ
	Fill — Brown Silty Sand, Gravelly, moist		8,75° BOREHOLE	1SS	S	20
2.5	Fill — Red Brown Silty Clay, trace fine Gravel, dry	584.5		255		21
5.0			- CEMENT/ ERVITAINE GROUT	355	M	, 14
7.5				455		24
10.0				555	M	20
		-		655	M	12
12.5		572.3		755	X	24
15.0	Fill - Gray Gravel, concrete, dry	570.3		888	X	78
17.5	Fill — Brown and Black Silt, flyash, glass, slag, dry same, becoming wet	568.3		955	X	9
20.0		566.3		1055	X	2
22.5	no recovery, possible void Fill — Brown, Black and Gray Gravelly Silt,	564.3		11SS	X	2
22.5	wood, flyash, NAPL, wet same, except no NAPL	562.3		1255	X	10
25.0				1355	X	7
27.5	Brown and Gray laminated Silty fine Sand, NAPL in laminations, wet, native	559.3		14SS	X	24
30.0	no recovery	556.3		1555	A	17
32.5	Brown and Gray laminated Silty fine Sand,	554.3		16SS	X	1
-2.0	NAPL in laminations, wet, native same, except Gray and Black, no laminations,	552.3		17SS	X	14

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH173-87 (PAGE 2 of 2)

PROJECT NO .: 1769 DATE COMPLETED:

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.75" OD

LOCATION:

SOUTH END OF LAGOONS

CRA SUPERVISOR: C.H. PADGINTON

<u>.</u>	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATIO	WATER L	EVEL.	
1 .	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA	SPLIT WATER	FOUND		
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	LEVATION TABI	Æ .			
65.0				l		·.
				ì		
-62.5						
-60.0				ï		
-57.5						
- 55.0						*
- 52.5			, ·			
50.0	surface			İ		
-47.5	END OF BOREHOLE AT 47.1 FT. BGS At completion borehole grouted to ground	539.2				
- 45.0	Red Brown Gravelly Silt, Sandy, Clayey, wet, native, Till AUGERED TO REFUSAL	541.3				
	Red Brown Silty Clay, Sandy, Gravelly, NAPL wet, native, Till	542.8 542.3		22SS 23SS	XO	13 69
+42.5				2155		12
40.0				20SS		8
-37.5			- CEMENT/ ENTONITE GROUT	19SS		14
35.0	NAPL in laminations, wet, native same, except Gray and Black, no laminations, NAPL	552.3	BOREHOLE	18SS		7
32.5	Brown and Gray laminated Silty fine Sand,			17SS	E US	14
ft BG		ft AMSL	INSTALLATION	BECZ	STATUS	د۲><ځ
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPLI	
LOCAT	ION: SOUTH END OF LAGOONS		CRA SUPERVISOR:	C.H. F	ADGIN	ION

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH174-87 (PAGE 1 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 6/26/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL EAST OF LAGOONS

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR: B. BURKETT

STATIC WATER LEVEL

t BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		_	PLE	
BG	GROUND ELEVATION	ft AMSL 576.8	INSTALLATION	N M B E R	STATE	STATUS	וניא ארוטוי זכר א רצי
	Fill — Gray Brown Sand, moist to wet	<i>575.3</i>	6.5*4	155	\bigvee	3	
.5	Fill — Red Brown and Gray Sandy Clay, flyash, slag, brick, wood, moist to wet	574.8 574.5	80RÉHOLE		()		
	Fill - Brown flyish, moist Fill - Gray Brown Silt, flyash, moist to dry	572.8	CEMENT/ EN TONTE GROUT	255	\triangle		
.0	Fill — Gray, Silty fine Sand, dry Fill — rusted metal fragments, cloth	572.1		388	X		
_	fragment, void			455	∇		
.5					()		ı
0.0	/Fill — Gray fine Sand, rusted metal, dry to moist,	567.3		555	\triangle		<
	Fill — Brown Silty fine Sand, dry to moist	566.3		6SS	X		
2.5	same, with some ash Fill — Black and Brown Silt, flyash, moist to wet	564.8 564.5 562.8		7SS	M		
5.0	same, with rusted metal, cinders, no flyash Fill — Black Sandy Silt, wood, NAPL	562.6		855			
	moist to wet same, with cinders, glass, ash	560.8			\Diamond		
7.5	Fill — Brown Gray and Olive Green mottled	560.1 559.4 558.8		955	X		>
	augered to 18.0 ft. BGS, no sample Fill - Black Brown Silty Sand, wood, wet,	558.0		1055	X		
0.0	Black, and Brown Gray laminated fine Sand vegetation, trace shell fragments, moist	556.8		1155	\bigvee		
2.5	native Black fine Sand, trace vegetation,			1255	\bigvee		
	moist to wet, native same, with wood fragments	<i>552.8</i>		1233	()		
5.0	same, with wood hagmants	332.0		13SS	X		
7.5				1455	X		
				1555	X		
0.0				16SS	\bigvee		
2.5				17 S S	\bigvee		
	Red Brown fine Gravelly Sand, wet, trace iridescent sheen, native	543.4 542.2		1855	()		>

PROJECT NAME: S-AREA

PROJECT NO.: 1769

OCCIDENTAL

CLIENT: LOCATION:

LANDFILL EAST OF LAGOONS

HOLE DESIGNATION: BH174-87 (PAGE 2 of 2)
DATE COMPLETED: 6/26/87

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: B. BURKETT

. (GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA		FOUND	
NOTES: N	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT EL	EVATION TARI			
65.0					
62.5					
60.0					
57.5					
55.0	•				
52.5					
50.0					
47.5					
45.0	surface	ļ			
42.5	END OF BOREHOLE AT 39.8 FT. BGS At completion borehole was grouted to ground	;			
40.0	Gray rock fragments, wet, native no split spoon advancement, AUGERED TO REFUSAL	537. 8 537.0		20\$\$	>100
-37.5	augered to 36.0 ft. BGS, no sample Gray rock fragments, wet, native no split spoon advancement, augered to 39.0 ft. BGS, no sample		ENDIT EXOUT		
-35.0	ridescent sheen, native Red Brown Silty Clay, fine to coarse Gravel, dry, native, Till	542.2 541.6 540.8		18SS 19SS	>50 >50
<u> </u>	Red Brown fine Gravelly Sand, wet,	543.4	8.5°6 BOREHOLE	17SS X	<u>\$</u> 13
32.5					T A LUE
ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVAΠON ft AMSL	MONITOR INSTALLATION	SAM N IST	ž Å.

PROJECT NAME: S-AREA

LANDFILL EAST OF LAGOONS

HOLE DESIGNATION: BH175-87 (PAGE 1 of 2)

PROJECT NO .: 1769

DATE COMPLETED: 6/25/87

CLIENT:

LOCATION:

DRILLING METHOD: HSA 6.5" OD **OCCIDENTAL**

CRA SUPERVISOR: B. BURKETT

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	- ·	AMPL	
ft BG		ft AMSL	INSTALLATION	N U M B	S S T T A A	Ņ
	GROUND ELEVATION	574.2		B E R	A A T U S	# L P < Z
	Fill — Green, White, Red, and Brown Clayey Silt, cinders, vegetation, ash, dry			155	1	10
_	same, except Yellow Brown and Red Brown, no	572.2	BOREHOLE		$\frac{1}{2}$	
2.5	ash and cinders, no vegetation		CEMENT/	255	$\langle $	36
5.0	Fill — Red and Green brick, cinders, glass,	<i>570.2</i>	GROUT GROUT	K	Ť	
5.0	dry	568.2		355	1	1
	Fill — Red Brown, Yellow, and White flyash, slag, dry to moist	555		455	$\langle $	-
7.5	same, with glass and wood	566.2		l : K	 	
		564.0		555	$\langle $	9
10.0	no recovery	564.2		688	7	
		562.2		32 K		
2.5	Fill — brick, wet			755	$\langle $	1
	√Fill — Gray Brown and Black fine to medium \ √Sand, NAPL, wet ✓	560.2 559.7			7	
15.0	Fill — Gray fine Gravelly Sand, moist to dry same, except laminated Black and Gray, trace	5 58.2		855	ackslash	28
	NAPL, dry to moist	`		988	Λ	36
17.5	Fill - Gray, Brown, and Black Sand, slag,	<i>556.2</i>		l K	}	
	cinders, glass, moist			1088	$\langle $!
20.0	no recovery	<i>554.2</i>		1155	7	
		552.2		''33	Δ	
22.5	Gray Brown fine to medium Sand, some Silt lenses, trace NAPL, iridescent sheen, native			1255	$\langle $	
	same, except no Silt lenses	550.2		K)	
25.0		540.0		1355	\setminus	1
	same, with abundant Brownish NAPL	548.2		1455	7	2
27.5	same, with shell fragments, trace NAPL,	546.2			\rightarrow	
i	moist, iridescent sheen			1588	$\langle $	4
30.0	same, except abundant Brownish Black NAPL	544.2			7	
	same, with trace Red Brown Clay	542.3 542.2		16SS		(
32.5	Red Brown Silty Clay, Gravelly, trace Sand, moist to dry, native, Till	J+2.2		1755	Λ	2
	same, with Gray Sandy Silt, dry, firm	540.2		18SS		>5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

0 GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT

 ∇ WATER FOUND STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH175-87 (PAGE 2 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 6/25/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL EAST OF LAGOONS

CRA SUPERVISOR: B. BURKETT

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		ITOR		SAM		
t BG	<u> </u>	ft AMSL	INSTAL	LATION	H B K C Z	ローターの	STATU	60.00
32.5 35.0	Red Brown Silty Clay, Gravelly, trace Sand, moist to dry, native, Till same, with Gray Sandy Silt, dry, firm AUGERED TO REFUSAL	540.2 539.0		BOREHOLE	17SS 18SS	Ž	34	>5
57. 5	END OF BOREHOLE AT 35.2 FT. BGS At completion borehole was grouted to ground surface							
0.0	,							
2.5				-				
5.0				·				
7.5		0						
0.0		·						
2.5	·							
5.0								
7 .5		,						
0.0			•					
2.5								
5.0								

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH176-87

PROJECT NO .:

1769

DATE COMPLETED: 12/09/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

NORTHEAST OF EAST LAGOON

2.5 Grasar Sar Sar Fill Sar Sa	GROUND ELEVATION - Black Silty Sand, medium angular avel, trace vegetation, dry me, except no vegetation - Brown Red Silty Sand, trace ash, getation, tar, dry - Red Sandy Silt, trace wood and rusted etal, trace glass and porcelain, wet me, with trace medium rounded Gravel, Black ofing shingles, tar, NAPL, no wood, metal, ass, and porcelain - Black Silty Sand, wet me, trace glass and brick	ft AMSL 573.1 571.1 569.1 565.1 563.1	INSTALL	-6.5° BOREHOLE -CEMENT/ BENTONITE GROUT	1SS 2SS 3SS 4SS	T ATE		13 19
2.5 Grasar Sar Fill Veg Fill Me Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill Sar Fill	- Brown Red Silty Sand, trace ash, getation, tar, dry - Red Sandy Silt, trace wood and rusted etal, trace glass and porcelain, wet me, with trace medium rounded Gravel, Black ofing shingles, tar, NAPL, no wood, metal, iss, and porcelain	569.1 567.1 565.1			2SS 3SS		5	13
2.5 sar 5.0 Fill veg 7.5 sar roo gla 10.0 Fill sar 12.5 sar 15.0 Bla	me, except no vegetation — Brown Red Silty Sand, trace ash, getation, tar, dry — Red Sandy Silt, trace wood and rusted etal, trace glass and porcelain, wet me, with trace medium rounded Gravel, Black ofing shingles, tar, NAPL, no wood, metal, uss, and porcelain — Black Silty Sand, wet	569.1 567.1 565.1			355			
7.5 Fill me sar roo gla 10.0 Fill sar 12.5 sar 15.0 Bla 17.5	getation, tar, dry — Red Sandy Silt, trace wood and rusted etal, trace glass and porcelain, wet me, with trace medium rounded Gravel, Black ofing shingles, tar, NAPL, no wood, metal, ass, and porcelain — Black Silty Sand, wet	- 567.1 565.1		-CEMENT/ BENTONITE GROUT				16
7.5 Fill me sar roo gla 10.0 Fill sar 12.5 sar 15.0 Bla 17.5	- Red Sandy Silt, trace wood and rusted etal, trace glass and porcelain, wet me, with trace medium rounded Gravel,Black ofing shingles, tar, NAPL, no wood, metal, ass, and porcelain - Black Silty Sand, wet	565.1			488	\mathbb{H}		
Sar roo gla	me, with trace medium rounded Gravel,Black ofing shingles, tar, NAPL, no wood, metal, ass, and porcelain — Black Silty Sand, wet					1 A I		15
10.0 Fill sar 12.5 sar 15.0 Bla	- Black Silty Sand, wet	563.1			555	\forall		14
12.5 sar 15.0 Bla 17.5	· · · · · · · · · · · · · · · · · · ·	. 1			6SS	\forall		13
15.0 Bla 17.5 20.0		561.1			7SS	\forall		19
17.5 Bla	me, with NAPL, no glass and brick	559.1			855	otag		2
20.0	ack Sandy Silt, NAPL, wet, native	557.1				\mathbb{H}		
	ack Sundy Sirt, NAPE, wet, Indive				955	Θ		1.
22.5					1055	A		1
					11SS	A		;
		549.1			12SS	A		10
	recovery by Brown Silty Sand, coarse Sand, fine	547.1		•	13SS	X		Wi
27.5 Sub	prounded Gravel, trace shell fragments, PL, wet, native d Brown Sandy Clay, coarse angular Gravel,	545.1			14SS	X		1.
wet	t, native, Till				1555	M		18
Coc	gered to 32.0 ft. BGS, no sample arse angular Gravel, wet, native	541.2		:	16SS	X		35
ENI At	GERED TO REFUSAL D OF BOREHOLE AT 34.3 FT. BGS completion borehole was grouted to bund surface	541.1 540.4 538.8			17SS			>100
OTES: MEASURII	ING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E	ELEVATION TABLE DEC/EPA		✓ WATER	R FOUND			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH177-87

PROJECT NO .:

1769

DATE COMPLETED: 1/27/87

CLIENT:

OCCIDENTAL .

DRILLING METHOD: HSA 8.0" OD

LOCATION:

WEST OF S-AREA

CRA SUPERVISOR: D.C. MILLARD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SA	IPLE
ft BG	<u> </u>	ft AMSL	INSTALLATION	N S U T	ž Å.
	GROUND ELEVATION	568.6		B T E E	A LUS E
	Fill — Brown and dark Brown Gravelly coarse Sand, cinder, dry to moist		BOREHOLE	155	22
- 2.5	Fill - White Sand size waste material, moist	566.2	CEVENT/	255	33
- 5.0	same, except Black and White, wet	564.6	SENTONITE GROUT	355	20
0.0	same, with some Gray medium Sand, trace Gravel	562.6		455	18
7.5	augers fell to 10.0 ft. BGS, no sample	560.6		733	'
10.0	Dark Gray Silty fine to medium Sand, trace	558.6			
12.5	vegetation, trace Sand lenses, wet, native			555	21
				6SS X	31
15.0				7SS X	4
17.5				8SS X	4 WH
20.0				1055	11
22.5	same, with trace fine Gravel, dark Brown NAPL, iridescent sheen	546.6		1155	14
25.0	Dark Gray and Gray slightly mottled Silty	543.6		12SS X	_
	medium Sand, Clayey, trace fine Gravel, NAPL, native	542.6 541.8		1355	10
27.5	Dark Gray to Red Brown Sandy Clay, Silty, trace fine Gravei, moist to wet, native, Till Red Brown Silty Clay, Sandy, moist to wet,	540.8 540.6 540.3			
30.0	native, Till Brown and Gray Brown medium Sand, trace Gravel, wet, native, Till	·			
32.5	AUGERED TO REFUSAL END OF BOREHOLE AT 28.3 FT. BGS At completion borehole was grouted to ground surface		•		
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATER	R FOUND	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH178-87

PROJECT NO.: 1769

DATE COMPLETED: 4/20/87

CLIENT: OCCIDENTAL

DRILLING METHOD: HSA 4.75" OD

LOCATION: SOUTHEAST OF MONITORING STATION

CRA SUPERVISOR: C.H. PADGINTON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPLE
ft BG		ft AMSL	INSTALLATION	N SS N
	GROUND ELEVATION	573.2		M A A A L B E U U U S E
	Fill — Brown, Gray, and Red Silt, Gravel, brick, dry	571.2	4.75°¢ BOREHOLE	1SS 26
2.5	Fill — Gray and Brown Silty Gravel, dry	571.2	CEMENT/_	2SS 16
- 5.0	Fill — Brown and Gray Sandy Silt, Gravelly, trace Red granular material, moist	569.2	DENTONITE GROUT	355 6
- 7.5	Fill — Brown, Red, light Blue, and Gray Silt Sand, some fiberous insulation material, moist	567.2		4SS 13
!	Fill - Black Gravelly Silt, wet	565.2		5SS >100
	augered to 10.0 ft. BGS, no sample	563.9		333
-10.0	Fill - Gray rock fragments	563.2 563.0		6SS === >100
	augered to 12.0 ft. BGS, no sample	303.0		
-12.5	Fill — Black Gravelly Silt, iridescent sheen, wet,	561.2		7SS 4
-15.0	Black Silty fine Sand, trace NAPL, wet, native	559.2		8SS 17
- 17.5				9SS 25
17.5				1055 5
-20.0	same, with some wood fragments	553.2		1155 6
-22.5	same, except no wood, no NAPL	551.2		1255 18
-25.0	same, with some wood fragments, trace NAPL	549.2		1388 7
	same, except Brown, no wood, NAPL	547.2		14SS X 52
-27.5	same, with rounded Gravel	545.2		
-30.0	Gray Gravelly Silt, Clayey, wet, native, Till	543.5		15SS X O 8
- 32.5	augered to 32.0 ft. BGS, no sample rock fragments	541.7 541.2 541.0		17SS >100
- 	AUGERED TO REFUSAL END OF BOREHOLE AT 33.5 FT. BGS	539.7		
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	ELEVATION TABL	F	<u> </u>
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	IC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH179-87 (PAGE 1 of 2)

PROJECT NO .:

DATE COMPLETED: 4/8/87

CLIENT:

OCCIDENTAL

1769

DRILLING METHOD: HSA 6.0" OD

LOCATION: SOUTHWEST CORNER OF WEST LAGOON CRA SUPERVISOR: K.D. SCHMIDTKE C.H. PADGINTON DEPTH I STRATIGRAPHIC DESCRIPTION & REMARKS **ELEVATION** MONITOR SAMPLE INSTALLATION ft BG ft AMSL BKCZ Ă T E GROUND ELEVATION 586.4 **1SS** 39 Fill - Gray Sandy Gravel, dry 6.0°6 BOREHOLE 584.5 2.5 Fill - Red Silty Clay, moist **2SS** 40 5.0 **3**SS 11 **4SS** 20 7.5 **5SS** 12 -10.0 655 10 -12.5 **7SS** 17 571.4 **8**SS 26 -15.0 Fill - dark Brown Silty Sand, Clayey, 570.4 Gravel, brick, moist Fill - dark Brown to Black Silty fine Sand, 988 30 -17.5 Gray angular Gravel, cinder, moist 567.7 567.1 566.7 10SS 28 Fill - Gray and White medium to coarse Sand, wet 20.0 566.4 565.8 Fill - Gray and Black Silty fine Sand, wet 11**SS** 7 *565.1* Fill - Gray Clayey Silt, wet 564.4 Fill - Gray and Black medium Sandy Silt, 22.5 wet **12SS** 35 Fill — Black Brown medium Sand, NAPL, wet 562.4 Fili - Gray Silt, wet 13SS 2 -25.0 Fill - Gray Black medium Sand, brick, NAPL, 560.4 wet Fill - Silty coarse Sand, NAPL, wet 14**SS** 24 558.9 27.5 Fili — coarse materiai, NAPL, wet 558.4 Gray Brown Silty fine Sand, moist, native 15**SS** no recovery 30.0 5**56**.4 Gray and Brown Gray Silty fine Sand, trace 16SS 14 NAPL, wet, native 554.4 same, except laminated, no NAPL 32.5 17SS 15 552.4 some, except Black, no laminations, trace **18SS** 5 vegetation

MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

O GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT

 $\mathbf{\nabla}$ WATER FOUND X STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH179-87 (PAGE 2 of 2)
DATE COMPLETED: 4/8/87

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCAT	ION: SOUTHWEST CORNER OF WEST LAGOON		CRA SUPERVISOR:		SCHMIDT PADGINT	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPLE	
ft BG		ft AMSL	INSTALLATION	CZ	S S T T	À.
70.5				B	A A	¥ LUE
32.5		 	76.20	Ř	E Ü	
	Black Silty fine Sand, trace vegetation,		6.00	17 SS	N	15
75.0	wet, native		BOREHOLE	4.000	\square	_
- 35.0		550 /		1 8SS	$ \mathcal{N} $	5
	Dark Gray fine Sand, trace Silt, trace NAPL,	550.4	OEMENT/ BENTONITE	1000	\square	
- 37.5	wet, native	549.4		1 9SS	$M \mid$	30
	Gray and Gray Brown Silty fine Sand, trace	548.4			\square	
	fine rounded Gravel, laminated, NAPL, wet, native			2 0SS	IXI I	7
- 40.0	same, except Gravelly	546.4				
	·			21 SS	IXI I	19
- 42.5				•	K } _ I	
	Gray Silty Clay, Sandy, trace gravel	542.9		22 SS	X O $ $	7
	wet, native, Till	542.4		23SS	Mo	>100
- 45.0	Red Brown Sandy Silt, Gravelly, Clayey, wet, native, Till	541.4 541.3	SELENCE CONTRACTOR	2000		,,,,,
	AUGERED TO REFUSAL					
- 47.5					1 1 1	
	END OF BOREHOLE AT 45.1 FT. BGS					
	At completion borehole was grouted to ground		•		[
-50.0	surface					
-52.5						
02.0						
]	
-55.0						
- 5 7. 5						
37.3						
-60.0						
	. •					
60 E	· .					
-62.5	·	'				
·						
-65.0						
						•
	· · · · · · · · · · · · · · · · · · ·	'	•			
NOTES	MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT	ELEVATION TAB	LE			1
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	_	FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIC	WATER U	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH180-87 (PAGE 1 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 4/13/87

DRILLING METHOD: HSA 6.5" OD

CLIENT: LOCATION: · OCCIDENTAL

SOUTH END OF WEST LAGOON

CRA SUPERVISOR: C.H. PADGINTON

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		MPLI	
t BG	GROUND ELEVATION	ft AMSL 585.9	INSTALLATION	N STATE	NC-18	∄C ⊤ ≽ €
	Fill — Gray and Brown Silty Sand, Gravelly, dry Fill — Red Brown Silty Clay, trace fine	584.9	6.5° 8 BOREHOLE	155		21
2.5	Gravel, dry, plastic		SEMENT/ BENTONITE	255		21
5.0	·		GROOT	355		10
7.5		,		45S X		21
0.0				5SS X		18
2.5	·			6SS X		11
5.0		570.9		855		2:
7 .5	Fill — Black, Brown, and Gray Sandy Silt, Gravelly, wood chips, slag, bottom ash, dry same, except decreasing Gravel with depth, moist	<i>569.9</i>		955		18
	Fill — Black Silt, flyash, moist	567.9		1055		29
0.0	same, with some wood, trace NAPL	<i>565.9</i>		1155		1.
2.5	Fill — Black and Brown Gravelly Silt, slag, trace wood, moist	562.9 561.9		1255		1;
5.0	Fill — Black, Brown, and Gray Silt, Gravel, wood, NAPL, moist to wet			1355		، ا
7.5	Fill — Gray and Brown laminated Silty fine Sand, NAPL in laminations, wet no recovery	559.4 557. 9		1455		20
0.0	Gray and Brown laminated Silty fine Sand,	555.9		15SS X		19
2.5	NAPL in laminations, wet, native			16SS X		10
د.ن				17SS X		14

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

DEC/EPA SPLIT

WATER FOUND

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH180-87 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 4/13/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH FND OF WEST LAGOON

CRA SUPERVISOR: C.H. PADGINTON

2.5		ft AMSL	INSTALLATION	Ü	S	S Y
2.5		l i		1 1 1		1 X
				38 8 8	Ă T E	A LUS
_	Gray and Brown laminated Silty fine Sand, NAPL in laminations, wet, native		90REHOLE	1755	A	14
5.0			CEMENT/ SENTONITE	1855	Θ	12
7.5				1955	Θ	17
0.0	•			20SS 21SS	agray	11
2.5	Gray Silty Clay, wet, plastic, native	544.1 543.9		2133	Θ	
2.5	Red Brown Sandy Silt, Clayey, Gravelly, wet, plastic to low plastic, native, Till			22\$\$	X)	9 4
5.0	Red Brown and Gray laminated Silty Clay, trace Sand and Gravel, wet, native, Till	541.9 540.3		2355	M'	3 14
7.5	Red Brown Silty Clay, Sandy, trace fine Gravel, wet, native, Till AUGERED TO REFUSAL	539.9 538.4				
0.0	END OF BOREHOLE AT 47.5 FT. BGS					
	At completion borehole was grouted to ground surface					
2.5						
5.0						
7.5			·			
0.0						
2.5	•					
5.0						

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH181-87

PROJECT NO.: 1769

DATE COMPLETED: 10/13/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF LANDFILL

CRA SUPERVISOR: C. AHRENS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL	_
ft BG		ft AMSL	INSTALLATION	Ü	SST	, Å.
	GROUND ELEVATION	569.3		MBER	A A T U S	A L U
	Fill — Brown Silty Sand, Clayey, Gravel, moist		6.5°ø BOREHOLE	155	M	17
- 2.5	same, except fine to medium Gravel, trace Clay	567.3	BOREHOLL	255	\bowtie	41
	same, except fine to medium Sand, Clayey, Gravel, wet	565.3 565.0	CEMENT/ BENTONITE GROUT	355		>100
- 5.0	augered through "shot rock" to 13.0 ft. BGS, no samples					
- 7.5						١,
-10.0	·					
-12.5	Fill — Black Gravelly coarse Sand, wet	556.3 555.8		4SS	\forall	13
-15.0	Fill — Black Silty fine Sand, wet same, with slight chemical odor	554.3		555		10
-17.5				6SS 7SS		17
-20.0	same, with trace fine Gravel	549.3		855		7
-22.5	same, with some coarse Gravel	547.3		955		21
05.0	same, with trace Clayey Silt	545.3		1055	$\mathcal{H}_{\mathcal{L}}$	57
-25.0	Brown Clayey Sand, Gravelly, Silty, moist, native, Till	. 544.0		1155		>100
-27.5	AUGERED TO REFUSAL	541.1				
-30.0	END OF BOREHOLE AT 28.2 ft. BGS At completion borehole was grouted to		•			
	ground surface					
- 32.5						
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	ELEVATION TAB		R FOUND		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH182-87

PROJECT NO.: 1769

DATE COMPLETED: 5/26/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: D.C. MILLARD

LOCATION:	SOUTH	OF	S-AREA	LANDFILL
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LOCAT	IION: SOUTH OF S—AREA LANDFILL		CRA SUPERVISOR:		MILLAF IRENS	
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMP	
ft BG		ft AMSL	INSTALLATION	N U M	SST	
	GROUND ELEVATION	569.4		M B E R	A A T	A L UE
- · ·	Fill — Brown and Red Brown Silty fine Sand, some Gravel, trace vegetation, moist	568.6	6.5*4	188	M	>50
2.5	augered to 2.0 ft. BGS, no sample	567.4	6.5 0 BOREHOLE	•	\square	
2.5	Fill — Brown and Red Brown to Black Gravel, fine Sand and Silt, concrete, some Clay, moist to dry, chemical odor	505.4	CEMENT/ BENTONITE GROUT	255	X	80
- 5.0	Fill - Black and Gray, some Red Brown fine	565.4	GROUT	3SS	\square	>85
	Sandy Silt, Gravelly, trace cinders, moist to dry, chemical odor	564.0			Н	
- 7.5	augered through Black Gravel and Sand, brick, and metal to 10.0 ft. BGS, no samples					
-10.0	Fill — Black coarse Gravel and Sand, some cinder, wet	559.4 559.2				
	Fill — Olive Green and Yellow Brown fine Sand and Silt, some slag and cinder, trace			455	M	4
-12.5	Black NAPL Fill - Black wood chips and fiberous	557.6 557.4			H	
	material, moist to wet			5SS	M	26
- 15.0	Fill — Black Silty fine Sand, some coarse Gravel, wet	555.4		655	\square	7
	Black Silty fine to medium Sand, trace vegetation, wet, native			000	\square	
-17.5	same, with trace fine subrounded Gravel, no vegetation	553.4		7SS	X	8
	Black fine to medium Sand, some Silt, trace	<i>551.4</i>			\mathbb{R}^{3}	
-20.0	subrounded Gravel, trace shell fragments, wet, native			855	\mathbb{N}	20
20.0	same, with trace vegetation, iridescent sheen Black fine to medium Sand and Silt,	549.4		955	M	20
-22.5	subrounded to rounded Gravel increasing with depth, wet, iridescent sheen, native	547.4			Θ	
- 22.5	Dark Gray to Black fine Sand, Silt, and Clay	545.7		10SS	IXI	19
25.0	wet, native Dark Gray Gravelly Sand, Clayey, Silty, wet,	545.4		11ST		
- 25.0	native no recovery	5439 5436		13SS		>50
	augered to 26.0 ft. BGS, no sample	342.3		14DT	MC	7
-27.5	Red Brown Silty Clay, Sandy, moist, native,	541.4 541.2		15SS	34	>50
	augered to 28.0 ft. BGS, no sample	0,,,,2				
-30.0	augered to 30.0 ft. BGS, no sample	539.4				
	AUGERED TO REFUSAL	537.9				.
-32.5	END OF BOREHOLE AT 31.5 FT. BGS At completion borehole was grouted to ground surface					
	NOTE: No penetration of dennison tube — 12DT (No recovery of split spoon — 13SS (25.5—25.8 ft	(25.5 ft.)	i.			
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E				 .	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/FPA	SPUT V WATER	FOUND		

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT

DEC/EPA SPLIT

WATER FOUND STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH183-87

PROJECT NO.: 1769

DATE COMPLETED: 10/21/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF LANDFILL

CRA SUPERVISOR: C.AHRENS

LOOK	HON. SOOTHWEST OF LANDITEE		CRA SUPERVISOR:	C.AIII	KENS	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
ft BG		ft AMSL	INSTALLATION	N U M	SST	, X ×
	GROUND ELEVATION	568.8		M B E R	A A T U S) U
- 2.5	Fill — Brown Clayey fine to medium Sand, Silty, Gravelly, vegetation, moist same, except no vegetation	566.8	8.5*ø BOREHOLE	1SS 2SS	M	22
- 5.0	augered through "shot rock" to 8.0 ft. BGS, no samples	564.8	GROUT TE			
- 7.5						
	Fill — Brown Clayey Silt, Sandy, Gravelly, moist	560.8		3SS	X	>100
10.0	Fill — Black Silty fine to coarse Sand, Gravelly, trace glass, NAPL, wet, iridescent sheen	558.8		4SS	M	5
12.5	same, except fine grained, no Gravel and glass	556.8		5SS		21
-15.0	Fill — Black Silty fine to medium Sand, wet, iridescent sheen	554.8		6SS		4
-17.5				7SS		10
20.0				855		15
	Gray to Brown Clayey Sand, Silty, Gravelly, wet, native, Till	546.8		955	X	13
- 22.5	no recovery Brown Silty Clay, trace fine Gravel, trace Sand, moist, native, Till	544.8 543.3		10SS		7
- 25.0	Brown Silty Clay, trace Gravel and Sand, moist, firm, native, Till	542.8 542.4 541.2		11ST 12SS	NF E	12
- 27.5	Brown Silty Clay, wet, native, Till Brown Sandy Silt, Clayey, native, Till same, with trace fine Gravel, moist	540.8		1355	Xo	
-30.0	Gray Silty Sand, Clayey, some Gravel, wet, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 30.0 ft. BGS	540.1 539.8 538.8		14SS		>50
- 32.5	At completion borehole was grouted to ground surface NOTE: No penetration of dennision tube -13DT (26.0 ft.) Split spoon used to obtain					
NOTES:	sample -13SS (26.0 - 28.0 ft.) MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	LEVATION TABL		FOUND		<u> </u> -
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	→ 520/E/A	_	WATER L	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH184-87

PROJECT NO.: 1769

DATE COMPLETED: 10/15/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS

CRA SUPERVISOR: C. AHRENS

ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N	SAME	
10 00	GROUND ELEVATION	568.2	INSTALLATION	20.886.6	STATE	STATUS LUE
	Fill — Brown Silty Clay, vegetation, some Gravel, moist		6.5°¢ BOREHOLE	155	M	51
2.5	Fill — Brown Silty fine Sand, some Gravel, moist	566.2		2SS	M	23
5.0	Fill — Gray Gravelly Sand, Silty, moist	564.2	GROUT GROUT	355	\square	>100
	augered through "shot rock" to 8.0 ft. BGS	562.7			H	
7.5	Fill — Black Silty fine Sand, some Gravel, moist, iridescent sheen, chemical odor	560.2		4SS	\forall	. 15
10.0	same, with cloth fibers, wet	<i>558.2</i>		5SS	M	11
12.5	same, with trace Gravel	556.2		6SS	M	11
15.0	Black laminated Silty fine Sand and fine Sandy Silt, wet, native	<i>554.2</i>		7SS	M	2
17.5	no recovery	552.2		855	X	3
20.0	Black Silty fine Sand, wet, iridescent sheen, strong chemical odor, native	550.2		955		2
22.5	Black fine Gravelly Sand, some Silt, wet,	546.2		1055	X	2
	native same, except no Gravel Gray Brown Silty Clay, trace fine subrounded	544 3.3		1155	A	5
25.0	Gravel, moist, native, Till	541.5		1255	\bigvee) 16
27.5	Brown Sandy Clay, Silty, some Gravel, moist Gray Sand, fine to medium angular Gravel, some Silt, wet, native, Till	541.5 541.2		13SS 14SS	Ä) 80 >100
30.0	same, except no Silt SPOON REFUSAL AND	\$38.8				
32.5	END OF BOREHOLE AT 29.4 ft. BGS At completion borehole was grouted to ground surface					

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH185-87

PROJECT NO.: 1769

DATE COMPLETED: 10/23/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS

CRA SUPERVISOR: C. AHRENS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAM	IPLE
ft BG		ft AMSL	INSTALLATION	N S U T	S 'N
	GROUND ELEVATION	569.1		M B E E	A L U
	Fill — Brown Clayey Sand, Silty, vegetation, trace Gravel, moist			1SS	19
2.5	same, except no vegetation	567.1		2SS	18
	same, except Black Brown, wet	565.1	CEMENT/ BENTONITE GROUT	355	
5.0	same, with slight chemical odor	563.1		455	
7.5	Fill — Black Sandy fine to medium Gravel,	561.1			
	wet, iridescent sheen, chemical odor	559.9		5SS	1:
-10.0	Fill — Black fine fibers, iridescent sheen Fill — Black tar—like material Fill — cardboard	558.9 558.5		6SS	2:
12.5	Black Silty fine Sand, wet, iridescent sheen native	557.6 557.1		7SS X	3
	Black and Brown laminated Silty fine Sand, trace wood, wet, iridescent sheen, native no recovery	555.1			
15.0		553.1		8SS X	18
· 17.5	Black laminated Silty fine Gravel and fine Sandy Silt, wet, iridescent sheen, native			988	1:
	Black Silty fine Sand, wet, iridescent sheen, native	551.1		10SS X	10
20.0	same, with shell fragments	549.1		1155	20
22.5	same, except no shell fragments	547.1		12SS X	1.
	Brown fine Sandy Silt, fine Gravel, moist,	545.1		1255	'
25.0	native, Till /no recovery	544.1		1388	34
	Brown Silty fine Sand, trace fine Gravel, moist, native, Till	543.1 542.6 542.0		14ST 15SS	O 25
-27.5	Brown Silty Clay, moist, native, Till Brown Silty fine Sand, trace Clay and fine	541.4 541.1 540.5		16SS X	O 136
-30.0	Gravel, moist, native, Till Brown Silty Sand, some Gravel, Clayey, moist, native, Till	539.6			
	Brown fine Sandy Gravel, Silty, Clayey, moist, native, Till				
-32.5	AUGER REFUSAL AND END OF BOREHOLE AT 29.5 FT. BGS At completion borehole was grouted to ground				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT	_	~~		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	A SPLIT Y WATE STATI	R FOUND	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH186-87

PROJECT NO.: 1769

DATE COMPLETED: 10/23/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF S-AREA LANDFILL

CRA SUPERVISOR: D.C. MILLARD

LOCAT	ION: SOUTH OF S—AREA LANDFILL		CRA SUPERVISOR:	D.C. MIL	.LARD
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR . INSTALLATION		MPLE
	GROUND ELEVATION	568.9		N S U M B E	
	Fill — Brown and dark Brown Clayey Silt, some Sand and Gravel, vegetation, trace brick, moist	566.9	6.5°¢ BOREHOLE	1SS	4
- 2.5	Fill — Brown Sandy Silt, some Clay and Gravel, wet to moist	564.9	CEMENT/ BENTONITE GROUT	255	5
- 5.0	Fill — Brown and Red Brown Clayey Silt, Sandy, some Gravel, moist to wet		GROUT	355	12
- 7.5	Fill — Brown Sandy Silt, Gravelly, some flyash and cinder, wet augered through "shot rock" to 12.0 ft. BGS, no samples	562.9 562.6		4SS ≥	>50
- 10.0					
-12.5	Fill — Black coarse Gravel, wet, iridescent sheen, chemical odor	556.9		5SS	7
- 15.0	Black Silty fine Sand, trace rounded Gravel, wet, iridescent sheen, native same, with trace Silt lenses	554.8 552.9		688	4
- 17.5	same, except no Silt lenses and iridescent	550.9		788	15
-20.0	augered to 20.5 ft. BGS, no sample same, with rounded Gravel at tip of spoon	548.9 548.4		8SS >	10
- 22.5	Black Silty medium to coarse Sand, trace rounded Gravel, trace White shell fragments, wet to moist, native	546.9 545.9		1055	4
- 25.0	Black to dark Gray to dark Brown Silty Clay, rounded Gravel, increasing Sand with depth, wet, native, Till	544.9 544.6 542.9		1155	22
- 27.5	Brown and dark Brown Silty Clay, Sandy, Gravelly, moist to dry, native, Till			1255	87
-30.0	Red Brown Silty Clay, trace fine Sand lenses with fine Sand, Silt and fine Gravel at tip of spoon, moist, native, Till	540.0 539.7		1388	>100
	Red Brown Silty fine Sand, Clayey, Gravelly moist, wet, Till				
- 32.5	END OF BOREHOLE AT 29.2 FT. BGS				
	At completion borehole was grouted to ground surface				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	·	STATIO	WATER LEVI	EL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH187-87

PROJECT NO .:

1769

DATE COMPLETED: 10/22/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 8.0" OD

LOCATION:

SOUTH OF S-AREA LANDFILL

CRA SUPERVISOR: D.C. MILLARD

GROUND ELEVATION GROUND ELEVATION Fill — Brown and Red Brown Silty Sand, some Gravel and brick, trace concrete, wet to moist 1SS Fill — Coarse Gravel, some Sand and brick, dry Fill — Black, Brown, and White mottled Silty Sand, some Gravel and White medium Sand size material, moist, moderate chemical odor Fill — Black Sond, coarse Gravel, wet, strong chemical odor, iridescent sheen Fill — Black sond, coarse Gravel, wet, strong chemical odor, iridescent sheen Fill — Black oily Silty Sand, some Gravel, moist to wet, strong chemical odor Gravel, moist, strong chemical odor Sand, Silty, trace vegetation, moist to dry, moderate chemical odor some, except no vegetation, trace brick, moist Fill — Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Same, except no Clay Fill — Black Cravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill — Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand Sand and Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand Sand And Silt, wet, strong chemical odor Fill — Black Coarse angular Gravel, some Sand Sand Sand Sand Sand Sand	EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	N N	SAMPL	
Fill — Brown and Red Brown Silty Sand, some original and brick, trace concrete, wet to maist 2.5 Fill — Coarse Gravel, some Sand and brick, 564.5 5	H BG	GROUND ELEVATION		INSTALLATION	9 H B K C Z		ורר א < ב
Fill — Black, Brown, and White mottled Silty Sand, some Gravel and White medium Sand size material, moist, moderate chemical odor Fill — Black Sand, coarse Gravel, wet, strong chemical odor, iridescent sheen Fill — Black oily Silty Sand, some Gravel, moist to wet, strong chemical odor, iridescent sheen Fill — Black and Brown to Gray Silty Sand, coarse angular to subrounded Gravel, moist, strong chemical odor and Black Gravelly coarse Sand, Silty, trace vegetation, moist to dry, moderate chemical odor same, except no vegetation, trace brick, moist Fill — Black Cravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill — Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Fill — Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Same, except no Clay Sass Sass Sass Sand, some Sao. Sao. Sao. Sao. Sao. Sao. Sao. Sao.	·•	Gravel and brick, trace concrete, wet to	500.5	8.0°s BOREHOLE	1		24
Sand, some Gravel and White medium Sand size material, moist, moderate chemical odor Fill - Black Sand, coarse Gravel, wet, strong chemical odor, iridescent sheen Fill - Black oily Slitty Sand, some Gravel, moist to wet, strong chemical odor, iridescent sheen Fill - Black oily Slitty Sand, some Gravel, moist to wet, strong chemical odor, iridescent sheen Fill - Black and Brown to Gray Slity Sand, coarse angular to subrounded Gravel, moist, strong chemical odor Fill - dark Brown and Black Gravelly coarse Sand, Slitty, trace vegetation, moist to dry, moderate chemical odor same, except no vegetation, trace brick, moist Fill - Black Cravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill - Black Slity medium to coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill - Black Slity medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor Some rounded to angular Gravel, trace Clay wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor 7.22.5 Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Ougered to 28.0 ft. BGS, no sample Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till Source of the strong chemical odor 7.23.5 Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Ougered to 28.0 ft. BGS, no sample Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till	2.5			- CEMENT/	255	X	75
Fill - Black Sand, coarse Gravel, wet, strong chemical odor, iridescent sheen Fill - Black oily Silty Sand, some Gravel, moist to wet, strong chemical odor, iridescent sheen Fill - Black and Brown to Gray Silty Sand, coarse angular to subrounded Gravel, moist, strong chemical odor Fill - dark Brown and Black Gravelly coarse Sand, Silty, trace vegetation, moist to dry, moderate chemical odor some, except no vegetation, trace brick, moist Fill - Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill - Black Silty medium to coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill - Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black Coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand Salt, Tace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till	5.0	Sand, some Gravel and White medium Sand		BENIONIE GROUT	355	M	33
Fill - Black oily Silty Sand, some Gravel, moist to wet, strong chemical odor, iridescent sheen Fill - Black and Brown to Gray Silty Sand, coarse angular to subrounded Gravel, moist, strong chemical odor Fill - dark Brown and Black Gravelly coarse Sand, Silty, trace vegetation, moist to dry, moderate chemical odor same, except no vegetation, trace brick, moist Fill - Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill - Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong semilar Gravel, some Sand and Silt, wet, strong semilar Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Sale,	7.5	Fill — Black Sand, coarse Gravel, wet,			455	X	12
Fill — Black and Brown to Gray Silty Sand, coarse angular to subrounded Gravel, moist, strong chemical odor Fill — dark Brown and Black Gravelly coarse Sand, Silty, trace vegetation, moist to dry, moderate chemical odor same, except no vegetation, trace brick, moist Fill — Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill — Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor 11SS Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor 12SS Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till		moist to wet, strong chemical odor, iridescent			5SS		19
Fill — dark Brown and Black Gravelly coarse Sand, Silty, trace vegetation, moist to dry, moderate chemical odor same, except no vegetation, trace brick, moist Fill — Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill — Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor 7SS 8SS 552.5 10SS 10SS 10SS 12SS 7SS 8SS 7SS 8SS 7SS 8SS 7SS 8SS 7SS 8SS 7SS 8SS 10SS 10SS 10SS 10SS 10SS 10SS 11SS 11SS 11SS 11SS 12SS 7SS 10SS 10SS 10SS 10SS 11SS 11SS 11SS 12SS 13SS 14SS 14SS 7SS 7SS 8SS 10SS	10.0	Fill — Black and Brown to Gray Silty Sand, coarse angular to subrounded Gravel, moist,	55 8 .5		6SS		32
same, except no vegetation, trace brick, moist Fill - Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill - Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill - Black coarse angular Gravel, some Sand, some except no Clay Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black Silty medium Sandy Silt, trace Sand, some Sand,	12.5	Fill — dark Brown and Black Gravelly coarse Sand, Silty, trace vegetation, moist to dry,	556.5		755		72
Fill — Black Gravelly coarse Sand, some concrete and brick, trace rubber, moist to wet, strong chemical odor Fill — Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill — Black Black Silty medium Sand, some Sand, trace Sand, some same, except no Clay Fill — Black Silty medium Sand, some Sand, some Sand, some Sand, some same, except no Clay Fill — Black Silty medium Sand, some Sand, some Sand, some same, except no Clay Fill — Black Silty medium to coarse Sand, some San	15.0	same, except no vegetation, trace brick,			855	M	45
Fill - Black Slity medium to coarse Sand, some rounded to angular Gravel, trace Clay wet, strong chemical odor same, except no Clay Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor Fill - Black slity medium Sand, some Same, except no Clay Gravel, moist to wet, native, Till S40.5 Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till S39.2	17.5	concrete and brick, trace rubber, moist to			988		47
same, except no Clay Fill - Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor 22.5 Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till		Fill — Black Silty medium to coarse Sand, some rounded to angular Gravel, trace Clay	350.5		10SS	\mathbb{N}	17
Sand and Silt, wet, strong chemical odor 12SS 13SS Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till augered to 28.0 ft. BGS, no sample Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till	20.0		<i>548.5</i>		1155	\square	31
Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till 14SS 541.8 541.1 540.5 539.9 539.2	22.5	Fill — Black coarse angular Gravel, some Sand and Silt, wet, strong chemical odor	<i>546.5</i>		12SS		32
Red Brown fine to medium Sandy Silt, trace Clay, Gravel, moist to wet, native, Till Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till Total Sand, 1541.1 S41.1 S40.5 S39.9 S39.2	25.0				13SS	\boxtimes	31
augered to 28.0 ft. BGS, no sample Gray Brown Silty fine to medium Sand, trace Clay, Gravel, moist to wet, native, Till	27.5	Red Brown fine to medium Sandy Silt, trace	541.1		14SS		>61
Clay, Gravel, moist to wet, native, Till		augered to 28.0 ft. BGS, no sample	539.9		15SS	X	>100
Victoria in Equipment of the Control	30.0	Clay, Gravel, moist to wet, native, Till Rock fragments, Black NAPL, wet					
AUGER REFUSAL AND END OF BOREHOLE AT 29.3 FT. BGS	32.5						
At completion borehole was grouted to ground surface NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE		surface	<u> </u>				

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT DEC/EPA SPUT

WATER FOUND Y STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH188-87

PROJECT NO.: 1769

DATE COMPLETED: 10/22/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF LACOONS

CRA SUPERVISOR: C. AHRENS

	•					
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMPI	
IL BG	GROUND ELEVATION	573.1	INSTALLATION	N U M B E R	S T A T U S	MCr> <z< td=""></z<>
- 2.5	Fill — Brown Silty Sand, Clayey, some Gravel, trace glass and vegetation, moist same, with trace wood	571.1	8.5° BOREHOLE	1SS 2SS		23
	augered to 4.5 ft. BGS, no sample	569.1 568.6	— CEMENT/ BENTONITE GROUT			
- 5.0	Fill — Brown Silty Sand, some Gravel, trace Clay, slag, moist			388		16
- 7.5	same, except Black and Brown, glass	564.6		455		20
- 10.0	Fill — Gray angular medium Gravel, wet	563.1		555	\bigvee	22
-12.5	same, except coarse Gravel	561.1		6SS 7SS	Θ	13
- 15.0	same, except some Silty Sand	559.1		8SS	\bigvee	7
	same, except no Sand	557.1		988		29
-17.5	Fill — Black Silty fine Sand, wet, slight chemical odor	555.1		1055		5
-20.0	Black Silty fine Sand, trace vegetation, wet, trace chemical odor, native	553.1		1155		3
- 22.5	same, except no vegetation	551.1		12SS		3
- 25.0	same, with trace shell fragments same, with trace fine Gravel, iridescent sheen Gray Brown Clayey Silt, some Gravel, trace	549.1 547.1		13SS		2
- 27.5	fine Sand, wet, grading to a Brown Silty Clay, some fine to medium Gravel, moist, native, Till	545.6 545.1		1455		7
70.0	Red Brown laminated Silty Clay, moist, native, Till	544.1		1555	Xc	53
-30.0	Red Brown Sandy Clay, Silty, fine to medium Gravel, moist, native, Till same, except Brown, some fine Gravel, moist to wet	543.1 542.3		16SS		>100
- 32.5	AUGER REFUSAL AND END OF BOREHOLE AT 30.8 ft. BGS At completion borehole was grouted to ground surface	·				
NOTES:	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT I GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	ELEVATION TAB DEC/EPA	A SPLIT WATES	R FOUND	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH189-88 (PAGE 1 of 2)
DATE COMPLETED: 3/4/88

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST LANDFILL

2.5 5.0 7.5	GROUND ELEVATION augered to 2.0 ft. BGS, no sample Fill — Brown fine to coarse Sandy Silt, fine to coarse Gravel, Clay, wood, cement, and cinders, moist same, with Yellow Blue crystalline material same, except no cinders	ft AMSL 574.1 572.1		HOLE 155		STATUS	301×C
5.0	Fill — Brown fine to coarse Sandy Silt, fine to coarse Gravel, Clay, wood, cement, and cinders, moist same, with Yellow Blue crystalline material			HOLE		S	<u>E</u>
5.0	fine to coarse Gravel, Clay, wood, cement, and cinders, moist same, with Yellow Blue crystalline material			155	\square		
į	same, with Yellow Blue crystalline material	570.1	ESTATE PENT	NT/ I	IXI		1
7.5	same, except no cinders	1	ĞRÖÜ	ONITE 2SS	M		
/.5 <u> </u>		568.1		355	M		4
1	Fill — Black, Orange, and White fine to coarse Sandy Silt, slag, crystalline	566.1		4SS	M		2
0.0	material, wet Fill — Black Silt, thick sticky NAPL	564.1		5SS	\bigvee		
2.5				655	\bigvee		
5.0	same, with White chalky material, slag	560.1		755	\bigvee		
	Brown Silty fine Sand, trace NAPL, moist, native	558.4		855	\bigvee		
7.5	same, except Gray	<i>558.1</i>		955	\bigvee		
0.0	same, except wet	554.1		1055	\bigvee		
2.5	same, with trace iridescent sheen	552.1		1155			
5.0	same, with trace medium Sand	550.1		1255	\bigvee		
	same, except laminated Gray and Brown, trace	547.1		1700	\bigvee		
7.5	fine Gravel Gray to Brown Silty fine to medium Sand,	546.1		1355	\bigcirc		
	trace fine Gravel, wet, native			14SS			
	Red Brown fine to coarse Sandy Silt, Clayey, wet, native, Till	542.6		15SS	M,	8)	٧
F	Red Brown Gravelly Silt, some Sand and Clay, native, Till	541.1 540.1		16SS 17SS	A		10

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

SOUTHEAST LANDFILL

HOLE DESIGNATION: BH189-88 (PAGE 2 of 2)
DATE COMPLETED: 3/4/88

DRILLING METHOD: HSA 6.5" OD

			OKK SOF EKTISOK.	
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
III BG		ft AMSL	INSTALLATION	N S S N N T T V A A A
32.5				B TT L
	Red Brown Gravelly Silt, some Sand and	541.1		R S E 16SS X ⊠ 106
	Clay, native, Till Gray fine to coarse Sandy Gravel, wet	540.1 540.0 539.8	8.5°¢ BOREHOLE	17SS >100
35.0	\\ native, Till	539.8		
	AUGERED TO REFUSAL		CEMENT/ BENTONITE GROUT	
-37.5	END OF BOREHOLE AT 34.3 FT. BGS			
	At completion borehole was grouted to ground surface			
	ground surface			
40.0	NOTE: 16SS — A 300 lb. hammer and a 3.0" split spoon with polycarbonate liner was used			
42.5				
			:	
- 45.0				
	·			
l				,
-47.5				.
	·			
50.0	`			
-52.5				
- 55.0		*		
33.0				
57.5	,			
-60.0	·			
	·	ĺ	Ì	
-62.5				
5				
-65.0				
	·			
NOTES: (PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC /	SAMBLE	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	- ·	_	WATER LEVEL

PROJECT NAME: S-AREA

OCCIDENTAL

HOLE DESIGNATION: BH190-88 (PAGE 1 of 2)

PROJECT NO.: 1769 DATE COMPLETED: 2/23/88

CLIENT:

DRILLING METHOD: HSA 6.5" OD CRA SUPERVISOR: P.H. SMITH

LOCATI	ON: LANDFILL, BETWEEN LAGOONS, AT SOUT	H END	CRA SUPERVISOR	R: P.H. SM	∤ TH
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		MPLE
ft BG	GROUND ELEVATION	ft AMSL 586.4	INSTALLATION	N S U A B T E	Î Î
	augered to 2.0 ft. BGS, no sample	584.4	8.5° 6 BOREHOLE	R	S E
2.5	Fill — Red Brown Silty Clay, trace coarse Sand, dry	384.4	CEMENT/ BENTONTE GROUT	155	35
- 5.0	,		GROUT	255	- 7
- 7.5	same, except moist	578.4		355	20
-10.0				4SS X	13
-12.5	:			655	24
-15.0	same, with some glass Fill — Gray and Brown Silty fine to coarse	572.4 571.7		7SS X	55
-17.5	Gravel, some fine to coarse Sand, trace brick and slag, moist Fill — Brown Silty fine to coarse Sand, some	570.4		855	>50
	Fill — dark Brown Silty fine Sand, trace fine Gravel and brick, moist	568.4		955	20
-20.0	Fill — Black Silty fine Sand, trace fine Gravel, wet, NAPL	566.4		1055	12
- 22.5				1155	9
-25.0		560.4		1255	6
- 27.5	Dark to light Brown Silty Sand, trace fine Gravel, wet			1388	35
-30.0				1455	20
~ 32.5				15SS X	16
J2.5				16SS X	13
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE	<u> </u>	11
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA	SPLIT WATE	ER FOUND IC WATER LEVE	L

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH190-88 (PAGE 2 of 2)

PROJECT NO.: 1769 DATE COMPLETED: 2/23/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL, BETWEEN LAGOONS, AT SOUTH END

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE	_
ft BG		ft AMSL	INSTALLATION	N S S N	
70.5	·			M A A A B T T L L E E U U	` ;
32.5			E0000000000	RSE	<u> </u>
	Dark to light Brown Silty Sand, trace fine Gravel, wet			16SS X 1	3
	Graver, wet		BOREHOLE		
-35.0				17SS X 1	11
	·		CEMENT/ BENTONITE GROUT		
-37.5			GROUT	18SS X 1	8
57.5	·				
				1988	8
-40.0	same, with NAPL	546.4			
				2088 2	26
	same, with trace fine to coarse Gravel	544.4			
- 42.5	Red Brown Silty Clay, trace rounded fine Gravel, moist, native, Till, Gray silty fine	5474		2155	6
	Sand lense at 43.6 ft	543.1		2133	9
- 4 5.0	Red Brown Sandy Silt, some Clay, trace fine Gravel, native, Till	542.4		2255 🗙 >10	o
45.0		541.1			
	augered to 47.0 ft. BGS	539.4			
- 47.5	Red Brown Sandy Silt, some Clay, trace fine Gravel, native, Till	539.1		23SS 🗷 O >10	ן טו
	AUGERED TO REFUSAL	538.3	\$24.34.4.30.4.4.3		1
	END OF BOREHOLE AT 48.1 FT. BGS				
-50.0	At completion borehole was grouted to ground				
	surface				
-52.5	Now A control				
	NOTE: No penetration of shelby tube -22ST (44.0 ft) Split spoon was used to obtain				
	sample -22SS (44.0-45.3 ft)				ļ
-55.0					
	·				
-57.5					
-60.0					
		ľ			
-62.5					
CE 0					
-65.0					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	_ `	SAMPLE	·	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	_	FOUND WATER LEVEL	
	STATE SIZE DIST. & ATT. FOR OUG & DEC/EFA SPUT		SIAIR	WATER LEVEL	

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

WEST OF LAGOONS

HOLE DESIGNATION: BH191-88 (PAGE 1 of 2)

DATE COMPLETED: 2/25/88

DRILLING METHOD: HSA 6.5" OD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAN		
ft BG	250,000 515,000	ft AMSL	INSTALLATION	N U M B E	STATE	STATUS	, Y
··································	GROUND ELEVATION	586.5		Ë	Ė	ว่ ร	Ũ
	augered through Gravel to 2.0 ft. BGS		6.5°0 BOREHOLE				
2.5	Fill — Red Brown Clayey Silt, trace fine	584.5	ROKEHOLE				
2.0	Gravel, dry		CEMENT/	155	IX		34
	same, except no Gravel	582.5	CEMENT/ BENTONITE GROUT		$\langle \cdot \rangle$		
5.0				255	Χ		10
	same, with trace coarse Sand	580.5		İ	\square		
7.5				355	X	·	32
				4SS	∇		18
10.0	•			+33	\triangle		'
		•		555	M		20
				333			
12.5				655	X		39
	511 0 10 11 0 11 0 11	572.3			('
15.0	Fill — Brown and Black Gravelly Silt, brick and slag, dry			755	IX		52
•		570.0		855	\bowtie		>60
17.5	augered to 18.0 ft. BGS, no sample	370.0] .			
	Fill — Brown and Black Gravelly Silt, brick	568.5			K		ı
	and slag, trace NAPL in tip of split spoon, dry			955	X		14
20.0	Fill — dark Brown and Black Silty fine to	566.5			\square		,
	medium Sand, some fine to coarse Gravel, NAPL, moist			10SS	M		16
22.5	same, except wet	564.5		1155	abla	- 1	3
	Fill — Brown Silty fine to medium Sand,	562.5		1133	\triangle		ر د
25.0	glass, brick, slag, moist	1 1		1255	M		. 8
	same, except Black with NAPL same, except wet	561.0 560.5			\triangle		
	Brown Silty fine Sand, trace fine Gravel,	560.5 560.0		1355	M		25
27.5	moist, native same, except Gray, NAPL, wet	558.5			$(\)$		
				14SS	IXI		1
50.0	same, except trace NAPL, moist	556.5			(\cdot)		
				15SS	X		12
52.5	same, except wet	554.5			(
				16SS	X		12
				17SS	\square		1
DIES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA					
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA	_	ER FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STAT	TO WATER LE	EVEL.		

PROJECT NAME: S-AREA

PROJECT NO .:

1769

HOLE DESIGNATION: BH191-88 (PAGE 2 of 2)

DATE COMPLETED: 2/25/88

CLIENT: OCCIDENTAL DRILLING METHOD: HSA 6.5" OD

LOCATION: WEST OF LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMP	
ft BG		ft AMSL	INSTALLATION	N U M	SST	, X,
32.5	,			M B E R	A A T U S	L U E
	Gray Silty fine Sand, trace fine Gravel, trace NAPL, wet, native		6.5°¢ BOREHOLE	16SS	X	12
-35.0				17SS		11
-37.5				1855	M	19
- 40.0				1955	M	3
40.0	Red Brown Sandy Silt, some clay, trace fine	545.0		20SS	\bigvee c	3
-42.5	Gravel, native, Till Gray fine to coarse Gravel, some fine to			21SS	X &	WR
-45.0	Coarse Sand and Silt, wet, native, Till AUGERED TO REFUSAL	542.5 542.0		2255		>400
	END OF BOREHOLE AT 46.0 ft. BGS	540.5				
-47.5	At completion borehole was grouted to ground surface		•			
-50.0	NOTE: 21SS & 22SS A 3.0" split spoon with a polycarbonate liner was used					
-52.5	· · · · · · · · · · · · · · · · · · ·					
-55.0			·			
-57.5	,					
-60.0	•					
62.5						
-65.0					,	
1	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA DEC/EPA	SPLIT WATE	R FOUND	-VE1	<u> </u>

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH192-88

PROJECT NO .:

1769

DATE COMPLETED: 1/11/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LANDFILL

CRA SUPERVISOR: N.W. THOMPSON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR			1PLI	
ft BG	GROUND ELEVATION	ft AMSL 568.9	INSTALLATION	3 H B K C Z	STATE	STATU	CL><
	augered to 3.0 ft. BGS		6.5*ø BOREHOLE	Ř		Š	E
2.5		505.0	BOREHOLE				
	Fill — White Silty Sand, Red Brown Silty Clay, Brown fine Sand, trace sulphur, dry	565.9 564.9	CEMENT/ BEN TONITE GROUT	1SS	\boxtimes		27
5.0	Fill — White Silty Sand, dry to moist, same, except White to Gray, trace medium angular Gravel, wet	562.9		255	X		19
7.5	ungulai Gravel, wet	560.9		355	X		10
	Fill — Gray coarse Sand, wet	559.9		455	∇	1	٠,
0.0	Black Silty fine Sand, wet, native	339.9		455			1
	same, with trace shell fragments	558.9		5SS	X		1.
2.5	same, with trace vegetation, no shell fragments	556.9		655			.18
	same, except no vegetation	554.9					
5.0				7 S S	X		
7.5	same, with iridescent sheen	550.9		855	X		9
0.0				9SS	\bigcirc		'
2.5	same, with laminations and shell fragments	546.9		10SS 11SS	\bigvee		2.
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	545.0 544.9		1133			_
5.0	Gray Silty Clay, NAPL, wet, native Red Brown Sandy Clay, wet, native	377.3		12ST 12DT		⊗	
	Red Brown Silt and Clay, trace Sand, wet, native	542.9 542.2		13ST		8	
7.5	AUGERED TO REFUSAL	540.4					ļ i
	END OF BOREHOLE AT 28.5 FT. BGS	340.4					
0.0	At completion borehole was grouted to ground surface						
2.5	NOTE: No penetration of Shelby tube — 12ST (24.0 ft.). Dennison tube used to obtain sample — 12DT (24.0 — 26.0 ft.)						
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA			•		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT WATE	R FOUND			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH193-88

PROJECT NO .:

1769

DATE COMPLETED: 1/12/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LANFILL

CRA SUPERVISOR: N.W. THOMPSON

BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N		MPLI	
ВС	· GROUND ELEVATION	568.8	INSTALLATION	B B B C Z	S T A T E	STATUS	acr≽ <z< th=""></z<>
	augered to 2.0 ft. BGS		8.5°¢ BOREHOLE	R		S	<u>E</u>
5	Fill — Black to White fine to medium Sand, trace ash, trace vegetation, dry to moist	566.8		1SS	X	,	4
כ	Fill — Black medium Sand, trace coarse fine Gravel, wet	564.8	GROUT	255			3:
	no recovery	562.8		355	\bigvee		
5	Fill — Black coarse Sand, NAPL, wet	560.8	4	455	\Rightarrow		39
0	Black fine Sand, trace fine rounded Gravel, NAPL, wet, native	559.4		555	\bigcirc		20
5	same, with trace vegetation	556.8		655	\bigcirc		1
0	same, except no Gravel and vegetation	554.8			\bigcirc		
U	same, with trace fine subrounded Gravel and vegetation	552.8		7\$\$	\bigwedge		
.5	same, except no Gravel	550. 8		BSS	$\langle \rangle$. 9
.о	same, with trace shell fragments	548.8		988	X		
_	same, except no vegetation or shell fragments	546.8		1055	\triangle		-
.5	same, with laminations and fine to medium rounded Gravel same, except no laminations	545.4 544.8		1155	X		28
.0	Red Brown Silty Clay, fine to coarse subangular Gravel, wet, native, Till	\$44.8 544.8		12SS	\mathbb{X}	•	14
.5	AUGERED TO REFUSAL	542.4		13ST			
	END OF BOREHOLE AT 28.0 FT. BGS	540.8					
.0	At completion borehole was grouted to ground surface						
.5							

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC

DEC/EPA SPLIT

WATER FOUND STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH194-87

PROJECT NO.:

1769

DATE COMPLETED: 12/14/87

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST CORNER OF S-AREA

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR: N.W. THOMPSON

STATIC WATER LEVEL

BG		ft AMSL	INSTALLATION	1 2 '	SIS	'
\rightarrow	GROUND ELEVATION	567.5		Z D B B C Z	A A T T E US	
	Fill — Brown Gray Silty Sand, fine to coarse angular Gravel, brick, slag, vegetation, dry		6.5°ø BOREHOLE	1SS	S	2
.5	Fill — White and Black coarse Sand and ash, trace brick, dry to moist	565.5		255		
.0	Fill — Gray coarse Sand, medium to coarse angular Gravel, trace Silty Sand, vegetation slag, paper, moist to wet	563.5	——————————————————————————————————————	355	X	
.5	Fill — Black medium Sand, trace vegetation, NAPL, wet	561.5		455		
	Fill — Black fine Sand, medium subrounded Gravel, slag, NAPL, wet	559.5		5 SS		-
0.0	same, except no Gravel	557.5 556.5		655		
5	Black fine Sand with Sandy Silt lenses, vegetation, wet, native			7SS		
.0	· ·	<i>551.5</i>		855	\square	
.5	same, except no vegetation, trace Silt lenses			955	\bigvee	
	Black fine to medium Sand, wet, native	549.5		1055	\bigvee	
.0	Black medium to fine Sand, some medium round Gravel, wet, native	547.5		1155	\bigvee	
.5	same, except no Gravel, NAPL	545.5		12SS		
.0	Red Brown Silty Clay, wet, native Red Brown Silty Sand, fine to coarse Gravel, trace Clay, wet, native	543.6 543.5 542.8		13SS		>1
.5	AUGERED TO REFUSAL	539.3				
.0	END OF BOREHOLE AT 28.2 FT. BGS	-	v			
	At completion borehole was grouted to ground surface			·		
5						

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH195-88

PROJECT NO .:

1769

DATE COMPLETED: 1/13/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LANDFILL

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT

CRA SUPERVISOR: N.W. THOMPSON

STATIC WATER LEVEL

LOCATI	ION. FARRING LOT WEST OF LANDFIEL		CRA SUPERVISOR:	14. 44.	ITON	/IF 31	OIA
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAM		
ft BG	GROUND ELEVATION	ft AMSL 568.2	INSTALLATION	Z U M B E	4	S T A T	C - > < z`
O.F.	Fill — Brown fine to coarse angular Gravel, dry augered to 4.0 ft. BGS, no sample	567.8	6.5° BOREHOLE	r 1SS	×	Ú S	>5(
2.5	Sill - Black Sand reading chinales trace	564.2	- CEMENT/ BENTONITE GROUT	i			
5.0	Fill — Black Sand, roofing shingles, trace medium angular Gravel and brick, moist same, except Silty Sand, no brick, wet,	562.2		2S S	\mathbb{N}	į	18
7.5	iridescent sheen same, except no Gravel	560.2		358	M		13
	Black Silty Sand, trace shell fragments,	559.0		4SS	M		7
10.0	wet, iridescent sheen, native same, with trace vegetation	558.2		5SS			12
12.5	same, with trace fine rounded Gravel	556.2		6SS	M		27
15.0				7 S S	M		
17.5				888			24
20.0				9SS			12
	•			10SS			;
22.5	Gray to Red Brown Sandy Clay, wet, native	544.4 544.2 543.9		1155	M		12
25.0	Red Brown Sandy Clay, some medium to coarse angular Gravel and rock fragments, wet, native, Till	543.9		13SS			>50
27.5	AUGERED TO REFUSAL	539.5					
30.0	END OF BOREHOLE AT 28.7 FT. BGS At completion borehole was grouted to ground surface	339.3		,			
32.5	NOTE: No recovery of shelby tube — 12ST (24.0—24.8 ft) Split spoon used to obtain sample —13SS (24.0—24.3 ft)						
	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	LEVATION TABLE DEC/EPA		FOUND			

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH196-88

PROJECT NO.: 1769

DATE COMPLETED: 1/7/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION: PARKING LOT WEST OF LANDFILL

CRA SUPERVISOR: N.W. THOMPSON

LOCAT	ION: PARKING LOT WEST OF LANDFILL		CRA SUPERVISOR:	N.W.	IHOM	PSUN
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION		SAMP	
100	GROUND ELEVATION	568.8	MSTALLATION	N D M B E C	S S S T A T U S	ACT > < Z
	augered to 2.0 ft. BGS		6.5°¢ BOREHOLE	к	3	
- 2.5	Fill — Black Silty Sand, coarse angular Gravel, vegetation, ash, dry	566.8		155	M	40
5.0	Fill — White to Gray medium to coarse Sand, trace coarse angular Gravel and Silt, wet	564.8	GROUT	255	M	2
7.5	same, with NAPL	562.8		355	M	5
- 10.0	Fill — Black fine to medium Sand, NAPL, wet,	559.3		455		, 3
	native			5SS	M	10
- 12.5				6SS		14
- 15.0		,		7 SS		12
-17.5		·		855	X	8
- 20.0	·			9SS	X	9
-22.5				10SS	\bigvee	1
- 25.0	Red Brown Silty Clay, wet, native Red Brown Silty Clay, coarse angular Gravel, trace Gray rock fragments, moist, native, Till augered to 27.0 ft. BGS, no sample	544.9 544.8 543.1		11SS 13SS		>50
-27.5	Gray rock fragments AUGERED TO REFUSAL	541.8 541.3 541.1		1455	×	>100
-30.0	END OF BOREHOLE AT 27.7 FT. BGS At completion borehole was grouted to ground surface					
- 32.5	NOTE: No recovery of shelby tube — 12ST (24.0—25.0 ft) Split spoon used to obtain sample — 13SS (24.0—25.7 ft)				Î	
(MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT E GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATER	FOUND WATER L	L EVEL	1

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH197-88

PROJECT NO.: 1769

DATE COMPLETED: 2/23/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LAGOONS

CRA SUPERVISOR: N.W. THOMPSON

			ONA SOI ENVISOR.	14.44. 1		00.1
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
IT BG	GROUND ELEVATION	ft AMSL 568.5	INSTALLATION	7 7 8 8 F R	ST AT US	וכר <i>> <</i> ב
	Fill — Black to Brown fine to coarse angular Gravelly Silt, dry		6.5°¢ BOREHOLE	1SS	\bigvee_{s}	17
2.5				255		56
- 5.0	Fill — Black Silty Sand, fine to medium angular Gravel, wet	564.5		355	$\overline{\mathbf{X}}$	25
7.5	Fill — wood in tip of split spoon	562.5		4SS	\forall	6
7.3	Fill - Black Silty Sand, wet	560.5 559.5		555		10
-10.0	Black fine Sand, NAPL, wet, native			6SS	\forall	14
-12.5	same, with trace shell fragments	556.5		7 S S		11
-15.0	same, except no NAPL and no shell fragments	554.5		8SS		3
17.5		-		988	X	9
- 20.0				1055		4
-22.5				11SS 12SS	$\stackrel{X}{\rightarrow}$	30
- 25.0	Gray to Red Brown Silty Clay, wet, native Red Brown Sandy Clay, fine to coarse angular Gravel, wet, native, Till	544.5 543.8		1355	<u> </u> 8	
- 27.5	no recovery	542.5 540.5 540.1		14SS 15SS		68 >75
-30.0	AUGERED TO REFUSAL END OF BOREHOLE AT 28.7 FT. BGS At completion borehole was grouted to ground surface	539.8				
- 32.5	NOTE: 13SS to 15SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA DEC/EPA	SPLIT WATER	FOUND WATER LE	VEL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH198-88

PROJECT NO.: 1769

DATE COMPLETED: 3/21/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LAGOONS

LOCATI	ION: PARKING LOT WEST OF LAGOONS		CRA SUPERVISOR:	N.W. T	НОМЕ	SON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	_	SAMPL	
ft BG		ft AMSL	INSTALLATION	M CZ	S S T T	, N
	GROUND ELEVATION	568.9		M B E R	A T U S	L U E
	Fill — Gray fine to coarse Gravel, some Silt and Sand, trace wood, dry	567.3		155	X	25
2.5	augered to 4.0 ft. BGS, no sample	307.5				
	Fill — dark Gray Silt and fine to coarse	564.9	CEMENT/ BENTONITE GROUT	2SS	\forall	>58
- 5.0	Gravel, some White paste-like material, moist augered to 6.0 ft. BGS, no sample	563.9 562.9				-
- 7.5	Fill — White paste—like material and Black Silty fine Sand, NAPL, wet			355	Δ	12
-10.0				455	Δ	16
10.0				555	X	9
-12.5		554.9		6SS	X	. 17
-15.0	Black fine Sand, wet, native	7 334.9		7 S S	X	. 6
-17.5				855		13
-20.0				955	X	4
- 22.5	same, with NAPL	546.9		1055	A	4
- 25.0	same, with fine to medium rounded Gravel Red Brown Silty Clay, wet, firm, native	544.9 544.6		11SS 12SS		42
	Red Brown Silty Clay, trace fine subrounded	542.9 542.1		1355		>100
-27.5	Gravel, wet, firm, native, Till augered to 26.8 ft. BGS, no sample Red Brown Silty Clay, trace fine subrounded	542.0 540.9		1000		
- 30.0	Gravel, wet, firm, native, Till AUGERED TO REFUSAL END OF BOREHOLE AT 28.0 FT. BGS			-		
- 32.5	At completion borehole was grouted to ground surface NOTE: 12SS & 13SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATER	FOUND	EVEL.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH199-88 (PAGE 1 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 2/17/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

CRA SUPERVISOR: N.W. THOMPSON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
ft BG		ft AMSL	INSTALLATION	טא	SST	,Ñ,
	GROUND ELEVATION	586.8		2 M W K C Z	A A T U	A L U
	Fill — Brown Silty Sand, Gravelly, dry		85.4	155 -	M	38
2.5	same, except dark Brown, no Gravel, moist	584.8	8.5° BOREHOLE	255		23
	Fill — Red Brown Silty Clay, dry, firm	583.0	CEMENT/ BENTONITE GROUT		(\cdot)	
5.0	same, except moist	582.8		355	X	16
	same, with trace medium angular Gravel	580.8		4SS	\forall	21
7.5	same, except no Gravel	578.8		+33	\triangle	21
10.0				5SS	X	12
	,			6SS	X	11
12.5		570.5		7 S S	X	12
15.0	same, except dry Fill — Brown medium angular Gravelly Sand, trace ash, dry	572.8 572.5		855		25
	same, with trace slag, moist	570.8		988		30
17.5	same, except no slag	568.8			\forall	
20.0	same, except no ash	566.8		10SS	A	24
		55.5		11SS	X	19
22.5	Fill — Black Silty Sand, trace Gray Clay, NAPL, wet	564.8		12SS	∇	12
25.0	same, with trace medium angular Gravel, trace NAPL	562.8		13SS	\forall	9
	same, except Brown, trace vegetation, no	560.8		1000	\triangle	
27.5	Gravel Fill — Black fine Sand, trace NAPL, wet	559.8		14SS	XI	30
	same, with trace fine rounded Gravel	558.8		15SS	\overrightarrow{A}	22
30.0	same, except no Gravel	556.8		ŧ	\Rightarrow	
		554.8		16SS	\triangle	10
32.5	Black and Gray mottled fine Sand, trace vegetation and NAPL, wet, native			17 S S	X	13
				1855	abla	12

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT

GRAIN SIZE DIST. & ATT. LIMITS FOR OCC •

DEC/EPA SPLIT

 ∇ WATER FOUND STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH199-88 (PAGE 2 of 2)

CRA SUPERVISOR: N.W. THOMPSON

PROJECT NO.: 1769

DATE COMPLETED: 2/17/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	Т	SAM	PLE	
ft BG		ft AMSL	INSTALLATION	N		Ş	
				BK CZ			Ă
32.5				E R	Ė	A TUS	⊕C⊺≽ <z< td=""></z<>
	Black and Gray mottled fine Sand, trace			17SS	TXI		13
	vegetation and NAPL, wet, native		8.5° BOREHOLE	:	()		
- 35.0	·			1855	IXI		12
			GEMENT/ BENTONITE	ŀ	(-)		
			GROUT GROUT	1955	IXI		17
- 37.5		548.8			\bowtie		
	Black to Brown Silty coarse Sand, wet, native			2055	IXI		14
- 40.0	same, with trace medium rounded Gravel and	546.8]	H		
	shell fragments, NAPL			21S S	IXI		36
40.5		644.7			Θ	- 1	
- 42.5	Gray to Red Brown Silty Clay, wet, native	544.3		2255	X	ol.	5
	Shelby and Dennison tubes attempted, no	543.3	2.2	2355	\bowtie	ol	>50
45.0	advancement Red Brown Silty Clay, Sandy, some fine	542.1		2555	M	\subseteq	/00
	subrounded Gravel, wet, native, Till						
475	AUGERED TO REFUSAL			·			
- 47.5	END OF BOREHOLE AT 48.0 FT. BGS	538.8					
	END OF BUREHOLE AT 48.0 FT. BGS						
- 50.0	At completion borehole was grouted to ground surface						
	Surface						
-52.5							
- 32.3							
						ŀ	
- 55.0	·			į		ļ	
					1 1	ŀ	
- 57.5							
37.3	·]			}		
-60,0							
				}	1 1		•
-62.5							
02.5							
-65.0							
NOTES: I	MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT		• •				•
	GRAIN SIZE DIST. & ATT. CINITS FOR OCC	● DEC/EP/	_	R FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATI	C WATER	LEVEL.		

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

EAST OF LAGOONS

HOLE DESIGNATION: BH200-88 (PAGE 1 of 2)
DATE COMPLETED: 2/29/88

DRILLING METHOD: HSA 6.5" OD

STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAME	PLE
	ft AMSL	INSTALLATION	N S	ž , , ,
GROUND ELEVATION	577.1		M A T E	Y P
augered to 2.0 ft. BGS, no sample		6.5*		<u> </u>
Fill — Brown and Black Silt, some Sand and Gravel, vegetation, ash, brick, moist	575.1		1SS X	43
same, with Yellow, Blue, Green, and Orange crystalline material	573.1	DENTONITE GROUT		25
			3SS X	18
same, except no crystalline material	567.1		455	10
	565.1		555	1
fill — Black Silty fine to coarse Sand, some fine Gravel, Orange crystalline material, trace glass, wet, iridescent sheen			6SS	11
Fill — Black slag and ash, some fine to coarse Sand and Gravel, NAPL, wet		.	755	7
-			855	36
Light and dark Gray Silty fine Sand, native same, except Black, NAPL	559.1		955	23
			1055	5
•				3
			1255	WR
:	549.1		1355	2
trace NAPL, wet, native			1455	15
same, except Gray to light Brown			15SS	22
no recovery	545.1		1655	_
Red Brown fine to coarse Sandy Silt, Clayey, native, Till	543.1		1755	20
PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	_	_	R FOUND	
	GROUND ELEVATION augered to 2.0 ft. BGS, no sample Fill — Brown and Black Silt, some Sand and Gravel, vegetation, ash, brick, moist same, with Yellow, Blue, Green, and Orange crystalline material Fill — Black Silty fine to coarse Sand, some fine Gravel, Orange crystalline material, trace glass, wet, iridescent sheen Fill — Black slag and ash, some fine to coarse Sand and Gravel, NAPL, wet same, with brick, glass Light and dark Gray Silty fine Sand, native same, except Black, NAPL Gray Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Black ight Brown no recovery Red Brown fine to coarse Sandy Silt, Clayey, native, Till PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	GROUND ELEVATION GROUND ELEVATION augered to 2.0 ft. BGS, no sample Fill — Brown and Black Silt, some Sand and Gravel, vegetation, ash, brick, moist same, with Yellow, Blue, Green, and Orange crystalline material same, except no crystalline material Fill — Black Silty fine to coarse Sand, some fine Gravel, Orange crystalline material, trace glass, wet, iridescent sheen Fill — Black slag and ash, some fine to coarse Sand and Gravel, NAPL, wet same, with brick, glass Light and dark Gray Silty fine Sand, native same, except Black, NAPL Gray Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Gray to light Brown Gray Silty fine to coarse Sandy Silt, Clayey, nor recovery Red Brown fine to coarse Sandy Silt, Clayey, native, Till PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA DEC/EPA DEC/EPA DEC/EPA DEC/EPA DEC/EPA	GROUND ELEVATION GROUND ELEVATION 577.1 augered to 2.0 ft. BGS, no sample Fill - Brown and Black Silt, some Sand and Gravel, vegetation, ash, brick, moist same, with Yellow, Blue, Green, and Orange crystalline material same, except no crystalline material Fill - Black Silty fine to coarse Sand, some fine Gravel, Orange crystalline material, trace glass, wet, iridescent sheen Fill - Black slag and ash, some fine to coarse Sand and Gravel, NAPL, wet same, with brick, glass Light and dark Gray Silty fine Sand, native same, except Black, NAPL Gray Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Gray to light Brown Gray Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Gray to light Brown Fill - Black Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Gray to light Brown 549.1 549.1 549.1 549.1 545.1 545.1 545.1 545.1 DEC/EPA SAMPLE GRAIN SIZE DIST, & ATT, LIMITS FOR OCC DEC/EPA SPUT MATE	GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION GROUND ELEVATION STALLATION FIII — Brown and Black Silt, some Sand and Gravel, vegetation, ash, brick, moist same, with Yellow, Blue, Green, and Orange Grystalline material SET. 1 SSS GROUND ELEVATION FIII — Brown and Black Silt, some Sand and Gravel, race glass, wet, iridescent sheen FIII — Black Silty fine to coarse Sand, some fine Gravel, Orange crystalline material, race glass, wet, iridescent sheen FIII — Black slig fine to coarse Sand, some fine to coarse Sand and Gravel, NAPL, wet same, with brick, glass Light and dark Gray Silty fine Sand, native same, except Black, NAPL Light and dark Gray Silty fine Sand, native same, except Black, NAPL Gray Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Gray to light Brown Gray Silty fine Sand, trace rounded Gravel, trace NAPL, wet, native same, except Gray to light Brown FAS. 1 SSS. 1

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH200-88 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 2/29/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

EAST OF LAGOONS

	ION. EAST OF EAGOONS		ONA SOFERVISOR.	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
ft BG		ft AMSL	INSTALLATION	S S Y
		į		M A A A A A A A A A A A A A A A A A A A
32.5			The state of the s	
	no recovery			16SS X -
	Red Brown fine to coarse Sandy Silt, Clayey,	543.1	8.5° ø BOREHOLE	
35.0	native, Till			17SS X 🖀 20
1			CEMENT	
	AUGERED TO REFUSAL	540.0	GROUT	18SS >13
- 37.5	END OF BOREHOLE AT 37.8 FT. BGS	539.3		
	At completion borehole was grouted to ground			
40.0	surface			
ļ	NOTE: 16SS to 18SS — A 300 lb. hammer and			
	a 3.0" split spoon with a polycarbonate] .		
42.5	NOTE: Relocated borehole 3 ft. north			
	augered to 28.0 ft. and resampled		•	
45.0	to confirm till thickness			
75.0				
			•	
47.5				
		,		
-50.0				
- 52.5				
- 55.0		,		
E7 =	·		<u>.</u>	
57.5			,	
	· ·			
-60.0				
	•			
1				
62.5				
65.0		.		
00.0				.
		•		
NOTES	A DEDUCTION OF THE PARTY OF THE			
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA		FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	- DEC/EPA	_	WATER LEVEL
<u> </u>			3,,,,,	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH201-88 (PAGE 1 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 3/1/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR			SAMPL			
ft BG		ft AMSL	INSTALLATIO	<u>N</u>	Z CZ	SST	, Š,		
	GROUND ELEVATION	576.0			омоксх	STATUS	A L U		
	augered to 2.0 ft. BGS, no sample					Ĭ			
,		574.0	6.5 BORE	HOLE					
2.5	Fill — Gray Silty fine Sand, trace fine	3/4.0		-	166	\square	1		
	Gravel and brick, moist same, with some slag, vegetation	572.0	CEME RENT	NT/ ONITE	1SS	Ν	18		
- 5.0	Same, with Some stug, vegetation	372.0	GROU	ř".–	2SS	\bigvee	4		
5.5					233	Δ	*		
	•				3SS	\bigvee	1		
7.5	same, except no vegetation	568.0			333	\triangle	'		
]					4SS	M	WR		
10.0	same, with Yellow granular to crystalline material, NAPL	566.0				\triangle	1		
	augered to 12.0 ft. BGS	565.5			5 SS	\simeq	>39		
	•	564.0							
12.5	FILL - Black hard and dense Clay-like	307.0			6SS	M	52		
	material, NAPL, trace brick and metal, dry	562.0			000	\triangle	32		
15.0	Black fine to coarse Sandy Silt, NAPL, wet, native				7 SS	M	15		
ł	Brown Silty fine Sand, native	560.7		1		\triangle			
1.7.5	same, except mottled Gray and Brown, trace NAPL, moist	560.0		İ	855	\bigvee	47		
- 17.5						Δ			
					988	\bigvee	24		
20.0	same, except dark Gray	556.0				Δ			
					1055	XI	15		
22.5						(
- 22.5					11SS	XI	16		
	same, except wet	552.0				(-)			
25.0					12SS	XI	2		
	_				k	(
-27.5					13SS	XI	8		
[27.5						$\stackrel{()}{\longrightarrow}$			
					14SS	XI	3		
-30.0	same, with increased NAPL	546.0			k	(
·					1555	XI	22		
- 32.5	Gray and Red Brown mottled Silty Clay, wet,	544.0				\exists			
02.0	Red Brown fine to coarse Sandy Clay, wet,				16SS	XIX	-		
	native, Till	542.0 541.5			17SS		>100		
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SAMPLE		I				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		WATER	FOUND				
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	•	T		WATER LE	VEL.			
									

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH201-88 (PAGE 2 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 3/1/88

CLIENT:

DRILLING METHOD: HSA 6.5" OD

LOCATION:

OCCIDENTAL LANDFILL

LOCAT	IUN: LANDFILL		CRA SUPERVISUR:	г.п. эмип
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
ft BG		ft AMSL	INSTALLATION	C Z C Z C C Z C C Z C C Z C C Z C C Z C C Z C C Z C C C Z C
32.5				M A A A L U S E
-35.0 -37.5	Gray and Red Brown mottled Silty Clay, wet, native Red Brown fine to coarse Sandy Clay, wet, native, Till augered to 35.0 ft. BGS, no sample Gray fine to coarse Sandy Gravel, some Silt and Clay, wet, native, Till	542.0 541.5 541.0 540.7 539.0	BOREHOLE	16SS X & - 17SS X >100 18SS >100
	AUGERED TO REFUSAL END OF BOREHOLE AT 37.0 FT. BGS		·	
40.0	At completion borehole was grouted to ground surface			
-42.5	NOTE: 16SS to 18SS — A 300lb. hammer and a 3.0" split spoon with a polycarbonate liner was used		,	
-45.0				
-47.5				
-50.0				
-52.5				
-55.0				
-57.5				
-60.0				
-62.5				
-65.0				
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPUT 🔻 🔽 WATER	FOUND WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH202-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/2/88

CLIENT:

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL

OCCIDENTAL

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAMPL				
TT BG	GROUND ELEVATION	ft AMSL 573.9	INSTALLATION		S S T A T E U				
	augered to 2.0 ft. BGS, no sample		6.5°	R	Š	Ě			
2.5	Fill — Brown, Gray, and Black fine to coarse Sandy Silt, trace Clay and fine gravel, trace cement and slag, dry	571.9		155	X	14			
- 5.0	same, except moist	569.9	CEMENTON GROUT	ITE 2SS	M	43			
	No recovery - concrete in tip of split spoon	567.9		388	\forall	17			
7.5	Fill — Gray Silty fine Sand, trace fine	565.9 565.7		455	Θ	8			
10.0	Fill — Black, White, and Brown fine to coarse Sand, slag, ash, some Silt, trace NAPL, wet	563.9		555		17			
12.5	Fill — Black ash, slag, coal, trace wood and glass, wet	561.9		655		10			
15.0	Fill — Black Silty fine to coarse Sand, some slag, wood, wet, iridescent sheen Gray Brown Silty fine Sand, trace fine to	559.7		7SS		30			
	coarse Gravel, moist, native same, except dark Gray, trace NAPL, wet	557.9		8SS	\forall	26			
-17.5	Light and dark Gray to Gray laminated Silty	555.9		955					
20.0	fine to medium Sand, trace Clay, native same, with trace vegetation, trace NAPL	553.9			Θ	9			
22.5				10SS	Ä	5			
22.0				1155	X .	7			
25.0	same, with trace coarse Sand	547.9		1255	X	8			
27.5				1355	X	10			
30.0				1455	X	17			
30.0	Red Brown fine to coarse Sandy Clay, some Silt, native, Till	543.4		15SS	$\bigvee lacktriangle$	WH			
32.5	Red Brown fine to coarse Sandy Clay, some	540.7 540.4		16SS		>100			
	Silt, native, Till	539.6		17SS	\boxtimes^{\otimes}	>100			
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA							
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA	SPLIT : 🔽	WATER FOUND					
	GRAIN SIZE DIST. & ATT, FOR OCC & DEC/EPA SPLIT		T	STATIC WATER L	-VFI				

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH202-88 (PAGE 2 of 2)
DATE COMPLETED: 3/2/88

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL

LOCA	ION. EARDITEE		, ONA SOI ENVISOR.	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
ft BG		ft AMSL	INSTALLATION	N S S N
32.5				E E U U
UZ.O	augered to 33.5 ft. BGS, no sample	540.7	6.5°¢ BOREHOLE	16SS S > 100
	Red Brown fine to coarse Sandy Clay, some	540.7 540.4		17SS ⊠⊗ >100
35.0	Silt, native, Till AUGERED TO REFUSAL	539.6 539.1	CEMENT/ BENTONITE GROUT	
	(10021125 10 1121 50112			
37.5	END OF BOREHOLE AT 34.8 FT. BGS			
37.13	At completion borehole was grouted to ground surface			
40.0	NOTE: 16SS & 17SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used			
42.5				
'				
45.0			·.	
ŀ				
47.5				
		.	·	
50.0				
-50.0		· .		
-52.5				
-55.0	·			
57.5				
737.3				
			·	
-60.0 `		.		
62.5				
65.0				
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA		FOUND WATER LEVEL
L	SIGNIT SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT		_ _ _ SIAIIC	HAIER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH203-88 (PAGE 1 of 2)

PROJECT NO .:

DATE COMPLETED: 3/3/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

LANDFILL

1769

			0.177	OUTERVISOR.		JIVII 1		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL		ITOR LATION	N N	SAM		
10 00	GROUND ELEVATION	576.7	MOTAL	LATION	2 D X B F B	S T A T E	STATUS	וכר>≺כנ
	augered to 2.0 ft. BGS, no sample	674.7		6.5°ø BOREHOLE	, R		3	
- 2.5	Fill — Gray and Red Brown fine to coarse Sandy Silt, some slag, trace Clay, dry	574.7		CEMENT/	155	X		11
- 5.0	same, with some fine to coarse Gravel, cement	572.7		ENTONITE GROUT	2SS	M		14
- 7.5					355	M		32
	same, with some White crystalline material	567.3	48		4SS	M		>19
-10.0	augered to 10.0 ft. BGS, no sample Fill — Red Brown fine to medium Sandy Silt, some slag, dry	566.7			5SS			34
-12.5	same, with Black tar-like material	564.7			655	\bigvee		28
- 15.0	no recovery	562.7			755	\bigvee		6
47.5	Fill — Black fine to coarse Silty Sand, some slag, ash, glass, moist	560.7 559.5			855	\bigvee		35
-17.5	Fill - Black to dark Gray Silty fine Sand, moist				955	\bowtie		115
-20.0	same, with trace fine Gravel and glass same, with trace NAPL, wet, no gravel or glass	558.7 556.7			1055	\emptyset		20
-22.5					1155	\bigcap		4
- 25.0					1133 12SS	\bigvee		6
						Θ		_
-27.5	Black to dark Gray Silty fine Sand, trace NAPL, wet, native	549.4			1355	A		.8
-30.0	same, except dark Red Brown	546.7			14SS	\bigvee		5
	Brown Silty fine to medium Sand, trace NAPL, native	546.1			15SS	M		15
-32.5	same, with trace fine to coarse Gravel Red Brown fine to coarse Sandy Silt, trace	544.7 543.2		i	1655	X		34
NOTES:	Clay, native, Till				17 S S	X	8	12
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA DEC/EPA		_	R FOUND WATER L	£VEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH203-88 (PAGE 2 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 3/3/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION: LANDFILL

LOUA			OKA SOFEKVISO	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPLE N LSISI 'N'
ft BG		IT AMSL	INSTALLATION	N S S 'N' U T T V M A A A
32.5	•			N S S 'N' U T T T V M A A A A B T T L E U U R S E
		547.0		
- 35.0	Red Brown fine to coarse Sandy Silt, trace Clay, native, Till	543.2	BOREHOLE	17SS 2 12
<u> </u>	Red Brown Gravelly Silt, fine to coarse Sand, trace Clay, native, Till	541.2 530 A	CEMENT/ BENTONITE GROUT	1855 79
37.5	AUGERED TO REFUSAL	539.4 539.1		
	END OF BOREHOLE AT 37.6 FT. BGS		•	
- 40.0	At completion borehole was grouted to ground surface			
- 42.5	NOTE: 17SS & 18SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used			
45.0		1		
- 47.5				
-50.0				
-52.5				
-55.0			,	
-57.5			·	
-60.0				
-62.5			•	
-65.0				
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT . 🔽 WA	TER FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT.		▼ STA	ATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH204-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/16/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MOI	NITOR	i	SAN	IPL	Ε
ft BG		ft AMSL	INSTA	LLATION	UZ	S	S	7
	GROUND ELEVATION	575.4			M B E R	A T E	A T U S	L
	augered through dark Gray fine to coarse Sand and brick to 2.0 ft. BGS			6.5°ø BOREHOLE			-	
2.5	Fill — Brown very fine to medium Sand, Gravel, brick, wood, rubber, small Gray Clay lenses, dry, slight odor	573.4		CEMENT/ BENTONITE GROUT				
5.0		F60.4		GROO!				
	Fill — dark Gray Clayey Silt, trace Gravel, dry	569.4						
7.5	Fill — dark Brown Gray Silty to medium Sandy Clay, Gravelly, wet, odor	567.4						
0.0	Fill — dark Brown Gravelly medium Sand, wet	565.4						
	Fill — medium to coarse Gravel, concrete	564.4						
2.5	Fill — Gravelly fine Sand, wood, glass, dry, strong chemical odor	563.4						
5.0	Fill — dark Gray Gravelly fine Sand, glass, NAPL, odor	561.4 560.4						
	Fill — Green Brown Gravelly fine to medium Sand, dry	559.4						٠
7.5	Fill - Black Gravel, glass, NAPL	558.4						l
	Fill - Brown Green fine Sand	557.4						
0.0	Fill — medium to coarse Sandy Gravel, NAPL,	556.4						
0.0	Fill - dark Gray very fine to fine Sand, odor	555.4						
	Fill dark Gray Gravelly very fine Sand, glass, NAPL	<i>553.4</i>						
2.5	Fill — dark Gray to dark brown very fine to fine Sand, NAPL, dry, odor							
5.0								
J.U						1 1		
	·				-			
7.5	Fill - Black Silty fine Sand, NAPL, trace	547.4 546.9						
	\brick and slag	346.9		•	155	IXI		2
0.0	Brown Silty fine Sand, trace NAPL, native	545.4				\mathbb{R}		
	Black Silty fine to medium Sand, trace fine Gravel, NAPL, native	544.4			2SS	\bowtie		
2.5	Red Brown Silty Clay, trace fine to coarse				355	X	\otimes	
	Sand, native, Till same, with some fine to coarse Gravel	541.9			455	\forall	⊗́ l	>10
	AUGERED TO REFUSAL	541.2			133	٢		/ 10

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH204-88 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/16/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF LAGOONS; ADJACENT TO OW2S-80

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR		SAMPLE					
ft BG		ft AMSL	INSTAL	LATION	N U	ST	ST	ķķ
32.5					M B E R	A T E	Ť U S	A L U
	same, with some fine to coarse Gravel	541.9 · 541.2	_	6.5°¢ BOREHOLE	3SS 4SS			– 10<
35.0	AUGERED TO REFUSAL							
37.5	END OF BOREHOLE AT 36.8 ft. BGS	538.6		CEMENT/ BENTONITE GROUT				
40.0	At completion borehole was grouted to ground surface							
	NOTE: 3SS & 4SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate							
42.5	liner was used							
45.0	NOTE: Stratigraphy from 0.0 ft. to 28.0 ft. BGS was taken from OW2S—80	·						
47.5				•				
50.0	•							
52.5	· .							
55.0					<u> </u>			
57.5	·	·					į	
50.0								
52.5		,			·			
5.0			•					
-	·							
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		✓ WATE	R FOUND			

PROJECT NAME: S-AREA

CLIENT:

PROJECT NO.: 1769

OCCIDENTAL

HOLE DESIGNATION: BH205-88 (PAGE 1 of 2)
DATE COMPLETED: 3/9/88

1769 DATE COMPLET

DRILLING METHOD: HSA 6.5" OD

LOCATION: SOUTHEAST OF LAGOONS CRA SUPERVISOR: N.W. THOMPSON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMP	
ft BG		ft AMSL	INSTALLATION	N S S	, Š,
	GROUND ELEVATION	573.2		M A A B T T E E U S	L L
	Fill — dark Brown Silty fine Sand, trace Gravel, dry	572.5	85.4	1SS	>50
	augered to 2.0 ft. BGS, no sample	571.2	8.5°¢ BOREHOLE		
2.5	Fill — dark Brown laminated fine Sand and Silt, trace coarse angular Gravel, some ash, trace wood, dry	569.2	CEMENT/ BENTONITE GROUT	255	21
5.0	Fill — slag, sulphur, dry		GROUT	355	13
7.5	Fill — Brown Silty Sand, some fine angular Gravel, brick, sulphur, trace NAPL, dry to moist	567.2		455	17
		563.9		555	>84
10.0	augered to 10.0 ft. BGS, no sample	563.9		6SS	53
	no split spoon advancement, augered to 12.0 ft. BGS				
12.5	Fill - Black Silty Sand, trace vegetation	561.2			
	and glass, NAPL, wet Black and Brown laminated Silty Sand, moist,	560.2		7SS X	9
15.0	native			855	17
l	same, with trace vegetation, NAPL	557.2		9SS	10
17.5	·			10SS	3
-20.0					
				1155	2
-22.5	·			12SS	5
-25.0		547.7	\bar{z}	1355	17
	Brown and light Brown laminated fine Sand and Silt, NAPL, moist, native same, with fine subrounded Gravel	547.2		14SS X	33
-27.5		1			
	Dark Brown Silty Clay, moist, native	544.7 543.7		1588	4
30.0	Red Brown Sandy Clay, fine Gravel, wet, native, Till	542.5 542.2		16SS 🔀 🛭	>100
- 32.5	augered to 31.0 ft. BGS, no sample Red Brown Sandy Clay, fine Gravel, moist,	542.2		17 S S	32
52.5	native, Till AUGERED TO REFUSAL	540.2 540.0		H	
	END OF BOREHOLE AT 33.2 ft. BGS	3,0.0			
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA			
(GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		FOUND	İ
<u></u> '	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIO	WATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH205-88 (PAGE 2 of 2)
DATE COMPLETED: 3/9/88

PROJECT NO .:

1769 .

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATI	ON: SOUTHEAST LANDFILL		CRA SUPERVISOR:	N.W. TH	OMPSON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		MPLE
ft BG		ft AMSL	INSTALLATION	N S U T	S , ,
32.5				B T E R	A T U U E
	Red Brown Sandy Clay, fine Gravel, moist, native, Till AUGERED TO REFUSAL	540.2 540.0	6.5° BOREHOLE	17SS /_	32
-35.0	END OF BOREHOLE AT 33.2 ft. BGS		CEMENT/ BENTONITE GROUT		
-37.5	At completion borehole was grouted to ground surface				
-40.0	NOTE: 16SS — A300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used				
-42.5					[-
- 45.0			·		
-47.5	· ·				
-50.0	·				
-52.5					
-55.0					
-57.5					
-60.0	·				
-62.5					
-65.0	•				
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	■ DEC/EPA	SPLIT WATER	FOUND WATER LEVI	EL.

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH206-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/10/88

CLIENT:

OCCIDENTAL D

DRILLING METHOD: HSA 6.5" OD

LOCATION:

EAST OF LAGOONS

CRA SUPERVISOR: N.W. THOMPSON

			CITA SOI ERVISOR.		•	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		MPL	
ft BG	GROUND ELEVATION	ft AMSL 573.8) .	N STA	A A	mcr≯ <z๋< td=""></z๋<>
	Fill — Brown Silty Sand, fine to coarse angular Gravel, trace vegetation, wood,		6.5°¢ BOREHOLE	1SS X	s	14
- 2.5	slag, ash, and brick, dry			255		21
- 5.0	same, except Brown to Black, tar—like material, no Gravel, no wood	569.8	- CEMENT/ BENTONITE GROUT	355		12
- 7.5	Fill — Red, Purple to Black Sandy Silt, trace copper, vegetation, and slag, dry to	567.8		455		19
7.5	moist Fill — Black Clay with tar—like material, moist	565.8		555		7
-10.0	same, with trace ash	563.8		655		14
-12.5	same, except no ash, trace Blue substance and wood, wet	561.8 560.9		7SS ×		>50
-15.0	augered to 14.0 ft. BGS, no sample Fill — Brown Silty Sand, trace vegetation, NAPL, wet	559.8 558.8		855		36
- 17.5	Brown laminated fine Sand, trace fine rounded Gravel, trace vegetation, wet, native			955		41
	same, except Black, no vegetation	555.8		1088		49
- 20.0				1155		11
-22.5				1255		14
-25.0				1388		13
-27.5	Red Brown and Black laminated fine Sand, trace to some fine rounded Gravel, wet,	546.8		1455		17
-30.0	native	544.0		1588		24
	Gray Silty Clay, wet, native Red Brown Clayey coarse angular Gravel, Sandy, wet, native, Till	543.8		1655	\otimes	14
-32.5	no split spoon advancement AUGERED TO REFUSAL	530 8		1755		27
NOTES	END OF BOREHOLE AT 34.8 FT. BGS	539.8 539.0	644815	1855		>100
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT VATE	R FOUND C WATER LEVE	l.	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH206-88 (PAGE 2 of 2)
DATE COMPLETED: 3/10/88

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: . HSA 6.5" OD

LOCATION:

EAST OF LAGOONS

CRA SUPERVISOR: N.W. THOMPSON

NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA		
				1 1 1 1
-65.0				
-62.5				
-60.0				
-57.5	·			
-55.0				
-52.5				
-50.0				
- 47.5		'		
-45.0	, , , , , , , , , , , , , , , , , , ,			
- 42.5				
- 40.0	NOTE: 16SS to 18SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate line was used			
-37.5 ,	END OF BOREHOLE AT 34.8 FT. BGS At completion borehole was grouted to ground surface		·	
-35.0	no split spoon advancement AUGERED TO REFUSAL	539.8 539.0	CÉMENT/ BENTONITE GROUT	18SS >100
32.5	Red Brown Clayey coarse angular Gravel, Sandy, wet, native, Till		6.5°ø BOREHOLE	17SS X 27
		IT AMSE		N
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	SAMPLE N SISI N

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH207-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/10/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCAT	ION: SOUTHEAST OF LAGOONS		CRA SUPE	RVISOR: N	.w. Tı	НОМР	SON
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		s	AMPL	E.
ft BG		ft AMSL	INSTALLATI	ON	N T	S S T T	,Ñ,
	GROUND ELEVATION				M BER	A T U S	¥ LUE
	Fill — dark Brown Silty Sand, some Orange slag, trace vegetation, dry	574.0		-, 1 REHOLE	ss		1
2.5	no recovery	571.6	<u>c</u> p	<u>/ENT/</u> 2	ss		1
5.0	Fill — Red Brown rusted metal (drum), slag, dry	569.6	GR(AENT/ SUT 3	ss	\overrightarrow{A}	WR
7.5				4	ss	\overrightarrow{A}	2
/.5				5	ss	$\overrightarrow{\lambda}$	1
10.0	Fill — dark Brown Silty Sand, slag, trace wood, coal, dry to wet	563.6		6	ss		8
12.5	Fill — Black fine Sand, trace Silt, trace vegetation, wet	561.6		7	ss		6
- 15.0	same, with trace rusted metal, no vegetation	559.6		8	ss	\overrightarrow{A}	10
-17.5	Fill — Brown medium Sand, trace slag, vegetation,and rubber, NAPL, wet	557.6		9	ss	\overrightarrow{A}	10
17.3	Dark Brown Silty Sand, trace fine rounded Gravel, wet, native	555.6		10	ss /	$\overrightarrow{\lambda}$	12
20.0	same, except no Gravel	553.6		111	ss	\overrightarrow{A}	9
-22.5		:		12	ss	\overrightarrow{A}	6
- 25.0	same, with NAPL	549.6		13	ss	\overrightarrow{A}	12
-27.5	Dark Gray and Black laminated Silty fine to coarse Sand, trace coarse angular Gravel,	546.6		14	ss	$\overline{\mathbf{A}}$	69
70.0	wet, native	547.0		15	ss	$\sqrt{\circ}$	6
-30.0	Gray to Red Brown Silty Clay, wet, native Red Brown Sandy medium to coarse angular	543.6 542.6		16	ss	₹	WH
- 32.5	Gravel, Clayey, wet, native, Till same, except Red Brown to Gray	541.6		17	ss	8	57
	AUGERED TO REFUSAL END OF BOREHOLE AT 34.7 ft. BGS	539.6 538.9				1_	
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA					,
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA					- 1
L	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		_	STATIC WAT	ER LEV	/EL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH207-88 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/10/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHEAST OF LAGOONS

CRA SUPERVISOR: N.W. THOMPSON

1				
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
ft BG		ft AMSL	INSTALLATION	N S S N U T T V M A A A B T T L
32.5				N UMBER
	Red Brown to Gray Sandy medium to coarse angular Gravel, Clayey, wet, native, Till	539.6	6.5°¢ BOREHOLE	17SS 🛭 🛇 57
35.0	AUGERED TO REFUSAL END OF BOREHOLE AT 34.7 ft. BGS	538.9	CEMENT/ BENTONITE GROUT	
	At completion borehole was grouted to ground			
	surface			
-37.5	NOTE: 15SS to 17SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate			
40.0	liner was used		•	
42.5				
	·			
1.50				
45.0	·			
1				
47.5				.
-50.0				
			·	
52.5			,	
-55.0				
- 57.5				
		{		
60.0				
-62.5		}		
]			
-65.0				
55.5				
	·			
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT WATER	FOUND
L	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIC	WATER LEVEL

PROJECT NAME: S-AREA

PROJECT NO .:

1769

CLIENT:

OCCIDENTAL

LOCATION:

EAST OF LAGOONS

HOLE DESIGNATION: BH208-88 (PAGE 1 of 2)

DATE COMPLETED: 3/8/88

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: N.W. THOMPSON

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONI	TOR	Τ -	SAM	DIF	
ft BG		ft AMSL	INSTAL		NU			,Ñ,
	GROUND ELEVATION	575.1			M B E	A T E	STATU	¥ L
	augered to 2.0 ft. BGS, no sample			6.5"ø BOREHOLE	K .		S	<u> </u>
- 2.5	Fill — dark Brown Silty Sand, some sulphur and slag, trace vegetation, glass, fine rounded Gravel, dry	573.1			155	M		26
5.0	same, with trace plastic, no sulphur, slag, vegetation	571.1		- CEMENT/ BENTONITE GROUT	255	M		4
7.5	same, with some slag, trace brick, coal, ash, sulphur, no plastic	569.1			355	M		8
7.5	same, with coarse angular Gravel, moist	567.1			455	\forall		20
-10.0	Fill — Black tar—like material, trace coarse angular Gravel, NAPL, moist	565.1			555	\bigvee	!	23
-12.5	Fill — Black Silty Sand, trace fine angular Gravel and ash, NAPL, wet	561.1			655	M	ļ	17
-15.0	Brown laminated fine Sand, moist, native	560.6			7SS	\forall		32
	same, with fine rounded Gravel and shell fragments	559.1		`	855	Θ		
-17.5	same, except no shell fragments, wet	557.1				\bigvee		52
20.0	same, except no laminations	555.1			955	A		11
- 22.5	same, with trace vegetation	553.1			10SS 11SS	A		5 3
- 25.0	same, except no vegetation, NAPL	551.1			12SS	$\left\langle \cdot \right\rangle$		
25.0	same, with fine rounded Gravel, laminated	549.1				A		5
-27.5					13SS	A		22
-30.0	same, except medium rounded Gravel	545.1			14SS	A		22
- 32.5	Red Brown medium angular Gravelly Clay, Sandy, moist, native, Till	543.6			15SS	A		11
52.5	same, with medium to coarse angular Gravel _no recovery	543.1 541.1			16SS	X^{0}	8	58
	AUGERED TO REFUSAL	540.5			17SS	\supseteq	. [2]	100
(PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA DEC/EPA			FOUND	VEL.		

PROJECT NAME: S-AREA

PROJECT NO.:

HOLE DESIGNATION: BH208-88 (PAGE 2 of 2)

DATE COMPLETED:

DATE COMPLETED: 3/8/88

CLIENT: OCCIDENTAL

1769

DRILLING METHOD: HSA 6.5" OD

LOCATION: EAST OF LAGOONS . CRA SUPERVISOR: N.W. THOMPSON

DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE INSTALLATION ft BG ft AMSL A T E 32.5 Red Brown medium to coarse angular 6.5°ø BORFHOLF **16SS** 58 Gravelly Clay, Sandy, moist, native, Till 541.1 540.5 539.3 **17SS** >100 no recovery 35.0 AUGERED TO REFUSAL END OF BOREHOLE AT 35.8 FT. BGS 37.5 At completion borehole was grouted to ground surface 40.0 NOTE: Samples 14SS to 17SS - A 300 lb. hammer and a 3.0" split spoon with polycarbonate liner was used 42.5 45.0 47.5 50.0 52.5 -55.0 -57.5 60.0 -62.5 65.0 NOTES: 8 PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SAMPLE 0 ∇ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SPLIT WATER FOUND GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH209-88 (PAGE 1 of 2)

PROJECT NO .: 1769 DATE COMPLETED: 3/7/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

EAST OF LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		SAM		
ft BG		ft AMSL	INSTALLATION	N N M B E	S T A T	STA	ָבְאַלְרַחָ בָּאַלְרָחָ
	GROUND ELEVATION	573.7		E	Ė	A T U	Ų
	augered to 2.0 ft. BGS, no sample				T		
		571.7	BOREHO	LE	Ш		
2.5	Fill — dark Brown Silty Sand, trace slag, coal, wood and sulphur, dry	3//./		155	М		9
	same, with Red fine Sand, trace glass, no	569.7	CEMENT BENTONI GROUT	/E 133	\triangle		•
- 5.0	slag and sulphur		GROUT	2SS	M		10
	same, with some light Brown fine Sand	567.7		ļ	\square	-	
· 7.5				355	X	1	28
. 7.5	Cill Brown Cilky Cond name wood	565.7			\mathbb{H}		
	Fill — Brown Silty Sand, some wood, trace slag, moist			455	IXI		17
-10.0	same, with trace porcelain, no wood, wet	563.7			H		
				5SS	X		14
12.5	Fill — dark Brown fine to medium angular	561.7			\mathbb{H}		
	Gravelly fine Sand, trace brick, wood and porcelain, wet	550.7		6SS	M		15
15.0	Fill - dark Brown fine Sand, trace wood and	559.7 559.2		7 S S	\square		7.
13.0	sulphur, wet			/55	\square		. 34
	Gray fine Sand, trace fine to medium subrounded Gravel and vegetation, trace NAPL,			BSS	М		20
17.5	wet, native same, except no NAPL	557.7			\square	i	20
		557.7		988	M	.	5
20.0	same, except no Gravel and vegetation	553.7			\square		
				1055	IXI	1	7
22.5					H		
				11 S S	IXI		9
	·				H		
25.0	same, with trace vegetation and shell fragments	547.7		12SS	X		12
	irugineits			4700	M		
27.5				1355	M		45
i	Red Brown Silty Clay, Sandy, wet, native	545.4		1455	М		7
30.0		543.7		1433	\square		3
	Red Brown Silty Clay, subrounded fine to coarse Gravel, wet, native, Till	343.7		1555	M	⊗	24
	and the state of t			1333	\square		-
32.5				1655	M	\otimes	60
	AUGERED TO REFUSAL	539.7 539.2			\square		-
NOTES:	END OF BOREHOLE AT 34.5 FT. BGS				Ш	L	
	○ PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ○ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA	_	VATER FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	/	_	TATIC WATER L			

PROJECT NAME: S-AREA

PROJECT NO.: 1769

OCCIDENTAL

LOCATION:

CLIENT:

EAST OF LAGOONS

HOLE DESIGNATION: BH209-88 (PAGE 2 of 2)
DATE COMPLETED: 3/7/88

DRILLING METHOD: HSA 6.5" OD

LOOK	MON. LAST OF EAGOONS		CRA SUPERVISOR:	14. 77.	THOME SON
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N	SAMPLE S S N
32.5	·			, SDWBEG	T T V A L L U S E
32.5	Red Brown Silty Clay, subrounded fine to coarse Gravel, wet, native, Till	570.7	6.5°¢ BOREHOLE	· R	S E 60
-35.0	AUGERED TO REFUSAL END OF BOREHOLE AT 34.5 FT. BGS	539.7 539.2	- CEMENT/ BENTONITE GROUT		
-37.5	At completion borehole was grouted to ground surface				
-37.5	NOTE: 15SS & 16SS — A 300 lb. hammer and a 3.0" split spoon with polycarbonate liner was used				
-40.0	used				
42.5					
-45.0		,	·		
-47.5					
-50.0					
-52.5					
- 55.0					
- 55.0				_	
-57.5	4			-	
60.0					
-62.5					
02.5					
-65.0					
NOTES:	○ PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT , WATER	FOUND WATER L	EVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH210-88

PROJECT NO.: 1769

DATE COMPLETED: 3/23/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LAGOONS

				•		
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION		SAMPL	
11. 80	GROUND ELEVATION	ft AMSL 568.8	INSTALLATION	A TA BE C Z	S S T A T U S	Ž>4.LUE
- 2.5	Fill — Brown fine to medium angular Gravelly Silt, trace glass and vegetation, dry same, except no glass and vegetation	566.8	6.5°9 BOREHOLE	1SS 2SS		25 8
5.0	no recovery, wet spoon	564.8	- CEMENT/ BENTONITE GROUT	3SS	\forall	8
7.5	Fill — Gray to Black coarse Sand, trace fine angular Gravel, wet	562.8		4SS	\forall	5
7.3	Black fine Sand, trace vegetation, wet, trace iridescent sheen, native	560.8		5SS	\forall	8
-10.0	same, with NAPL	558.8		6SS		15
12.5				7 S S	\overrightarrow{A}	12
-15.0				855	X	5
17.5	same, except no NAPL	552.8		988	X	5
	same, with trace vegetation and fine angular Gravel	. 550.8		1055	$\overline{\mathbf{X}}$	2
20.0	same, except no Gravel	548.8		1155	\overline{A}	WH
-22.5	same, with fine to medium angular Gravel	546.8		1255	\overrightarrow{A}	11
- 25.0	Gray Silty Clay, wet, native Red Brown fine to medium angular Gravelly Clay, Silty, wet, native, Till same, with Sand, no Silt	545.1 544.8 542.8		1355	8	_
-27.5	AUGERED TO REFUSAL END OF BOREHOLE AT 28.7 FT. BGS	540.8 540.1		14SS 15SS		102 >100
-30.0	At completion borehole was grouted to ground surface					
- 32.5	NOTE: 13SS to 15SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	■ DEC/EPA ■ DEC/EPA	SPUT WATER	FOUND WATER LE	VEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH211-88

PROJECT NO.: 1769

DATE COMPLETED: 3/22/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LAGOONS

LUCAT	ION: PARKING LOT WEST OF LAGOONS		CRA SUPERVISOR:	. 14. 44.	IHUMP	ZON
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	
TT BG		ft AMSL	INSTALLATION	1 B E C Z	S S T T A A	ָרַ אַ עב <mark>י</mark>
	GROUND ELEVATION	569.0		E R	ĖÜS	Ď
	Fill — Brown fine to medium angular Gravelly fine Sand, trace vegetation and slag, dry		8.5°0 BORÉHOLE	155	\mathbb{N}	30
- 2.5	Fill — Brown to Black fine Sand, dry to moist	567.0 566.2		255		35
	Fill — White coarse Sand, moist	565.0	CEMENT/ BENTONITE GROUT			
- 5.0	Fill — Black medium angular Gravelly Silt, NAPL, wet		GROUT	355	M	67
	same, with trace glass	563.0			()	
- 7.5	same, with no glass	561.0 560.7		4SS	X.	5
-10.0	Black fine Sand, trace vegetation, wet, native	360.7		5SS	M	5
10.0				655	\square	14
-12.5	same, except no vegetation	557.0		755	M	12
-15.0		3		855		4
-17.5				9SS	M	15
20.0				1055	X	8
- 22.5				1155	Ä	9
722.5		545.0		1255	X	23
25.0	Red Brown fine to medium Gravelly Clay, Silty, wet, native, Till	0,0.0		13SS	\mathbb{N}^{8}	_
27.5	augered to 28.0 ft. BGS, no sample no split spoon advancement AUGERED TO REFUSAL	541.2 541.0		14SS 15SS	8	66 >50
30.0	END OF BOREHOLE AT 29.0 FT. BGS At completion borehole was grouted to ground surface	540.0	32M622,50053			
32.5	NOTE: Relocated borehole 2.0 ft. west due to hard augering at 8.0 ft. Augered to 8.0 ft. and continued sampling NOTE: 13SS to 15SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATIC	C WATER L	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH212-88

PROJECT NO.: 1769

DATE COMPLETED: 3/22/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

PARKING LOT WEST OF LAGOONS

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	1	CAMP	
ft BG	TO NOT THE SECOND HOW & REMARKS	ft AMSL	INSTALLATION	NU	SAMP	
•	GROUND ELEVATION	569.1		M B E R	ST AT US	YALUE
	Fill Brown Gray Silty fine to medium Sand, fine to medium Gravel, trace vegetation and brick, dry		8.5°¢ BOREHOLE	155	M	33
- 2.5	Fill — Brown medium to coarse angular Gravelly fine to medium Sand, trace ash, glass, wood and Sandy Silt, dry to moist	567.1 565.1	CEMENT/ BENTONITE GROUT	255		65
- 5.0	Fill — wood in spoon tip		GROUT	355	\square	9
- 7.5	Fill — Black Silty fine Sand, trace White fine Sand, wet	563.1		4SS		11
	Black fine Sand, trace vegetation, wet, native	561.1		5SS	M	10
-10.0				655	\bigvee	12
-12.5	Black and Brown laminated fine Sand, wet, native	557.1		7SS	\bigvee	17
-15.0	same, except Black, no laminations	555.1		8SS	\bigcap	6
, 5.0					Θ	
17.5	no recovery	551.1		955	Ä	4
20.0	Black fine Sand, NAPL, wet, native	549.1		10SS	X	8
-22.5				1155	\bigvee	9
	Gray Silty Clay, fine angular Gravel, wet, native, Till	545.6		1255	M.	
25.0	same, except Red Brown, fine to medium angular Gravel	544.1		13SS	X ⊗	
·27.5	same, except Red Brown to Gray, coarse angular Gravel	543.1		14SS	Å	25
30.0	Gray medium to coarse angular Gravel, wet, native AUGERED TO REFUSAL	541.1 540.4		15SS		>100
	END OF BOREHOLE AT 29.5 FT. BGS At completion borehole was grouted to ground surface	539.6	;			
32.5	NOTE: 13SS to 15SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used					
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA		FOUND	1	
(GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STATIO	WATER L	EVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH213-88

PROJECT NO .: 1769

DATE COMPLETED: 3/17/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF LAGOONS; SOUTH OF BH164-87

CRA SUPERVISOR: P.H. SMITH

Red Brown fine to coarse Gravelly Silt, some 540.9 fine to coarse Sand and Clay, dry, native,	LUCAT	IION: WEST OF LAGOONS; SOUTH OF BHI64-8	57	CRAS	SUPERVISOR:	Р.Н.	SMITH	
Fill — Brown Silty fine to coarse Gravel, some fine to coarse Sand, moist Fill — Red Brown fine Gravelly Silt, trace Clay Fill — Are Gray fine to coarse Sandy Silt, some fine Gravel, trace glass, ceramic, moist Fill — Black Silty fine to coarse Sand, some Gravel, trace slag, moist to wet, iridescent sheen, chemical odor same, except wet, NAPL 10.0 Fill — Black Silty fine Sand, trace wood and Gravel, trace NAPL, wet 11.5 Black Silty fine Sand, trace wood, trace NAPL wet, native 12.5 Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL wet, native 17.5 Gray Brown Silty Clay, trace fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Gravel, trace fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Sand and Clay, dry, native, fill Red Brown fine to coarse Sand and Clay firm fill Red Red Brown fine to coarse Sand sand Red Brown file to coarse Sand sand Red Brown file to coarse Sand sand Red Brown file to coarse Sand		STRATIGRAPHIC DESCRIPTION & REMARKS						
some fine to coarse Sand, moist Fill - Red Brown fine Gravelly Silt, trace Clay Fill - dark Gray fine to coarse Sandy Silt, some fine Gravel, trace glass, ceramic, moist Fill - Black Silty fine to coarse Sand, some Gravel, trace slag, moist to wet, iridescent sheen, chemical odor same, except wet, NAPL 10.0 Fill - Black Silty fine Sand, trace wood and Gravel, trace NAPL, wet 12.5 Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Cruentif GROUT 3SS 4SS 4SS 566.6 567.6 566.6 660 566.6 56	IT BG	GROUND ELEVATION		INSTAL	LATION			וכר > < בֹ
2.5 Fill - Red Brown fine Gravely Silt, trace Clay Clay Fill - dark Gray fine to coarse Sandy Silt, some fine Gravel, trace glass, ceramic, moist 564.6 Fill - Black Silty fine to coarse Sand, some Gravel, trace slag, moist to wet, iridescent sheen, chemical odor same, except wet, NAPL 562.6 560.6		some fine to coarse Sand, moist	566.9		6.5"¢ BOREHOLE	155	X	19
Fill — Black Silty fine to coarse Sand, some Gravel, trace slag, moist to wet, iridescent sheen, chemical odor same, except wet, NAPL 7.5 no recovery Fill — Black Silty fine Sand, trace wood and Gravel, trace NAPL, wet 12.5 Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 no recovery Black Silty fine Sand, trace wood, trace NAPL wet, native 554.6 no recovery Black Silty fine Sand, trace wood, trace NAPL wet, native 552.6 wet, native 552.6 same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Sand and Clay, dry, native, Till	- 2.5	Clay	566.6		*	255	M	34
sheen, chemical odor same, except wet, NAPL 10.0 Fill - Black Silty fine Sand, trace wood and Gravel, trace NAPL, wet 12.5 Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL wet, native 17.5 Black Silty fine Sand, trace wood, trace NAPL sound wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL sound wet, native 15.0 Sound sou	- 5.0	some fine Gravel, trace glass, ceramic, moist/ Fill - Black Silty fine to coarse Sand, some	564.6		BENTONITE GROUT	355	M	24
no recovery Fill - Black Silty fine Sand, trace wood and Gravel, trace NAPL, wet Black Silty fine Sand, trace wood, trace NAPL wet, native no recovery Black Silty fine Sand, trace wood, trace NAPL state wet, native no recovery Black Silty fine Sand, trace wood, trace NAPL state wet, native 554.6 9SS Black Silty fine Sand, trace wood, trace NAPL state wet, native 552.6 9SS 10SS 11SS 22.5 same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Sand and Clay, dry, native, Till	- 75	sheen, chemical odor	562.6			455	M	5
Fill — Black Silty fine Sand, trace wood and Gravel, trace NAPL, wet Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL state wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL, wet, native 554.6 9SS 10SS 22.5 same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till	,	no recovery	560.6			555	M	13
Black Silty fine Sand, trace wood, trace NAPL wet, native 15.0 Black Silty fine Sand, trace wood, trace NAPL, some fine to coarse Sand, sand, moist, native 17.5 Same, with some fine to coarse Sand, some fine to coarse Sand, some fine to coarse Sand, some fine to coarse Sand, some fine to coarse Sand, some fine to coarse Sand, some fine foravel, dry, native, some fine to coarse Sand and Clay, dry, native, so	-10.0		<i>558.6</i>			6SS	M	19
Black Silty fine Sand, trace wood, trace NAPL, wet, native S52.6 10SS -20.0 -22.5 same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till 543.6 542.6 15SS	-12.5					788		17
Black Sity fine Sand, trace wood, trace NAPL, wet, native -20.0 -20.0 -20.0 -22.5 -25.0 Same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till	- 15.0	no recovery				855		4
20.0 -20	-17.5		,			955		15
same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till 11SS 12SS 12SS 13SS 13SS 14SS 15SS			550.6			10SS		12
same, with some fine to coarse Sand, Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till 12SS 13SS 14SS 1549.6 540.7	- 20.0	·			•	11SS		9
Gray Brown Silty Clay, trace fine to coarse Sand, moist, native Red Brown fine to coarse Sandy Silt, some fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till Gray Brown Silty Clay, trace fine to coarse 544.1 543.6 13SS 13SS 13SS 13SS 13SS 14SS 15SS	- 22.5	same, with some fine to coarse Sand,	<i>545.1</i>		,•	12SS		21
fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some fine to coarse Sand and Clay, dry, native, Till 14SS 15SS 15SS	- 25.0	Sand, moist, native	543.6			13SS	Χc	41
	-27.5	fine Gravel, dry, native, Till Red Brown fine to coarse Gravelly Silt, some						>100 >100
	- 30.0	augered to 28.0 ft. BGS, no sample	540.1					
AUGERED TO REFUSAL END OF BOREHOLE AT 28.5 FT. BGS		AUGERED TO REFUSAL						
32.5 At completion borehole was grouted to ground surface NOTE: 14SS & 15SS A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used 1		At completion borehole was grouted to ground surface NOTE: 14SS & 15SS A 300 lb. hammer and a 3.0			÷			
NOTES: PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT STATIC WATER LEVEL		PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC			_			!

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH214-88

PROJECT NO.: 1769

DATE COMPLETED: 3/18/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTHWEST OF LAGOONS

CRA SUPERVISOR: P.H. SMITH

05071	CTD A TODA DIVIO DECODIDITION A DELLA DIVI					
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	- N	SAMPL	
11 50	GROUND ELEVATION	568.7	THO INCLUSION	ZUMmur	S S T A T U S	MCΓ> <z< td=""></z<>
	Fill — Gray fine to coarse Sandy Silt, some fine to coarse Gravel, trace White paste—like material, moist	566.7	-6.5°¢ BOREHOLE	155	M	25
- 2.5	Fill — White paste—like material, trace Sand and Gravel, moist same, except wet	565.7	- CEMENT/ BENTONTE GROUT	255		32
- 5.0		·	GROUT	388	M	12
- 7.5	same, with iridescent sheen	560.7		455	X	15
-10.0	Black Silty fine Sand, trace vegetation, wet, native	559.5		555	Δ	7
- 12.5	same, except dark Gray, no vegetation	<i>558.7</i>		6SS	X	15
- 12.5				7 SS	X	17
- 15.0				855	X	4
-17.5				9SS 10SS	\bigvee	10
- 20.0				11SS	Θ	9
-22.5	same, except Brown, fine to medium Sand, NAPL	547.2		12SS		24
- 25.0	Red Brown fine to coarse Gravelly Clay, some Silt and Sand, dry, native, Till	543.4 542.7		13SS		16
-27.5	Red Brown fine to coarse Gravelly Silt, some Sand and Clay, dry, native, Till no split spoon advancement	540.7 540.2		14SS 15SS		44 >100
-30.0	END OF BOREHOLE AT 28.5 FT. BGS At completion borehole was grouted to ground					
- 32.5	surface NOTE: 14SS & 15SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used		· ·			
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATER	R FOUND	EVEL.	•

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH215-88 (PAGE 1 of 2)

PROJECT NO .: 1769

DATE COMPLETED: 3/11/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF LAGOONS, SOUTH OF OW4S-80

				IN.W.			
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL	MONITOR INSTALLATION	N	SAM		
10 30	GROUND ELEVATION	572.7		M B E	S T A T E	A	וכר.≽ <z< td=""></z<>
	augered through Sand, Gravel, and brick, to 2.0 ft. BGS		8.5° BOREHOLE	R		<u>s</u>	<u>E</u>
- 2.5	Fill — Brown fine Sandy Gravel, Clayey, dry, odor	570.7					
- 5.0	Fill — Brown Clayey very fine to medium Sand, some Gravel, NAPL, dry, odor	568.7	GROUT/				
- 7.5	no recovery	564.7					
- 10.0	Fill — dark Brown very fine to fine Sand,	562.7					•
10.5	vegetation, odor same, with Gravel, NAPL, no vegetation, dry	<i>560.7</i>					
-12.5	same, with wood, no Gravel	55 8 .7					l
-15.0	Same, with wood, no stayer						
-17.5	Dark Brown Silty very fine Sand, dry, odor, native	556.7					
-20.0	same, with NAPL	552.7		I			
-22.5	same, with vegetation -	550.7					
-25.0	no recovery - same except no vegetation, no NAPL	548.7 547.7		1 S S	M		17
-27.5	no recovery — same with fine Gravel, no Silt Red Brown fine subrounded Gravelly Clay, Sandy, wet, native, Till	546.7		2SS	X		5
-30.0	same, with coarse angular Gravel	542.7		3 SS	M		-
30.	AUGERED TO REFUSAL	541.4		4SS	M	\otimes	>30
32.5	END OF BOREHOLE AT 31.7 ft. BGS At completion borehole was grouted to ground surface	541.0					
(PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	SPLIT WATER	FOUND	EVEL		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH215-88 (PAGE 2 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 3/11/88

DRILLING METHOD: HSA 6.5" OD

CLIENT: LOCATION: OCCIDENTAL

WEST OF LAGOONS, SOUTH OF OW4S-80

DEPTH		ELEVATION	MONITOR		SAN	IPLE	
ft BG		ft AMSL	INSTALLATION	2 m to K C Z	S T A	STATUS	Ά,
32.5				B E R	E	U S	¥LUE
	NOTE: A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used						
35.0		Ī					
	NOTE: Stratigraphy for 0.0—26.0 ft. BGS taken from OW4S—80						
57.5							
-0.0							
2.5							
15.0							
17.5							
	·	.					
50.0							
:0 F				1			
52.5							
55.0			•				
57.5		·					
50.0							
J.J	,						
2.5							
		·					
55.0							
						_	
DIES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		R FOUND			
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DLO/EFA :		R FOUND C WATER LE	VEL.		

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH216-88 (PAGE 1 of 2)

PROJECT NO.:

1769

DATE COMPLETED: 3/14/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

WEST OF LAGOONS

CRA SUPERVISOR: P.H. SMITH

				JOK. T.M. SIMITI	
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR INSTALLATION	SAMPLE	
IL BG	GROUND ELEVATION	ft AMSL 586.7	INSTALLATION	N STATUS M TE US	ָב>ארטד
	augered to 2.0 ft. BGS		8.5° BOREHO		<u>E</u>
2.5	Fill — Red Brown Silty Clay, some fine Gravel, dry	584.7		155	22
5.0	same, with coarse Gravel	582.7	GROUT	2SS X	22
7.5	•			355	38
,.5	same, except no coarse Gravel	578.7		455	14
-10.0	same, except no fine Gravel	576.7		588	20
-12.5		573.2		6SS X	39
-15.0	Fill — Black slag, concrete, brick, dry Fill — Black fine to coarse Sand, some fine Gravel and Silt, some slag, ash, brick, trace NAPL, wet	572.7		755	21
-17.5	same, except no brick	570.7		855	9
- 20.0	•			955	5
				10SS	9
-22.5	same, with Gray Silt seam, same, with trace ceramic material	563.7 562.7		1155	62
-25.0		560.7		12SS	17
-27.5	Gray Silty fine Sand, wet, native	558.7		1355	23
-30.0	no recovery	556.7		14SS	24
	Gray and Brown laminated Silty fine Sand, trace fine Gravel, vegetation, wet, native			1588	18
-32.5	same, except no vegetation	554.7		16SS	11
				17SS 🗸 O	10
. (PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT	DEC/EPA DEC/EPA	s p ut ∑ v	VATER FOUND TATIC WATER LEVEL	

PROJECT NAME: S-AREA

1769

CLIENT:

OCCIDENTAL

LOCATION:

PROJECT NO .:

WEST OF LAGOONS

HOLE DESIGNATION: BH216-88 (PAGE 2 of 2)

DATE COMPLETED: 3/14/88

DRILLING METHOD: HSA 6.5" OD

CRA SUPERVISOR: P.H. SMITH

			-	7 SIVIL 71	•
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAME	_
TT BG		ft AMSL	INSTALLATION	N S	S N.
32.5				N U M B E R	
	Gray and Brown laminated Silty fine Sand,			16SS X	11
	trace fine Gravel, wet, native		6.5° BOREHOLE		
- 35.0		551.2		17SS X	O 10
	Red Brown Silty Clay, moist, native	351.2	CEMENT/ BENTONITE GROUT		
-37.5			GROUT	18SS X (3
	no recovery	<i>548.7</i>			
40.0		5.0-		19ST	IR
740.0	Red Brown Silty Clay, moist, native	546.7		20ST Z	
					8
-42.5	Red Brown Sandy Silt, some Clay and fine	543.7		21ST .	⊗
	Gravel, moist, native, Till Brown fine to coarse Gravel, some Sand and				
45.0	Silt, trace Clay, wet, native, Till	542.2 541.7		2255	⊗ >100
	augered to 46.0 ft. BGS	540.7 540.6		2355	>50
47.5	Gray fine Gravelly fine to coarse Sand, wet,	539.7			
l ·	END OF BOREHOLE AT 47.0 FT. BGS		•		1.
-50.0	At completion borehole was grouted to ground surface				
50.0	NOTE: 22SS - A 300 lb. hammer and a				
İ	3.0" split spoon with a polycarbonate liner was used				-
52.5					
-55.0					
-57.5					
60.0				'	
-60.0					
-62.5					
-65.0					
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	_	SAMPLE	•	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	. —	r found C water level	
	C TOTAL CONTROL OF MANAGEMENT STATE		SIAII	O MATER LEVEL	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH217-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/14/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LANDFILL, NORTH OF PARKWAY

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPLE	
IL BG	GROUND ELEVATION	ft AMSL 582.0	INSTALLATION	N S S T A T A T E US	מר≽<द
	augered through "shot rock" to 26.0 ft. BGS			R S	Ĕ
- 2.5			BOREHOLE		
- 5.0			SHOUTH CHOOLING		
- 7.5					
-10.0					
-12.5					
-15.0					
-17.5					
20.0		·			
22.5					٠
25.0	Gray Brown Silty fine Sand, trace vegetation, NAPL, wet, native	556.0			
27.5	Dark Gray to Black fine Sandy Silt, trace vegetation, NAPL, wet, native	556.0 555.6		1SS X	7
30.0	Black fine Sandy Silt, trace Clay, vegegtation, NAPL, wet, native	553.6 552.0		255	
70 F	Black Silty fine Sand, trace Clay, irridescent sheen, wet, native			355	1 .
32.5	same with only trace Silt, no sheen Black fine to medium rounded Gravelly fine Sand, trace Silt, wet, native	548.2 547.5		455	4
(PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA DEC/EPA	SPLIT WATE	SSS V	1

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH217-88 (PAGE 2 of 2)

PROJECT NO .:

1769

DATE COMPLETED: 3/14/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LANDFILL, NORTH OF PARKWAY

LOCAT	ION: SOUTH OF LANDFILL, NORTH OF PARKWA	\	CRA SUPERVISOR	. D.u. OSCAR
	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
ft BG		ft AMSL	INSTALLATION	N S S 'N'
32.5				M A A A A B E U U E E S E
	Black fine Sand, trace Silt and Clay, wet, native			4SS X 4
- 35.0	Black fine to medium rounded Gravelly fine Sand, trace Silt, wet, native	547.5 547.1	BOREHOLE	555 1
	Gray and Brown to Red Brown Clayey Silt, trace to some fine Sand, fine Gravel,	<i>545.1</i>	CEMENT/ BENTONITE GROUT	
- 37.5	moist to wet, native, Till Red Brown laminated Silty Clay, trace fine	343.7		6SS 4
40.0	Sand, moist, native	542.3		755 🗙 ⊗ 8
- 40.0	Red Brown fine Sandy Silt, Clayey trace Gravel moist to wet, native, Till Gray Silty fine Sand, trace Clay, fine to	541.8		8SS 16
-42.5	medium Gravel, wet, native, Till Red Brown fine to medium Sandy Silt, Clayey	540.0 539.3		955 7100
	fine to medium Gravel, moist to wet, native,	539.3 538.7 538.4		
-45.0	Gray angular Gravel, trace Silt, fine to medium Sand, wet, native			
-47.5	END OF BOREHOLE AT 43.6 FT. BGS			
	At completion borehole was grouted to ground surface			
-50.0	NOTE: 7SS — A 300 lb. hammer and a 3.0" split spoon with a polycarbonate liner was used		·	
-52.5				
-55.0				
-57.5				
-60.0				
22.0				
-62.5				
, -65.0		·		
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA	SAMPLE	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA	_	ER FOUND
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		▼ STA	TIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH218-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED:

3/15/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		ITOR		SAM	² LE
t BG	CROUND ELEVATION	ft AMSL	INSTAL	LATION	U M		STAT
	GROUND ELEVATION	581.2	,		B E R	E	A A A A A A A A A A A A A A A A A A A
2.5	augered through "shot rock" to 25 ft. BGS, no samples		-	6.5°ø BOREHOLE			
5.0				— CEMENT/ BENTONITE GROUT			
'.5							
0.0	-			٠			
2.5							
5.0							
7.5	·						
0.0							
2.5							
5.0	Gray fine Sandy Silt, trace shell fragments, trace NAPL in sandy lenses, wet, native Dark Gray to Black Silty fine Sand, trace Clay, wet, native	556.2 555.4			155		
7.5	same, except some Clay, trace shell fragments and fine Gravel, Sandy lenses with trace NAPL, moist to wet	554.2			255		
0.0	Black fine Sandy Silt, wet, iridescent sheen, native Black Silty fine Sand and fine Sandy Silt,	552.2 551.7			355		
2.5	wet, iridescent sheen, native same, with some fine to medium Gravel same, except some Clay, trace Gravel, no iridescent sheen	548.2 547.8			4SS		
	Dark Gray to Brown Gray Clayey Silt, trace fine Sand and Gravel, fine Sandy Silt lense with iridescent sheen, wet, native	547.3			555	M	
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SAMPLE			-	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	SPLIT	VATE!	R FOUND		

PROJECT NAME: S-AREA

PROJECT NO .: 1769

CLIENT:

LOCATION:

OCCIDENTAL

SOUTHWEST OF LAGOONS, NORTH OF PARKWAY

HOLE DESIGNATION: BH218-88 (PAGE 2 of 2)

DATE COMPLETED: 3/15/88

DRILLING METHOD: HSA 6.5" OD

200/(TION. SOUTHWEST OF EAGOONS, NORTH OF PA	VICK MAY I	CRA SUPERVISOR:	D.J.	OSCAR	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION			SAMPL	<u> </u>
ft BG		ft AMSL	INSTALLATION	U U	SST	,Ñ,
32.5	•			M B E	A A T E U	A L U
32.5	(Dask Cray to Beaus Con Clay City	···	50100010011-3	l R	l s	E
	Dark Gray to Brown Gray Clayey Silt, trace fine Sand and Gravel, fine Sandy Silt			455	\square	5
75.0	lense with iridescent sheen, wet, native same, grading to Black and Red Brown Silty	547.3 546.2	BOREHOLE	5SS	IXI I	1
- 35.0	Clay, trace angular Gravel	545.6		6SS		6
1	Red Brown laminated Silty Clay, trace fine		CEMENT/ BENTONITE GROUT	033	IXI .	٥
- 37.5	Sandy Silt lenses, moist, native Red Brown to Gray Red Brown Silty fine Sand,	544.2	GROOT			
	fine to medium Gravel, trace Clay, moist,			7 S S	$ X \otimes$	35
100	native, Till					
40.0				855	X	20
		539.2 539.0		988	\bowtie	>100
-42.5	AUGERED TO REFUSAL	539.0			H	55
	END OF BOREHOLE AT 42.2 FT. BGS	İ		ļ		
45.0	At completion borehole was grouted to ground surface					
45.0					111	
	NOTE: A 300 lb. hammer was used for entire borehole	l	,			
47.5					1	
ł	NOTE: 7SS — A 3.0" split spoon with a polycarbonate liner was used					
		•			1	
50.0			,			
-52.5						
1					1 }	ł
55.0		İ		: I] []	
-55.0	,			i	i	
						Ī
-57.5						
		İ				
	·				1 1	Ì
-60.0] []	1
		ļ				
-62.5						
				:		
65.0						
	·					
		<u></u>				
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	FOUND		
	GENERAL SIGH, SEATH, FOR OCC & DEC/EPA SPUT		■ STATIC	WATER LE	EVEL	

PROJECT NAME: S-AREA

PROJECT NO .: 1769 HOLE DESIGNATION: BH219-88 (PAGE 1 of 2)

DATE COMPLETED: 3/16/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS, NORTH OF PARKWAY

DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL		ITOR LATION		SAM		
10 50	GROUND ELEVATION	580.3	1113174		X U M B E R	ST AT E	STATUS	₩
	augered through "shot rock" to 25.0 ft. BGS			6.5°¢ BOREHOLE				
- 2.5								
- 5.0				CEMENT/ BENTONITE GROUT				
- 7.5								
-10.0								
-12.5								
-15.0								
-17.5								
-20.0					·			
-22.5								
-25.0	Dark Gray and Black interbedded Silty fine	555.3				H		
-27.5	to medium Sand and fine to medium Sandy Silt, trace Clay, wet, native				1SS	\bigvee		4
-30.0					2SS 3SS	\bigvee		5
						Θ		,,
-32.5	same, with trace Gravel Dark Brown to Red Brown Clayey Silt, fine	547.3 546.9			4SS	\bigcup		10
	Sand, trace Gravel, wet, native				5SS	\bigvee	_	
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA		V	COUNT			
	GRAIN SIZE DIST. & ATT. DIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	25.01	_	FOUND WATER LE	7.E		
	Service and the service and th			SIAIIC		- VCL		

PROJECT NAME: S-AREA

PROJECT NO .: 1769 HOLE DESIGNATION: BH219-88 (PAGE 2 of 2)

DATE COMPLETED: 3/16/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS, NORTH OF PARKWAY

2007	HON. SOOM OF EAGOONS, NORTH OF FARRWA	1 1	CRA SUPERVISOR:	D.J. OSCAR
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE
IL BG		ft AMSL	INSTALLATION	N S S N
32.5				M A A A A A A A A A A A A A A A A A A A
		547.3 546.9		4SS S E
	Dark Brown to Red Brown Clayey Silt, fine Sand, trace Gravel, wet, native		6.5 BOREHOLE	555
35.0	Red Brown fine Sandy Silt, fine Gravel.	545.3 544.8 544.6		
	Red Brown Silt and Clay, trace fine Sand,	344.6	CEMENT/ BENTONITE GROUT	655
- 37.5	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	542.9		7SS 23
	Red Brown laminated Silty Clay, moist, native	İ		
40.0	Red Brown to Gray Brown Silty fine Sand,	540.5 540.1		8\$\$ ⊠⊗ >100
	\fine to medium Gravel, moist, native, Till AUGERED TO REFUSAL			
42.5	END OF BOREHOLE AT 40.2 ft. BGS			
	At completion borehole was grouted to ground	-		
45.0	surface	ĺ		
	NOTE: 8SS — A 300 lb. hammer and a 3.0" split]		
47.5	spoon with a polycarbonate liner was used			
-50.0	·			
1	·			
-52.5				
		}		
- 55.0				
00.0			Ċ	
- 57.5				
37.3		-		
60.0				
-60.0				
		Ì	}	
62.5			}	
}			·	
65.0		-		
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC.	■ DEC/EPA	SAMPLE	
1	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA	SPLIT WATER	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPUT		▼ STATIC	WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH220-88 (PAGE 1 of 2)

PROJECT NO.: 1769

DATE COMPLETED: 3/16/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.5" OD

LOCATION:

SOUTH OF LAGOONS NORTH OF PARKWAY

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMP					LE .		
ft BG	•	ft AMSL	INSTALLATION	N U	Ş	<u>}</u>		
	GROUND ELEVATION	582.6		M B E R	A T E	A LU		
	augered through "shot rock" to 25.0 ft. BGS		8.5°¢ BOREHOL	Ε				
2.5								
5.0	, , , , , , , , , , , , , , , , , , ,		- CEMENT/ BENIDNIT GROUT	E				
7.5				·	-			
10.0					-			
12.5								
15.0								
17.5		,						
20.0								
22.5	Black Silt, trace fine to medium Sand, fine							
25.0	Gravel, wet, iridescent sheen, strong odor, native Black fine to coarse Sand, trace Silt, fine	557.6 557.2 556.8						
27.5	Gravel, wet, iridescent sheen, strong odor, native Black fine Sandy Silt, wet, native	555.6		, 1SS	\bigcirc	3		
70.0	Black fine to coarse Sand, trace Silt, fine Gravel, wet, iridescent sheen, native same, except some Silt, no Gravel, odor, or	553.6 553.3 554.8		255	A	6		
30.0	Iridescent sheen Black Silt, trace fine to medium Sand, fine	254.8		355	A	3		
32.5	Gravel, wet, iridescent sheen, native Black Silty fine Sand, trace fine Sandy Silt lenses with iridescent sheen, wet, native	549.6		4SS	A	5		
	Black Silt, trace fine Sand, iridescent sheen, wet, native			5SS	X	WR		
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA			1	. . 1		
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	DEC/EPA	_	TER FOUND				
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	,	▼ st	ATIC WATER LE	VEL.			

PROJECT NAME: S-AREA

PROJECT NO.: 1769

CLIENT:

OCCIDENTAL

LOCATION:

SOUTH OF LAGOONS NORTH OF PARKWAY

HOLE DESIGNATION: BH220-88 (PAGE 2 of 2)
DATE COMPLETED: 3/16/88

DRILLING METHOD: HSA 6.5" OD CRA SUPERVISOR: D.J. OSCAR

	ION. SOOTH OF LAGOONS NORTH OF FARRWA	11	CRA SUPERVISOR:	D.U. USCAR	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION		SAMPLE	- h.i-
ft BG		ft AMSL	INSTALLATION	N S S U T T A A	Þ < Å,
32.5		`	·	M A A T T U S R	E
	Black Silt, trace fine Sand, iridescent sheen, wet, native			4SS 5SS 5	5 WR
- 35.0	Black fine Sand, trace Silt, fine to medium Gravel, iridescent sheen, wet, native	547.6 546.6			_
	Gray Silty Clay, wet, native	546.6 546.4	CEMENT/ BENTONITE GROUT	6SS X	8
-37.5	Gray fine to coarse Gravelly Silt, trace Clay and fine Sand, wet, native	544.1		7SS XO	3
40.0	Dark Gray to Red Brown Clayey Silt, fine to medium Gravel, trace fine Sand, wet to moist, native, Till	543.3		855	13
	Red Brown laminated Silty Clay, moist to wet, native	541.6		955	40
- 42.5	Red Brown Clayey Silt, angular Gravel, wet, native, Till				40
	same, with trace fine Gravel, trace fine Sand	539.6 538.6		10SS XO >	>100
- 45.0	AUGER REFUSAL AND END OF BOREHOLE AT 44.0 FT. BGS				
47.5	At completion borehole was grouted to ground surface				
-50.0	NOTE: A 300 lb. hammer was used for entire borehole				
	NOTE: 9SS — A 3.0" split spoon with a polycarbonate liner was used		·		
-52.5					
-55.0					
33.0					
- 57.5					
					ļ
-60.0	'		·		
-62.5					
-65.0					
					}
NOTEC:	PERMEABILITY ORAIN STATE DIOT A		CAMPIC		
	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	DEC/EPA DEC/EPA		FOUND	
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	- JLU/EFA		WATER LEVEL	
					ı

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH221-88 (PAGE 1 of 2)
DATE COMPLETED: 3/18/88

PROJECT NO .: 1769

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 13.0" OD

LOCAT	NON: SOUTH OF S-AREA LANDFILL, NORTH O	F PARKWAY	CRA	SUPERVISOR	: D.J. (OSC.	AR	
DEPTH ft BG	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION ft AMSL		NTOR LATION		SAN	APLE S I	Ά,
	GROUND ELEVATION	583.2			地市協関のス	A T E	STATUS	VA LUE
	augered through "shot rock" to 25.0 ft. BGS			13.0°d				
- 2.5				BOREHOLE				
				CEMENT/ BENTONITE GROUT		j		
- 5.0				GROUT		ļ		
- 7.5		. [
-10.0								
						i		
-12.5								
		ļ .						
-15.0								
					Ì			
- 17.5								
-20.0								
-22.5		·						
	to coarse Sand, trace wood and Silt, NAPL, wet, iridescent sheen			•				
-25.0	Black Silty fine Sand, trace vegetation and	558.2 557.8						
	thin Sand lenses with an iridescent sheen, wet, native	1			155	X		5
-27.5	Black fine Sandy Silt, trace vegetation, NAPL, wet, native	555.2 555.8			255	\bigvee		3
	Black Silty fine Sand, trace vegetation and thin Sand and Silt lenses, wet, native	554.2						_
-30.0	Black fine Sandy Silt, trace thin Sand				355	X		WH
	lenses, wet, native /Black Silty fine Sand, trace fine Sandy Silt	551.2			155	M		5
32.5	lenses, wet, native same, with fine Gravel, no Sandy Silt lenses				455	Д		3
	Gray Silty Clay, wet, native	550.2 549.7			555	X		1
NOTES:	PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	■ DEC/EPA			1	<u>K Y</u>	1	
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT	● DEC/EPA	SPLIT	_	r found C water Li	en #FT		
	GENERAL DIGIT & ALL FUN OOG & DECYCEA SELL	 	···	SIAII	C WAIER L	VEL		,

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH221-88 (PAGE 2 of 2)

PROJECT NO.: 1769

DATE COMPLETED:

3/18/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA

HSA 13.0" OD

LOCATION:

SOUTH OF S-AREA LANDFILL, NORTH OF PARKWAY

CRA SUPERVISOR: D.J. OSCAR

DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS ELEVATION MONITOR SAMPLE ft BG ft AMSL INSTALLATION A T E 32.5 **4SS** 549.7 13.0°¢ BOREHOLE Gray Silty Clay, wet, native 555 35.0 548.2 Gray Brown to Red Brown Clayey Silt, fine Sand and fine to medium Gravel, moist to **6SS** WH 0 wet, native, Till 546.2 37.5 Red Brown laminated Silty Clay, moist, native 8 **7SS** 20 544.2 augered to 40.0 ft. BGS, no sample 40.0 543.2 Red Brown laminated Silty Clay, moist, native 8 855 10 541.4 Red Brown Clayey Silt, trace fine Sand, fine 42.5 Gravel, moist, native, Till 955 19 same, except Red Brown to Gray, angular Gravel, moist to wet 539.2 **10SS** 538.7 538.6 >100 AUGERED TO REFUSAL 45.0 END OF BOREHOLE AT 44.6 FT. BGS 47.5 At completion borehole was grouted to ground surface 50.0 NOTE: A 300 lb. hammer was used for entire borehole NOTE: 7SS & 8SS - A 3.0" split spoon 52.5 with a polycarbonate liner was used -55.0 -57.5 -60.0 62.5 65.0 NOTES: \otimes PERMEABILITY, GRAIN SIZE DIST. & ATT. LIMITS FOR OCC DEC/EPA SAMPLE 0 GRAIN SIZE DIST. & ATT. LIMITS FOR OCC ∇ DEC/EPA SPLIT WATER FOUND GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT STATIC WATER LEVEL

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH222-88

PROJECT NO.: 1769

DATE COMPLETED: 3/31/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF A-PLANT

CRA SUPERVISOR: D.L. TARNOWSKI.

GROUND ELEVATION GROUND ELEVATION Fill — Brown Silt, vegetation, moist Fill — Gray Brown Silt, fine Gray Grovel, dry same, with fine to coarse angular Gravel same, with trace medium Sand, dry to moist Fill — Gray Black Clayey Silt, Gravelly, wood, brick, ash, slog, moist to wet Fill — Red Brown Silty Clay, Gravelly, moist Fill — Red Brown Silty Clay, Gravelly, moist Fill — Fill Cardy Silt and fine Sand, Gravelly, dry Fill — Gray Silt and fine Sand, Gravelly, Mry Fill — Orange Brown to Black Gravelly Silt, brick, cinders, wet Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, plece of rubber no recovery S59.2 Fill — Block Gravelly Silt, cinders, trace Brown Silty Clay, plece of rubber no recovery S59.2 At completion borehole was grouted to ground surface END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface At completion borehole was grouted to ground surface MALSURING POINT ELEVATIONS MAY CHANGE; REPER TO CURRENT ELEVATION TABLE	DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR	SAMPL	F
Fill - Gray Brown Sitt, fine Gray Gravel, dry same, with trace medium Sand, dry to moist Fill - Gray Brown Sitt, fine Gray Gravel, dry same, with trace medium Sand, dry to moist Fill - Gray Black Clayey Silt, Gravelly, wood, brick, dsh, slag, moist to wet Fill - Brown Silty Clay, Gravelly, moist Fill - Black Gravelly Silt, slag, dsh, cinders, dry to moist Fill - Black Gravelly Silt, slag, dsh, cinders, dry to moist Fill - Gray Silt and fine Sand, Gravelly, dry Fill - Gray Silt and fine Sand, Gravelly, dry Fill - Gray Silt on Black Gravelly Silt, brick, cinders, wet Fill - Gray Silt on Brown to Black Gravelly Silt, slag, dsh, cinders, wet Fill - Gray Silt on Brown Silty Clay, Gravelly, dry Fill - Gray Silt on Brown Silty Clay, Gravelly, dry Fill - Gray Silty Clay, piece of rubber no recovery Fill - Gray Silty Gray File to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface MALSURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE			I			<u> </u>
Fill — Brown Silt, vegetation, moist Fill — Groy Brown Silt, fine Gray Gravel, dry some, with fine to coarse angular Gravel 573.2 573.2 574.7 573.2 574.7 573.2 574.7 573.2 574.7 573.2 574.7 575.2 Fill — Gray Black Clayey Silt, Gravelly, wood, brick, ash, slag, moist to wet Fill — Black Cravelly Silt, sign, ash, cinders, dry to moist Fill — Black Gravelly Silt, sign, ash, cinders, dry to moist Fill — Gray Black Gravelly Silt, sign, ash, cinders, dry to moist Fill — Black Gravelly Silt, sign, ash, cinders, dry to moist Fill — Gray Silt and fine Sand, Gravelly, moist Fill — Gray Silt and fine Sand, Gravelly, dry Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber To recovery 17.5 Gray Silty fine to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface At completion borehole was grouted to ground surface At completion borehole was grouted to ground surface NOIES MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE		GROUND ELEVATION	575.2		M B E E	Å LUE
same, with fine to coarse angular Gravel same, with trace medium Sand, dry to moist 573.2 Same, with trace medium Sand, dry to moist Same, with trace medium Sand, dry to moist Same, with trace medium Sand, dry to moist Same, with trace medium Sand, dry to moist Fill - Gray Black Clayey Silt, Gravelly, wood, brick, ash, slag, moist to wet Fill - Bade Brown Silty Clay, Gravelly, moist Fill - Black Gravelly Silt, sing, ash, cinders, dry to moist Fill - Gray Silt and fine Sand, Gravelly, dry Fill - Gray Silt and fine Sand, Gravelly, dry Fill - Canage Brown to Black Gravelly Silt, brick, cinders, wet Same, with fine to medium Sand, revelly, moist Fill - Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber To recovery Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, drawley, fine to medium Sand, drawley, fine to medium Sand, vegetation, wet, native Same, with fine to medium Sand, drawley, fine to medium Sand, drawley, fine to medium Sand, drawley, fine to medium Sand, draw		Fill - Brown Silt, vegetation, moist	574.7			
same, with trace medium Sand, dry to moist 571.2 Fill — Gray Black Clayey Silt, Gravelly, wood, brick, ash, slag, moist to wet Fill — Red Brown Silty Clay, Gravelly, moist Fill — Black Gravelly Silt, sing, ash, cinders, dry to moist Fill — Red Brown Silty Clay, Gravelly, moist Fill — Gray Silt and fine Sand, Gravelly, dry Fill — Gray Silt and fine Sand, Gravelly, dry Fill — Gray Silt and fine Sand, Gravelly Silt, brick, cinders, wet Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Gray Silty fine to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface MALSURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE	- 2.5		573.2	BOREHOLE	\mapsto	90
Fill - Gray Black Clayey Silt, Gravelly, wood, brick, ash, slag, moist to wet Fill - Red Brown Silty Clay, Gravelly, moist Fill - Black Gravelly Silt, slag, ash, cinders, dry to moist Fill - Red Brown Silty Clay, Gravelly, moist Fill - Gray Silt and fine Sand, Gravelly, dry Fill - Gray Silt and fine Sand, Gravelly Silt, brick, cinders, wet Fill - Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Gray Silty fine to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface MASSURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE	50	same, with trace medium Sand, dry to moist	571.2	CEMENT/ BENTONITE CROUT	()	113
### Wood, brick, ash, slag, moist to wet Fill - Red Brown Slity Clay, Gravelly, moist	- 5.0	Fill - Gray Black Clayey Silt, Gravelly,	569.2		()	96
Fill — Black Gravelly Silt, slag, ash, cinders, dry to moist Fill — Red Brown Silty Clay, Gravelly, moist Fill — Gray Silt and fine Sand, Gravelly, dry Fill — Orange Brown to Black Gravelly Silt, brick, cinders, wet Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Fill — Black Gravelly Silt, dinders, trace Brown Silty Clay, piece of rubber no recovery Fill — Black Gravelly, moist Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black Gravelly, dry Fill — Black G	- 7.5	wood, brick, ash, slag, moist to wet			4SS X	38
Fill — Gray Silt and fine Sand, Gravelly, dry Fill — Orange Brown to Black Gravelly Silt, brick, cinders, wet Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber no recovery Gray Silty fine to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface 22.5. At completion borehole was grouted to ground surface P25.0 At completion borehole was grouted to ground surface BNO OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface BNO OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface	- 10.0	Fill - Black Gravelly Silt, slag, ash,			555	-33
Fill — Black Gravelly Silt, cinders, wet Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber 755 755 755 755 755 755 755 7		Fill — Gray Silt and fine Sand, Gravelly, dry			655	30
-15.0 Fill – Black Gravelly Sift, cinders, trace Brown Sifty Clay, piece of rubber -17.5 Gray Sifty fine to medium Sand, vegetation, wet, native -20.0 END OF BOREHOLE AT 20.0 FT. BGS -22.5 At completion borehole was grouted to ground surface -25.0 -27.5 -30.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	-12.5				7SS X	5
Gray Silty fine to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface -25.0 -27.5 -30.0 NOIES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	15.0	Fill — Black Gravelly Silt, cinders, trace Brown Silty Clay, piece of rubber	-		855	16
Gray Silty fine to medium Sand, vegetation, wet, native END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface -25.0 -27.5 -30.0 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	-17.5	no recovery	559.2		955	14
END OF BOREHOLE AT 20.0 FT. BGS At completion borehole was grouted to ground surface -22.5 -25.0 -27.5 -30.0 -32.5 MOJES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE			557.2		1055	18
-22.5 surface -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	-20.0	END OF BOREHOLE AT 20.0 FT. BGS	555.2			
-27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	-22.5					
-30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	- 25.0	· .				
-30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE			1	,		
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	-27.5		·			
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	-30.0					
· · · · · · · · · · · · · · · · · · ·	-32.5			·.		
· · · · · · · · · · · · · · · · · · ·						
◯ GRAIN SIZE DIST. & ATT. LIMITS FOR OCC 💮 DEC/EPA SPLIT 🔀 WATER FOUND	NOTES:	<u> </u>	_	• • -	FOUND	

PROJECT NAME: S-AREA

HOLE DESIGNATION: BH223-88

PROJECT NO.: 1769

DATE COMPLETED: 3/31/88

CLIENT:

OCCIDENTAL

DRILLING METHOD: HSA 6.0" OD

LOCATION:

WATER TREATMENT PLANT, SOUTH OF A-PLANT

CRA SUPERVISOR: D.L. TARNOWSKI

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION	MONITOR		C 44 4 D 1	
ft BG	STRATIGICAL THE DESCRIPTION & REMARKS	ft AMSL	MONITOR INSTALLATION		SAMPL S S	ļ. Ä.
	GROUND ELEVATION	574. 8		7 U M B E R	T A T A T U S	> 4 L D E
	Fill — Brown Clayey Silt, Gravelly, vegetation, moist to dry			155	M	20
2.5	same, except no vegetation	572.8	6.0°¢ BOREHOLE		\square	
2.0		570.0	CEMENT/ BENTONITE GROUT	255	X	33
5.0	Fill — Brown to Black Clayey Silt, Gravelly, trace brick and cinders, dry to moist	570.8	GROUT	355	M	48
	Fill - Brown Silt, trace Clay, cinders,	568.8		400	\mathcal{M}	
· 7.5	slag, brick, moist Fill - Red Brown Silty Clay, slag, moist	567.8 566.8		455	Ň	42
	Fill - White, Red Brown, and Brown Silt,	300.0		588	M	10
10.0	cinders, ash, slag, dry to moist same, except Gray Black, moist	564.8 564.0			()	
	Fill — Orange Brown Gravelly Silt, slag, wet	562.8		6SS	X	6
12.5	no recovery			7 S S	M	5
15.0	Fill — Red Brown Silt and coarse Sand, Gravel, slag, cinders, wet	560.8 560.5		855	M	74
	Fill — Black Silt, cinders, wood, wet, iridescent sheen	558.8		033	Μ.	31
17.5	Fill — Black Silt, trace Clay, Gravel, cinders, wet	556.8		955	X	5
20.0	Gray Silty fine to medium Sand, trace rounded Gravel and vegetation, wet, native	554.8		1055	X	21
20.0	END OF BOREHOLE AT 20.0 FT. BGS	334.6				
22.5	At completion borehole was grouted to ground surface					
25.0						
27.5						
30.0	·					
32.5			·			
NOTES:	MEASURING POINT ELEVATIONS, MAY CHANGE: REFER TO CURRENT E	LEVATION TABL				
	GRAIN SIZE DIST. & ATT. LIMITS FOR OCC	● DEC/EPA		FOUND		
	GRAIN SIZE DIST. & ATT. FOR OCC & DEC/EPA SPLIT		STATIC	WATER LE	:VEL	

UTILITY BEDDING EXCAVATION AND BORING LOGS

EXCAVATION AND BOREHOLE LOCATIONS:

SEE INFORMATION SUMMARY REPORT

VOLUME II - DRAWINGS

PLAN #13

Excavation Number	Depth (ft. BG)	Description	Water Level (ft. BG)	Sampled Depth (ft. BG)
A-1	0 - 0.5 0.5- 2.0	Asphalt Brown-gray fine to medium gravel, sand. Dry to Moist (FILL)	Dry	2.0
A-2	0 - 0.5 0.5- 2.0	Asphalt Brown-gray fine to coarse gravel, sand and silt. Moist (FILL)	Dry	2.0
A-3	0 - 0.5 0.5- 0.8	Asphalt Brown silt and sand, gravel, slight chemical odor. Dry to Moist (FILL)	Dry	0.8
B-1	0 - 6.0	Black coarse gravel and stone, some sand and silt, trace brick and wood, occasional wire. Wet (FILL) Black and gray silt and sand, gravel, trace clay, strong chemical odor, some black NAPL. Wet (FILL)	6.5	8.0
B-1A	0 - 0.5 0.5- 4.0 4.0- 6.0	Asphalt Black and dark brown silty sand and gravel, brick, cinder, rusted metal. Moist (FILL) Black and dark brown silty sand and gravel, brick, cinder, rusted metal, wood and trace brown clay. Moist (FILL)	5.0	7.0
·	6.0- 7.0	Black, brown and gray silt, sand, gravel, clay, some yellow-brown sand, waste material, slight chemical odor, trace iridescent sheen. Wet (FILL)	1	

Excavation Number	Depth	Description	Water <u>Level</u>	Sampled Depth
	(ft. BG)		(ft. BG)	(ft. BG)
B-2	0 - 6.0	Black coarse gravel and stone, some sand and silt, trace brick and wood, occasional wire. Wet (FILL)		8.0
	6.0- 8.0	Black and gray silt and sand, gravel, trace clay, strong chemical odor, some black NAPL. Wet (FILL)	6.5	
B-2A	0 - 0.5 0.5- 4.0	Asphalt Black and dark brown silty sand and gravel, brick, cinder, rusted metal. Moist (FILL)		7.0
	4.0- 6.0	Black and dark brown silty sand and gravel, brick, cinder, rusted metal, wood and trace brown clay. Moist (FILL)	5.0	
·	6.0- 7.0	Black, brown and gray silt, sand, gravel, clay, some yellow-brown sand, waste material, slight chemical odor,		
		trace iridescent sheen. Wet (FILL)		
B-3	0 - 6.0	Black coarse gravel and stone, some sand and silt, trace brick and wood, occasional wire. Wet (FILL)		8.0
	6.0- 8.0	Black and gray silt and sand, gravel, trace clay, strong chemical odor. Wet (FILL)	6.5	
B-5	0 - 3.0	Brown fine sandy silt, gravel, trace brick, root fibers, some light brown clay. Moist (FILL)	Dry	3.5
,	3.0- 3.5	Light brown to dark brown and black fine sandy silt, some clay, gravel, trace white waste material. Moist (FILL)		
	3.5- 4.5	Gray fine to coarse sand and gravel. Moist (FILL		

Excavation Number	Depth	Description	Water Level	Sampled Depth
	(ft. BG)		(ft. BG)	(ft. BG)
B-6	0 - 0.5	Asphalt		6.5
	0.5- 3.0	Gray fine to medium sand and		-
		gravel, trace brick.		
		Moist (FILL)	•	
	3.0- 6.5	Gray fine to medium gravel,	4.5	
		brown silty fine sand, some		
		red-brown clay. Wet (FILL		
B-8	0 - 0.5	Asphalt		10.5
2 0	0.5- 3.0	Brown-gray fine to coarse		
		gravel, some silt.		
		Moist to Wet (FILL)		
	3.0-10.5	Brown-gray gravel, silt,	7.0	
		sand, clay, brick, rusted	•	
		metal. Wet (FILL)		
		5 1 1		0-10.5
B-9	0 - 3.5	Dark brown fine sandy silt. Moist (FILL)		0-10-5
·	3.5- 8.0	Gray-brown sandy coarse to	8.0	
	3.5- 0.0	fine gravel.		•
•		Moist to Wet (FILL)		
•	8.0-10.5	Gray coarse gravel.		
		Wet (FILL)		
			_	40.0
B-12	0 - 2.0	Brown sandy silt, fine to	Dry	12.0
	·	coarse subangular gravel,		
•	•	<pre>trace clay, trace brick. Moist (FILL)</pre>	,	
	2.0-6.0	Brown sandy silt, fine to		
	2.0 0.0	coarse subangular gravel,		
		some gravelly clay nodules,		
		trace brick. Moist (FILL)	·	
	6.0-10.0	Brown gravelly, silty clay,		
		trace sand.		
		Moist to Wet (FILL)		
	10.0-12.0	Gray gravel. Moist (FILL)		
n 12	0 - 9 E	Brown silty fine sand, clay,	Dry	11.5
B-13	0 - 8.5	fine to coarse gravel, trace	DLY	1103
•		cinder and brick.		
		Dry to Moist (FILL)		
	8.5-11.5	Brown silty clay, gravel.		
		Moist (FILL)		
	11.5-14.0	Bedding gravel.		
•		Moist (FILL)		_
	•		Continu	ed

Excavation	Donth	Description	Water Level	Sampled Depth
Number	Depth (ft. BG)		(ft. BG)	(ft. BG)
	(10, 20,		(,	
B-14	0 - 3.5	Brown silty sand, fine to coarse gravel, trace cinder, brick and concrete. Moist (FILL)	Dry	14.5
	3.5-11.0	Red-brown silty clay, gravel, sand. Moist (FILL)		
	11.0-12.5	Red-brown silty clay, gravel, sand, slag, chemical odor. Moist (FILL)		
	12.5-14.5	Gray fine sand, trace gravel. Wet (FILL)		
B-16	0 - 3.0	Gray-brown gravelly sand, white clayey waste material. Dry to Moist (FILL)	Dry	4.5
	3.0- 4.5	Gray, brown, white gravel, sand clay. Wet (FILL)		,
B-18	0 - 4.5	Brown silt and sand, gravel, white waste material, slight chemical odor. Wet (FILL)	4.0	4.5
B-21	0 - 0.5	Asphalt		7.0
	0.5- 3.0	Brown-gray sandy gravel, some brick, rusted metal. Dry (FILL)	•	
	3.0- 4.0	Brown-gray sandy gravel, some brick, rusted metal, white-purple waste material, trace wood, gravel. Moist (FILL)	,	
	4.0- 5.0	Brown-gray sandy gravel, some brick, rusted metal, white-purple waste material, trace wood gravel, black tar-like substance. Wet (FILL)	5.0	
	5.0- 6.0	Brown-gray sandy gravel, some brick, rusted metal, white-purple waste material, trace wood, some gravel, black tar-like substance, some NAPL, iridescent sheen. Wet (FILL)		·
	6.0- 7.0	Brown-black gravel, sand, silt, trace clay, wood, some NAPL, iridescent sheen. Wet (FILL)		

Excavation Number	Depth (ft. BG)	Description	Water Level (ft. BG)	Sampled Depth (ft. BG)
B-22	0 - 0.4 0.4- 5.0	Asphalt Brown-black silt, sand, gravel, cinders, trace clay. Moist (FILL)		6.5
	5.0- 6.5	Black-brown gravelly clay, NAPL. Wet (FILL)	6.0	
B-24	0 - 8.0	Black-brown coarse slag and gravel, some sand and silt, chemical odor. Wet (FILL)	4.5	8.0
B-25	0 - 8.0	Brown to red-brown clayey silt, some gravel and sand. Moist (FILL)	Dry	10.5
,	8.0-10.5	Gray medium to fine gravel. Moist (FILL)		
B-26	0 - 4.0	Brown to red-brown gravelley sand, some clay and silt, trace brick. Moist (FILL) Gray coarse to fine gravel. Moist (FILL)	`	10.5
	9.5-10.5 10.5	Yellow-brown silty fine sand. Moist (FILL) Yellow-brown silty fine sand, trace clay. Wet (FILL) Gray gravel and sand. Wet (FILL)	9.0	
B-27	0 - 5.0 5.0- 6.5	Brown to red-brown sandy silt, gravelly, some clay. Moist (FILL) Gray fine to medium gravel. Dry to Moist (FILL)	Dry	6.5
B-28	0 - 3.0 3.0- 6.0	Brown gravelly silt, some clay and sand. Moist to Wet (FILL) Gray gravel, trace clay. Wet (FILL)	6.0	6.0
в-31	0 - 8.0 8.0- 9.5	Brown silty sand, gravelly, some clay, trace brick, concrete, cinder. Moist (FILL) Gray fine to medium gravel.	Dry	9.5
	•	Dry to Moist (FILL)		

Continued....

Excavation Number	Depth	Description	Water Level	Sampled Depth
•	(ft. BG)		(ft. BG)	(ft. BG)
B-32	0 - 8.5	Gray-brown sandy silt and gravel. Moist (FILL)		0-16.0
	8.5-14.0	Gray gravelly coarse to fine sand. Moist (FILL)	12.0	
	14.0-16.0	Red-brown silty clay. Moist (NATIVE)		
B-33	0 - 7.0	Brown silty sand, some fine	Dry	11.0
		to coarse gravel, clay, trace wood. (FILL)		
	7.0-10.0	Black and brown silty clay,		
	7.0 10.0	some fine to medium gravel.		
	• ,	Moist (FILL)		٠
	10.0-11.0	Gray medium gravel.		
	•	Moist (FILL)		•
C-4A	0 - 0.5	Asphalt		0-28.0
	0 - 10.0	Gray sandy fine to coarse		
		angular gravel. Dry to wet.		
		(FILL)	7.0	
	12.0-16.0	Dark gray to black gravelly silt. Wet. (FILL)		
	16.0-16.5	Fine to coarse sand. Wet. (FILL)	·	
	16.5-17.0	Red silty clay. Wet. (FILL)		
	17.0-17.8	Gravelly silt. Wet. (FILL)		
	17.8-25.2	Dark gray to black silty fine , to medium sand, trace gravel		
	•	with depth, iridescent sheen noted from 20-24 ft. Wet. (FILL)	
	25.2-26.0	Black fine to coarse gravel. Wet. (FILL)		
	26.0-28.0	Red Brown fine gravelly silt Till Moist. (NATIVE)	•	
C-4B	0 - 0.5	Asphalt		0-20.0
	0.5- 3.5	Gray sandy fine to coarse angular gravel. Dry to Moist. (FILL)	8.0	
	3.5- 8.0	Augered through.		
	8.0-10.0	Gray sandy fine to coarse gravel. Wet. (FILL)		
	10.0-10.7	Black gravelly fine to coarse sand. Wet. (FILL)		

PEREIVED

JUN 0 7 1988

OF DEPT. OF CONSERVATION ENVIRONMENTAL CONSERVATION REGION 9