APPENDIX I

Geotechnical Data – Technical Memorandum No. 1
Report of Findings (TM1ROF)(PNL, 2003)

Table 2-2 of TM1ROF -- Geotechnical Analysis Summary Table

Appendix E of TM1ROF -- Geotechnical Interpretation and Summary by Parsons

TM1ROF Boring Logs

TM1ROF Geotechnical Data (Ninyo & Moore)

Table 2-2
Geotechnical Analysis Summary Table

Sample Location	In-Place Density by ASTM D 2937	In-Place Moisture Content by ASTM D 2216	Grain Size by ASTM D 422	Atterberg Limits by ASTM D 4318	Hydraulic Conductivity by ASTM D 5084	Consolidated Undrained Triaxial Compression by ASTM D 4767	Unconfined Compression by ASTM D 2166	Maximum Dry Density & Optimum Moisture by ASTM D 1557	Media Sampled
P7-7	X	X							Fill
P7-10			X	X					Fill
P7-11					X				Fill
P7-11.5	X	X					X		Fill
P7-15	X	X							Waste
P7-15.5			X	X					Waste
P7-16					X				Waste
P7-17	X	X					X		Waste
P3-4	X	X					X		Fill
P3-4.5	X	X							Fill
P3-5.5			X	X					Fill
P3-6					X				Fill
P3-8.5	X	X					X		Waste
P3-9	X	X					X		Waste
P3-9.5	X	X							Waste
P3-10			X	X					Waste
P6-23					X				Waste
P6-22.5			X	X					Waste
P6-22	X	X							Waste
P6-24	X	X					X		Waste
P6-3					X				Fill
P6-2			X	X					Fill
P6-1.5	X	X							Fill
P6-4	X	X							Fill
P4-13								X	Waste
P6-1								X	Fill
P4-1	X	X							Fill
P4-1.5			X	X					Fill

Table 2-2
Geotechnical Analysis Summary Table

Sample Location	In-Place Density by ASTM D 2937	In-Place Moisture Content by ASTM D 2216	Grain Size by ASTM D 422	Atterberg Limits by ASTM D 4318	Hydraulic Conductivity by ASTM D 5084	Consolidated Undrained Triaxial Compression by ASTM D 4767	Unconfined Compression by ASTM D 2166	Maximum Dry Density & Optimum Moisture by ASTM D 1557	Media Sampled
P4-2					X				Fill
P4-3.5	X	X					X		Fill
P4-8.5			X	X					Waste
P4-9	X	X							Waste
P4-9.5					X				Waste
P4-10						X			Waste
P4-11	X	X					X		Waste
P8-1	X	X							Fill
P8-1.5			X	X					Fill
P8-2					X				Fill
P8-3	X	X					X		Fill
P8-3.5	X	X							Waste
P8-5			X	X					Waste
P8-5.5					X				Waste
P8-6.5	X	X					X		Waste
P5-1.5	X	X							Fill
P5-2			X	X					Fill
P5-3					X				Fill
P5-3.5		X							Fill
P5-16	X	X							Waste
P5-16.5			X	X					Waste
P5-17					X				Waste
P5-17.5						X			Waste
P5-18	X	X					X		Waste
P10-1	X	X							Fill
P10-1.5			X	X					Fill
P10-2					X				Fill
P10-4	X	X					X		Fill

Table 2-2
Geotechnical Analysis Summary Table

Sample Location	In-Place Density by ASTM D 2937	In-Place Moisture Content by ASTM D 2216	Grain Size by ASTM D 422	Atterberg Limits by ASTM D 4318	Hydraulic Conductivity by ASTM D 5084	Consolidated Undrained Triaxial Compression by ASTM D 4767	Unconfined Compression by ASTM D 2166	Maximum Dry Density & Optimum Moisture by ASTM D 1557	Media Sampled
P1-2	X	X							Fill
P1-4					X				Fill
P1-5	X	X							Fill
P1-3			X	X					Fill
P1-5							X		Fill
P1-14.5			X	X					Waste
P1-15	X	X							Waste
P1-19					X				Waste
P1-20	X	X				X	X		Waste
P2-1	X	X	X	X					Fill
P2-2	X	X			X		X		Fill
P2-10	X	X							Waste
P2-14			X	X					Waste
P2-15					X	X			Waste
P2-20	X	X					X		Waste
P9-1	X	X							Fill
P9-2			X	X					Fill
P9-3					X				Fill
P9-12	X	X	X	X					Waste
P9-13					X				Waste
P9-14	X	X					X		Waste

Appendix E

Geotechnical Interpretation
and
Summary by Parsons

PARSONS

1.0 GEOTECHNICAL ANALYSIS

1.1 Geotechnical Analysis Results

Twenty-five (25) geoprobes and ten (10) piezometers were installed within the Site boundaries, as shown in **Figure 2-1**. In addition to collecting geologic and chemical sampling information, geotechnical samples were collected to evaluate the physical condition of fill and waste at the Site.

Soil samples were obtained from each piezometer location using a 2 inch diameter "California" split spoon sampler. Split spoon samples were obtained continuously at some locations and on 5 foot spacing intervals from the remaining locations. Standard Penetration Tests (SPT) were conducted at each piezometer sample interval in accordance with ASTM D1586 using a 140-pound hammer falling freely 30 inches to drive the sampler. Soil samples were obtained from each geoprobe location using a 1 ½ inch diameter, four-foot long acetate lined rod. Soil borings were monitored, and recovered samples were visually classified using the Unified Soil Classification System (USCS) (ASTM D2488). Soil boring logs are presented in **Appendix A**.

The program involved collection of undisturbed soil samples using 3 inch diameter, 30 inch long thin-walled Shelby tubes. However, due to the amount of concrete, debris and loose material encountered in the holes, recoverable samples could not be obtained with Shelby tubes. Therefore, samples were collected with split spoon samplers to ensure that a significant amount of recoverable material was obtained in the samplers.

1.1.1 Geotechnical Laboratory Testing Program

Ninyo & Moore located in Irvine, California performed geotechnical laboratory testing. The following geotechnical laboratory tests were performed on selected soil samples:

- Particle Size Distribution (ASTM D 422), including sieve and hydrometer analysis
- Atterberg limits (ASTM D 4318)
- In-place moisture content and density (ASTM D 2216 and D 2937)
- Hydraulic conductivity (ASTM D 5084)
- Maximum dry density and optimum moisture content (ASTM D 1557)
- Unconfined compression (ASTM D 2166)
- Consolidated-undrained triaxial compression (CIU) (ASTM D 4767)

The index tests (sieve, hydrometer, and Atterberg Limits) were performed on selected samples for laboratory soil classification and to verify visual classifications made in the field. Hydraulic conductivity, density, and compression tests were performed on selected samples to estimate the permeability values, bearing capacity, and effective strength parameters. The geotechnical test results for each stratum are presented and summarized below.

1.1.2 Interpretation of Results

1.1.2.1 *Subsurface Soil Conditions*

Based upon the results of the field investigations, three soil strata (designated Stratum I, II, and III) of geologic interest have been identified. The three strata are differentiated by their waste characterization and composition and are labeled as follows:

- Stratum I Fill: Soil
- Stratum II Fill: Waste & Impacted Material
- Stratum III Native Material

A description of the three strata and their engineering properties are provided below. Based on the results of the subsurface investigation, five subsurface cross-sections were developed and are presented in **Figures 4-4** through **4-8**.

1.1.2.1.1 Stratum I – Fill: Soil

Stratum I consists of heterogeneous fill material composed of mainly "silty sand" and “sandy silt”. In several borings there are varying amounts of gravel, clay and construction debris (such as concrete, asphalt, and brick).

Stratum I was encountered in all piezometers and geoprobe locations with the thickness ranging from 2 feet (GP-5) in the southwestern portion of the Site to 20 feet (P-6 and GP-18) in the central portion of the Site. A summary of the subsurface conditions encountered is presented in **Table E-1**. The Standard Penetration Test (SPT) value in Stratum I ranged from 10 (P-5) to 81 (P-6) blows per foot.

Geotechnical laboratory testing was conducted on numerous samples obtained from Stratum I. The results are presented in **Appendix D**. Based on the laboratory tests, the USCS classification for Stratum I is generally a silty sand (SM) and clayey sand (SC). Sieve analysis tests (including hydrometer) were performed on ten Stratum I samples and the fines content (i.e., percentage

passing the number 200 sieve) ranged from 20 (P6-2) to 53 percent (P10-1.5), with the exception of 8 percent at soil boring P5-2. The results of the sieve analysis test generally indicate that Stratum I is a “coarse-grain” material. Atterberg limits were performed on ten Stratum I samples and were determined to have a plasticity index ranging from 1 (P5-2) to 12 percent (P3-5.5 and P4-1.5) and a liquid limit ranging from 17 (P5-2) to 33 percent (P4-1.5). These plasticity values generally indicate that the soil is a non to low plasticity soil.

Based on in-place tests performed at 19 locations in Stratum I, the density varied from 75.7 pcf (P-7) to 112.9 pcf (P-6) and the water content varied from 2.0 (P-5) to 39.2 percent (P-7). A laboratory compaction test was performed on one sample from Stratum I and the maximum dry density was estimated to be 130.5 pcf at an optimum water content of 7.5 percent. It can be noted that all in-place density values obtained were below the maximum dry density value at the optimum water content.

The vertical permeability of Stratum I was tested in 10 locations and ranged from 6.29×10^{-7} cm/sec (P3-6) to 9.9×10^{-5} cm/sec (P10-2). This generally can be considered a moderate to low permeability material. Based on unconfined compression tests that were performed on seven Stratum I samples, the shear strength was estimated to vary from 430 (P-4) to 1670 pounds per square foot (psf) (P-8).

1.1.2.1.2 Stratum II – Fill: Waste & Impacted Material

Stratum II is also considered a fill layer generally consisting of mud, oily soil waste and other oil or hydrocarbon impacted material. More specifically, the waste and impacted material consists of soil (varying from a clayey silt to poorly graded sand with gravel) and material characterized in the field as "drilling mud." Both materials encountered were saturated with oil and hydrocarbon staining and odor was observed in all the investigation locations. In several borings, varying amounts of construction debris was encountered. The material described as drilling mud generally consists of a dewatered bentonite-based slurry that exhibits the behavior of a low to high plasticity clay and is designated as Stratum II-M (for mud).

Stratum II was generally encountered throughout the Site in all ten of the piezometers and all 25 of the geoprobes. When Stratum II was encountered, Stratum II-M was also encountered, except at locations P-10, GP-4 through GP-6, GP-12 through GP-15, GP-18, GP-21, and GP-22. The thickness of Stratum II ranged from 3 feet (GP-21) in the southwestern portion of the Site to 26.5 feet (GP-2) in the northwest portion of the Site. A summary of the subsurface conditions encountered is presented in **Table E-1**.

The Standard Penetration Test (SPT) value in Stratum II ranged from 2 (P-3) to 35 blows per foot (P-6, P-9, P-10), with the exception of SPT values in the 50s in borings P-4 and P-10. The Stratum II SPT values were generally less than the Stratum I SPT values.

Geotechnical laboratory testing was conducted on numerous samples obtained from Stratum II. The results are presented in **Appendix D**. Based on laboratory tests, the USCS classification for Stratum II generally ranged from a sandy clay (SC) to a fat clay or high plasticity clay (CH).

Sieve analysis tests (including hydrometer) were performed on nine Stratum II samples and the fines content ranged from 36 (P-9) to 100 percent (P-6). The results of the sieve analysis test general indicate that Stratum II is a "fine-grain" material. Atterberg limits were performed on nine Stratum II samples and were determined to have a plasticity index ranging from 14 (P-4) to 56 percent (P-2) and a liquid limit ranging from 35 (P-4 and P-8) to 79 percent (P-2). These plasticity values generally indicate that the soil is a moderate to high plasticity soil. The testing indicates that Stratum II and Stratum II-M generally do not differ in engineering properties.

Based on in place tests performed at 19 locations in Stratum II, the density varied from 41.3 pcf (with a water content of 77 percent at P-6) to 103.4 pcf (P-4) and the water content varied from 5.5 percent (P-1) to 101.8 percent (with a density of 42.1 pcf at P-9). A laboratory compaction test was performed on one sample from Stratum II and the maximum dry density was estimated to be 103.0 pcf at an optimum water content of 13.0 percent.

The vertical permeability of Stratum II was tested in eight locations and ranged from 1.54×10^{-7} cm/sec (P-4) to 1.27×10^{-8} cm/sec (P-1). This generally can be considered a low permeability material. Based on unconfined compression tests that were performed on 10 Stratum II samples, the estimated shear strength varied from 250 psf (P-6) to 750 psf (P-4). Based on these results, the estimated shear strength of Stratum II is generally lower than that of Stratum I.

Lastly, isotropically consolidated undrained triaxial compression (CIU) tests were performed on four Stratum II samples. Based on these tests, the effective shear strength of three samples (P-1, P-2, and P-5) was determined to be 500, 500, and 300 psf with an effective friction angle of 19, 8, and 8 degrees, respectively. The estimated shear stress obtained from the unconfined compression tests were in general agreement of the effective shear stress obtained from the CIU tests.

Both Stratum I and Stratum II are considered fill and are heterogeneous in nature. In addition, it is assumed that the fill materials were placed in an uncontrolled manner and were not compacted/tested in an engineered manner. Based on the coarse grained nature of the soil, the SPT values, and the laboratory data, it appears that Stratum I could support short-term loading (such as construction equipment). However, due to the cohesive nature of the soil and the relatively low effective shear stress and friction angle of Stratum II, it is recommended that additional evaluation (such as bearing capacity and differential settlement analyses) be conducted if short-term loading is planned to occur directly on Stratum II. In addition, it is recommended that additional evaluation be performed (including evaluating excavating the fill and replacing it with compacted structural fill) if long-term loading at the Site is considered.

1.1.2.1.3 Stratum III – Native Material

Stratum III consists of native material and is composed of silt, varying in sand and clay content, grading with depth to sand, varying in silt content. In several borings, varying amounts of seashells were observed. Hydrocarbon staining or odor was not observed. Organic silt was observed in piezometer P-5. The silt was visually classified as an inorganic silt, very fine sand, silty or clayey fine sand (ML) or inorganic clay of low to medium plasticity, gravelly clay, sandy clay, silty clay, lean clay (CL), and the sand was visually classified as a poorly graded sand and gravelly sand (SP) or silty sand (SM).

Stratum III was encountered in 9 of the 10 piezometers and 14 of the 25 geoprobes. The thickness of Stratum III was greater than 10 feet at locations P-1, P-4, P-5, P-6, GP-12, and GP21. A summary of the subsurface conditions encountered is presented in **Table E-1**. The Standard Penetration Test (SPT) values in Stratum III ranged from 8 blows per foot (P-4) to less than 40 blows per foot, with the exception of P-1 (75) and P-6 (58).

Geotechnical laboratory testing was not conducted on any samples obtained from Stratum III.

Table E-1
Summary of Subsurface Conditions

Boring Number	Ground Elevation, MSL (feet)	Stratum I		Stratum II			Stratum III			Bottom of Boring	
		Depth to Bottom/ Thickness (ft)	Bottom Elevation, MSL (ft)	Depth to Bottom (ft)	Bottom Elevation, MSL (ft)	Thickness (ft)	Depth to Bottom (ft)	Bottom Elevation, MSL (ft)	Thickness Encountered (ft)	Depth (ft)	Elevation, MSL (ft)
P1	25.27	5.0	20.27	25.5	-0.23	20.5	**39.0**	**-13.73**	**13.5**	39.0	-13.73
P2	22.16	12.0	10.16	26.0	-3.84	14.0	**36.0**	**-13.84**	**10.0**	36.0	-13.84
P3	26.26	8.0	18.26	27.0	-0.74	19.0	**36.5**	**-10.24**	**9.5**	36.5	-10.24
P4	24.81	7.0	17.81	22.0	2.81	15.0	**35.5**	**-10.69**	**13.5**	35.5	-10.69
P5	26.91	13.5	13.41	23.5	3.41	10.0	**37.0**	**-10.09**	**13.5**	37.0	-10.09
P6	26.54	20.0	6.54	29.0	-2.46	9.0	**41.0**	**-14.46**	**12.0**	41.0	-14.46
P7	19.69	11.5	8.19	17.0	2.69	5.5	**19.5**	**0.19**	**2.5**	19.5	0.19
P8	20.88	6.5	14.38	18.0	2.88	11.5	**27.0**	**-6.12**	**9.0**	27.0	-6.12
P9	16.02	10.0	6.02	21.0	-4.98	11.0	**23.0**	**-6.98**	**2.0**	23.0	-6.98
P10	7.32	6.5	0.82	**16.0**	**-8.68**	**9.5**	-	-	-	16.0	-8.68
GP1	22.09	3.0	19.09	25.0	-2.91	22.0	**32.0**	**-9.91**	**7.0**	32.0	-9.91
GP2	24.44	2.5	21.94	29.0	-4.56	26.5	**32.0**	**-7.56**	**3.0**	32.0	-7.56
GP3	20.44	7.0	13.44	23.0	-2.56	16.0	**25.0**	**-4.56**	**2.0**	25.0	-4.56
GP4	18.91	7.5	11.41	22.0	-3.09	14.5	**25.0**	**-6.09**	**3.0**	25.0	-6.09
GP5	17.12	2.0	15.12	**17.0**	**0.12**	**15.0**	-	-	-	17.0	0.12
GP6	16.89	5.0	11.89	**16.0**	**0.89**	**11.0**	-	-	-	16.0	0.89
GP7	16.29	7.0	9.29	**18.0**	**-1.71**	**11.0**	-	-	-	18.0	-1.71
GP8	16.09	3.5	12.59	**14.0**	**2.09**	**10.5**	-	-	-	14.0	2.09
GP9	16.10	8.0	8.10	**18.0**	**-1.90**	**10.0**	-	-	-	18.0	-1.90
GP10	15.52	12.5	3.02	21.0	-5.48	8.5	**24.0**	**-8.48**	**3.0**	24.0	-8.48
GP11	15.34	7.75	7.59	**16.0**	**-0.66**	**8.25**	-	-	-	16.0	-0.66
GP12	16.60	5.0	11.60	14.75	1.85	9.75	**28.0**	**-11.40**	**13.25**	28.0	-11.40
GP13	21.16	7.5	13.66	**24.0**	**-2.84**	**16.5**	-	-	-	24.0	-2.84
GP14	26.16	14.5	11.66	**24.0**	**2.16**	**9.5**	-	-	-	24.0	2.16
GP15	17.78	9.5	8.28	20.0	-2.22	10.5	**24.0**	**-6.22**	**4.0**	24.0	-6.22
GP16	20.98	12.5	8.48	22.0	-1.02	9.5	**28.0**	**-7.02**	**6.0**	28.0	-7.02
GP17	21.79	10.25	11.54	**24.0**	**-2.21**	**13.8**	-	-	-	24.0	-2.21
GP18	25.90	20.0	5.90	**24.0**	**1.90**	**4.0**	-	-	-	24.0	1.90
GP19	25.95	11.0	14.95	27.0	-1.05	16.0	**28.0**	**-2.05**	**1.0**	28.0	-2.05
GP20	22.46	12.0	10.46	**24.0**	**-1.54**	**12.0**	-	-	-	24.0	-1.54
GP21	16.66	11.0	5.66	14.0	2.66	3.0	**28.0**	**-11.34**	**14.0**	28.0	-11.34
GP22	17.66	11.0	6.66	19.5	-1.84	8.5	**30.0**	**-12.34**	**10.5**	30.0	-12.34
GP23	25.06	13.0	12.06	21.5	3.56	8.5	**36.0**	**-10.94**	**14.5**	36.0	-10.94
GP24	26.97	10.0	16.97	23.0	3.97	13.0	**38.5**	**-11.53**	**15.5**	38.5	-11.53
GP25	21.82	6.0	15.82	29.5	-7.68	23.5	**40.0**	**-18.18**	**10.5**	40.0	-18.18

Notes:

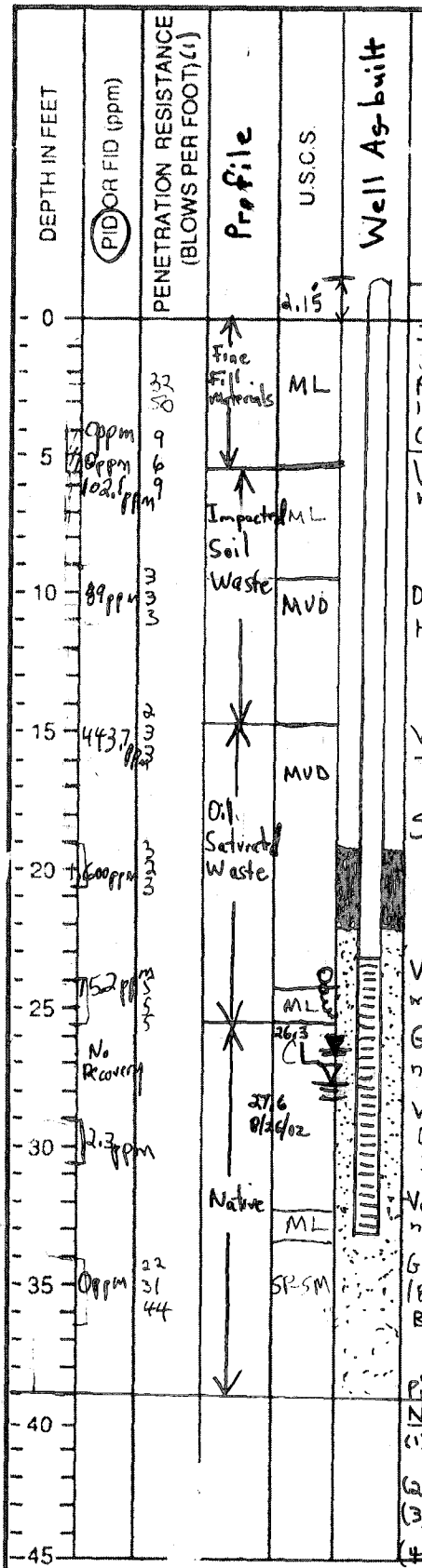
1. Refer to **Appendix A** for complete boring logs.
2. (-) indicates Stratum not encountered.
3. '**Items**' in bold reference the Stratum encountered (thickness of entire Stratum was not encountered).

BORING NO. P-1

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE AND DIMENSION 4-foot core barrel
FIELD ENGINEER J. Russo
EDITED BY J. Russo/T. Zeier
CHECKED BY R. Puga

COORDINATES N 2184478.1548 E 6036948.9052
DATE BEGAN 8/26/02
DATE FINISHED 8/26/02
GROUND SURFACE EL. 25.27' 27.42' T.O.C.



DESCRIPTION

Ice Ivy Ground Cover.

Pale Brown (10YR, 6/3); SANDY SILT (ML); surface to 5 feet; silt (90%); fine grained sand (10%); low plasticity; damp; no HC staining; no HC odor.
Oil Waste starts at 5 feet bgs

Very Dark Gray (10YR, 3/1); SILT (ML); 5 to 9 feet; silt (100%); trace gravel; firm; non-plastic; moist; HC staining; HC odor.

Dark Gray (10YR, 4/1); DRILLING MUD; 9 to 15 feet; trace clay; HC staining; HC odor.

Very Dark Gray (10YR, 3/1); DRILLING MUD WITH OIL SATURATED ZONES; 15 to 24 feet; trace clay; HC staining; HC odor.

Sample ID: Ascon-P1-10, collected in SS sleeve for TPH (8015 M) analysis. Ascon-P1-12, collected in Encores and 4-oz. jars for VOC (8260B) & SVOC (8270B) analyses. Ascon-P1-15, collected in SS sleeves for STLC (6010B) & TCLP (6010B).

Very Dark Gray (10YR, 3/1); SILT (ML); 24 to 25½ feet; silt (100%) low plasticity; very moist; HC staining; HC odor.

Gray (10YR, 5/1); CLAY (CL); 25½ to 32 feet; medium plasticity; stiff; moist; no HC staining; no HC odor.

Waste terminates at 25½ feet
Groundwater encountered at 27½ feet inside of auger.
Static water level at 14:00 hours on 8/26 is 26.3 feet bgs

Very Dark Grayish Brown (10YR, 3/2); SILT (ML); 32 to 33 feet; low plasticity; very moist; no HC staining; no HC odor.

Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 33 to 39 feet; fine grained sand (80%); silt (20%); seashells; wet; no HC staining; no HC odor

Bottom of Well at 33 feet.

Pilot boring terminates at 39 feet

Notes:
(1) Used 2-inch diameter California Split-Spoon Sampler.
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons.
(4) Commenced drilling P-1 at 08:14 on 8/26/02.

Groundwater at time of drilling
Groundwater measured after well completed
Water Seepage

Notes: Used 8-inch O.D. augers for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch diameter PVC casing. Set bottom of well at 33 feet. Set well screen (0.02-inch) from 23 to 33 feet. Used 6 – 100 lb bags of #2/12 sand from 22 to 39 feet bgs; 2 – 50 lb bags of bentonite chips (hydrated with approximately 5 gallons of water) from 19 to 22 feet bgs; 80 gallons of bentonite slurry from surface to 19 feet bgs. PVC stick up is 2.15 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033001

BORING NO. P-2 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE 4-foot core barrel
AND DIMENSION
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2184615.2694 E 6037430.8072
DATE BEGAN 8/26/02
DATE FINISHED 8/26/02
GROUND SURFACE EL. 22.16' 24.36' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					2.20	Gravel and sediment ground surface.
		37 23 41 26 19	Fine Fill Materials	SM		Pale Brown (10YR, 4/3); SILTY SAND (SM); surface to 2 feet; fine to medium grained Sand (~80%); loose; non-cohesive; dry; no HC staining; no HC odor.
5	0 ppm	39 10 10 16		ML		Dark Brown (10YR, 3/3); SANDY SILT (ML); 2 to 13 feet; silt (~90%); fine grained sand (~10%); non-plastic; damp; no HC staining; no HC odor.
						Encountered Oil waste from 12 to 25½ feet
10	16.2 ppm	5 6 7				Sample I.D.: Ascon-P2-13'. Sample collected in 2-stainless steel sleeves; 3-Encore Containers; 2-4oz jars; for analysis for 8260B, 8015M, 8270C and 6010B, for VOCs, TPH, SVOCs and STLC, respectively.
15	1,026 ppm	22	Oil Saturated Waste	Mud		Dark Gray (10YR, 4/1); DRILLING MUD; 13 to 19 feet; trace clay; HC staining; strong HC odor; oily saturated drilling mud.
20	1,787 ppm	24		ML		Very Dark Grayish Brown (10YR, 3/2); SILT (ML); 19 to 20½ feet; silt (~100%); non-plastic; firm; moist; HC staining; HC odor.
	22.7 ppm	4 4 5	8/27/02 28.8	CL		Dark Grayish Brown (10YR, 4/2); SILTY CLAY (CL); 20½ to 26 feet; medium plasticity; firm; moist; HC staining; HC odor. (8/26/02) First encountered groundwater in Core 29½ feet; static water in auger at 32.6 feet
25						Dark Grayish Brown (10YR, 4/2); SANDY SILT (ML); 26 to 30½ feet; silt (~90%); fine grained sand (~10%); non-plastic; firm; moist; no HC staining; slight HC odor.
30	0 ppm	(4)	31.6 Native	ML		Groundwater Seepage 29½ feet. Water level at 31.0 feet after 1 hour wait.
				SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 30½ to 36 feet; fine grained sand (~80%); silt (~20%); abundant sea shells; wet; no HC staining; no HC odor.
35	0 ppm	(4)				Pilot boring terminated at 34 feet bgs
						Total depth of well 36 feet bgs
40						
45						

Notes:
(1) Used 2-inch diameter California Split Spoon Sampler
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons.
(4) No blow counts recorded.
(5) Commenced drilling P-2 at 14:30 on 8/26/02.

▽ Groundwater at time of drilling
▼ Groundwater measured after well completed
Water Seepage

Notes: Used 8-inch O.D. auger for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch diameter PVC casing. Set bottom of well at 36 feet. Set well screen (0.020-inch) from 26 to 36 feet. Used 7-100 lb bags of #2/12 Sand from 25 to 36 feet bgs; 2-50 lb bags of bentonite chips (hydrated) from 22 to 25 feet bgs; 80 gallons of bentonite slurry from surface to 23 feet bgs. PVC stickup is 2.20 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033002

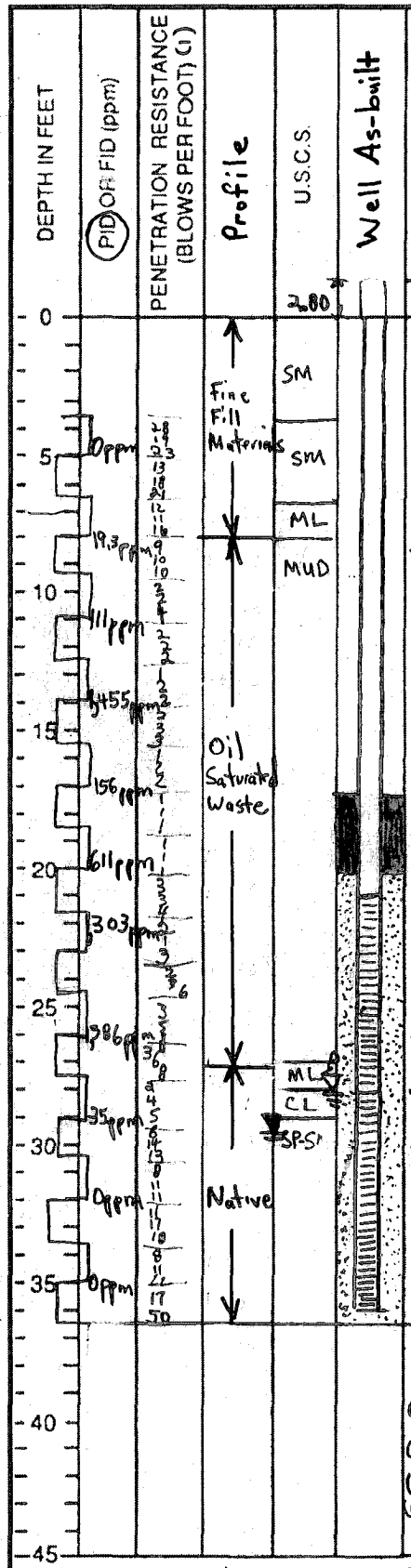
BORING NO. P-3

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Split Spoon Sampler
AND DIMENSION 18-inch 2-methods
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2184124.3182 E 6037092.7077

DATE BEGAN 8/29/02
DATE FINISHED 8/29/02
GROUND SURFACE EL. 26.26' 29.06 T.O.C



DESCRIPTION

Concrete debris and gravel ground surface.
No sample recovery from surface to 3½ feet due to concrete debris. Logged lithology from an open trench approximately 25 feet north.
Pale Brown (10YR, 6/3); SILTY SAND (SM); 3½ to 6½ feet; fine to medium grained sand (~80%); Silt (~20%); non-cohesive; dense; damp; no HC staining; no HC odor.

Dark Brown (10YR, 3/3); SILT (ML); 6½ to 8 feet; Silt (100%); non-plastic; damp; no HC staining; no HC odor.

Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; 8 to 27 feet; slightly clayey Silt consistency; oil saturated; HC staining; HC odor.
Oil Saturated Drilling Mud from 8 to 27 feet.

Sample I.D.: Ascon-P3-12'. Collected sample in 2-sleeves; 2-4oz. jars and 3-Encore Containers for analysis for 8260B, 8015M, 8270C and 6010B for VOCs, TPH, SVOCs and STLC, respectively.

Very Dark Gray (10YR, 3/1); SILT (ML); 27 to 28 feet; medium plasticity; soft; abundant shells; moist; no HC staining; no HC odor.
Very Dark Grayish Brown (10YR, 3/2); CLAY (CL); 28 to 29 feet; medium plasticity; moist; firm; no HC staining; no HC odor.
Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 29 to 36½ feet; fine grained sand; Silt (~20%), abundant shells; wet; no HC staining; no HC odor.
Sounded static water relative to ground surface 1 hour after total depth of pilot boring, at 28.3 feet bgs.

Bottom of well at 36 feet

Pilot boring terminates at 36½ feet.

Notes:
(1) Used 2½-inch diameter California Split Spoon Sampler.
(2) HC - Hydrocarbon
(3) Commenced drilling P-3 at 09:20 on 8/29/02.
(4) Oil waste consists of black free-phase hydrocarbons.

▽ Groundwater at time of drilling
▼ Groundwater measured after well completed.
≷ Water Seepage

Notes: Used 8-inch O.D. auger for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D augers to Set 6 inch dia. PVC casing. Set bottom of well at 36 feet. Set well screen (0.02-inch) from 21 to 36 feet. Used 8-100 lbs bags of #2/12 Sand from 20 to 36 feet bgs; 2-50lb bags of bentonite chips from 17 to 20 feet bgs; 75 gallons of bentonite slurry from surface to 17 feet bgs. PVC stick up is 2.80 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033003

BORING NO. P-4

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Split Spoon Sampler AND DIMENSION 18-inch 2½-inch Dia.

COORDINATES N 2184282.1807 E 6037547.6451

FIELD ENGINEER J. Russo

DATE BEGAN 9/9/02

EDITED BY J. Russo

DATE FINISHED 9/9/02

CHECKED BY R. Puga

GROUND SURFACE EL. 24.81' 27.64' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0				2.83		Brush & gravel, ground surface
	0ppm	32, 50, 28, 31, 19, 8, 3, 4, 18, 18, 32	Fine Fill Material	ML		Dark Brown (10YR, 3/3); SANDY SILT (ML), Surface to 7 feet; silt (~75%); fine grained sand (25%); firm; non-plastic; weakly to moderately cemented; damp; no HC staining; no HC odor.
5	7.3ppm					Waste from 7 to 22 feet.
		8, 9, 11, 17, 23, 26, 50	Impacted Soil Waste	ML		Dark Brown (10YR, 3/3) CLAYEY SILT (ML), 7 to 8.5 feet; low to medium plasticity; slightly micaceous; no HC staining; slight HC odor. Water seepage at 8 feet bgs
10	1.3ppm			ML		Dark Grayish Brown (10YR, 4/2), SANDY SILT (ML); 8.5 to 11.5 feet; silt (~75%); fine grained sand (~25%) firm; low plasticity; non-cemented; wet; HC staining; HC odor.
	157ppm	7, 10, 16, 2, 3, 50/6"	Oil Saturated Waste	MUD		Dark Gray (10YR, 4/1); DRILLING MUD; 11.5 to 22 feet; slightly silty; oily saturated drilling mud; HC staining; HC odor. Sample I.D.: Ascon-P4-12'. Sample collected in 2-4oz. jars and 3-Encore containers for analysis for 8270c and 8260B for SVOCs and VOCs, respectively.
15	247ppm	50/6"				Sample I.D.: Ascon-P4-13.5. Sample collected in 1-stainless steel sleeve container for analysis for 8015M and 6010B for TPH and STLCs respectively.
20	155ppm					
	166ppm					
25	1.5ppm		Native	CL		Dark Grayish Brown (10YR, 4/2); SILTY CLAY (CL); 22 to 26 feet; medium plasticity, firm; moist; slight HC staining; faint HC odor. Groundwater at time of drilling 28.8 feet bgs, with auger pulled up to 25 feet bgs.
				ML		Dark Grayish Brown (10YR, 4/2); SANDY SILT (ML); 26 to 27 feet; non-plastic; silt (~90%); fine grained sand (~10%); very moist, no HC staining; no HC odor.
	2.4ppm	4, 14, 17, 18		ML		Dark Grayish Brown (10YR, 4/2); CLAYEY SILT (ML); 27 to 28 feet; medium plasticity; slightly micaceous; no HC staining; slight HC odor.
30				SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 28 to 29.5 feet; fine grained sand (~80%); silt (~20%); abundant shells; wet; no HC staining; no HC odor.
	3.6ppm	9, 12, 17, 22, 12, 17, 21, 8, 14, 19		ML		Dark Grayish Brown (10YR, 4/2); SILT (ML); 29.5 to 31 feet; silt (100%); micaceous; no HC odor.
				SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 31 to 35.5 feet; fine grained sand (~80%); silt (~20%); abundant sea shells; wet; no HC staining; no HC odor.
	2.4ppm					Total depth of well 32.5 feet bgs
35						Pilot Boring terminates at 35.5 feet bgs
40						
45						

Notes:

(1) Used 2½-inch diameter California Split Spoon Sampler.

(2) HC - Hydrocarbons

(3) Commenced drilling P-4 at 08:03 on 9/9/02.

(4) Oil waste consists of black free-phase hydrocarbons.

▽ Groundwater at time of drilling

▼ Groundwater measured after Well completed

Water Seepage

Notes: Used 8-inch O.D. augers for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch diameter PVC casing. Set bottom of well at 32.5 feet. Set well screen (0.02-inch) from 17½ to 32½ feet. Used 10 -100 lb bags of #2/12 Sand from 16 to 35.5 feet. Used 2 -50 lb bags of bentonite chips (hydrated with 5 gallons of water) from 13 to 16 feet bgs; 60 gallons of bentonite slurry from surface to 13 feet bgs. PVC stick up is 2.83 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033004

BORING NO. P-5 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Split Spoon Sampler
AND DIMENSION 18-inches
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183980.6335 E 6037666.6771
DATE BEGAN 8/28/02
DATE FINISHED 8/28/02
GROUND SURFACE EL. 26.91' 30.01 T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					3.10	Concrete debris and gravel ground surface
			Fine & Trace Coarse Fill Materials	SM		Pale Brown (10YR, 6/3); SILTY SAND WITH GRAVEL (SM); surface to 5 feet; fine to medium grained sand (45%); silt (20%); trace gravel; non-cohesive; dense; dry; no HC staining no HC odor.
5	0ppm	3 5		ML		Dark Brown (10YR, 3/3); SILT (ML); 5 to 13½ feet; silt (100%); non-plastic; firm; trace gravel; damp; no HC staining; no HC odor.
	0ppm	2 3				
10	0ppm	2 3				
	0ppm	2 3				Water seepage at 12 feet.
15	44ppm	2 3	Oil Saturated Waste	MUD		Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; 13½ to 23½ feet; trace clay; oil saturated; HC staining; HC odor.
	814ppm	2 3				Oil Waste starts at 13½ feet and terminates at 23½ feet.
20	1225ppm	2 3				Sample I.D.: Ascon-P5-19. Sample collected in 2-sleeves, 2-4oz jars and 3 Encore containers for analysis for 8260B, 8015M, 8270C, and 6010B for VOCs, TPH, SVOCs and STLC, respectively.
	0ppm	2 3		ML		Very Dark Gray (10YR, 3/1); SILT (ML); 23½ to 26 feet; silt (100%); non-plastic; highly micaceous; firm; moist; no HC staining; no HC odor.
25	0ppm	2 3		OH		Very Dark Grayish Brown (10YR, 3/2); ORGANIC SILT (OH); 26 to 28 feet; high plasticity; soft; moist; no HC staining; no HC odor.
	0ppm	2 3		PS		
			Native	ML		Very Dark Grayish Brown (10YR 3/2); SILT (ML); 28 to 29½ feet; medium plasticity; soft micaceous; abundant shells; moist; no HC staining; no HC odor.
30	0ppm	2 3		CL		Very Dark Grayish Brown (10YR, 3/2); CLAY (CL); 29½ to 31 feet; medium plasticity; moist; stiff; no HC staining; no HC odor.
	0ppm	2 3		SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 31 to 37 feet; fine grained sand (60%) Silt (40%); abundant shells; wet; no HC staining; no HC odor.
35		12 14 9 16 23				Groundwater seepage at 30 feet. Sounded static water relative to groundsurface 1 hour after total depth, at 29.6 feet.
	0ppm					Total Depth of well at 37 feet.
40						Pilot boring terminates at 37 feet.
45						Notes: (1) Used 2½-inch diameter California Split Spoon Sampler (2) HC - Hydrocarbons (3) Commenced drilling P-5 at 13:15 on 8/28/02 (4) Oil waste consists of black free-phase hydrocarbons.

▽ Groundwater at time of drilling
▼ Groundwater measured after well completed.
ξ Water Seepage

Notes: Used 8-inch O.D. auger for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch dia well casing. Set bottom of well at 37 feet. Set well screen (0.02-inch) from 22 to 37 feet. Used 8-100lb bags of #2/12 Sand from 21 to 37 feet bgs; 2-50 lb bags of bentonite chips from 17 to 21 feet bgs; 75 gallons of bentonite slurry from surface to 17 feet bgs. PVC stick up is 3.10 feet tall; with PVC Slip Cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033005

BORING NO. P-6 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

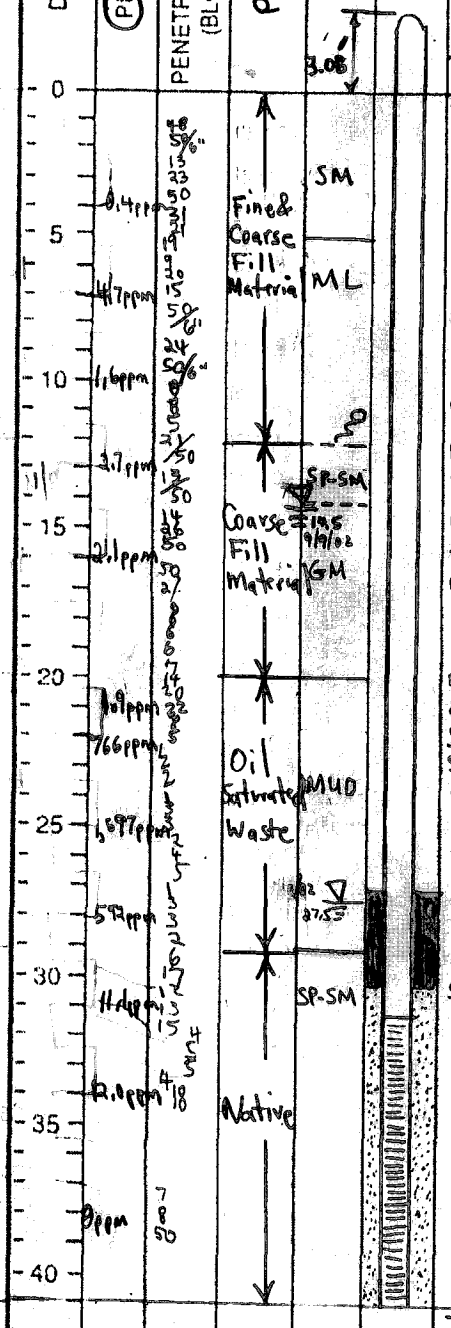
SAMPLER TYPE Split Spoon Sampler AND DIMENSION 18-inch 2½-inch dia.

COORDINATES N 2183881.9790 E 6037468.6935

FIELD ENGINEER J. Russo DATE BEGAN 9/9/02

EDITED BY J. Russo DATE FINISHED 9/10/02

CHECKED BY R. Puga GROUND SURFACE EL. 26.54' 29.62 T.O.C



DESCRIPTION

Brush & gravel ground surface

Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 5 feet; fine to medium grained Sand (~60%); Silt (~20%); dense; moderately cemented; damp; no HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/2); SANDY SILT WITH GRAVEL (ML); 5 to approximately 12 feet; Silt (~70%); fine grained Sand (~20%); coarse gravel (~10%); moist; no HC staining; no HC odor.

No recovery from 7 to 10 feet.

Water Seepage at 11 feet bgs.

Dark Grayish Brown (10YR, 3/2); POORLY GRADED SAND WITH SILT (SP-SM); Approximately 12 to 14 feet; fine grained sand (~80%); Silt (~20%); wet; non-cemented.

Dark Grayish Brown (10YR, 3/2); SILTY GRAVEL WITH SAND (GM); Approximately 14 to 20 feet; medium to coarse gravel; dense; wet; no HC staining; no HC odor.

No recovery from 16 to 20 feet

Dark Gray (10YR, 4/1); DRILLING MUD; from 20 to 29 feet; slightly silty; oil saturated drilling mud; HC staining; HC odor.

Sample I.D.s: Ascon-P6-20.5; Ascon-P6-21; Ascon-P6-21.5; Ascon-P6-23.5. Sample collected in 4-stainless steel sleeves and 3-Encore containers for analysis for 8015M, 8260B, 8270C, 6010B and 6010B for TPH, VOCs, SVOCs, STLC and TCLP, respectively.

Gray (10YR, 4/1); POORLY GRADED SAND WITH SILT (SP-SM); 29 to 41 feet; fine grained Sand (~80%); Silt (~20%); abundant seashells; wet; no HC staining; no HC odor.

Notes:
(1) Used 2½-inch diameter California Split Spoon Sampler
(2) HC - Hydrocarbons
(3) Commenced drilling P-6 at 14:50 on 9/9/02
(4) Oil/waste consists of black free-phase hydrocarbons.

Pilot Boring Terminates at 40 feet bgs

Total depth of well 41 feet bgs

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed

SO Water Seepage

Notes: Used 8-inch O.D. augers for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch diameter PVC casing. Set bottom of well at 41 feet bgs. Set well screen (0.02-inch) from 31 to 41 feet bgs. Used 6 - 100 lb bags of #2/12 Sand from 30 to 41 feet bgs. Used 2 - 50 lb bags of bentonite Chips (hydrated with water) from 27 to 30 feet bgs; 85 gallons of bentonite slurry from surface to 27 feet bgs. PVC stick up is 3.08 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033006

BORING NO. P-7 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Split Spoon Sampler COORDINATES N 2183902.4081

AND DIMENSION 18 inch by 2½-inch dia E 6037666.1032

FIELD ENGINEER J. Russo DATE BEGAN 8/30/02

EDITED BY J. Russo DATE FINISHED 8/31/02

CHECKED BY R. Puga GROUND SURFACE EL. 19.69' 21.19' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0				1.50		Grass and gravel ground surface.
NR	0ppm	28 50	Fine & Coarse Fill. Material	SM		Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 4 feet; fine to medium grained sand (~80%) silt (~20%); non-cohesive; very dense; damp; no HC staining; no HC odor.
5	0ppm			ML		Dark Brown (10YR, 3/3); SANDY SILT WITH CONCRETE DEBRIS (ML); 4 to 7 feet; Silt (~90%); fine grained Sand (~10%); low plasticity; moist; no HC staining; no HC odor. Appears to be a concrete slab at 5 feet bgs. This assumption is based on concrete debris piled at surface.
	0	16 8 8				
NR	0ppm	14 7 12 14		SP		Black (10YR, 2/1); POORLY GRADED SAND WITH GRAVEL (SP); 7 to 11½ feet; fine to medium grained (~90%); gravel (~10%); non-cohesive; dense; wet; HC staining; HC odor.
	0ppm	27 38		9.2		Oil Waste starts at 11½ feet.
10	0ppm	16 7 6		10.5		Very Dark Gray (10YR, 3/1); DRILLING MUD; 11½ to 17 feet; trace clay; Oil saturated; HC staining; HC odor.
	49.8ppm	12 24 26	Oil Saturated Waste	MUD		Water and oil came out of split spoon sampler at 12-13½ feet.
	20ppm	12 11 6				Sample I.D.: Ascon-P7-13&14.5&15. Collected sample in 2-Sleeves and 3-Encore containers for analysis for 8260B, 8015M, 8270C and 6010B for VOCs, TPH, SVOCs and STLC, respectively.
15	303ppm	7 3 5				
	536 ppm	11 8 19				Very Dark Grayish Brown (10YR, 3/2); CLAY (CL); 17 to 19½ feet; medium plasticity; moist; stiff; no HC staining; no HC odor.
	87 ppm	16	Native	CL		
	2.3 ppm					Bottom of well at 19 feet bgs
20						Pilot boring terminates at 19.5 feet bgs
25						
30						
35						
40						
45						

▽ Groundwater at time of drilling

▼ Groundwater measured after Well completed

§ Water Seepage

Notes:

(1) Used 2½-inch diameter California Split Spoon Sampler.

(2) HC - Hydrocarbons

(3) Commenced drilling P-7 at 08:33 on 8/30/02

(4) Oil waste consists of black free-phase hydrocarbons.

Notes: Used 8-inch O.D. auger for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch diameter casing. Set bottom of well at 19 feet. Set well screen (0.02-inch) from 4 to 19 feet. Used 9-100 lb bags of #2/12 Sand from 3 to 19 feet bgs; 2-50 lb bags of bentonite chips (hydrated with 5 gallons of water) from surface grade to 3 feet bgs. PVC stick up is 1.50 feet tall; with PVC Slip Cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033007

BORING NO. P-8 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Split Spoon Sampler AND DIMENSION 18-inches

COORDINATES N 2183709.3009 E 6036972.3626

FIELD ENGINEER J. Russo DATE BEGAN 8/28/02

EDITED BY J. Russo/T. Zeier DATE FINISHED 8/28/02

CHECKED BY R. Puga GROUND SURFACE EL. 20.88' 24.45' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0				3.57		Gravel and sediment ground surface
	0ppm	31 46 50 22 16 21	Fine Fill Materials	ML		Dark Grayish Brown (10YR, 4/2); SANDY SILT (ML); surface to 4 feet; silt (~85%); fine grained sand (~15%); trace gravel; damp; non-plastic; no HC staining; no HC odor.
5	0ppm			ML		Dark Brown (10YR, 3/3); CLAYEY SILT (ML); 4 to 6½ feet; medium plasticity; firm; moist; no HC staining; no HC odor.
	526.4ppm		Impacted Soil Waste	MUD		Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; 6½ to 13½ feet; trace clay consistency; HC staining; HC odor. Waste from 6½ to 13½ feet.
10	596ppm					Sample ID: Ascon-P8-7, collected in Encores for VOC (8260B) analysis. Ascon-P8-8, collected in 4-oz. jars & SS sleeves for SVOC (8270C), TPH (8015M), & STLC (6010B) analyses.
	74.4ppm			ML		Very Dark Grayish Brown (10YR, 3/2); CLAYEY SILT (ML); 13½-18 feet; low plasticity; slightly micaceous; moist; HC staining; HC odor.
15	2.3ppm					Water Seepage at 18 feet bgs.
				CL		Very Dark Gray (10YR, 3/1); CLAY (CL); 18 to 22½ feet; medium plasticity; firm; moist; no HC staining; no HC odor.
20	1.7ppm		Native	21.8 21/02		Static groundwater at 23 feet bgs; measured from inside of auger.
	0ppm			ML		Dark Gray (10YR, 4/1); SILT WITH SHELLS (ML); 22½ to 23 feet; low plasticity; slightly micaceous; wet; no HC staining; no HC odor
				CL		Dark Grayish Brown (10YR, 4/2); CLAY (CL); 23 to 23½ feet; medium plasticity; firm; moist; no HC staining; no HC odor.
25	0ppm			SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 23½ to 27 feet; fine grained sand (~80%); silt (~20%); abundant seashells; wet; no HC staining; no HC odor.
						Bottom of well at 27 feet
						Pilot boring terminates at 27 feet.
30						
35						
40						
45						

Groundwater at time of drilling

Groundwater measured after well completion.

Water Seepage

Notes:

(1) Used 2½-inch diameter California Split Spoon Sampler

(2) HC - Hydrocarbons

(3) Commenced drilling P-8 at 07:30 on 8/28/02

(4) Oil waste consists of black free-phase hydrocarbons.

Notes: Used 8-inch O.D. auger for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch dia. casing. Set bottom of well at 27 feet. Set well screen (0.02-inch) from 17 to 27 feet. Used 7-100lb bags of # 2/12 sand from 16 to to 27 feet; 2-50lb bags of bentonite chips from 9 to 12 feet bgs; 60 gallons of bentonite slurry from surface to 9 feet bgs. PVC stick up is 3.57 feet tall; with PVC slip cap.

BORING NO. P-9 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE California SSS
AND DIMENSION 18-inches
FIELD ENGINEER J. Russo
EDITED BY J. Russo/T. Zeier
CHECKED BY R. Puga

COORDINATES N 2183416.2403 E 6037187.6558
DATE BEGAN 8/27/02
DATE FINISHED 8/27/02
GROUND SURFACE EL. 16.02' 16.90' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built
0		35, 50/6", 35, 50/6, 30, 22, 11	Coarse Fill Material	SM	0.88
5	0 ppm		Construction Waste	DEBRIS	
	0 ppm		Non-Impacted Soil	SC	
10	28.6 ppm	16, 17, 18, 23, 16, 8	Oil Saturated Waste	MUD	
15	187 ppm				
	347 ppm	5, 6, 7, No Recovery			
	9.7 ppm	13, 15, 18, 19		ML	
20	83.6 ppm	7, 9, 14	Native	SP-SM	

DESCRIPTION

Gravel and sediment ground surface.

Pale Brown (10YR, 6/3); SILTY SAND WITH GRAVEL (SM); Surface to 6 feet; fine to medium Sand (~80%); gravel (~10%); silt (~10%); very dense; dry; no HC staining; no HC odor.

Black (10YR, 2/1) and Light Gray (10YR, 7/1); ASPHALT AND CONCRETE DEBRIS; 6 to 8 feet; with thin lenses of SILTY SAND WITH GRAVEL; thin lense of free-phase hydrocarbon at 8 feet only; no HC staining; no HC odor. Water Seepage at 8 feet. Refusal at 8 feet. Moved over 5 feet.

Dark Grayish Brown (10YR, 3/2); CLAYEY SAND (SC); 8 to 10 feet; fine to medium grained sand (~80%); with clay lenses; medium plasticity; very moist; No HC staining; no HC odor.

Very Dark Gray (10YR, 3/1); DRILLING MUD; 10 to 18 feet; trace clay; HC staining; HC odor.

Sample ID: Ascon-P9-18, collected in Encores, 4-oz. jars, and SS sleeves for VOC (8260B), SVOC (8270C), TPH (8015M), and STLC (6010B) analyses.

Very Dark Grayish Brown (10YR, 3/2); SANDY SILT (ML); 18-21 feet; silt (90%) fine grained sand (10%); Slightly micaceous; firm; non-plastic; wet; HC staining; HC odor.

Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 21 to 23 feet; fine grained Sand (~80%); silt (~20%); seashells; wet; no HC staining; faint HC odor.

Bottom of Well 23 feet bgs

Pilot boring terminates at 23 feet bgs.

▽ Groundwater at time of drilling.

▼ Groundwater measured after well completed

≋ Water Seepage

Notes:
(1) Used 2½-inch diameter California Split Spoon Sampler.
(2) HC - Hydrocarbons.
(3) Commenced drilling P-9 at 09:15 on 8/27/02
(4) Oil waste consists of black free-phase hydrocarbons.

Notes: Used 8-inch O.D. auger for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch dia. casing. Set bottom of well at 23 feet. Set well screen (0.02-inch) from 13 to 23 feet. Used 6 - 100 lb bags of #2/12 Sand from 12 to 23 feet bgs; 2 - 50 lb bags of bentonite chips from 9 to 12 feet bgs; 60 gallons of bentonite slurry from surface to 12 feet bgs. PVC stick up is 0.88 feet tall; with PVC Slip Cap.

TM No 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033009

BORING NO. P-10 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

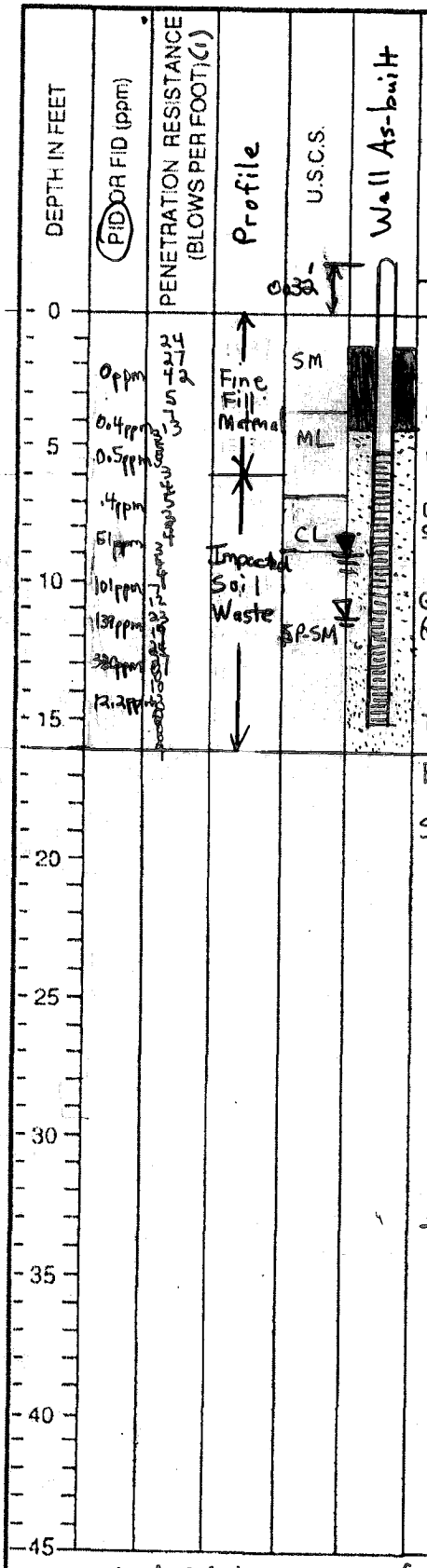
SAMPLER TYPE Split Spoon Sampler AND DIMENSION 18-inches 2½-inch dia

COORDINATES N 2183763.8023 E 6037852.5920

FIELD ENGINEER J. Russo DATE BEGAN 9/10/02

EDITED BY J. Russo/T. Zeier DATE FINISHED 9/11/02

CHECKED BY R. Puga GROUND SURFACE EL. 7.32' 7.64' T.O.C



DESCRIPTION

Gravel Ground surface

Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 3 feet; fine to medium grained sand (~80%); Silt (~20%); weakly cemented; noncohesive; damp; no styrene staining; no styrene odor.

Dark Grayish Brown (10YR, 4/2); SILT (ML); 3 to 6'6"; low plasticity; slightly micaceous; moist; no Styrene staining; no styrene odor.

Waste From 6 to 16 feet

Dark Grayish Brown (10YR, 4/2); CLAY (CL); 6'6" to 9 feet; medium plasticity; moist; no Styrene staining; Strong Styrene odor.

Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 9 to 15.5 feet; fine grained sand (80%); silt (20%); abundant sea shells; wet; Styrene staining; Very strong styrene odor.

Total depth of well 15 feet bgs

Pilot boring terminates at 16 feet bgs

Sample ID: Ascon-P10-10, collected in SS sleeve for STLC (6010B) analysis.
Ascon-P10-10.5, collected in SS sleeve for TPH (8015M) analysis.
Ascon-P10-11, collected in 4-oz. jars for SVOC (8270C) analysis.
Ascon-P10-11.5, collected in Encores for VOC (8260B) analysis.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed

§ Water Seepage

Notes:

(1) Used 2½-inch diameter California Split Spoon Sampler
(2) HC - Hydrocarbons
(3) Commenced drilling P-10 at 15:25 on 9/10/02.
(4) Waste consists of a light tan, taffy-like, gluey material.

Notes: Used 8-inch O.D. augers for pilot boring for lithologic sampling. Reamed pilot boring with 12-inch O.D. augers to set 6-inch diameter PVC casing. Set bottom of well at 15 feet bgs. Set well screen (0.02-inch) from 5 to 15 feet bgs. Used 4 - 100lb bags of #2/12 Sand from 4 to 15 feet bgs. Used 2 - 50 lb bags of bentonite chips (hydrated with approx. 15 gallons of water) from surface to 4 feet bgs. PVC stick up is 0.32 feet tall; with PVC Slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033010

BORING NO. GP-1

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2184470.6965 E 6036797.8874
DATE BEGAN 8/14/02
DATE FINISHED 8/15/02
GROUND SURFACE EL. 22.09 24.17' T.O.C.

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					2.08'	Grass Ground Surface cover.
	0ppm	4' Recovery	Fine Fill Material	SM		Commenced drilling GP-1 at 10:00 on 8/14/02
5		3' Recovery	Impacted Soil Waste	MUD		Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 3 feet; fine to medium grained sand (85%); silt (15%); loose; damp; no HC staining; no HC odor.
	8ppm					Fill from surface to 3 feet bgs
10	0ppm					Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; from 3 to 25 feet; medium plasticity; firm; HC staining; HC odor
						Sample I.D.: Ascon-GP1-8'. Sample collected in 2-4oz. jars; 1-acetate sleeve; 2-Encore Containers for analysis for VOCs, SVOCs, and TPH by EPA Methods 8260B, 8270C and 8015m, respectively.
15	16ppm					Encountered Oily saturated drilling mud from 10 to 25 feet
						Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; medium plasticity; oil saturated; very strong HC odor.
20	3ppm		Oil Saturated Waste			
25	8 ppm			SP-SM		Gray (10YR, 4/1); POORLY GRADED SAND WITH SILT (SP-SM); 25 to 27 feet; fine to medium grained sand (85%); silt (15%); micaceous; no HC staining; no HC odor.
	0ppm		Native	CL		Very Dark Grayish Brown (10YR, 3/2); CLAY (CL); 27 to 32 feet; medium plasticity; stiff no HC staining; no HC odor.
30	0ppm					Bottom of well at 31 feet
35						Pilot boring terminates at 32 feet bgs
40						Notes: (1) Used 1½-inch diameter, 4-foot long Acetate lined rods. (2) HC- Hydrocarbon (3) Oil waste consists of black free-phase hydrocarbons. (4) Commenced drilling GP-1 at 10:00 on 8/14/02.
45						▽ Groundwater at time of drilling ▼ Groundwater measured after Well completed ≤ Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 31 feet. Set well screen (0.02-inch) from 21 to 31 feet. Used 1-100lb bag of #2/12 Sand from 20 to 32 feet bgs; ½-50 lb bag of bentonite chips (hydrated) from 17 to 20 feet bgs; 10 gallons of bentonite grout from surface to 17 feet, PVC stick up is 2.08 feet tall; with PVC slip cap.

TM No 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033011

BORING NO. GP-2

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE AND DIMENSION Acetate liner- 4-foot 1½-inch

FIELD ENGINEER J. Russo

EDITED BY J. Russo/T. Zeier

CHECKED BY R. Puga

COORDINATES N 2184345.3168 E 6036949.5283

DATE BEGAN 8/15/02

DATE FINISHED 8/15/02

GROUND SURFACE EL. 24.44' 26.49' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built
0			Finer Course Fill Material	SM	2.05
		N/A		SP	
5	1.1 ppm		Impacted Soil Waste		
	204 ppm			MUD	
10	332 ppm				
15	236 ppm		Oil Saturated Waste		
20	158 ppm				
25	123 ppm			26.3	
	42 ppm		Impacted Soil Waste	ML	
30			Native	CL	
	2 ppm			SP-SM	
35					
40					
45					

DESCRIPTION

Grass Ground Surface

Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 2½ feet; no HC staining; no HC odor. Oil waste starts at 2'6".

Black (10YR, 2/1); POORLY GRADED SAND WITH GRAVEL (SP); 2½ to 7 feet; fine to medium grained sand (85%); loose; HC staining; very strong HC odor.

Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; 7 to 27 feet; clayey silt consistency; very soft; oil saturated; HC staining; HC odor.
Oil saturated Drilling Mud waste from 7 to 27 feet

Sample I.D.: Ascon-GP2-12'. Sample collected in 2-4oz jars; 1-acetate sleeve, and 3-Encore containers for analysis for VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

PID measurements not taken due to instrument problems.

Dark Gray Brown (10YR, 3/3); SANDY SILT (ML); 27 to 29 feet; not oil saturated; HC staining HC odor

Dark Grayish Brown (10YR, 3/3); SILTY CLAY (CL); 29 to 31.5 feet;

Light Gray (10YR, 4/1); POORLY GRADED SAND WITH SILT (SP-SM); 31.5 to 32 feet micaceous; No HC staining HC odor.
Bottom of well at 31 feet bgs

Pilot boring terminates at 32 feet bgs

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons.
(4) Commenced drilling GP-2 at 10:30 on 8/15/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rod to set 1-inch diameter casing. Set bottom of well at 31 feet. Set well screen (0.02-inch) from 21 to 31 feet bgs. Used 1-100 lb bag of #2/12 Sand from 20 to 32 feet bgs; ½-50 lb bag of bentonite granular (hydrated) from 17 to 20 feet bgs; 10 gallons of bentonite grout from surface to 17 feet bgs. PVC stick up is 2.05 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033012

BORING NO. GP-3

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner
AND DIMENSION 4-foot 1½-inch
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2184052.0806
E 6036835.9042
DATE BEGAN 8/15/02
DATE FINISHED 8/15/02
GROUND SURFACE EL. 20.44' 22.47' T.O.C.

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					2.03'	Grass Ground Surface
5	0ppm		Fine & Coarse Fill Material	SM		Pale Brown (10YR, 6/3); SILTY SAND WITH GRAVEL (SM); surface to 7 feet; fine to medium grained sand (~80%); silt (~10%); gravel (~10%); loose; non-cemented; damp; no HC staining; no HC odor.
						Oil saturated drilling mud and sands from 7 to 23 feet
10	32ppm			SM		Dark Gray (10YR, 4/2); SILTY SAND (SM); 7 to 10 feet; fine to medium grained sand; HC staining; HC odor.
				MUD		Dark Grayish Brown (10YR, 3/2); DRILLING MUD; 10 to 11½ feet; trace clay consistency.
				ML		Light Gray (10YR, 4/1); CLAYEY SILT (ML); 11½ to 12 feet; low plasticity; soft; no HC staining; HC odor.
15	293ppm		Oil Saturated Waste	MUD		Black (10YR, 2/1); DRILLING MUD; 12 to 23 feet; high HC odor.
	813ppm					Sample I.D.: Ascon-GP3-16'. Sample collected in 2-4oz. jars; 1-acetate sleeve, and 3-Encore containers for analysis for VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.
20	386ppm		8/15 9/18/02 20.19			▽ 20 Gray (10YR, 4/1) and Black (10YR, 2/1) alternating layers.
						Light Gray (10YR, 4/1); CLAYEY SILT (ML); 23 to 25 feet; low plasticity; very moist; no HC staining; no HC odor.
25	6ppm		Native	ML		Pilot boring terminates at 24 feet bgs. Bottom of well at 25 feet bgs
30						
35						
40						
45						

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons.
(4) Commenced drilling GP-3 at 14:45 on 8/15/02.

▽ Groundwater at time of drilling
▼ Groundwater measured after well completed
Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rod to set 1-inch diameter casing. Set bottom of well at 25 feet. Set well screen (0.02-inch) from 15 to 25 feet bgs. Used 1-100 lb bag of #2/12 Sand from 14 to 25 feet bgs; ½-50 lb bag of bentonite granular (hydrated) from 11 to 14 feet bgs; 10 gallons of bentonite grout from surface to 11 feet bgs. PVC stick up is 2.03 feet tall, with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

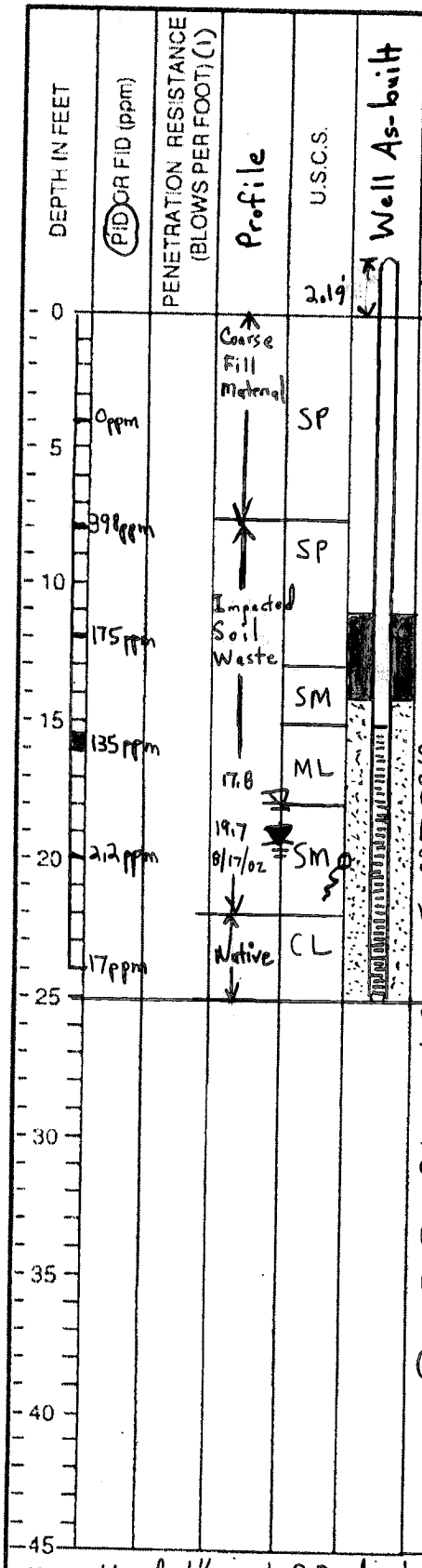
PROJECT NAVIGATOR, LTD.

A0001000033013

BORING NO. GP-4 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner
AND DIMENSION 4-foot 1½-inch
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183869.7582 E 6036891.3414
DATE BEGAN 8/16/02
DATE FINISHED 8/16/02
GROUND SURFACE EL. 18.91' 21.10 T.O.C



DESCRIPTION

Sediment Ground surface
Commenced drilling GP-4 at 07:45 on 8/16/02

Dark Grayish Brown (10YR, 4/2); POORLY GRADED SAND (SP); surface to 7½ feet; fine to medium grained sand (85%); silt (15%); loose; non-cemented; moist; no HC staining; no HC odor.

Oil waste from 7½ to 22 feet.

Black (10YR, 2/1); POORLY GRADED SAND WITH GRAVEL (SP); 7½ to 13 feet; fine to medium grained sand (75%); gravel (15%); silt (5%); HC staining; HC odor.

Dark Grayish Brown (10YR, 4/2); SILTY SAND (SM); 13 to 15 feet; same as above; loose; non-cemented; moist; HC staining; HC odor.

Black (10YR, 2/1); SILT (ML); 15 to 18 feet; very moist; HC staining; HC odor.

Sample I.D.: Ascon-GP4-16. Samples collected in 2-4 oz jars; 1-acetate sleeve; and 3-Encore containers for analysis for VOCs, SVOCs, and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Dark Grayish Brown (10YR, 4/2); SILTY SAND (SM); 18 to 22 feet; fine to medium grained; cohesive; HC staining; HC odor.

Very Dark Gray (10YR, 3/1); CLAY (CL); 22 to 25 feet; medium plasticity; moist; HC odor.

Pilot boring terminates at 24 feet bgs.
Total depth of well at 25 feet bgs.

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons.
(4) Commenced drilling GP-4 at 07:45 on 8/16/02.

▽ Groundwater at time of drilling
▼ Groundwater measured after well completed.
Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 25 feet. Set PVC well screen (0.02-inch) from 15 to 25 feet bgs. Used 1-100lb bag of #2/12 sand from 14 to 25 feet bgs; ½-50lb bag of bentonite granular (hydrated) from 11 to 14 feet bgs; 10 gallons of bentonite grout from surface to 11 feet bgs. PVC stickup is 2.19 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033014

BORING NO. GP-5

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner
AND DIMENSION 4-Foot 1½-inch
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183578.6672
E 6036869.2582
DATE BEGAN 8/16/02
DATE FINISHED 8/16/02
GROUND SURFACE EL. 17.12' 19.25' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT);(1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0			Coarse Fill	GP	2.13	Gravel ground surface
5	43ppm			GP		Encountered oil waste material at 2 feet bgs, Pale Brown (10YR, 6/3); POORLY GRADED SAND WITH GRAVEL (GP); surface to 2 feet; no HC staining; no HC odor. Black (10YR, 3/1); POORLY GRADED SAND WITH GRAVEL (GP); 2 to 7½ feet; fine to medium grained sand (60%); gravel (40%); loose; with fragments of asphalt; HC staining; HC odor. Some asphalt debris at 4 feet bgs.
10	82ppm		Impacted Soil Waste	SC		Dark Grayish Brown (10YR 3/2); CLAYEY SAND (SC); 7½ to 12 feet; fine to medium grained (80%); with clay lenses; medium plasticity; very moist; HC staining; HC odor.
15	45ppm			NR		First groundwater at 11 feet bgs. Sample I.D.: Ascon-GP5-12. Sample collected in 2-402. jars; 1-acetate sleeve; and 3-Encore containers for analysis for VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively. No sample recovery from 12 to 16 feet bgs. Total depth of well at 17 feet bgs
20						Pilot boring terminates at 16 feet bgs
25						
30						
35						
40						
45						

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC- Hydrocarbon
(3) Oil Waste Consists of black free-phase Hydrocarbons.
(4) Commenced drilling GP-5 at 11:25 on 8/16/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 17 feet. Set PVC well screen (0.02-inch) from 7 to 17 feet bgs. Used 1-100 lb bag of #2/12 Sand from 6 to 17 feet bgs; ½-50 lb bag of bentonite granular (hydrated) from 3 to 6 feet bgs; 5 gallons of bentonite grout from surface to 3 feet bgs. PVC stick up is 2.13 feet tall; with PVC slip Cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

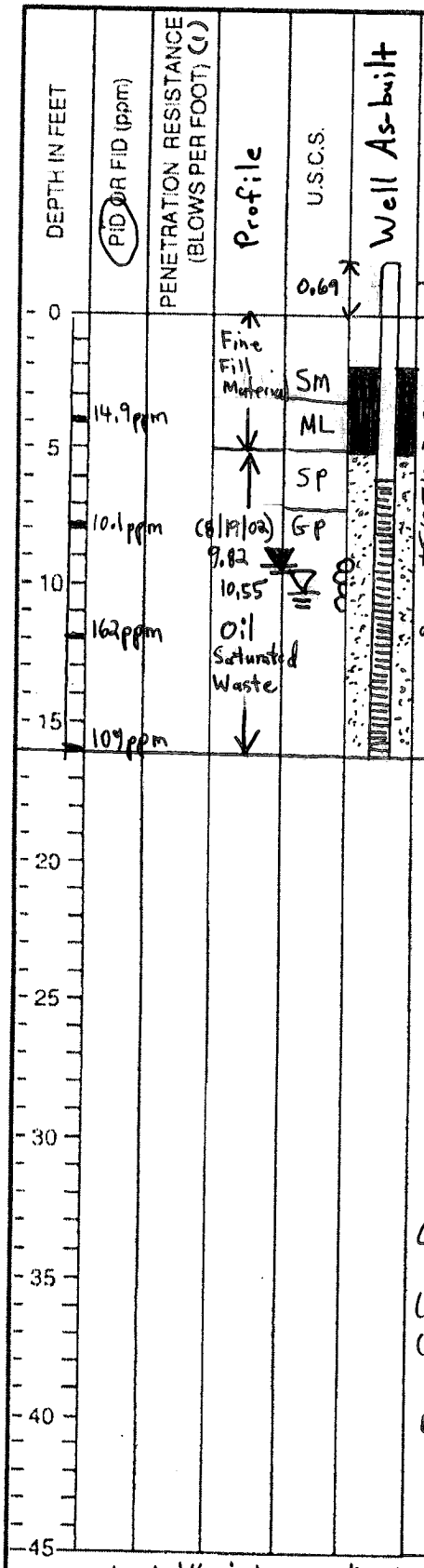
A0001000033015

BORING NO. GP-6

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner
AND DIMENSION 4-feet 1½-inch dia.
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183415.9109
E 6036855.1811
DATE BEGAN 8/16/02
DATE FINISHED 8/16/02
GROUND SURFACE EL. 16.89' 17.58' T.O.C



DESCRIPTION

Ground Surface
Commenced drilling GP6 at 13:25 on 8/16/02.
Pale Brown (10YR, 6/3); SILTY SAND (SM), surface to 3 feet; fine to medium grained Sand (85%); Silt (15%), non-cohesive, damp, cemented; no HC staining; no HC odor,
Pale Brown (10YR, 6/3); SILT (ML); 3 to 5 feet bgs; non-plastic; dry; loose; no HC odor; no HC staining.
Oil waste starts at 5 feet bgs
Black (10YR, 2/1); SANDY SILT WITH GRAVEL (SM); 5 to 7 feet; fine to medium grained Sand.
Very Dark Grayish Brown (10YR, 3/2); POORLY GRADED SAND WITH GRAVEL (GP); 7 to 16 feet; fine to medium grained (70%); Silt (10%); gravel (10%); HC staining; HC odor.

Sample I.D.: Ascon-GP6-11, Sample collected in 2-4oz jars; 1-acetate sleeve; and 3-Encore Containers for analysis by VOCs, SVOCs and TPH by EPA methods 8260B, 8270C and 8015M, respectively.

Total depth of well 16 feet bgs
Pilot boring terminates at 16 feet bgs

▽ Groundwater at time of drilling
▼ Groundwater measured after well Completed.
Water Seepage

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC- Hydrocarbon.
(3) Oil Waste consists of black free-phase Hydrocarbons.
(4) Commenced drilling GP-6 at 13:25 on 8/16/02.

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 16 feet. Set PVC well screen (0.02-inch) from 6 to 16-feet bgs. Used 1-100lb bag of #2/12 sand from 5 to 16 feet bgs; ½-50lb bag of bentonite granular (hydrated with water) from 2 to 5 feet bgs; 5-gallons of bentonite grout from surface to 2 feet bgs. PVC stick up is 0.69 feet tall; with PVC slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

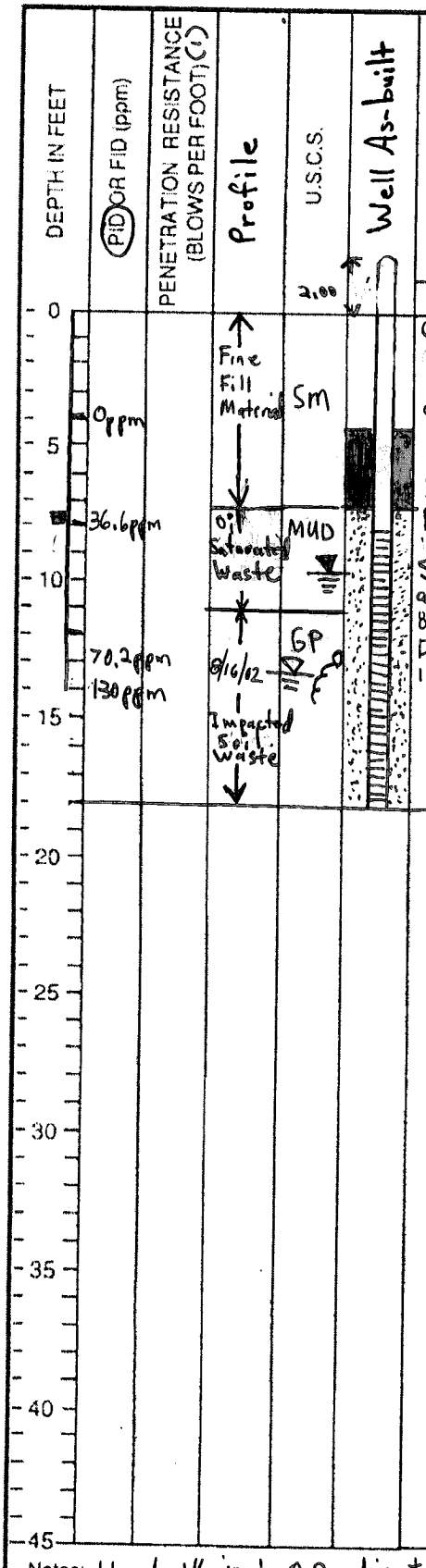
A0001000033016

BORING NO. GP-7

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner
AND DIMENSION 4-Foot 1½-inch dia
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183413.1286 E 6037078.6586
DATE BEGAN 8/16/02
DATE FINISHED 8/16/02
GROUND SURFACE EL. 16.29' 18.29' T.O.C



DESCRIPTION

Ground Surface

Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 7 feet; fine to medium grained (90%); gravel (10%); loose; damp; no HC staining; no HC odor.

Oil waste starts at 7 feet

Black (10YR, 2/1); DRILLING MUD; 7 to 11 feet; trace clay; HC staining; HC odor.

Sample I.D.: Ascon-GP7-8'. Sample collected in 2-4oz. jars; 1-acetate sleeve; and 3-Encore containers for analysis by VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Dark Grayish Brown (10YR 3/2); POORLY GRADED SAND WITH GRAVEL & ASPHALT (GP) 11 to 18 feet; fine to medium grained; coarse gravel; wet; HC staining; HC odor.

Total depth of well at 18 feet bgs

Pilot boring terminates at 18 feet bgs

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC- Hydrocarbon

(3) Oil waste consists of black free-phase Hydrocarbon.

(4) Commenced drilling GP-7 at 14:45 on 8/16/02.

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 18 feet. Set PVC well screen (0.02-inch) from 8 to 18 feet bgs. Used 1-100 lb bag of #2/12 sand from 7 to 18 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 4 to 7 feet bgs; 5-gallons of bentonite grout from surface to 4 feet bgs. PVC stick up is 2.00 feet tall; with PVC slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033017

BORING NO. GP-8

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Acetate Liner AND DIMENSION 4-Foot 1½-inch dia

COORDINATES N 2183437.8717 E 6037337.6047

FIELD ENGINEER J. Russo

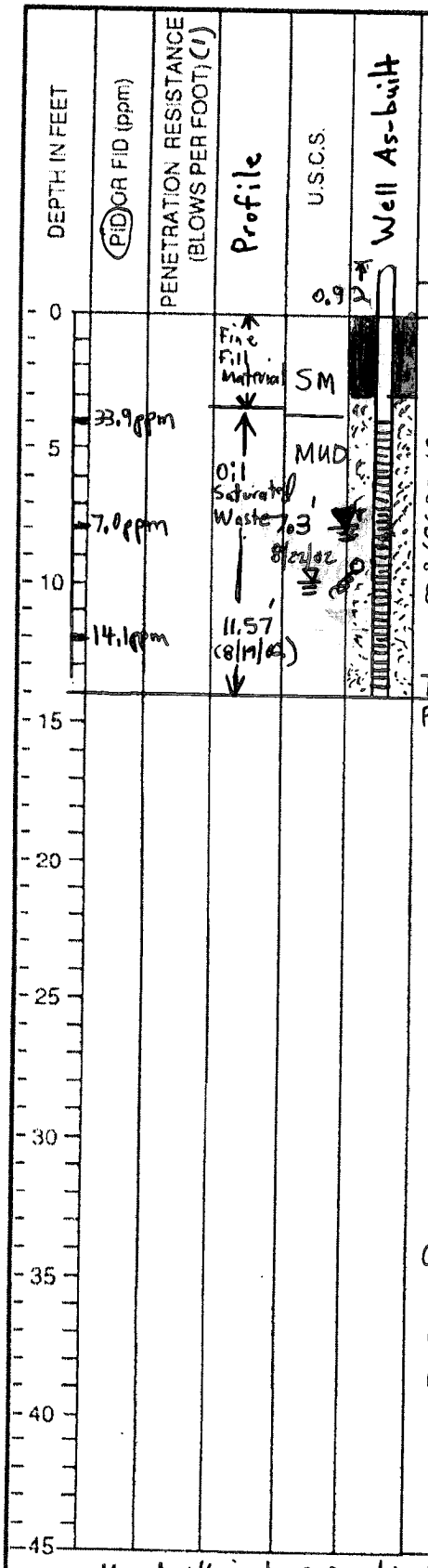
DATE BEGAN 8/19/02

EDITED BY J. Russo

DATE FINISHED 8/19/02

CHECKED BY R. Puga

GROUND SURFACE EL. 16.09' 17.01' T.O.C



DESCRIPTION

Ground surface.

Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 3½ feet; fine to medium grained sand (~80%); silt (~15%); gravel (~5%); loose; no HC staining; no HC odor.

Oil waste starts at 3½ feet

Black (10YR, 2/1); DRILLING MUD; 3½ to 14 feet; sandy silt consistency; with gravel and asphalt debris; HC staining; HC odor.

Sample I.D.: Ascon-GP8-8'. Sample collected in 2-4oz jars; 1-acetate sleeve; and 3-Encore Containers for analysis by VOCs, SVOCs, and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Total depth of well at 14 feet bgs

Pilot boring terminates at 14 feet bgs

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed

Water Seepage

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC - Hydrocarbon

(3) Oil waste consists of black free-phase Hydrocarbon.

(4) Commenced drilling GP-8 at 07:45 on 8/19/02.

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 14 feet. Set PVC well screen (0.02-inch) from 4 to 14 feet bgs. Used 1-100 lb bag of #2/12 sand from 3 to 14 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from surface to 3 feet bgs. PVC stick up is 0.92 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033018

BORING NO. GP-9

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch

COORDINATES N 2183448.5013 E 6037539.9374

FIELD ENGINEER J. Russo

DATE BEGAN 8/19/02

EDITED BY J. Russo

DATE FINISHED 8/19/02

CHECKED BY R. Puga

GROUND SURFACE EL. 16.10' 18.15' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0				2.05'		Asphalt and rock ground surface
	0ppm	2' Recovery	Coarse Fill Materials	SM		Pale Brown (10YR, 6/3); SILTY SAND WITH GRAVEL (SM); surface to 3 feet; fine to medium grained sand (~80%); silt (~10%); gravel (~10%); loose; damp; no HC staining; no HC odor.
5				ML		Dark Grayish Brown (10YR, 3/2); SANDY SILT WITH GRAVEL (ML); 3 to 8 feet; silt (~80%); fine to medium grained sand (~10%); gravel (~10%); no HC staining; no HC odor. Oil Waste starts at 8 feet.
	0ppm	2' Recovery				Black (10YR, 2/1); DRILLING MUD; 8 to 18 feet; sandy silt consistency; with asphalt fragments; HC staining; HC odor.
10			8.25 (8/19/02)	MUD		Sample I.D.: Ascon-GP9-8'. Sample collected in 2-4 oz. jars; 1-acetate sleeve, and 3-Encore containers for analysis by VOCs, SVOCs, and TPH by EPA Methods 8260B, 8270c and 8015M.
	34.5ppm	2' Recovery	Oil Saturated Waste	12.5 8/19/02		
15						Total depth of well at 18 feet bgs
20						Pilot boring terminates at 18 feet bgs
25						
30						
35						
40						
45						

Groundwater at time of drilling

Groundwater measured after well completed

Water Seepage

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC- Hydrocarbon

(3) Oil waste consists of black free-phase Hydrocarbon.

(4) Commenced drilling GP-9 at 09:05 on 8/19/02.

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 18 feet. Set PVC well screen (0.02-inch) from 8 to 18 feet bgs. Used 1-100 lb bag of #2/12 sand from 7 to 18 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from surface to 4 feet bgs; 5-gallons of bentonite grout from surface to 4 feet bgs. PVC stick up is 2.05 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033019

BORING NO. GP-10

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE AND DIMENSION Acetate Liner 4 feet long, 1½ inch dia.

COORDINATES N 2183442.6211 E 6037659.6968

FIELD ENGINEER J. Russo

DATE BEGAN 8/23/02

EDITED BY J. Russo / T. Zeier

DATE FINISHED 8/23/02

CHECKED BY R. Puga

GROUND SURFACE EL. 15.52' 17.52' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					2.00'	Grass Ground surface cover
5	0ppm	2½ Recovery	Fine Fill Material	SM		Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 7 feet; fine to medium grained sand (~80%); silt (~20%); trace gravel; loose; non-cemented; no HC staining; no HC odor.
		3' Recovery				Dark Gray (10YR, 4/1); DRILLING MUD & ASPHALT; from 7 to 8½ feet.
10	0ppm	3' Recovery	Impacted Soil Waste / Fine Fill Material	Mud / SM		Pale Brown (10YR, 6/3) and Dark Grayish Brown (10YR, 4/2); SILTY SAND (SM) from 8½ to 12½ feet; fine to medium grained sand (~80%); silt (~20%); slightly cemented; no HC staining no HC odor.
	0ppm	2' Recovery		ML		Dark Grayish Brown (10YR, 4/2); CLAYEY SILT WITH ASPHALT DEBRIS & TAR; from 12½ to 14½ feet; Silt (70%), clay lenses (20%); low plasticity; with asphalt and lenses of free-phase hydrocarbon; HC odor only from free-phase hydrocarbons.
15	0ppm	4' Recovery	Impacted Soil Waste	CL		Dark Grayish Brown (10YR, 4/2); CLAY (CL); 14½ to 16 feet; medium plasticity; moist; no HC staining; no HC odor.
				ML		Sample I.D.: Ascon-GP10-17. Sample collected in 1-acetate liner; 2-4oz. jars and 3 Encore containers for VOCs by 8260B, SVOCs by 8270C and TPH by 8015M. Dark Grayish Brown (10YR, 4/2); SILT (ML); 16 to 21 feet; Silt (100%); non-plastic; slightly micaceous; lenses of drilling mud.
20	0ppm	4' Recovery	Native	SP-SM		Gray (5YR, N5); POORLY GRADED SAND WITH SILT (SP-SM); 21 to 24 feet; fine grained sand (80%); silt (20%); wet; non-cemented; No HC staining; no HC odor.
	0ppm					Total depth of well 21 feet bgs
25						Terminated pilot boring at 24 feet bgs
						Waste from 17 to 19 feet; only lenses of drill mud waste.
30						
35						
40						
45						

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase Hydrocarbon.
(4) Commenced drilling GP-10 at 13:40 on 8/23/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 21 feet. Set PVC well screen (0.020-inch) from 11 to 21 feet bgs. Used 1-100 lb bag of #2/12 sand from 10 to 21 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 7 to 10 feet bgs; 10-gallons of bentonite grout from surface to 7 feet bgs. PVC stick up is 2.00 feet tall; with PVC slip Cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033020

BORING NO. GP-10B SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner, AND DIMENSION 4 feet long, 1½-inch
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N Approx. 2183442 E Approx. 6037659
DATE BEGAN 8/19/02
DATE FINISHED 8/19/02
GROUND SURFACE EL. Approx. 15.5'

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT)	SAMPLE NO. AND TYPE	U.S.C.S.	PROFILE/ LITHOLOGY	DESCRIPTION
0						Grass Ground surface Cover
5	0ppm 0ppm	3' Rec 3' Rec	Coarse Fill Material	SM		Pale Brown (10YR, 6/3); SILTY SAND WITH GRAVEL (SM); surface to 8 feet; fine to medium grained sand (90%); gravel (10%); damp; no HC staining; no HC odor, Sample I.D.: Ascon-GP10B-11.
10	12ppm 22ppm	2½' Rec	Impacted Soil Waste	ML		Black (10YR, 2/1); SANDY SILT WITH GRAVEL (SM); 8 to 12 feet; silt (80%); gravel (20%); red brick; moist; HC staining; HC odor.
15						Terminated boring at 12 feet due to refusal.
20						Notes: (1) Used 1½-inch diameter, 4-foot long Acetate lined rod. (2) HC - Hydrocarbon (3) Oil waste consists of black free-phase hydrocarbon; (4) Commenced drilling GP-10B at 14:50 on 8/19/02. (5) No groundwater encountered. (6) Refusal at 12 feet bgs.
25						
30						
35						
40						
45						

Notes: Backfilled pilot boring with 10 gallons of bentonite grout from surface to 12 feet bgs.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033021

BORING NO. GP-11

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot long 1½-inch dia.

COORDINATES N 2183579.8082 E 6037664.0504

FIELD ENGINEER J. Russo

DATE BEGAN 8/19/02

EDITED BY J. Russo

DATE FINISHED 8/19/02

CHECKED BY R. Puga

GROUND SURFACE EL. 15.34' 17.29' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT)(1)	Profile	U.S.C.S.	Well As-built
0					1.95
5	0ppm	2' Recovery	Fine Fill Material	SM	
	0ppm	2' Recovery			
10	0ppm		9.0' 9.2' Impacted Soil Waste	MUD	
15	0ppm				
20					
25					
30					
35					
40					
45					

DESCRIPTION

Grass Ground Surface

Commenced drilling GP-11 at 16:07 on 8/19/02

Pale Brown (10YR, 6/3); SILTY SAND WITH GRAVEL (SM); Surface to 7'9"; fine to medium grained sand (~80%); silt (~10%); gravel (~10%); damp; no HC staining; no HC odor.

Oil waste and construction debris encountered at 7'9"

Black (10YR, 2/1); DRILLING MUD WITH CONSTRUCTION DEBRIS; 7'9" to 16 feet; trace clay; brick fragments; moist; HC staining; HC odor.

Sample I.D.: Ascon-GP11-12'. Sample collected in 1-acetate sleeve; 2-4oz. jars; and 3-Encore containers for analysis by VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Total depth of well at 14 feet bgs.

Terminated pilot boring at 16 feet bgs.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC- Hydrocarbon

(3) Oil waste consists of black free-phase Hydrocarbons.

(4) Commenced drilling GP-11 at 16:07 on 8/19/02.

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic Sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 14 feet bgs. Set PVC Screen (0.02-inch) from 4 to 14 feet bgs. Used 1-100lb bag of #2112 Sand from 3 to 14 feet bgs; ½-50lb bag of bentonite granular (hydrated with water) from surface to 3 feet bgs. PVC stick up is 1.95 feet tall; with PVC slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

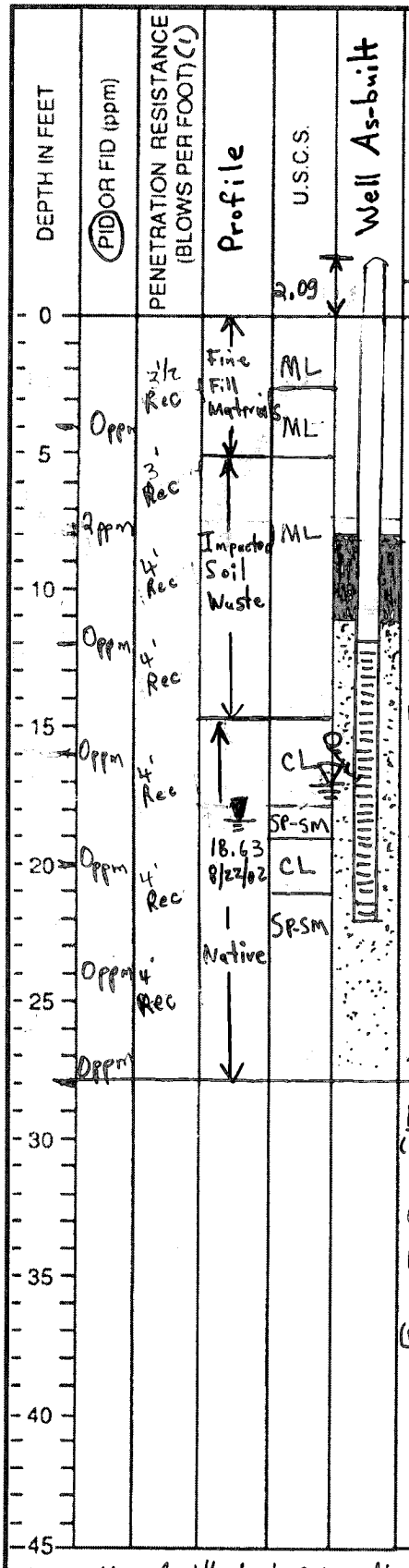
A0001000033022

BORING NO. GP-12

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch dia.
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183706.9218 E 6037686.7567
DATE BEGAN 8/21/02
DATE FINISHED 8/21/02
GROUND SURFACE EL. 16.60' 18.69' TOC



DESCRIPTION

Gravel and sediment ground surface.

Brown (10YR, 4/3) SILT WITH GRAVEL (ML); surface to 2 feet; silt (85%); gravel (15%); non-cemented; non-plastic; moist; no HC staining; no HC odor.

Dark Brown (10YR, 3/3); SILT (ML); 2 to 5 feet; silt (100%); non-plastic; moist; no HC staining; no HC odor.

Dark Gray (10YR, 4/1); SANDY SILT (ML); 5 to 14'9" feet; silt (20%); fine grained sand (80%); non-plastic; non-cemented; HC staining; HC odor.

Waste from 5 to 14'9"

Sample I.D.: Ascon-GP12-8'. Sample collected in 1-acetate sleeve; 2-4oz jars and 3-Encore Containers for VOCs by 8260B; SVOCs by 8270C and TPH by 8015M.

Very Dark Gray (10YR, 3/1); Clay (CL); 14'9" to 17'9" feet; medium plastic; moist; stiff; no HC staining; no HC odor.

Dark Gray (10YR, 4/1); POORLY GRADED SAND WITH SILT (SP-SM); 17'9" to 19'; fine grained sand; silt (20%); slightly micaceous; very moist; non-plastic; no HC staining; no HC odor.

Dark Gray (10YR, 4/1); CLAY (CL); 19 to 21'; medium plastic; very moist; firm; no HC staining; no HC odor.

Dark Gray (10YR, 4/1); POORLY GRADED SAND WITH SILT (SP-SM); 21 to 28'; fine grained sand (80%); silt (15%); abundant seashells; wet; no HC staining; no HC odor.

First encounter of groundwater after 15-minutes of terminating boring 17 feet.

Bottom of Well 22 feet bgs

Terminated Pilot Boring at 28 feet bgs

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC – Hydrocarbon

(3) Oil waste consists of black free-phase Hydrocarbons.

(4) Commenced drilling GP-12 at 07:50 on 8/21/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 22 feet bgs. Set PVC schedule 40 PVC screen (0.02-inch) from 12 to 22 feet bgs. Used 1-100 lb bag of #2/12 Sand from 11 to 28 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 8 to 11 feet bgs; 10-gallons of bentonite grout from surface to 8 feet bgs. PVC stick up is 2.09 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033023

BORING NO. GP-13 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch dia.
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183629.3644 E 6037340.7945
DATE BEGAN 8/21/02
DATE FINISHED 8/21/02
GROUND SURFACE EL. 21.16' 23.86' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built
0				2.70	
5	0ppm	2½ Rec	Fine Fill Material	SM	
		3' Rec			
10	0ppm	4' Rec		ML	
	0ppm	4' Rec	Impacted Soil Waste		
15	0ppm	4' Rec			
20	0ppm	4' Rec			
	0ppm				
25					
30					
35					
40					
45					

DESCRIPTION

Gravel and sediment ground surface

Commenced drilling GP-13 at 09:57 on 8/21/02

Yellowish Brown (10YR, 5/4); SILTY SAND WITH GRAVEL (SM); Surface to 7½ feet; fine grained sand (40%); Silt (20%); gravel (40%); non-cemented; loose; no HC staining; no HC odor

Oil waste start at 7½ feet

Dark Gray (10YR, 4/2); SANDY SILT (ML); from 7½ to 24 feet; Silt (55%); fine grained sand (45%); micaceous; non-cemented; firm; moist; HC staining; fair HC odor.

Sample I.D.: Ascon-GP13-11', Sample collected in 1-acetate sleeve, 2-4oz jars; and 3 Encore Containers for VOCs by 8260B; SVOCs by 8270C and TPH by 8015M).

Very wet at 17 feet

Bottom of well at 22 feet bgs

Terminated Pilot Boring at 24 feet bgs

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC - Hydrocarbon

(3) Oil waste consists of black free-phase Hydrocarbons.

(4) Commenced drilling GP-13 at 09:57 on 8/21/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 22 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 12 to 22 feet bgs. Used 1-100lb bag of #2/12 Sand from 11 to 24 feet bgs; ½-50lb bag of bentonite granular (hydrated with water) from 8 to 11 feet bgs; 10-gallons of bentonite grout from surface to 8 feet bgs. PVC stick up is 2.70 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

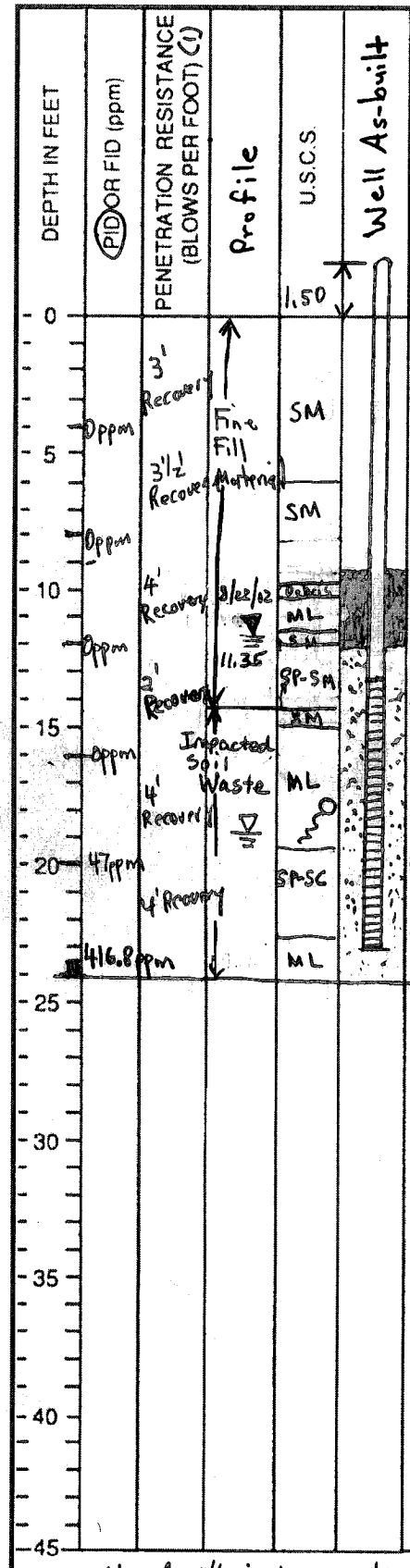
A0001000033024

BORING NO. GP-14

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liners, AND DIMENSION 4-foot 1½ inch dia.
FIELD ENGINEER J. Russo
EDITED BY J. Russo/T. Zeier
CHECKED BY R. Puga

COORDINATES N 2183832.6608 E 6037463.8821
DATE BEGAN 8/22/02
DATE FINISHED 8/22/02
GROUND SURFACE EL. 26.16' 27.66' T.O.C



DESCRIPTION

Ice Ivy plant ground surface cover.

Pale Brown (10YR, 6/3), SILTY SAND (SM); Surface to 6½ feet; fine to medium grained sand (100%); loose; non-cemented; damp; No HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/2); SILTY SAND WITH GRAVEL (SM); 6½ to 9½ feet; fine to medium grained sand (~80%); silt (~15%); gravel (~5%); non-cemented; asphalt debris; no HC staining; no HC odor.

Refusal at 9 feet move boring over 10 feet.

Debris from 9½ to 10 feet.

Dark Gray (10YR, 4/1); SANDY SILT (ML); 10 to 11'8" feet; silt (90%); fine grained sand (10%); low plasticity; moist; No HC staining; No HC odor.

Pale Brown (10YR, 6/3), SILTY SAND (SM) from 11'3" to 11'6"

Dark Grayish Brown (10YR, 3/2) POORLY GRADED SAND WITH SILT (SP-SM); from 11'6" to 14'0" fine grained sand (80%); silt (15%); moist; non-cemented; no HC staining; no HC odor.

Pale Brown (10YR, 6/3); SILTY SAND (SM); from 14 to 14'6"; fine to medium grained; no HC staining.

Dark Grayish Brown (10YR, 3/2); SILT (ML) from 14'6" to 19 feet; silt and drilling mud.

Dark Gray (10YR, 4/1); POORLY GRADED SAND WITH CLAY (SP-SC) from 19 to 23 feet; HC Staining, HC odor.

Sample I.D.: Ascon-GP14-24' Sample collected in 1-acetate sleeve, 1-4 oz jar and 3-Encore Containers for VOCs by 8260B, SVOCs by 8270C and TPH by 8015M.

Black (10YR, 2/1); SILT (ML) 23 to 24 feet; silt (100%) with trace medium to coarse sand; HC staining; Strong HC odor.

Bottom of well 23 feet bgs

Terminated Pilot boring at 24 feet bgs

Notes:

(1) Used 1½ inch diameter, 4-foot long Acetate lined rod.

(2) HC - Hydrocarbon

(3) Oil Waste Consists of black free-phase hydrocarbons.

(4) Commenced drilling GP-14 at 07:30 on 8/22/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well Completed

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 23 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 13 to 23 feet bgs. Used 1-100lb bag of #2/12 sand from 12 to 24 feet bgs; ½-50lb bag of bentonite granular (hydrated with water) from 9 to 12 feet bgs; 10-gallons of bentonite grout from surface to 9 feet bgs. PVC stick up is 1.50 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033025

BORING NO. GP-15 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling COORDINATES N 2183806.1925

SAMPLER TYPE Acetate Liner AND DIMENSION 4-Feet 1½-inch dia. E 6037671.6339

FIELD ENGINEER J. Russo DATE BEGAN 8/15/02

EDITED BY J. Russo DATE FINISHED 8/15/02

CHECKED BY R. Puga GROUND SURFACE EL. 17.78' 19.90' T.O.C.

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					2.12	Gravel and sediment ground surface
		3' Rec	Fine Fill Material	SM		Commenced drilling GP-15 at 14:40 on 8/21/02
	0ppm					Dark Yellowish Brown (10YR, 5/4); SILTY SAND (SM); Surface to 2½-feet; fine to medium grained sand (~80%); silt (~20%); loose; non-cemented; no HC staining; no HC odor.
5		4' Rec		ML		Dark Grayish Brown (10YR, 4/2); SILT (ML); 2½ to 5 feet; silt (90%); trace fine grained sand; non-plastic; slightly micaceous; moist; no HC staining; no HC odor.
	27.3ppm		8/22/02 6.8	ML		Brown (10YR, 5/3); SANDY SILT (ML); 5 to 6'9"; silt (70%); fine grained sand (30%); non-plastic; non-cemented; no HC staining; no HC odor.
10		4' Rec		SP		Very Dark Gray (10YR, 3/1); POORLY GRADED SAND WITH GRAVEL (SP); from 6'9" to 12 feet; fine to medium grained sand (100%); non-cohesive; loose; non-cemented; wet; no HC odor.
	0ppm	4' Rec		ML		Oil waste starts at 9½ feet. Perched water at 8 to 9½ feet.
15	770ppm	4' Rec.	Impacted Soil Waste			Very Dark Gray (10YR, 3/1); SILT (ML); 12 to 18 feet; silt (100%); non-plastic; slightly micaceous, wet; HC staining, HC odor.
				CL		Very Dark Gray (10YR, 3/1); CLAY (CL); 18 to 20 feet; plastic; stiff; HC staining; HC odor. Perched zone from 13 to 15 feet.
20	2.4ppm	4' Rec.	Native	SP		Sample I.D.: Ascon-GP15-16. Sample collected in 1-acetate; 2-4oz jars and 3-Encore containers for VOCs by 8260B, SVOCs by 8270C and TPH by 8015M.
	0ppm					Dark Grayish Brown (10YR, 4/2); POORLY GRADED SAND (SP): From 20 to 24 Feet; fine grained sand (90%); silt (10%); non-cohesive; no HC staining; no HC odor.
						Bottom of well at 16 feet bgs.
25						Terminated pilot boring at 24 feet bgs.
30						
35						
40						
45						

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC - Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons
(4) Commenced drilling GP-15 at 14:40 on 8/21/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well Completed

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 16 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 6 to 16 feet bgs. Used 1-100 lb bag of #2/12 Sand from 5 to 24 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 2 to 5 feet bgs; 5-gallons of bentonite grout from surface to 5 feet bgs. PVC stick up is 2.12 feet tall; with PVC slip cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033026

BORING NO. GP-16 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Acetate Liner AND DIMENSION 4-Foot Long 1½-inch dia.

FIELD ENGINEER J. Russo

COORDINATES N 2184057.5870 E 6037789.1430

DATE BEGAN 8/23/02

EDITED BY J. Russo / Tzeier DATE FINISHED 8/23/02

CHECKED BY R. Puga

GROUND SURFACE EL. 20.98' 23.01' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT)(1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					2.03	Sediment and gravel ground surface.
		2½' Recovery		SM		Commenced drilling GP16 at 10:08 on 8/22/02. Refusal at 10 feet moved 5 feet over. Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 3½ feet; fine to medium grained Sand (100%); loose; non-cemented; damp; no HC staining; no HC odor.
	Oppm					
5		4' Recovery	Fine & Coarse Fill Material	GM		Dark Grayish Brown (10YR, 4/2); SILTY GRAVEL WITH SAND (GM); 3½ to 7 feet, medium to coarse gravel; dense; moist; No HC staining; no HC odor.
	Oppm					Pale Brown (10YR, 6/3); SILTY SAND (SM); 7 to 7'3"; fine to medium grained sand
				ML		Dark Grayish Brown (10YR, 4/2); SANDY SILT (ML); 7'3" to 10 feet; Silt (85%); fine grained sand (15%); no HC staining; no HC odor.
10		2' Recovery				
	Oppm			ML		Dark Gray (10YR, 4/1); SILT (ML); 10 to 12½ feet; Silt (100%); 1 lenses of drilling mud; very moist; soft; no HC staining; no HC odor.
		2' Recovery				Dark Grayish Brown (10YR, 4/2); SILTY GRAVEL WITH SAND (GM); 12½ to 18 feet medium to coarse gravel; dense; wet; HC staining / HC odor.
15				15.7		Waste starts at 12½ feet bgs and terminates at 22 feet
	259ppm		Impacted Soil Waste	GM		Bottom of well at 16 feet bgs
		4' Recovery				Dark Gray (10YR, 4/1); DRILLING MUD; 18 to 22 feet; HC staining; HC odor.
			Oil Saturated Waste	Mud		Sample I.D.: Ascon-GP16-20'. Sample collected in 1-acetate sleeve; 2-402 jars and 3-Encore Containers for VOCs by 8260B; SVOCs by 8270C and TPH by 8015m.
20	316ppm					
		4' Recovery		SP-SM		Gray (5YR, N5); POORLY GRADED SAND WITH SILT (SP-SM); 22 to 28 feet; fine grained sand (80%); Silt (20%); wet; non-cemented; No HC staining; no HC odor.
	Oppm					
25		4' Recovery	Native			Total Depth of Well at 16 feet bgs
	Oppm					Terminated pilot boring at 28 feet bgs
30						
35						
40						
45						

Notes:
(1) Used 1½-inch diameter 4-foot long Acetate lined rod.
(2) HC- Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons.
(4) Commenced drilling GP-16 at 10:08 on 8/22/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well Completed

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 16 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 6 to 16 feet bgs. Used 1-100 lb bag of #2/12 sand from 5 to 28 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 2 to 5 feet bgs; 5-gallons of bentonite grout from surface to 5 feet bgs. PVC stick up is 2.03 feet tall; with PVC Slip Cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

BORING NO. GP-17 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

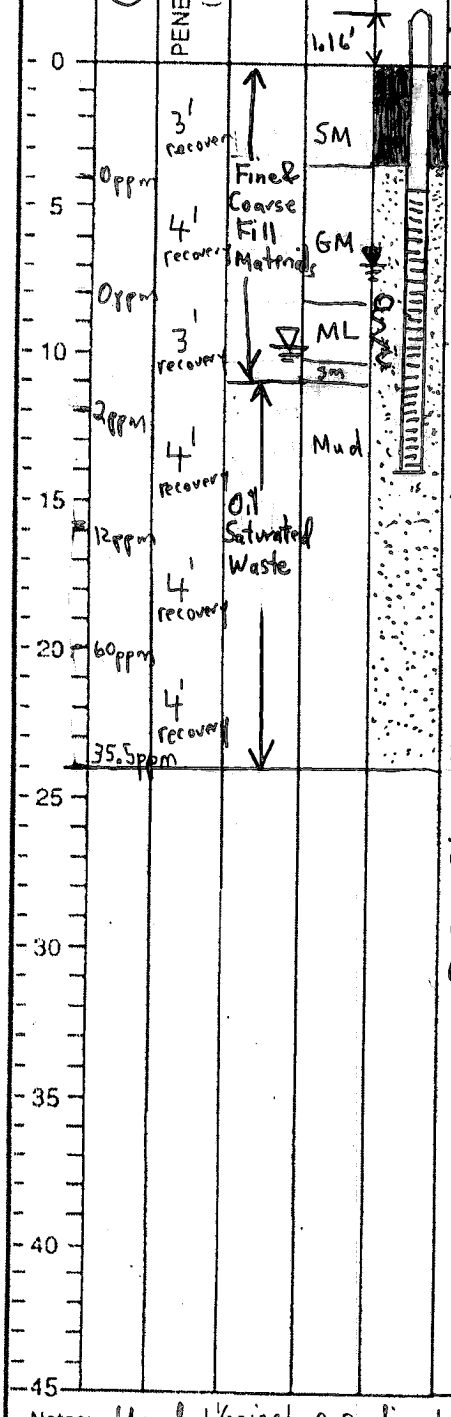
SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch dia.

COORDINATES N 2183976.8784 E 6037656.6008

FIELD ENGINEER J. Russo DATE BEGAN 8/23/02

EDITED BY J. Russo DATE FINISHED 8/23/02

CHECKED BY R. Puga GROUND SURFACE EL. 21.79', 23.95' T.O.C



DESCRIPTION

Sediment and gravel ground surface.

Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 3 feet; fine to medium grained Sand (~60%); silt (~20%); non-cemented; loose; no HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/2); SILTY GRAVEL WITH SAND (GM); 3 to 8 feet; silt (7%); medium to coarse gravel; dense; moist; No HC staining; No HC odor.

Very Dark Gray (10YR, 3/1); SANDY SILT (ML); from 8 to 10 feet; silt (65%), fine grained sand (35%); non-cemented; non-plastic; very moist; no HC staining; no HC odor.

Yellowish Brown (10YR, 5/6); SILTY SAND (SM); from 10'0" to 10'3"; fine to medium grained sand.

Sample I.D.: Ascon-GP17-12'. Sample collected in 1-acetate sleeve; 2-4 oz. jars and 3-Encore containers for VOCs by 8260B, SVOCs by 8270C and TPH by 8015M.

Dark Grayish Brown (10YR, 4/2) to Black (10YR, 2/1), DRILLING MVD; from 10'3" to 24'0"; trace clay; drilling mud; HC staining; HC odor.

Bottom of well at 14 feet

Bottom of waste not determined.

Terminated Pilot boring at 24 feet.

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC - Hydrocarbon

(3) Oil Waste consists of black free-phase hydrocarbons,

(4) Commenced drilling GP-17 at 08:45 on 8/23/02.

▽ Ground water at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 14 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 4 to 14 feet bgs. Used 1-100lb bag of #2/12 Sand from 3 to 24 feet bgs; ½-50lb bag of bentonite granular (hydrated with water) from surface to 3 feet bgs. PVC Stick up is 1.16 feet tall; with PVC Slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033028

BORING NO. GP-18 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner AND DIMENSION 4-feet 1½-inch dia.
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2183957.6542 E 6037441.6974
DATE BEGAN 8/22/02
DATE FINISHED 8/22/02
GROUND SURFACE EL. 35.90' 27.72'T.O.C.

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					1.82	Sediment and gravel ground surface
		4' Recovery		SM		Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 3 feet; fine to medium grained Sand (100%); loose; non-cemented; dry; no HC staining; no HC odor.
5	0ppm	3' Recovery	Fine & Coarse Fill Material	SP-SC		Dark Grayish Brown (10YR, 4/2); POORLY GRADED SAND WITH CLAY (SP-SC); 3 to 4 feet; No HC Staining; No HC odor.
				SM		Pale Brown (10YR, 6/3); SILTY SAND (SM); 4 to 6 feet; no HC staining; no HC odor, color changes to Dark Grayish Brown (10YR, 4/2), 6 to 8 feet; change to Pale Brown (10YR, 6/3); 8 to 10'6" Tar lense at 4 feet.
	0ppm	2'4" Recovery				Waste starts at 20 feet.
10				GM		Dark Grayish Brown (10YR, 4/2); SILTY GRAVEL WITH SAND (GM); from 10'6" to 13'6" feet; Silt (70%); medium to coarse gravel; firm; moist; no HC staining; no HC odor. First water at 12 to 13 feet.
	0ppm	4' Recovery				Dark Grayish Brown (10YR, 4/2); CLAYEY SILT (ML); 13'6" to 16 feet; plastic; moist; no HC staining; no HC odor.
15				ML		
	3ppm	4' Recovery		GM		Dark Grayish Brown (10YR, 4/2); SILTY GRAVEL WITH SAND (GM); from 16 to 20 feet; Silt (70%); medium to coarse gravel (~30%); wet; no HC staining; no HC odor.
20						Sample I.D.: Ascon-GP18-20', Sample collected in 1-acetate sleeve, 2-4 oz jars, and 3-Encore containers for VOCs by EPA 8260B, SVOCs by 8270C, TPH 8015M.
	10ppm	4' Recovery	Impacted Soil / Waste	ML		Black (10YR, 2/1); SILT (ML); 20 to 24 feet; silt (~100%) with trace medium to coarse sand; drilling mud; HC staining; HC odor
						Bottom of well at 18 feet bgs
25						Terminated Pilot boring at 24 feet bgs
30						Notes: (1) Used 1½-inch diameter, 4-foot long Acetate lined rod. (2) HC- Hydrocarbon (3) Oil Waste consists of black free-phase hydrocarbons. (4) Commenced drilling GP-18 at 10:30 on 8/22/02.
35						▽ Groundwater at time of drilling ▼ Groundwater measured after well completed ≈ Water Seepage
40						
45						

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 18 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 8 to 18 feet bgs. Used 1-100 lb bag of #2/12 Sand from 7 to 24 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 4 to 7 feet bgs; 5-gallons of bentonite grout from surface to 4 feet bgs. PVC stick up is 1.82 feet tall; with PVC slip Cap.

Example Field Boring Log — Figure 4

TM No.1
Ascon Site, Huntington Beach, California — July 10, 2002 — PROJECT NAVIGATOR, LTD.

BORING NO. GP-19

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE AND DIMENSION Acetate Liner 4-foot 1½-inch dia.

COORDINATES N 2184051.7143 E 6037419.5546

FIELD ENGINEER J. Russo

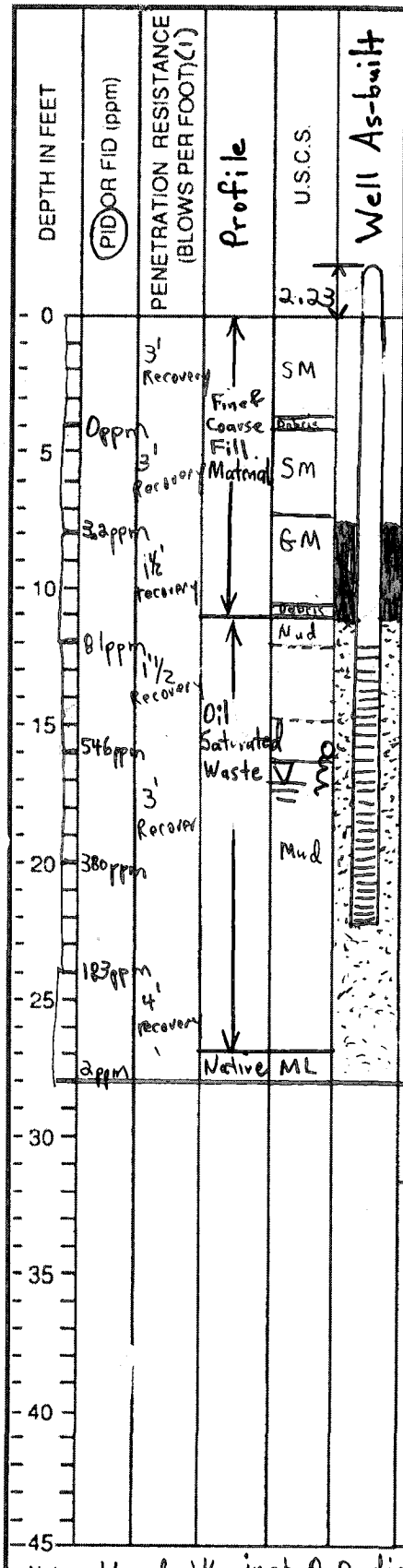
DATE BEGAN 8/22/02

EDITED BY J. Russo

DATE FINISHED 8/22/02

CHECKED BY R. Puga

GROUND SURFACE EL. 25.95' 28.18' T.O.C.



DESCRIPTION

Ire Ivy ground surface cover.

Pale Brown (10YR 6/3); SILTY SAND (SM); surface to 3½ feet; fine to medium grained sand (~80%); silt (~20%); loose; non-cemented; damp; no HC staining) no HC odor.

White; Concrete Debris from 3½ to 4 feet.

Pale Brown (10YR, 6/3); SILTY SAND (SM); 4 to 7 feet; fine to medium grained sand (100%); loose; non-cemented; damp; no HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/3); SILTY GRAVEL WITH SAND (GM); 7 to ~11 feet; Silt (20%), medium to coarse gravel; firm; moist; no HC staining; no HC odor.

Asphalt Debris 11'4 to 11'2"

Black (10YR, 2/1); DRILLING MUD; 11 to 12 feet; HC staining; HC odor.

Oil Mudwaste starts at 11 feet

Black (10YR, 2/1); DRILLING MUD; 16 to 27 feet; silt and slightly micaceous,

First water at 17 to 18 feet bgs

Sample I.D.: Ascon-GP19-2d. Sample collected in 1-acetate sleeve, 2-4 oz jars and 3-Encore Containers for VOCs by 8260B, SVOCs by 8270C and TPH by 8015M.

Bottom of well at 22 feet bgs

Oil waste terminates at 27 feet

Very Dark Grayish Brown (10YR 3/2); CLAYEY SILT (ML); from 27 to 28 feet; low plasticity; moist; No HC staining; faint HC odor.

Terminated Pilot boring at 28 feet bgs

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC Hydrocarbon

(3) Oil waste consists of black free-phase hydrocarbons.

(4) Commenced drilling GP-19 at 14:12 on 8/22/02.

(5) Dry Well

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 22 feet bgs. Set PVC Schedule 40 PVC screen (0.02-inch) from 12 to 22 feet bgs. Used 1-100lb bag of #2/12 sand from 11 to 28 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from 8 to 11 feet bgs; 10-gallons of bentonite grout from surface to 8 feet bgs. PVC stick up is 2.23 feet tall; with PVC slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033030

BORING NO. GP-20 SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE AND DIMENSION Acetate Liner 4 feet 1½-inch dia.
FIELD ENGINEER J. Russo
EDITED BY J. Russo/T. Zeier
CHECKED BY R. Puga
COORDINATES N 2184073.5823 E 6037685.9528
DATE BEGAN 8/22/02
DATE FINISHED 8/23/02
GROUND SURFACE EL. 22.46' 23.66' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0					1.20	Sediment and gravel ground surface.
5	0ppm	3' Rec.	Fine & Coarse Fill Material	SM	6.66	Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 6'3"; fine to medium grained Sand (100%); loose; non-cemented; damp; no HC staining; no HC odor. Water level at 7 feet measured at 07:30 on 8/23/02.
	0ppm	2½' Rec.		GM		Dark Grayish Brown (10YR, 4/2); SILTY GRAVEL WITH SAND (GM); 6'3" to 10'0" feet; silt (20%); medium to coarse gravel; firm; very moist; no HC staining; no HC odor. (<30)
10	0ppm	2' Rec.		ML		Very Dark Gray (10YR, 3/1); SILT (ML); 10'0" to 12' feet; silt (95%); slightly micaceous; wet; No HC staining; no HC odor. First water at 12' to 13 feet
	0ppm	4' Rec.		Mud		Dark Grayish Brown (10YR, 4/2); DRILLING MUD: from 12 to 18' mud (50%); silt (50%); very wet; HC staining; HC odor; liquid free-phase hydrocarbon at shoe of sampler. Oil waste starts at 12 feet. Sample I.D.: Ascon-GP20-16; Sample collected in 1-acetate sleeve; 2-4oz. jars, 3-Encore containers for VOCs by 8260B, SVOCs by 8270C and TPH by 8015M.
15	1,093ppm	4' Rec.	Oil Saturated Waste			
20	1,008ppm	4' Rec		GP		Dark Grayish Brown (10YR, 4/2), POORLY GRADED SAND WITH GRAVEL (GP); 18 to 22 feet Silt (20%); medium to coarse gravel; dense; wet; HC staining; HC odor
	28ppm			ML		Very Dark Grayish Brown (10YR, 3/2) to Black (10YR, 2/1); CLAYEY SILT (ML); 22 to 24 feet; low to medium plasticity; wet; HC staining; HC odor
						Bottom of well at 14 feet bgs
25						Terminated pilot boring at 24 feet bgs

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.
(2) HC- Hydrocarbon
(3) Oil Waste consists of black free-phase hydrocarbons.
(4) Commenced drilling GP-20 at 16:15 on 8/22/02.

▽ Groundwater at time of drilling.
▼ Groundwater measured after well completed.
Water Seepage

Notes: Used 1½-inch O.D. direct-push rod pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 14 feet bgs. Set PVC Schedule 40 PVC screen (0.020-inch) from 4 to 14 feet bgs. Used 1-100lb bag of #2/12 sand from 3 to 24 feet bgs; ½-50 lb bag of bentonite granular (hydrated with water) from surface to 3 feet bgs. PVC stick up is 1.20 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033031

BORING NO. GP-21

SHEET 1 OF

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch dia.

COORDINATES N 2183492.1346 E 6636834.8960

FIELD ENGINEER J. Russo

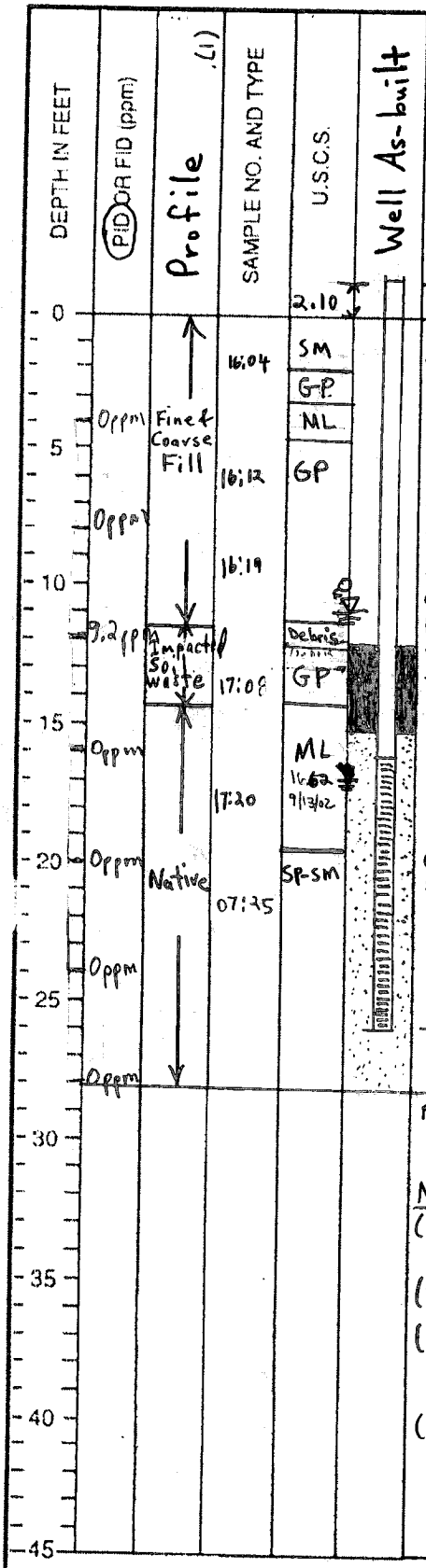
DATE BEGAN 9/12/02

EDITED BY J. Russo

DATE FINISHED 9/13/02

CHECKED BY R. Puga

GROUND SURFACE EL. 16.66' 18.76' T.O.C



DESCRIPTION

Grass Ground Surface

Commenced drilling GP-21 at 15:53 on 9/12/02

Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 2 feet; fine to medium grained sand (85%); silt (15%); loose; abundant HC staining; no HC odor.

Dark Grayish Brown (10YR 4/2); POORLY GRADED SAND WITH GRAVEL (GP); 2 to 3 feet

Very Dark Grayish Brown (10YR, 3/2); SILT (ML); 3 to 4½ feet; no HC odor

Dark Grayish Brown (10YR 4/2); POORLY GRADED SAND WITH GRAVEL (GP); 4½ to 11 feet; fine to medium grained sand (90%); gravel (10%); with fragments of asphalt debris, no HC staining; slight HC odor.

Sample I.D.: Ascon-GP21-12', Sample collected in 2-4oz. jars; 1-acetate sleeve and 3-Encore containers for analysis for VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Black (10YR, 2/1); ASPHALT DEBRIS; 11 to 12 feet; HC odor.

Very Dark Grayish Brown (10YR, 3/2); POORLY GRADED SAND WITH GRAVEL (GP); 12 to 14 feet; fine to medium grained sand (90%); gravel (10%); no HC staining; slight HC odor.

Dark Grayish Brown (10YR, 4/2); SILT (ML); 14 to 19½ feet; low plasticity; firm; no HC staining; no HC odor.

Gray (10YR, 4/1); POORLY GRADED SAND WITH SILT (SP-SM); 19½ to 28 feet; fine grained Sand (80%); Silt (20%); abundant sea shells; wet; no HC staining; no HC odor.

Total depth of well at 26 feet bgs

Pilot boring terminates at 28 feet bgs

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC - Hydrocarbon

(3) Oil waste consists of black free-phase hydrocarbons.

(4) Commenced drilling GP-21 at 15:53 on 9/12/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 2½-inch O.D. direct-push rods to set 1-inch diameter casing. Set bottom of well at 26 feet bgs. Set well screen (0.020-inch) from 16 to 26 feet bgs. Used 1-100 lb bag of #2/12 Sand from 15 to 28 feet bgs; 1-50 lb bag of bentonite chips (hydrated with 1 gallons of water) from 12 to 15 feet bgs; 10 gallons of bentonite grout from surface to 12 feet bgs. PVC stick up is 2.10 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033032

BORING NO. GP-22

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Acetate Liner AND DIMENSION 4-foot 1½-inch dia.

COORDINATES N 2183445.8280 E 6037467.5526

FIELD ENGINEER J. Russo

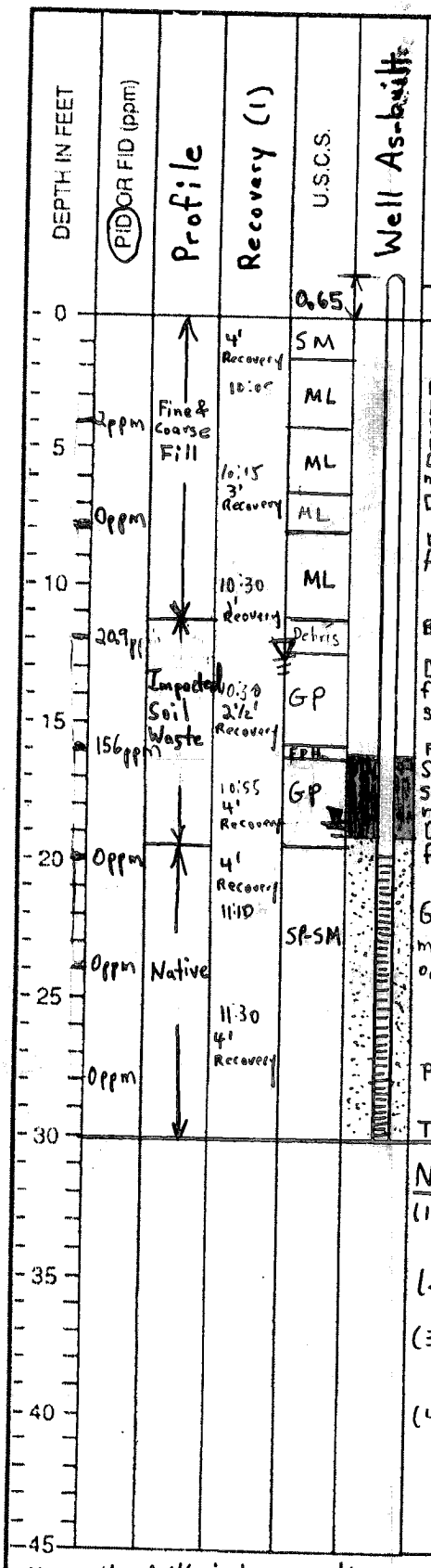
DATE BEGAN 9/13/02

EDITED BY J. Russo

DATE FINISHED 9/13/02

CHECKED BY R. Puga

GROUND SURFACE EL. 17.66' 18.31' T.O.C



DESCRIPTION

Grass ground surface cover.

Pale Brown (10YR, 6/3); SILTY SAND (SM); Surface to 1½ feet; fine to medium grained sand (~80%) Silt (~20%); loose; dry; no HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/2); SANDY SILT (ML); 1½ to 4 feet; silt (85%); fine grained sand (15%); non-plastic; damp; no HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/2); SANDY SILT WITH GRAVEL (ML); 4 to 6 feet; silt (80%); fine to medium grained sand (10%); gravel (10%); moist; no HC staining; no HC odor.

Dark Brown (10YR, 4/3); SILT (ML); 6 to 7½ feet; low plasticity; no HC staining; no HC odor.

Dark Grayish Brown (10YR, 4/2); SANDY SILT WITH GRAVEL (ML); 7½ to 11 feet; silt (80%); fine to medium grained sand (10%); gravel (10%); very moist; no HC staining; no HC odor.

Black (10YR, 2/1); ASHPALT DEBRIS; 11 to 12 feet; wet; no HC odor.

Dark Grayish Brown (10YR, 4/2); POORLY GRADED SAND WITH GRAVEL (GP); 11 to 15½ feet; fine to medium grained sand (90%); gravel (10%); with fragments of asphalt; no HC staining; slight HC odor.

Free-Phase Hydrocarbon loose 15½ to 16 feet; tar like consistency; strong HC odor. Sample I.D.: Ascon-GP22-16. Sample collected in 2-4oz jars; 3-Encore containers and 1-acetate sleeve for analysis for VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Dark Grayish Brown (10YR, 4/2); POORLY GRADED SAND WITH GRAVEL (GP); 16 to 19½ feet; Sample as above; no HC staining; faint HC odor.

Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 19½ to 30 feet; fine to medium grained sand (80%); silt (20%); abundant sea shells; no HC staining; no HC odor.

Pilot boring terminates at 28 feet bgs

Total depth of well at 30 feet bgs

Notes:

(1) Used 1½-inch diameter, 4-foot long Acetate lined rod.

(2) HC - Hydrocarbon

(3) Oil waste consists of black free-phase hydrocarbons

(4) Commenced drilling GP-22 at 10:02 on 9/13/02.

▽ Groundwater at time of drilling

▼ Groundwater measured after well completed.

Water Seepage

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic Sampling. Reamed pilot boring with 8-inch O.D. direct-push rods to set 1-inch diameter PVC casing. Set bottom of well at feet bgs. Set well Screen (0.020-inch) from 20 to 30 feet bgs. Used 3 - 100lb bag of #2/12 sand from 19 to 30 feet bgs; 1 - 50 lb bag of bentonite chips (hydrated with 1 gallon of water) from 16 to 19 feet bgs; 100 gallons of bentonite grout from surface to 16 feet bgs. PVC stick up is 0.65 feet tall; with PVC slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033033

BORING NO. GP-23

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Split Spoon AND DIMENSION 18-inch 2½-inch dia

COORDINATES N 2184075.3285 E 6037567.2077

FIELD ENGINEER J. Russo

DATE BEGAN 9/13/02

EDITED BY J. Russo/T. Zeir

DATE FINISHED 9/13/02

CHECKED BY R. Puga

GROUND SURFACE EL. 25.06' 27.34' T.O.C

DEPTH IN FEET	PID OR FID (ppm)	PENETRATION RESISTANCE (BLOWS PER FOOT) (1)	Profile	U.S.C.S.	Well As-built	DESCRIPTION
0		26, 26, 26, 12, 16	Fine + Course Fill Material	Sand ML	2.28'	Grass and concrete surface. Commenced drilling GP-23 at 15:30 on 9/13/02. Pale Brown (10YR, 6/3); SANDY SILT (ML); surface to 2½ feet; silt (~85%); fine grained sand (~15%); damp; no HC staining; no HC odor.
	0.1 ppm	31, 24, 27, 23, 15		Brick ML		Red (2.5YR, 4/6); BRICK DEBRIS; 2½ to 3 feet.
5	N/R	24, 16, 7				Pale Brown (10YR, 6/3); SANDY SILT (ML); 3 to 7 feet; silt (~85%); fine grained sand (~10%); with asphalt debris fragments; dry to damp; moderately cemented; no HC staining; no HC odor.
	1 ppm	15, 9, 21, 50/6"		SC		Dark Grayish Brown (10YR, 3/2); CLAYEY SAND (SC); 7 to 9½; fine to medium grained sand; with clay lenses; very moist; no HC staining; no HC odor.
10	1.2 ppm	24, 15, 18, 21, 27, 34		Debris		Light Gray (10YR, 7/1); CONCRETE DEBRIS; 9½ to 13 feet; wet; no HC staining; no HC odor. Oily saturated waste from 13 to 21.5 feet.
15	17.2 ppm	14, 17, 20, 13, 28, 40, 50/6"	Oil Saturated Waste	GP		Very Dark Grayish Brown (10YR, 3/2); POORLY GRADED SAND WITH GRAVEL (GP); 13 to 17 feet; fine to medium grained sand (~80%); gravel (~20%); wet; HC staining; HC odor. Sample I.D.: Ascon-GP23-16. Samples collected in 3-4 oz. jars and 3-Encores for analysis for 8260B, 8270C and 8015m for VOCs, SVOCs and TPH, respectively.
		3, 3, 3, 2, 2, 3		MUD		Dark Grayish Brown (10YR, 4/2); DRILLING MUD; 17 to 21½ feet; clayey silt consistency; oil saturated; HC staining; HC odor.
20	424 ppm	12, 19, 20, 11, 43		SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 21½ to 24 feet; fine grained sand (~80%); silt (~20%); very moist; no HC staining; faint HC odor.
25	23 ppm	7, 12, 7, 4, 6, 8, 7		CL		Dark Grayish Brown (10YR, 4/2); CLAY (CL); 24 to 26 feet; medium plasticity; firm; moist; no HC staining; no HC odor.
	0.5 ppm	8, 13, 23, 32, 14, 23, 33	Native	SP-SM		Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 26 to 36 feet; fine grained sand (~80%); silt (~20%); abundant sea shells; wet; no HC staining; no HC odor.
30						Pilot boring terminates at 31 feet
35						Total depth of well 36 feet
40						
45						

Notes:
(1) Used 2½-inch diameter California Split Spoon Sampler.
(2) HC-Hydrocarbon
(3) Oil waste consists of black free-phase hydrocarbons
(4) Commenced drilling GP-23 at 15:30 on 9/13/02.

Groundwater at time of drilling

Groundwater measured after well completed

Water Seepage

Notes: Used 8-inch O.D. hollow stem augers for pilot boring for lithologic sampling. Set bottom of well at 36 feet bgs. Set well screen (0.020-inch) from 26 to 36 feet bgs. Used 3-100 lb bag of #2/12 sand from 25 to 36 feet bgs; 1-50 lb bag of bentonite chips (hydrated with 5 gallons of water) from 22 to 25 feet bgs; 100 gallons of bentonite grout from surface to 22 feet bgs. PVC stick up is 2.28 feet tall; with PVC slip cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033034

BORING NO. GP-24

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling

SAMPLER TYPE Split Spoon Sample AND DIMENSION 18-inches 2½-inch dia

FIELD ENGINEER J. Russo

EDITED BY J. Russo

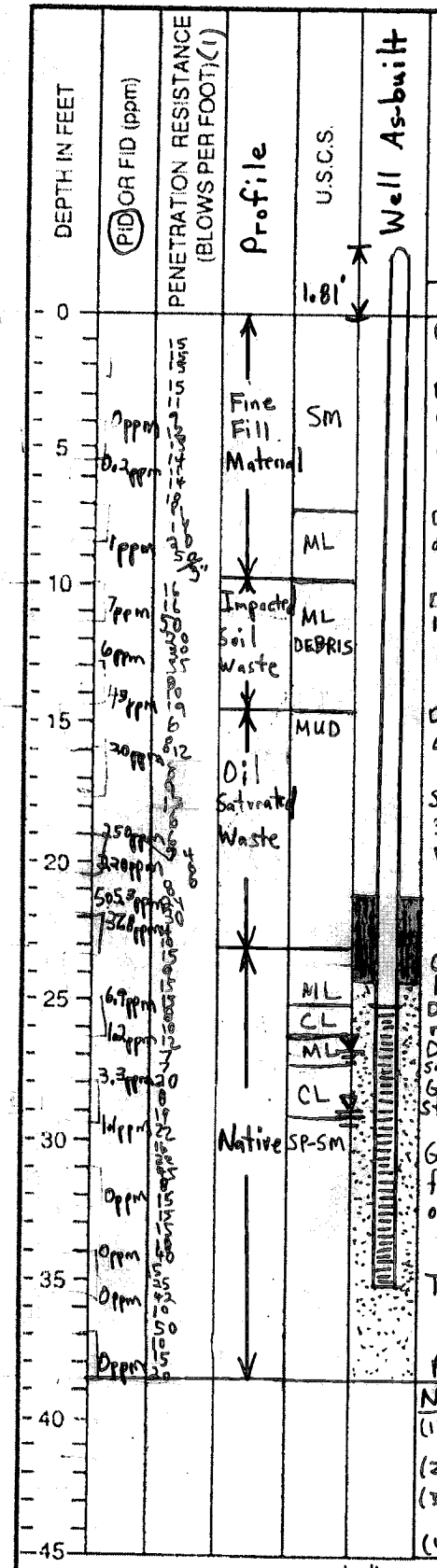
CHECKED BY R. Puga

COORDINATES N 2184279.1412 E 6037350.0165

DATE BEGAN 9/16/02

DATE FINISHED 9/16/02

GROUND SURFACE EL. 26.97' 28.78' T.O.C



DESCRIPTION

Gravel and grass ground surface

Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 7 feet; fine to medium grained sand (~80%); silt (~20%); weakly to moderately cemented; damp; no HC staining; no HC odor.

Dark Brown (10YR, 3/3); SANDY SILT (ML); 7 to 10 feet; silt (55%); fine grained sand (45%); damp; no HC staining; no HC odor.

Dark Brown (10YR, 3/3) and Light Gray (10YR, 7/1); SANDY SILT & CONCRETE DEBRIS; 10 to 14½ feet; silt (55%); fine grained sand (45%); moist; no HC staining; slight HC odor.

Dark Grayish Brown (10YR, 4/2); DRILLING MUD; 14½ to 23 feet; clayey silt consistency oil saturated; HC staining; HC odor.

Sample I.D.: Ascon-GP24-17.5 and Ascon-GP24-18. Samples collected in 3-4 oz jars and 3-Encore Containers for analysis for 8260B, 8270C and 8015m for VOCs, SVOCs and TPH, respectively.

Dark Grayish Brown (10YR, 4/2); CLAYEY SILT (ML); 23 to 25 feet; silt (90%); clayey fines; slightly micaceous;

Dark Grayish Brown (10YR, 4/2); CLAY (CL); 25 to 26 feet; medium plasticity; moist; no HC staining; no HC odor;

Dark Grayish Brown (10YR, 4/2); SANDY SILT (ML); 26 to 27 feet; silt (85%); fine grained sand (15%); slightly micaceous; few seashells; no HC staining; no HC odor.

Gray (10YR, 5/1); CLAY (CL); 27 to 29½ feet; medium plasticity; moist; no HC staining; no HC odor.

Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 29½ to 38½ feet; fine grained sand (80%); silt (20%); abundant seashells; wet; no HC staining; no HC odor.

Total depth of well 35 feet bgs

Pilot boring terminates at 38½ feet bgs

Notes:

(1) Used 2½-inch diameter California Split Spoon Sampler.

(2) HC = Hydrocarbon

(3) Oil Waste consists of black free-phase hydrocarbons

(4) Commenced drilling GP-24 at 08:07 on 9/16/02.

Groundwater at time of drilling

Groundwater measured after well completed

Water Seepage

Notes: Used 8-inch O.D. hollow stem augers for pilot boring for lithologic sampling. Set bottom of well at 35 feet bgs. Set well screen (0.020-inch) from 25 to 35 feet bgs. Used 3-100lb bag of #2/12 Sand from 24 to 38½ feet; 1½-50lb bag of bentonite chips (hydrated with 5 gallons of water) from 21 to 24 feet bgs; 100 gallons of bentonite grout from surface to 21 feet bgs. PVC stick up is 1.81 feet tall; with PVC slip Cap.

TM No.1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

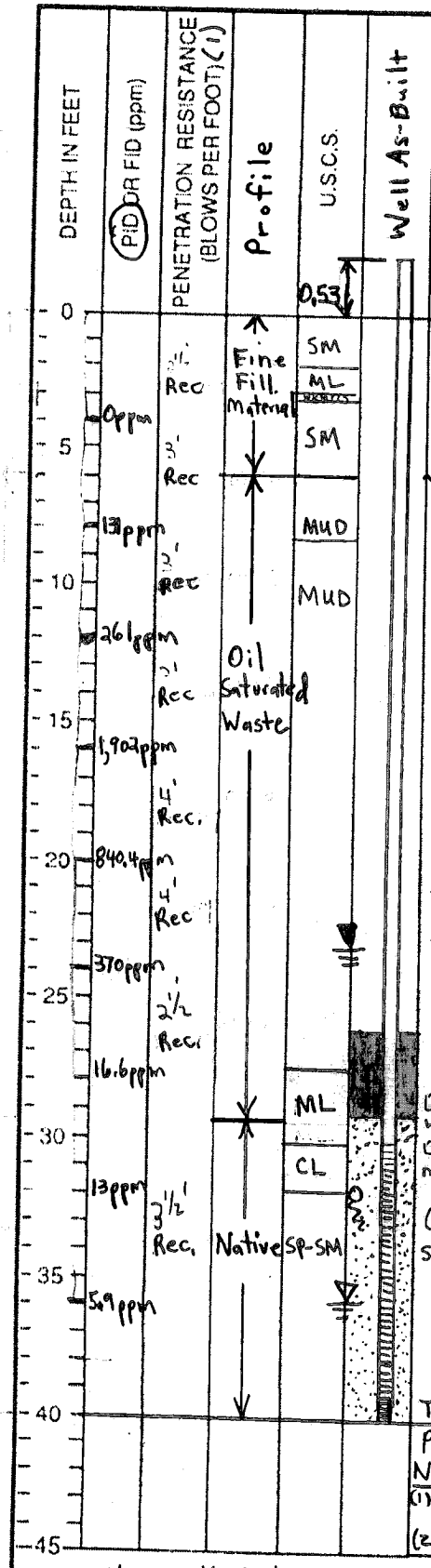
A0001000033035

BORING NO. GP-25

SHEET 1 OF 1

DRILLING CO./RIG West Hazmat Drilling
SAMPLER TYPE Acetate Liner
AND DIMENSION 4 foot 1½-inch dia
FIELD ENGINEER J. Russo
EDITED BY J. Russo
CHECKED BY R. Puga

COORDINATES N 2184376.9950 E 6038811.8721
DATE BEGAN 9/12/02
DATE FINISHED 9/12/02
GROUND SURFACE EL. 21.82' 23.35' T.O.C.



DESCRIPTION

Grass Ground Surface cover.

Pale Brown (10YR, 6/3); SILTY SAND (SM); surface to 2 feet; fine to medium grained sand (100%); no HC staining; no HC odor.
Dark Brown (10YR, 4/3); SANDY SILT (ML); 2 to 3 feet; Silt (80%); fine grained sand (20%); no HC staining no HC odor.
White (10YR, 8/2); CONCRETE DEBRIS; 3 to 3.3 feet; no HC staining; no HC odor.
Light Brownish Gray (10YR, 6/2); SILTY SAND (SM); 3.3 to 6 feet; fine to medium grained sand (100%); loose; damp; no HC staining; no HC odor.
Very Dark Grayish Brown (10YR, 3/2); DRILLING MUD; 6 to 8 feet; trace clay; very soft; oil saturated; HC staining; HC odor.

Dark Grayish Brown (10YR, 4/2); DRILLING MUD; 8 to 29½ feet; trace clay; very soft; oil saturated; HC staining; HC odor.
Oil saturated Drilling Mud Waste from 6 to 29½ feet

Sample I.D.: Ascon-GP25-20. Sample collected in 2-4oz jars; 1-acetate sleeve; and 3-Encore Containers for analysis for VOCs, SVOCs and TPH by EPA Methods 8260B, 8270C and 8015M, respectively.

Dark Grayish Brown (10YR, 4/2); SILT (ML); 27½ to 30 feet; Silt (100%); slightly micaceous; medium plasticity; very moist; HC staining; HC odor. Oily saturated into silt to 29½ feet.
Dark Grayish Brown (10YR, 4/2); SILTY CLAY (CL); 30 to 31'10"; medium plasticity; very moist; no HC staining; no HC odor.

Gray (10YR, 5/1); POORLY GRADED SAND WITH SILT (SP-SM); 31'10" to 40 feet; fine grained Sand (80%); silt (20%); wet; no HC staining; no HC odor.

Total depth of well 40 feet bgs

Pilot boring terminates at 36 feet bgs

▽ Groundwater at time of drilling
▼ Groundwater measured after well completed
Water Seepage

Notes:
(1) Used 1½-inch diameter, 4-foot long Acetate line rod.
(2) Commenced drilling GP-25 at 09:06 on 9/12/02

Notes: Used 1½-inch O.D. direct-push rod for pilot boring for lithologic sampling. Reamed pilot boring with 8-inch O.D. hollow stem augers to set 1-inch diameter PVC casing. Set bottom of well at 40 feet bgs. Set well Screen (0.02-inch) from 30 to 40 feet bgs. Used 3-100 lb bag of #2/12 Sand from 29 to 40 feet bgs; 2-50 lb bag of bentonite chips (hydrated with 5 gallon of water) from 26 to 29 feet bgs; 50 gallons of bentonite grout from surface to 26 feet bgs. PVC stick up is 0.53 feet tall; with PVC Slip Cap.

TM No. 1
Ascon Site, Huntington Beach, California

PROJECT NAVIGATOR, LTD.

A0001000033036

October 17, 2002
Project No. 204110001

Mr. Jack Russo
Project Navigator, Ltd.
2600 East Nutwood Avenue, Suite 830
Fullerton, California 92831

Subject: Laboratory Testing Results
Ascon Landfill
Huntington Beach, California

Dear Mr. Russo:

Presented herein are the laboratory testing results performed on soil samples obtained by your firm from the Ascon Landfill that is located at 21641 Magnolia Street, Huntington Beach, California. The results of our laboratory testing are presented in the tables and figures in Appendix A. Copies of the Analysis Request & Chain of Custody Records are presented in Appendix B.

We appreciate the opportunity to be of service on this project. Should you have any questions or comments relative to the information included, please contact the undersigned at your convenience.

Sincerely,
NINYO & MOORE

Victoria A. MacKinnon
Project Engineer

Carol A. Price, C.E.G.
Chief Engineering Geologist

R. Leonard Allen, G.E.
Principal Engineer

VAM/CAP/RLA/ldw

Attachments: Appendix A – Laboratory Test Results
Appendix B – Analysis Request & Chain of Custody Records

Distribution: (3) Addressee

APPENDIX A

LABORATORY TESTING

Classification

Soils were classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488-93. Soil classifications are indicated on the laboratory test results.

In-Place Moisture and Density Tests

The moisture content of samples obtained from the exploratory excavations was evaluated in accordance with ASTM D 2216-98 and ASTM D2937-00. The test results are shown on Figures A-1 through A-3.

Gradation and Hydrometer Analysis

Gradation analysis tests were performed on soil samples in general accordance with ASTM D 422-95. The grain-size distribution curves are shown on Figures A-4 through A-22. These test results were utilized in evaluating the soil classifications in accordance with the Unified Soil Classification System.

Atterberg Limits

Tests were performed on soil samples to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with ASTM D 4318-00. These test results were utilized to evaluate the soil classification in accordance with the Unified Soil Classification System. The test results and classifications are shown on Figures A-23 through A-25.

Maximum Dry Density and Optimum Moisture Content Tests

The maximum dry density and optimum moisture content of selected representative soil samples were evaluated in general accordance with ASTM D 1557-00. The results of these tests are summarized on Figures A-26 and A-27.

Hydraulic Conductivity Tests

Hydraulic conductivity testing using a flexible wall permeameter was performed on undisturbed soil samples in general accordance with ASTM D 5084-00. The results of these tests are presented on Figure A-28.

Consolidated Undrained Triaxial Compression Tests

Consolidated undrained triaxial compression tests were performed on selected undisturbed samples in general accordance with ASTM D 4767-95. Cylindrical specimens with a length-to-diameter ratio of 2:1 were saturated by back pressures until a degree of saturation of 95 percent or higher was achieved. Then the specimen was consolidated isotropically under a predetermined confining pressure. After completion of consolidation, the sample was sheared undrained under compression at a constant rate of axial deformation either with or without measurements of pore pressure. The test results are shown on Figures A-29 through A-32.

Unconfined Compression Tests

Unconfined compression tests were performed on remolded and undisturbed samples in general accordance with ASTM D 2166-00. The test results are shown on Figures A-33 through A-49.

A0001000031003

SAMPLE LOCATION	SAMPLE DEPTH (FT)	IN-PLACE MOISTURE CONTENT[1] (%)	IN-PLACE DRY DENSITY[2] (PCF)
P1-2	2.0	4.0	107.6
P1-5	5.0	5.5	98.1
P1-15	15.0	56.1	58.1
P2-1	1.0	11.1	100.1
P1-20	20.0	48.6	68.8
P2-2	2.0	14.5	99.8
P2-10	10.0	26.6	82.4
P2-20	20.0	15.0	87.4
P3-4	4.0	11.4	99.5
P3-4.5	4.5	16.0	99.5
P3-8.5	8.5	18.4	95.7
P3-9	9.0	24.1	85.4
P3-9.5	9.5	25.3	86.4
P4-1	1.0	3.3	87.8
P4-3.5	3.5	8.2	102.5
P4-9	9.0	21.3	103.4
P4-11	11.0	39.0	79.3

[1]PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2216-98

[2]PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2937-00

Ninyo & Moore

IN-PLACE MOISTURE-DENSITY

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-1

M&D_TABLE

SAMPLE LOCATION	SAMPLE DEPTH (FT)	IN-PLACE MOISTURE CONTENT[1] (%)	IN-PLACE DRY DENSITY[2] (PCF)
P5-1.5	1.5	2.0	110.7
P5-3.5	3.5	1.6	Disturbed
P5-16	16.0	47.2	68.0
P5-18	18.0	55.7	62.7
P6-1.5	1.5	3.3	112.9
P6-4	4.0	6.5	90.7
P6-22	22.0	77.0	41.3
P6-24	24.0	78.6	48.4
P7-7	7.0	24.0	91.6
P7-11.5	11.5	39.2	75.7
P7-15	15.0	47.4	70.0
P7-17	17.0	51.6	67.7
P8-1	1.0	3.0	88.2
P8-3	3.0	10.7	100.8
P8-3.5	3.5	18.1	103.7
P8-6.5	6.5	54.3	61.1
P9-1	1.0	2.3	103.3

[1]PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2216-98

[2]PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2937-00

Ninyo & Moore

IN-PLACE MOISTURE-DENSITY

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-2

M&D_TABLE1

SAMPLE LOCATION	SAMPLE DEPTH (FT)	IN-PLACE MOISTURE CONTENT[1] (%)	IN-PLACE DRY DENSITY[2] (PCF)
P9-12	12.0	27.1	87.7
P9-14	14.0	101.8	42.1
P10-1	1.0	8.2	92.6
P10-4	4.0	21.9	80.7

[1]PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2216-98

[2]PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2937-00

Ninyo & Moore

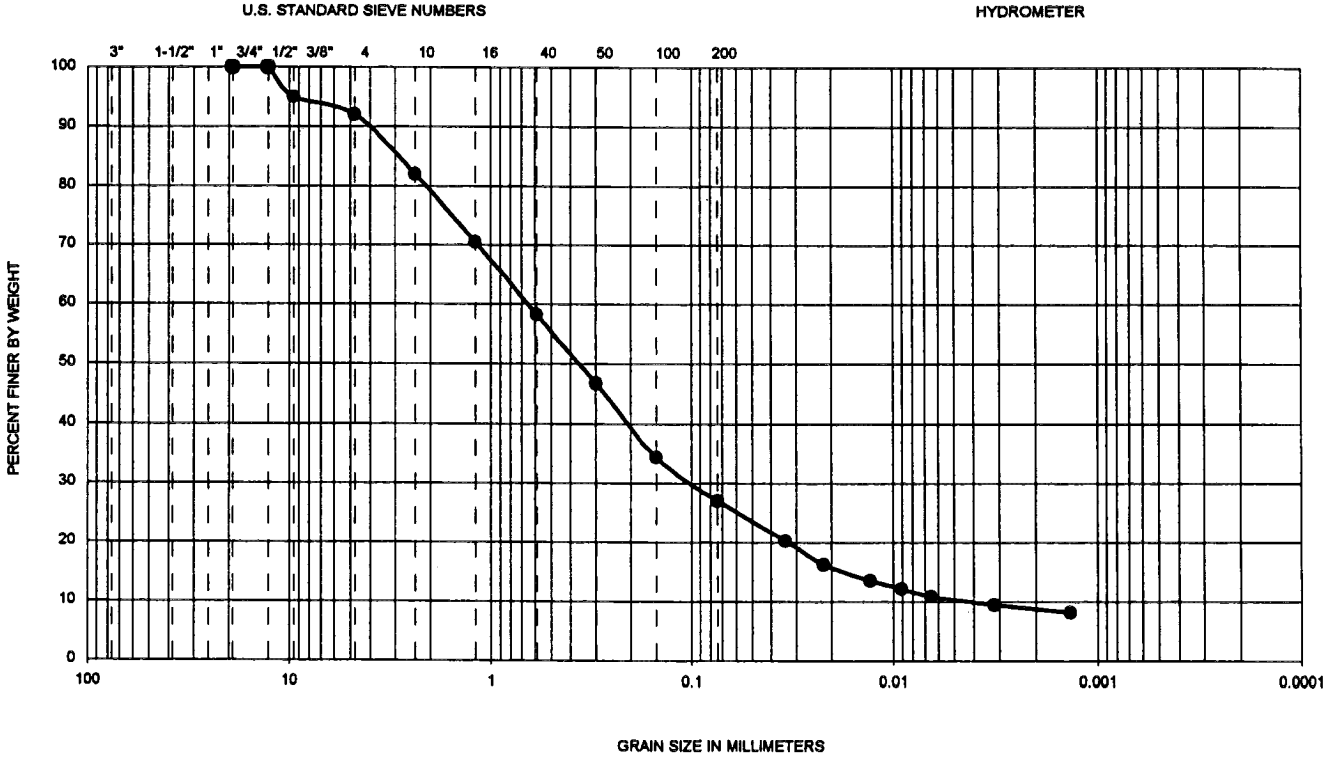
IN-PLACE MOISTURE-DENSITY

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-3

M&D_TABLE2

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P1-3	3	21	18	3	0.0046	0.10	0.63	137.0	3.5	27	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

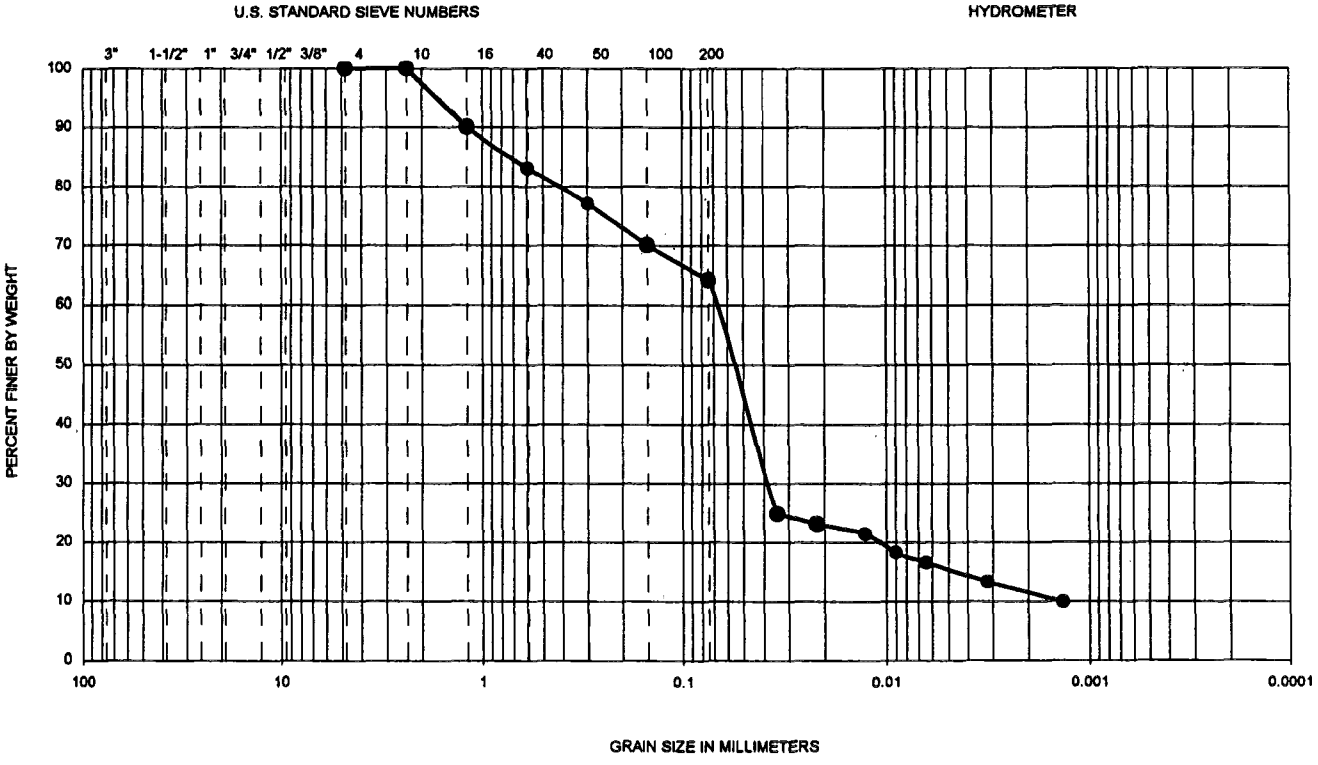
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-4

Hyp1@3

A0001000031007

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P1-14.5	14.5	69	27	42	0.0015	0.04	0.07	43.3	14.8	64	CH

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

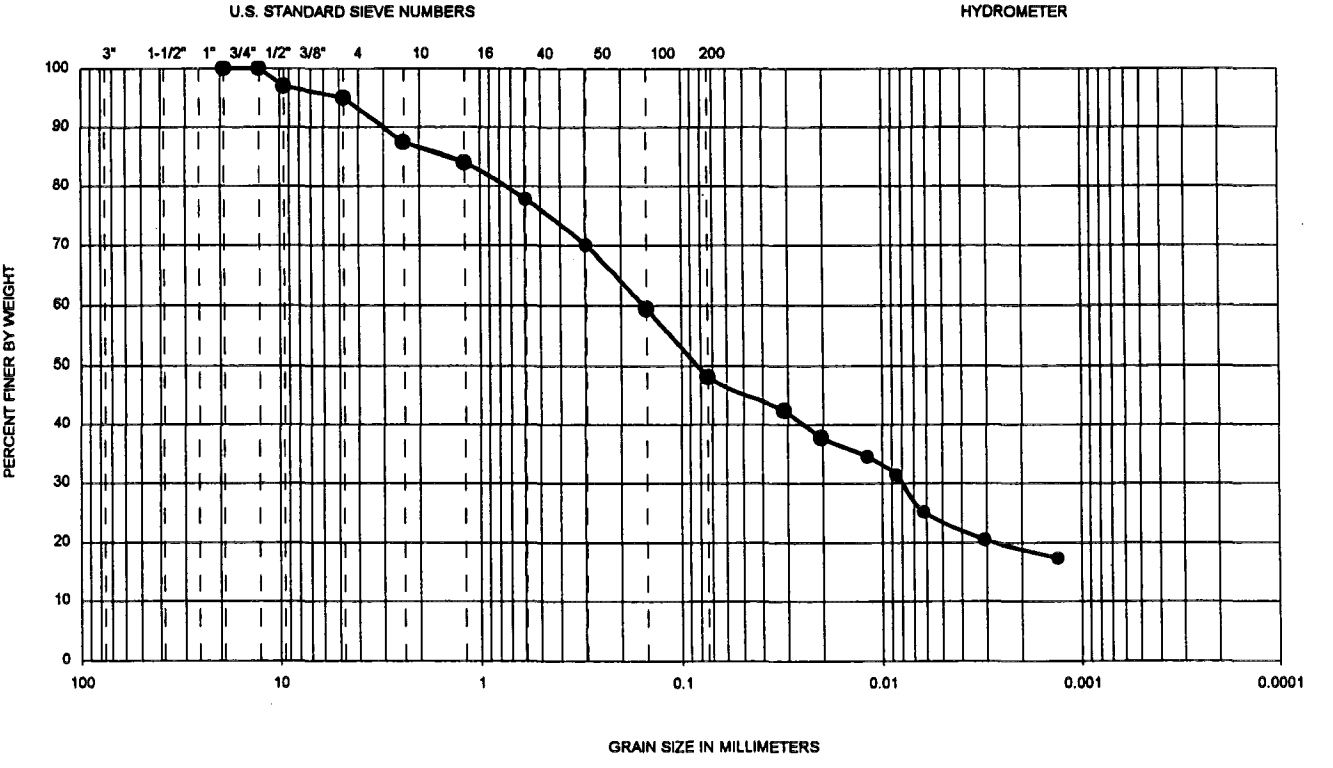
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-5

HYP1@14.5

A0001000031008

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P2-1	1	31	25	6	--	0.08	0.15	--	--	48	SM-SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

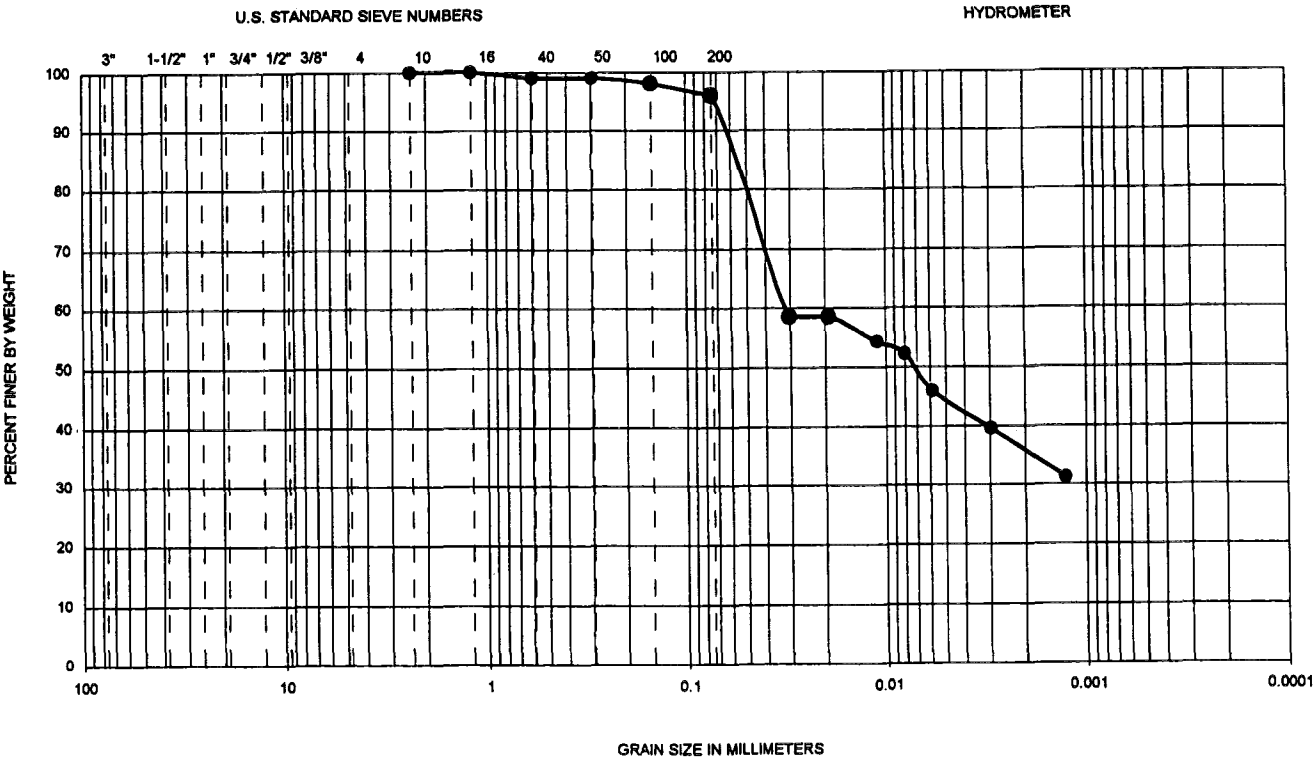
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-6

Hyp2@1

A0001000031009

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P2-14	14	79	23	56	--	--	0.03	--	--	96	CH

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

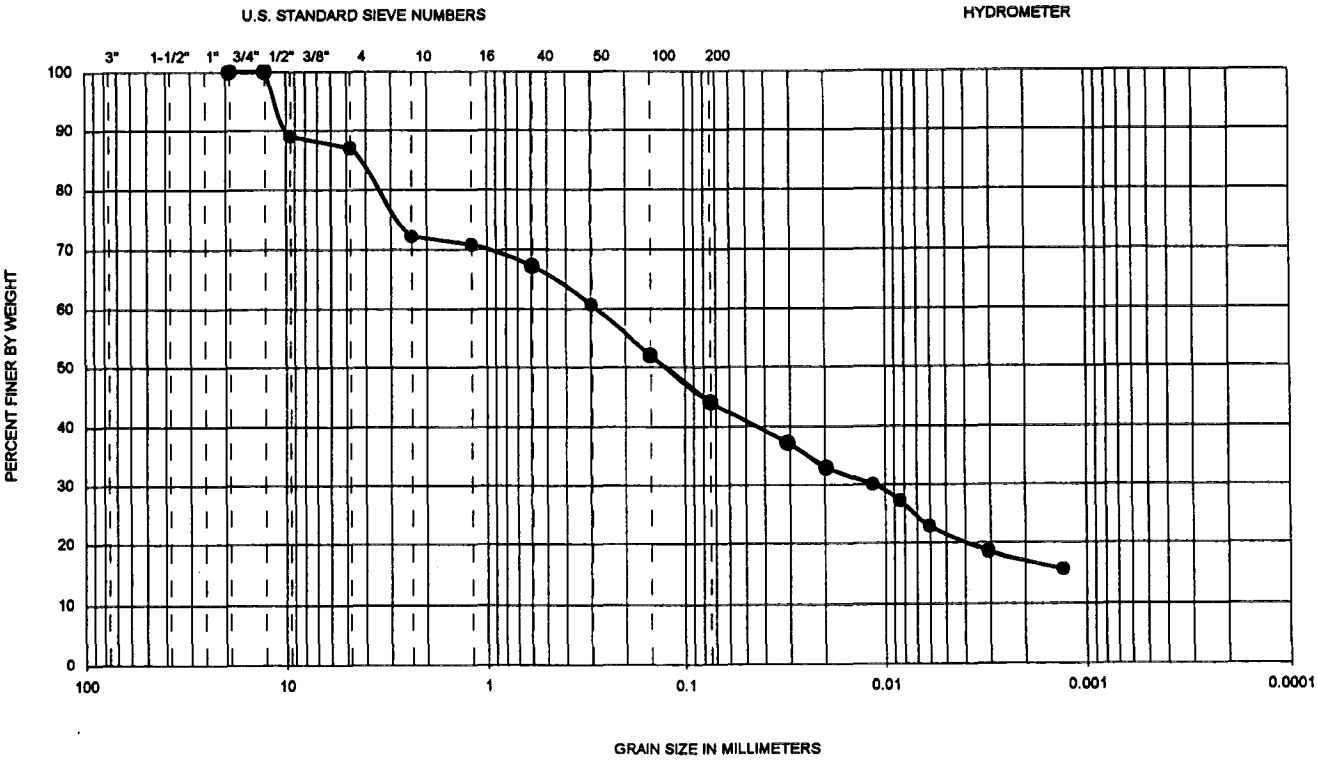
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-7

Hyp2@14

A0001000031010

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P3-5.5	5.5	30	18	12	--	0.01	0.28	--	--	44	SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

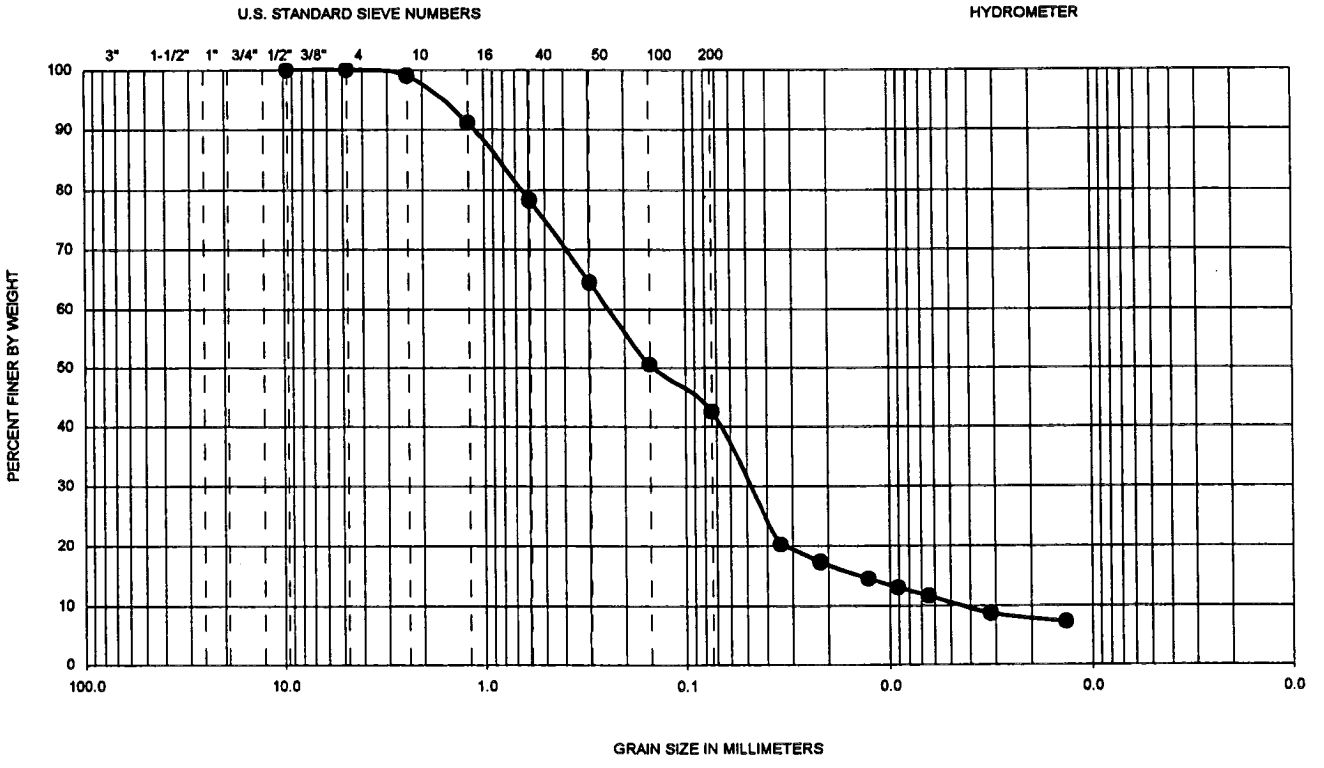
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-8

Hyp3@5.5

A0001000031011

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P3-10	10	43	16	27	0.0045	0.05	0.25	55.6	2.0	43	SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

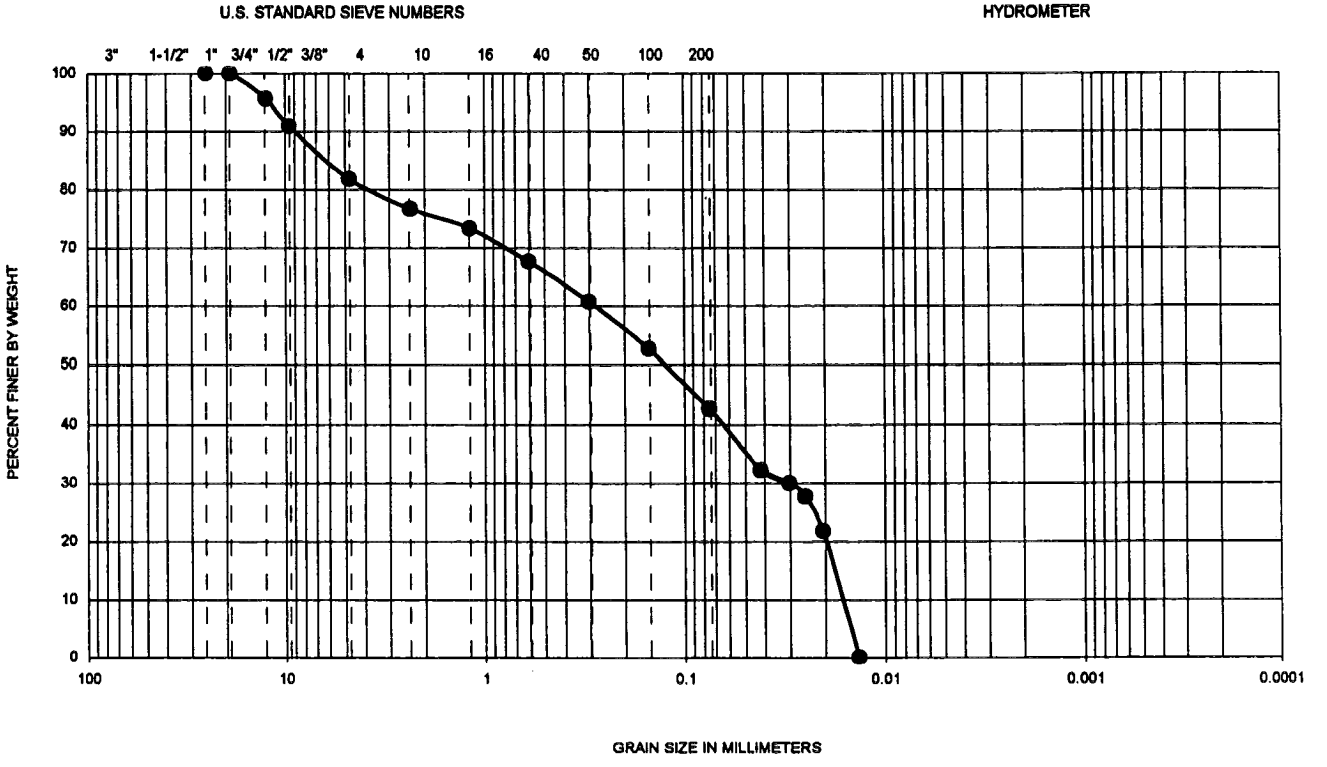
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-9

Hyp3@10

A0001000031012

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P4-1.5	1.5	33	21	12	0.0168	0.0302	0.29	17.1	0.2	43	SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

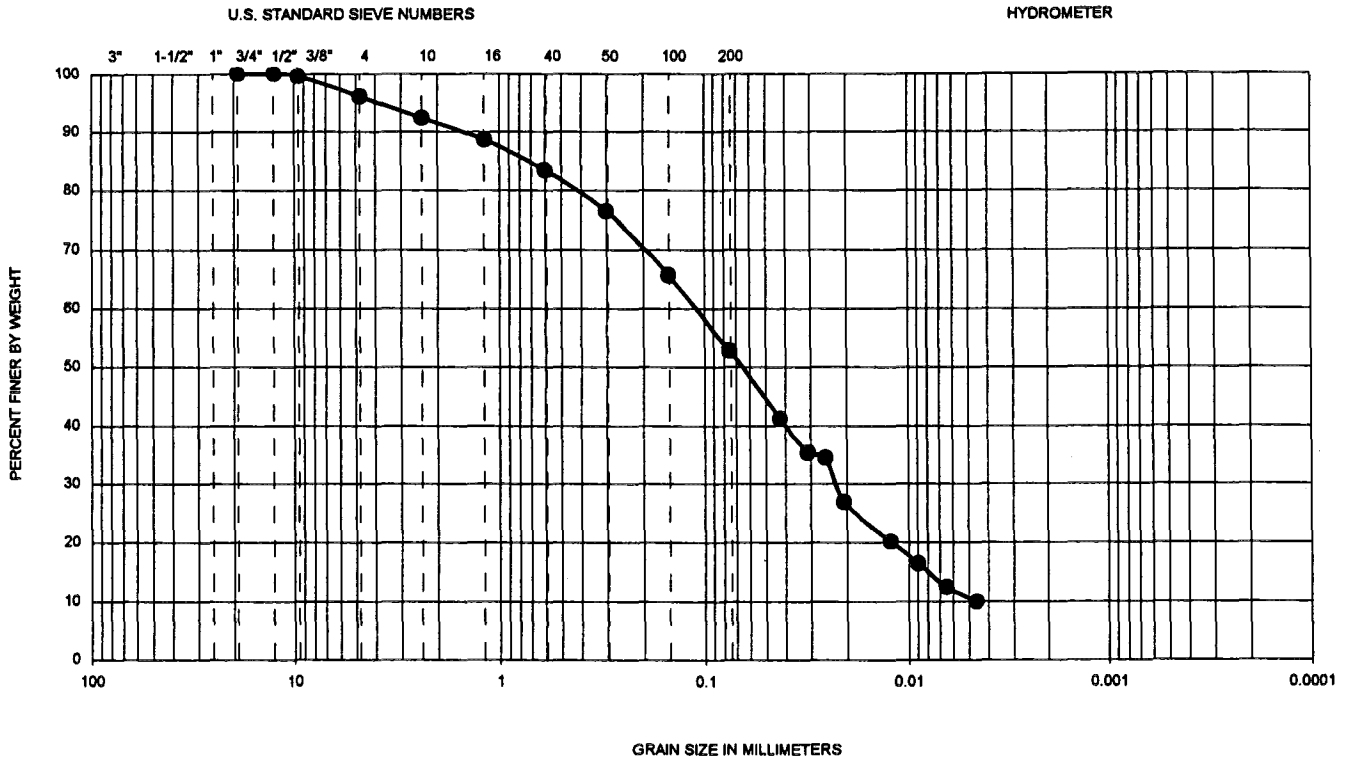
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-10

Hyp4@1.5

A0001000031013

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P4-8.5	8.5	35	21	14	0.0047	0.0227	0.12	25.1	0.9	53	CL

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

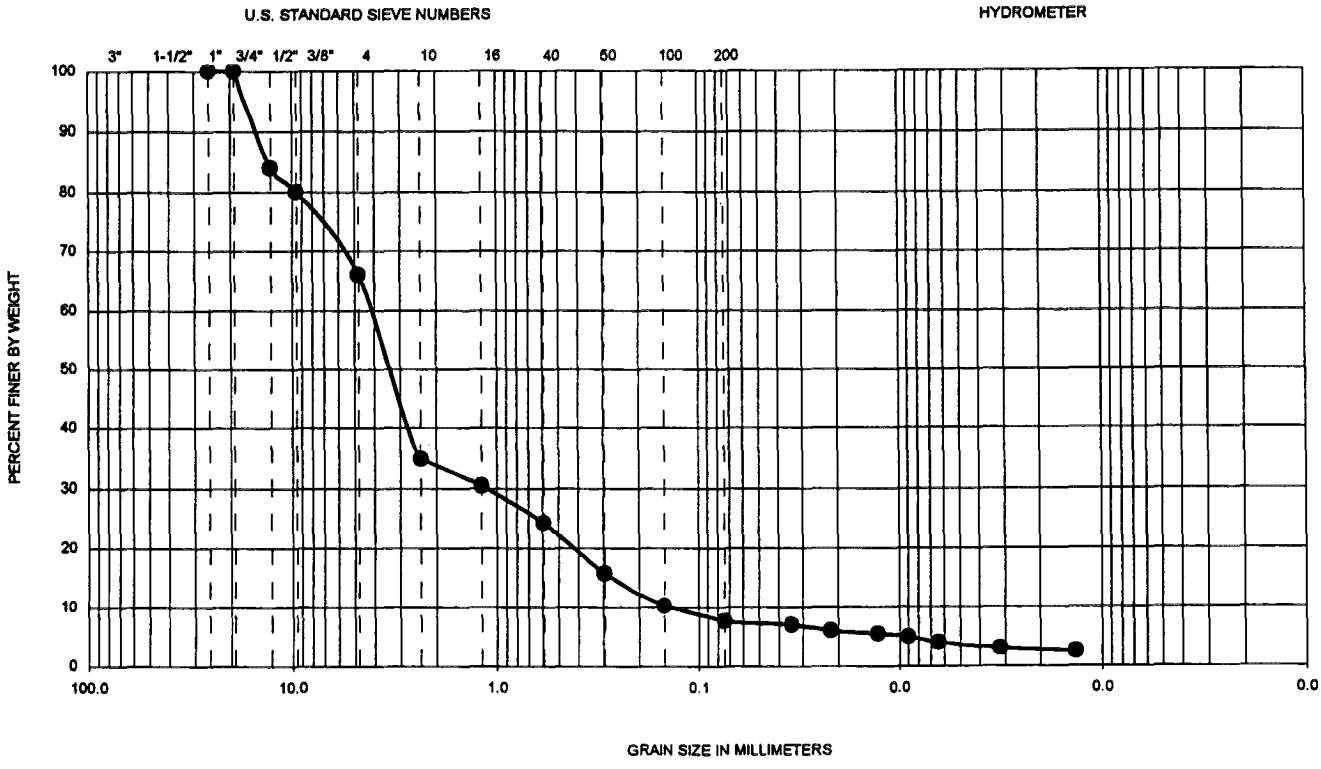
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-11

Hyp4@8.5

A0001000031014

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P5-2	2	17	16	1	0.1500	1.10	4.00	26.7	2.0	8	SW-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

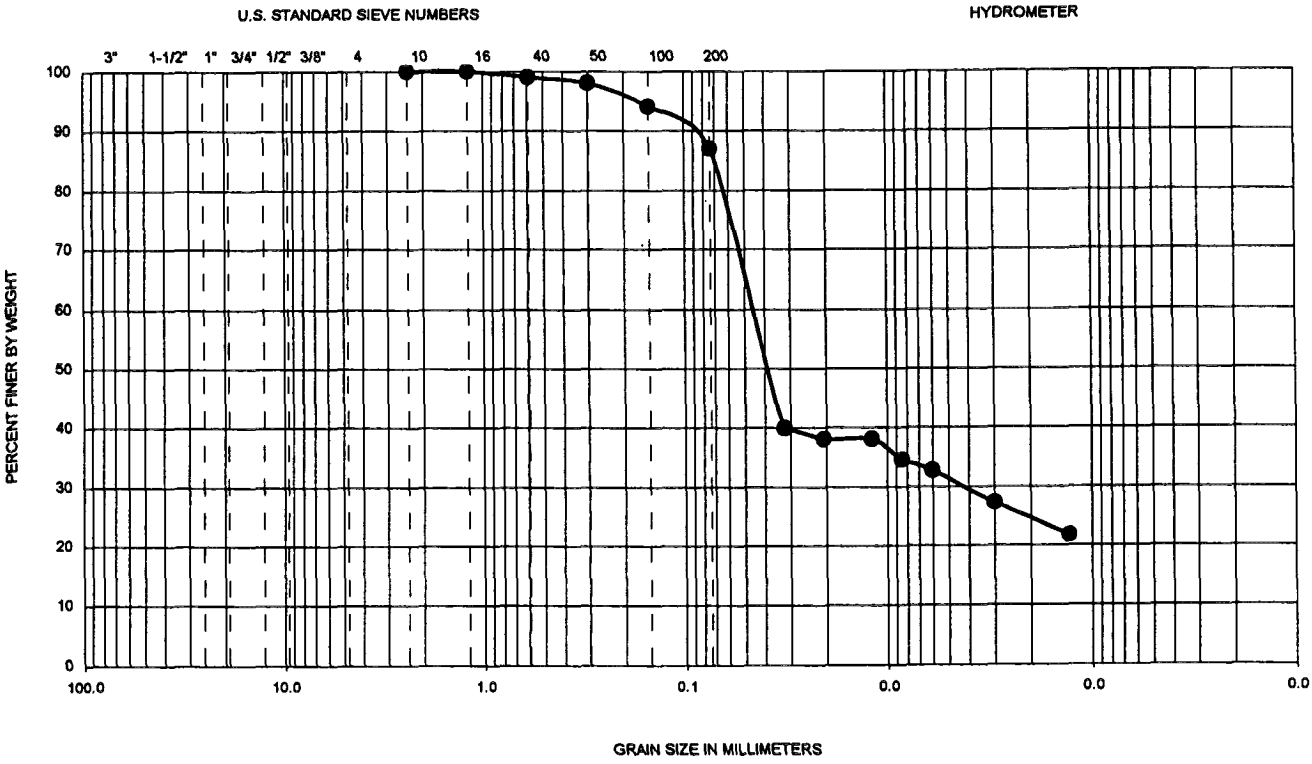
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-12

Hyp5@2

A0001000031015

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P5-16.5	16.5	51	17	34	--	0.0041	0.05	--	--	87	CH

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

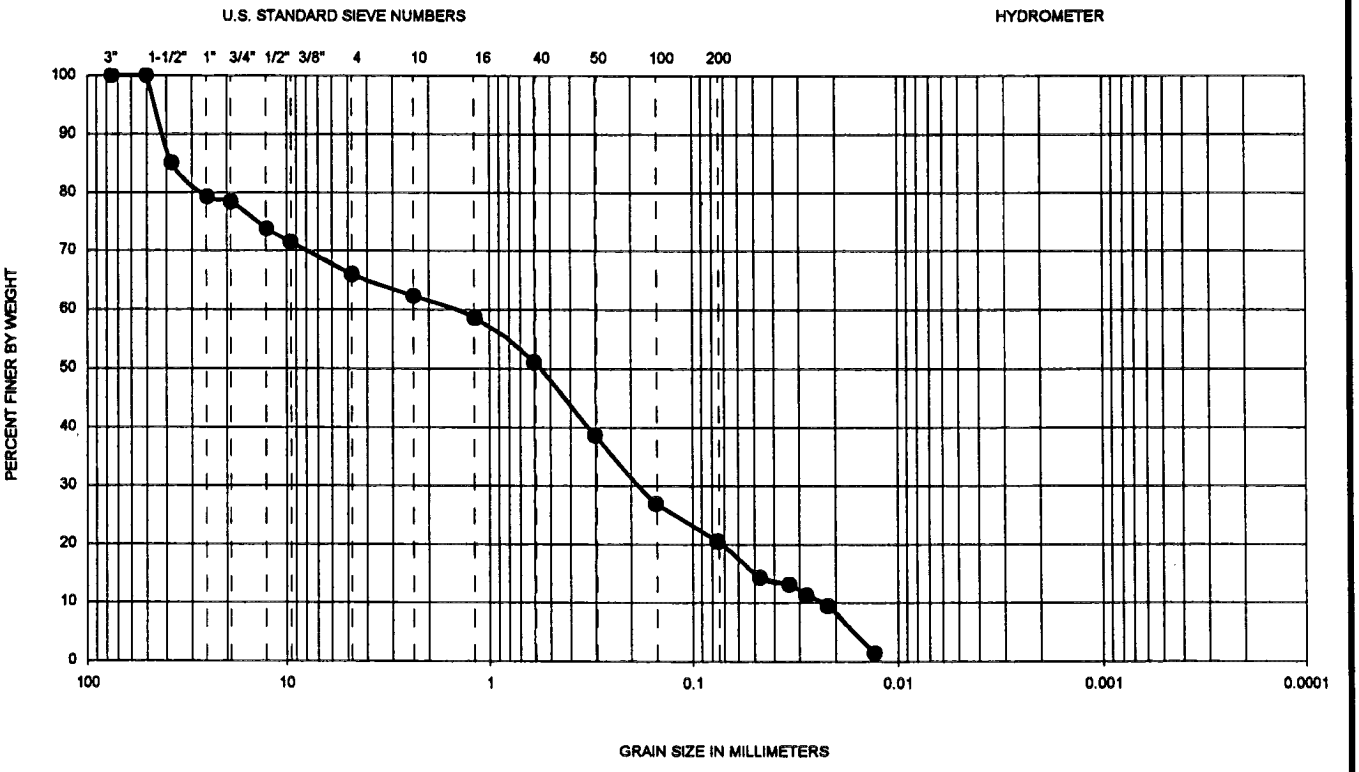
GRADATION TEST RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-13

HYP5@16.5

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P6-2	2	21	17	4	0.0240	0.1895	1.61	66.9	0.9	20	SM-SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

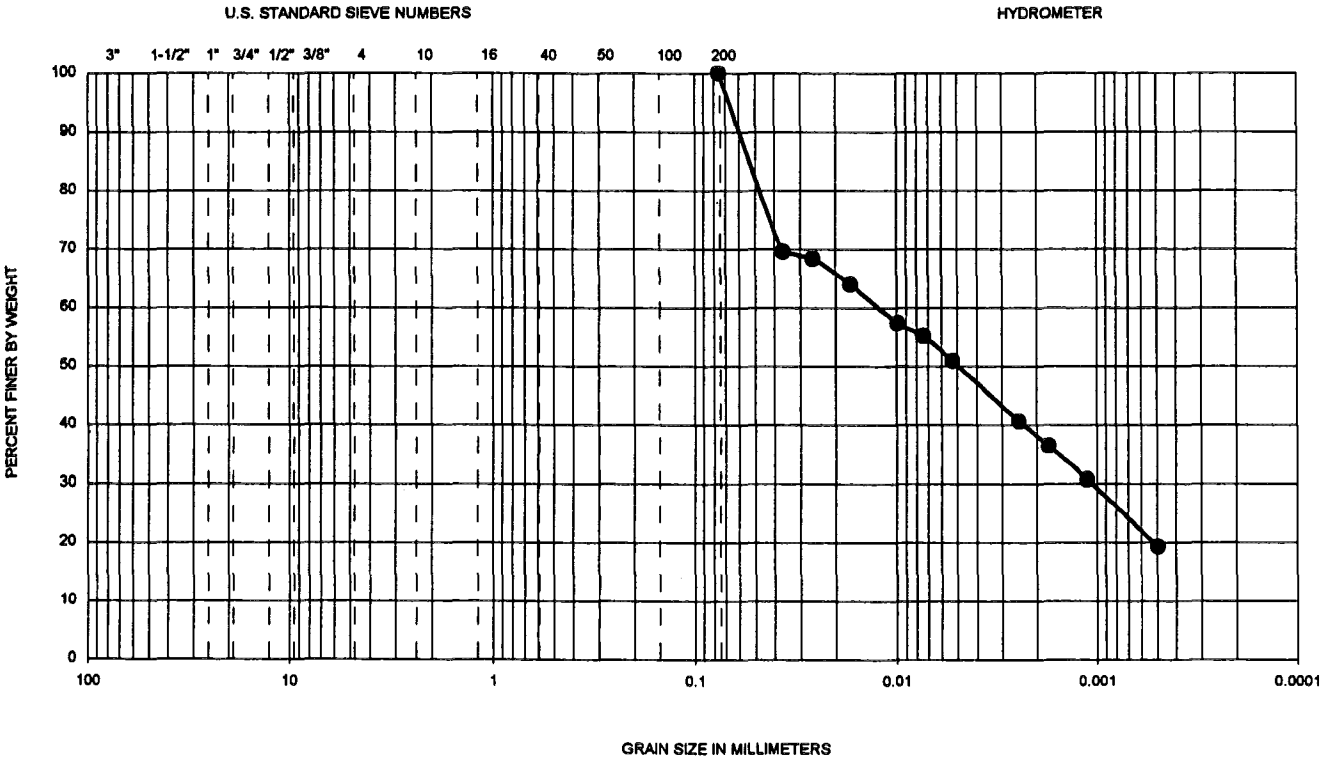
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-14

Hyp6@2

A0001000031017

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P6-22.5	22.5	68	29	39	--	0.0011	0.01	--	--	100	CH

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

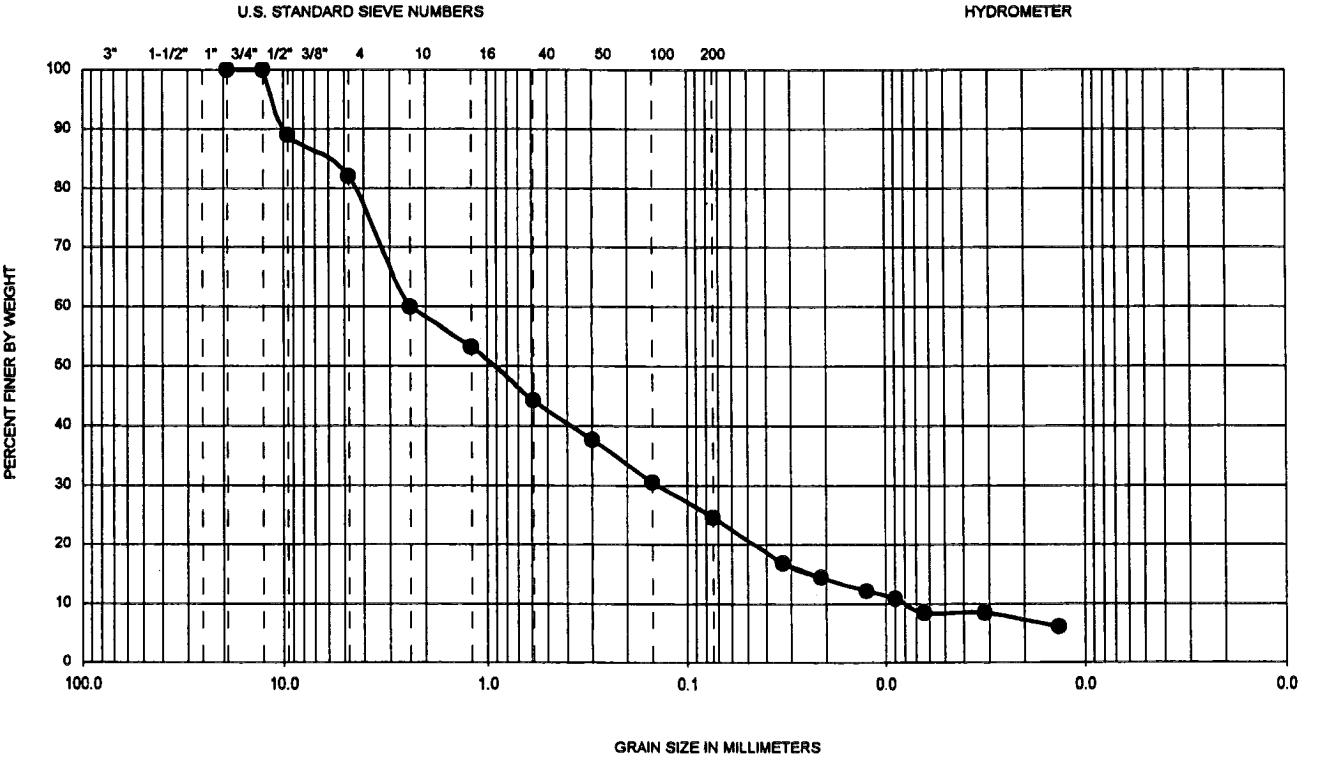
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-15

HYP6@22.5

A0001000031018

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P7-10	10	25	14	11	0.0080	0.0140	2.00	250.0	0.0	25	SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

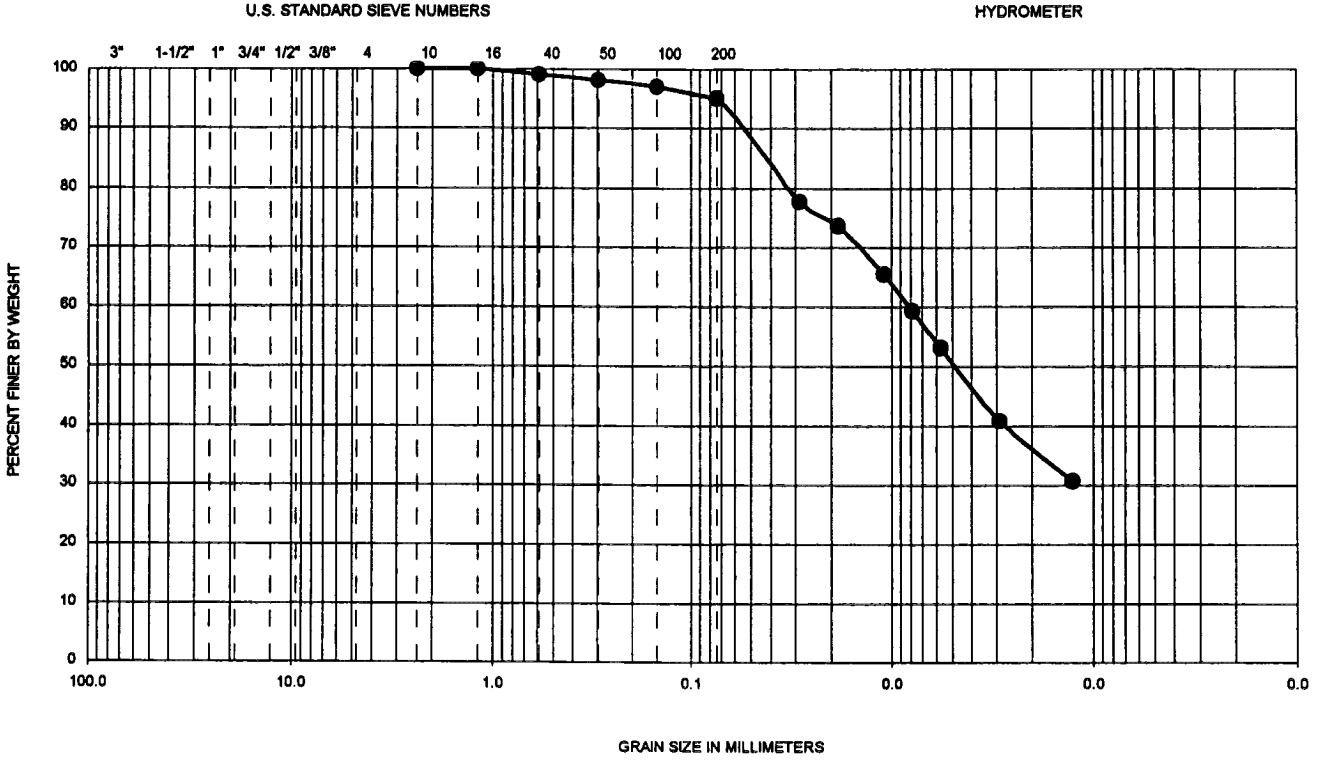
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-16

Hyp7@10

A0001000031019

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P7-15.5	15.5	53	18	35	--	--	0.08	--	--	95	CH

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

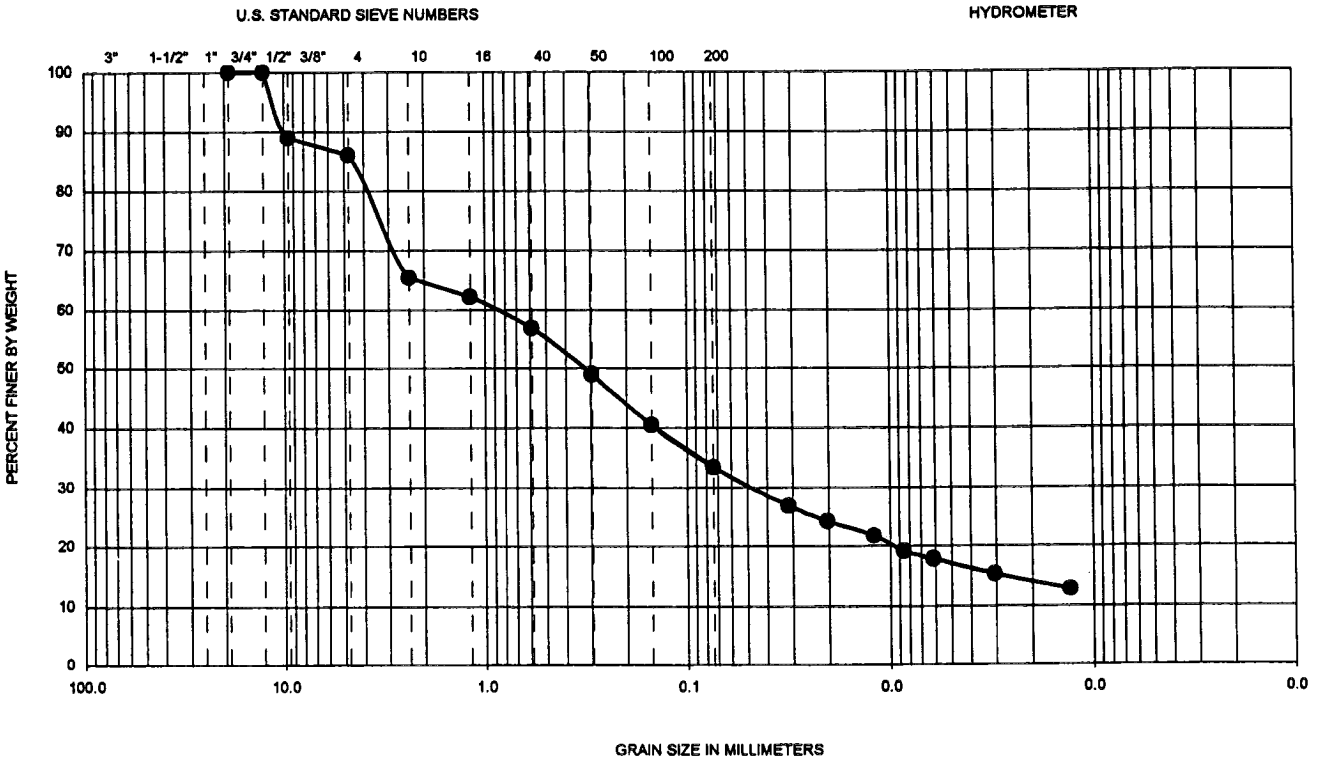
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE RECEIVED	FIGURE
204110001	10/2002	A-17

HYP7@15.5

A0001000031020

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P8-1.5	1.5	24	14	10	--	0.0500	0.89	--	--	33	SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

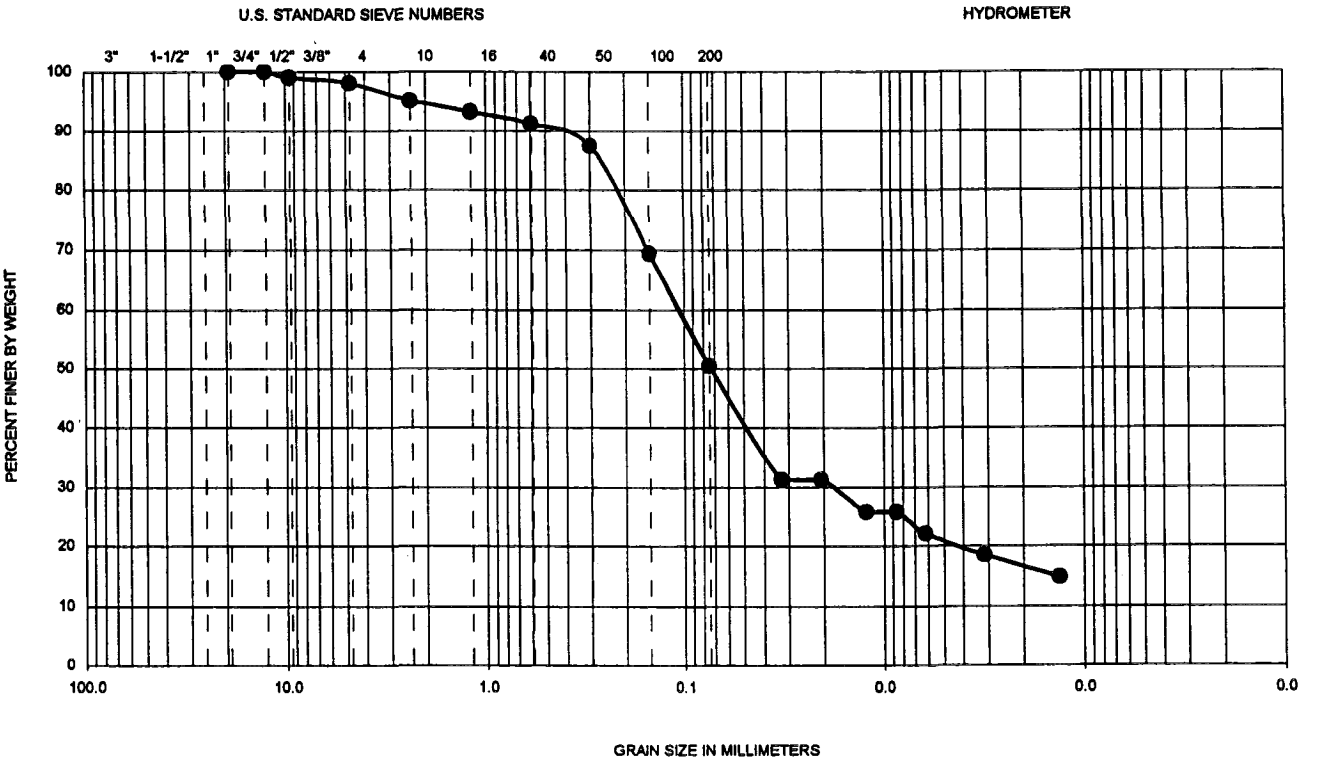
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-18

Hyp8@1.5

A0001000031021

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P8-5	5	35	14	21	--	0.0980	0.11	--	--	50	CL

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

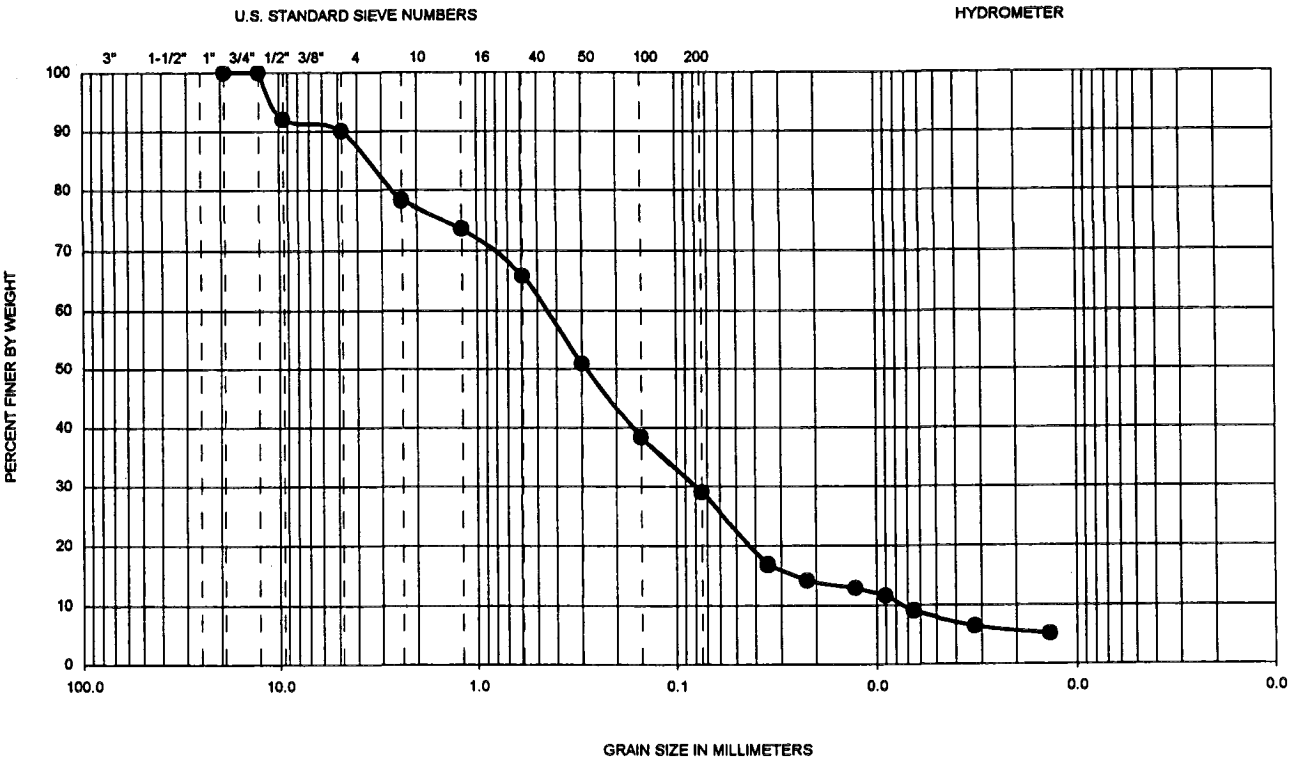
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-19

Hyp8@5

A0001000031022

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P9-2	2	24	17	7	0.0070	0.0780	0.45	64.3	1.9	29	SM-SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

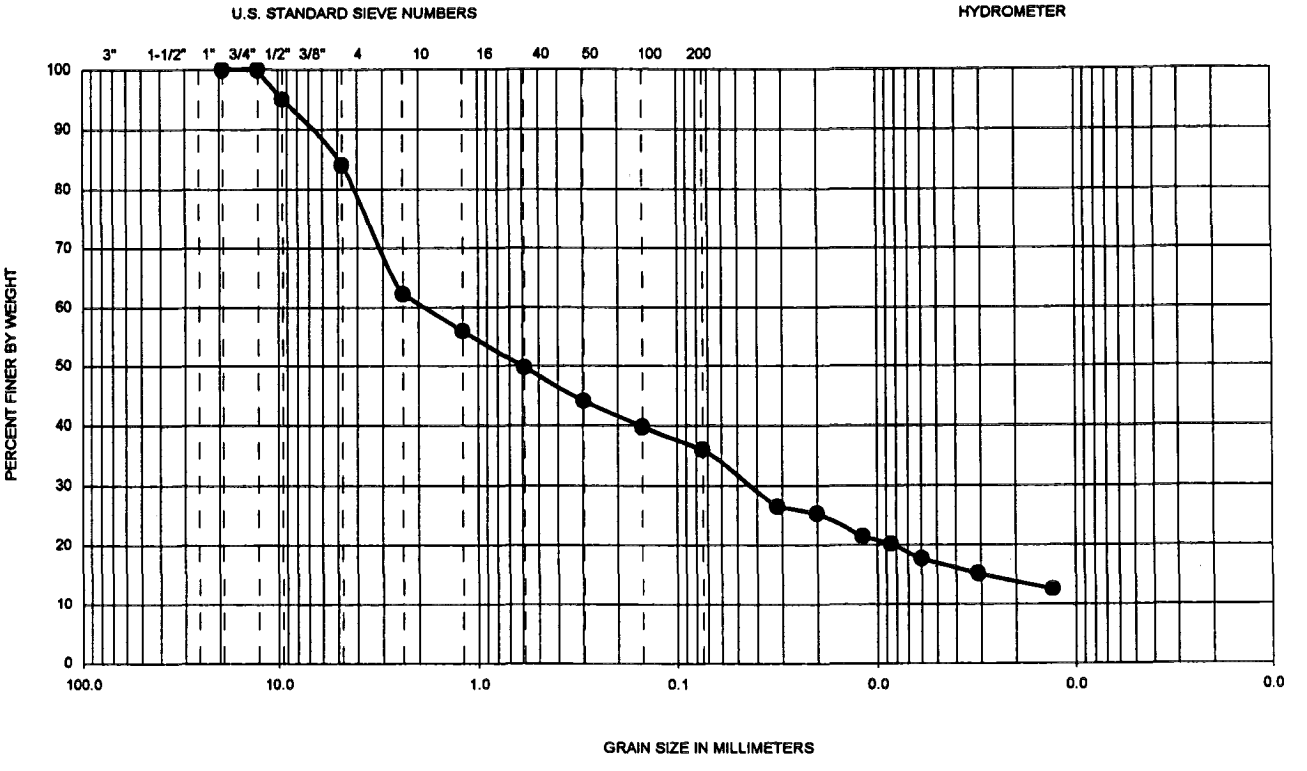
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-20

Hyp9@2

A0001000031023

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P9-12	12	43	18	25	--	0.44	1.70	--	--	36	SC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

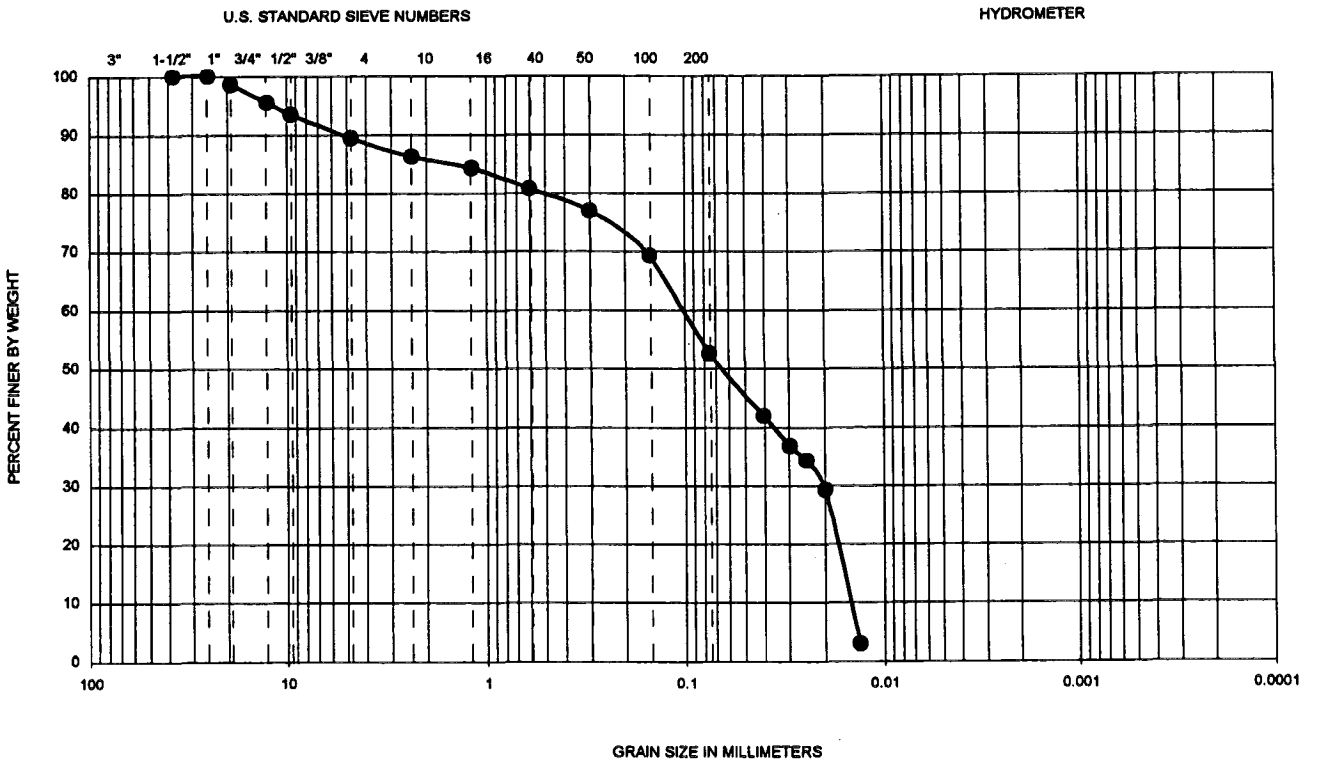
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-21

Hyp9@12

A0001000031024

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay



Symbol	Hole No.	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D_{10}	D_{30}	D_{60}	C_u	C_c	Passing No. 200 (%)	U.S.C.S
●	P10-1.5	1.5	32	23	9	0.0151	0.0205	0.11	7.2	0.3	53	CL

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422-98

Ninyo & Moore

GRADATION TEST RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

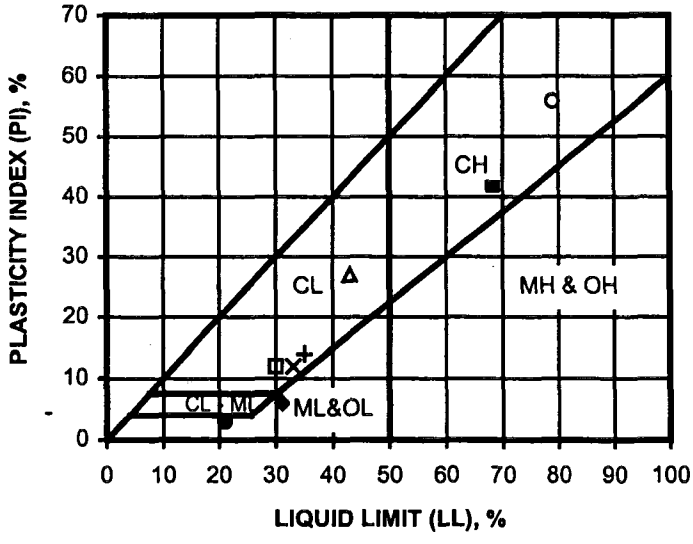
PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-22

HYP10@1.5

A0001000031025

SYMBOL	LOCATION	DEPTH (FT)	LL (%)	PL (%)	PI (%)	U.S.C.S. CLASSIFICATION (Minus No. 40 Sieve Fraction)	U.S.C.S. (Entire Sample)
●	P1-3	3	21	18	3	ML	SM
■	P1-14.5	14.5	69	27	42	CH	CH
◆	P2-1	1	31	25	6	ML	SM-SC
o	P2-14	14	79	23	56	CH	CH
□	P3-5.5	5.5	30	18	12	CL	SC
Δ	P3-10	10	43	16	27	CL	SC
X	P4-1.5	1.5	33	21	12	CL	SC
+	P4-8.5	8.5	35	21	14	CL	CL

NP - Indicates non-plastic



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318-00

Ninyo & Moore

ATTERBERG_F1

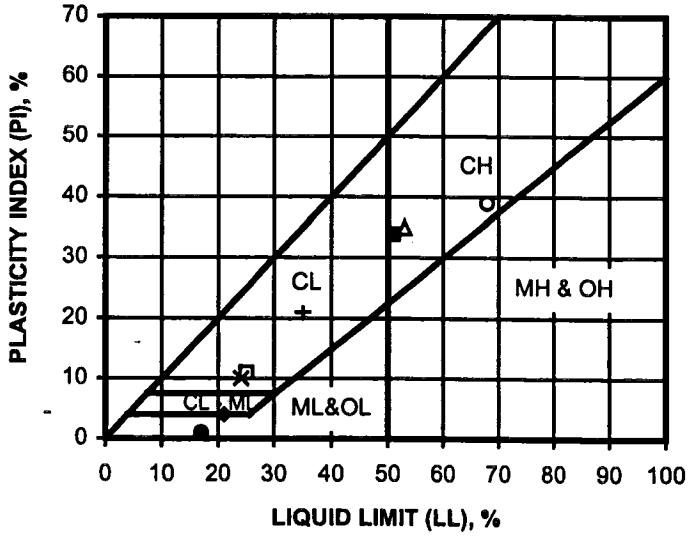
ATTERBERG LIMITS TEST RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/02	A-23

SYMBOL	LOCATION	DEPTH (FT)	LL (%)	PL (%)	PI (%)	U.S.C.S. CLASSIFICATION (Minus No. 40 Sieve Fraction)	U.S.C.S. (Entire Sample)
●	P5-2	2	17	16	1	ML	SW-SM
■	P5-16.5	16.5	51	17	34	CH	CH
◆	P6-2	2	21	17	4	CL-ML	SM-SC
o	P6-22.5	22.5	68	29	39	CH	CH
□	P7-10	10	25	14	11	CL	SC
Δ	P7-15.5	15.5	53	18	35	CH	CH
X	P8-1.5	1.5	24	14	10	CL	SC
+	P8-5	5	35	14	21	CL	CL

NP - Indicates non-plastic



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318-00

Ninyo & Moore

ATTERBERG_F2

ATTERBERG LIMITS TEST RESULTS

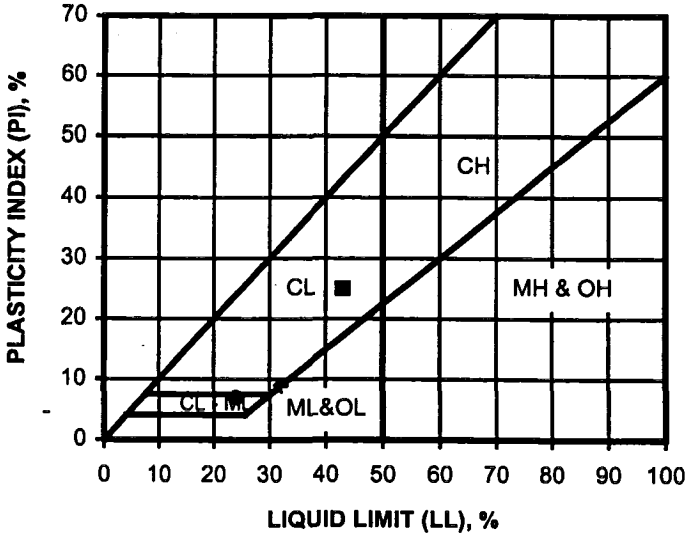
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/02	A-24

A0001000031027

SYMBOL	LOCATION	DEPTH (FT)	LL (%)	PL (%)	PI (%)	U.S.C.S. CLASSIFICATION (Minus No. 40 Sieve Fraction)	U.S.C.S. (Entire Sample)
●	P9-2	2	24	17	7	CL-ML	SM-SC
■	P9-12	12	43	18	25	CL	SC
◆	P10-1.5	1.5	32	23	9	CL	CL

NP - Indicates non-plastic



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318-00

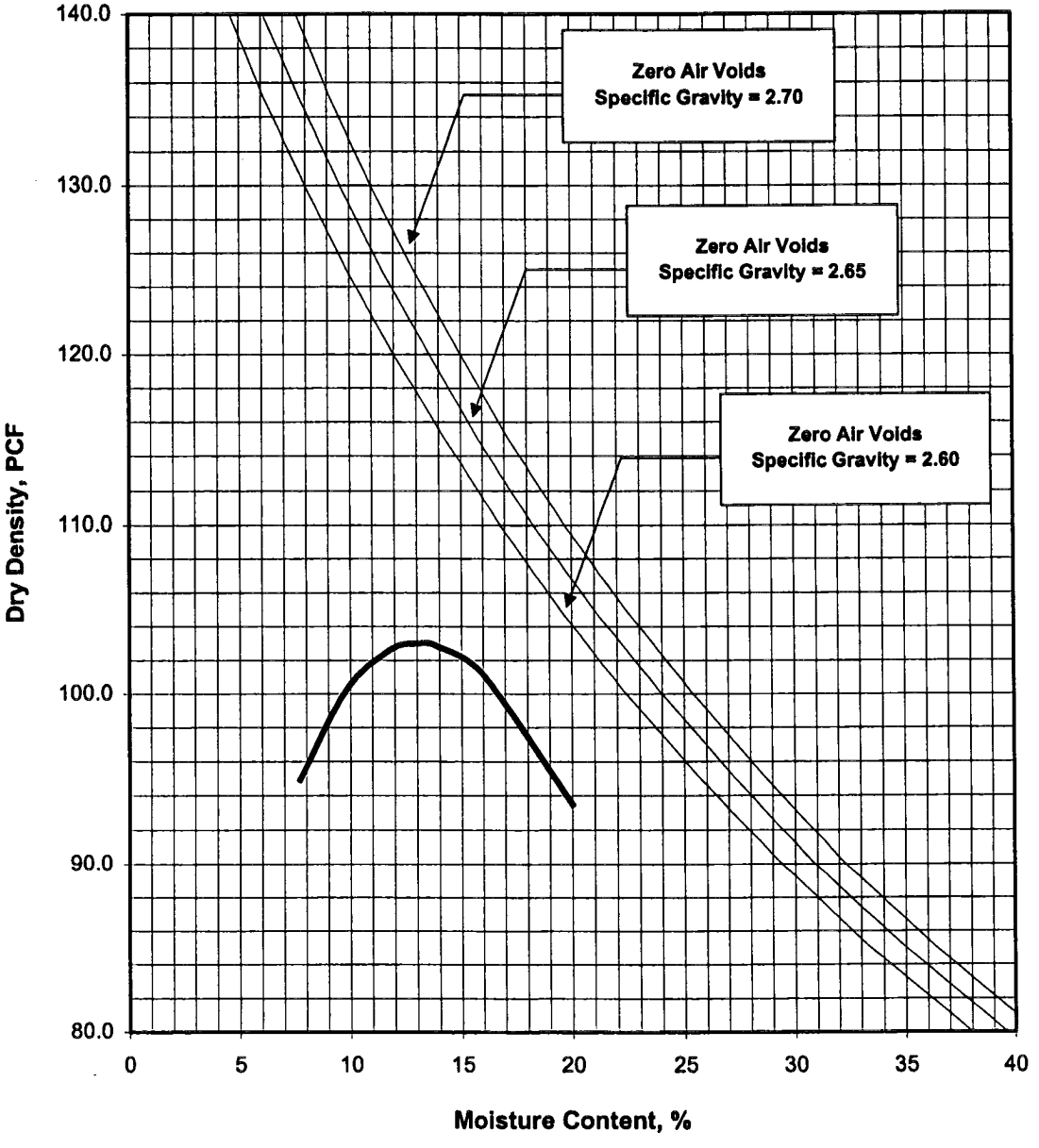
Ninyo & Moore

ATTERBERG_F3

ATTERBERG LIMITS TEST RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/02	A-25



SAMPLE LOCATION	DEPTH (FT)	SOIL DESCRIPTION	MAXIMUM DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
P4-13	13.0 - 14.0	WASTE - Dark brown, fat, CLAY	103.0	13.0

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1557-00

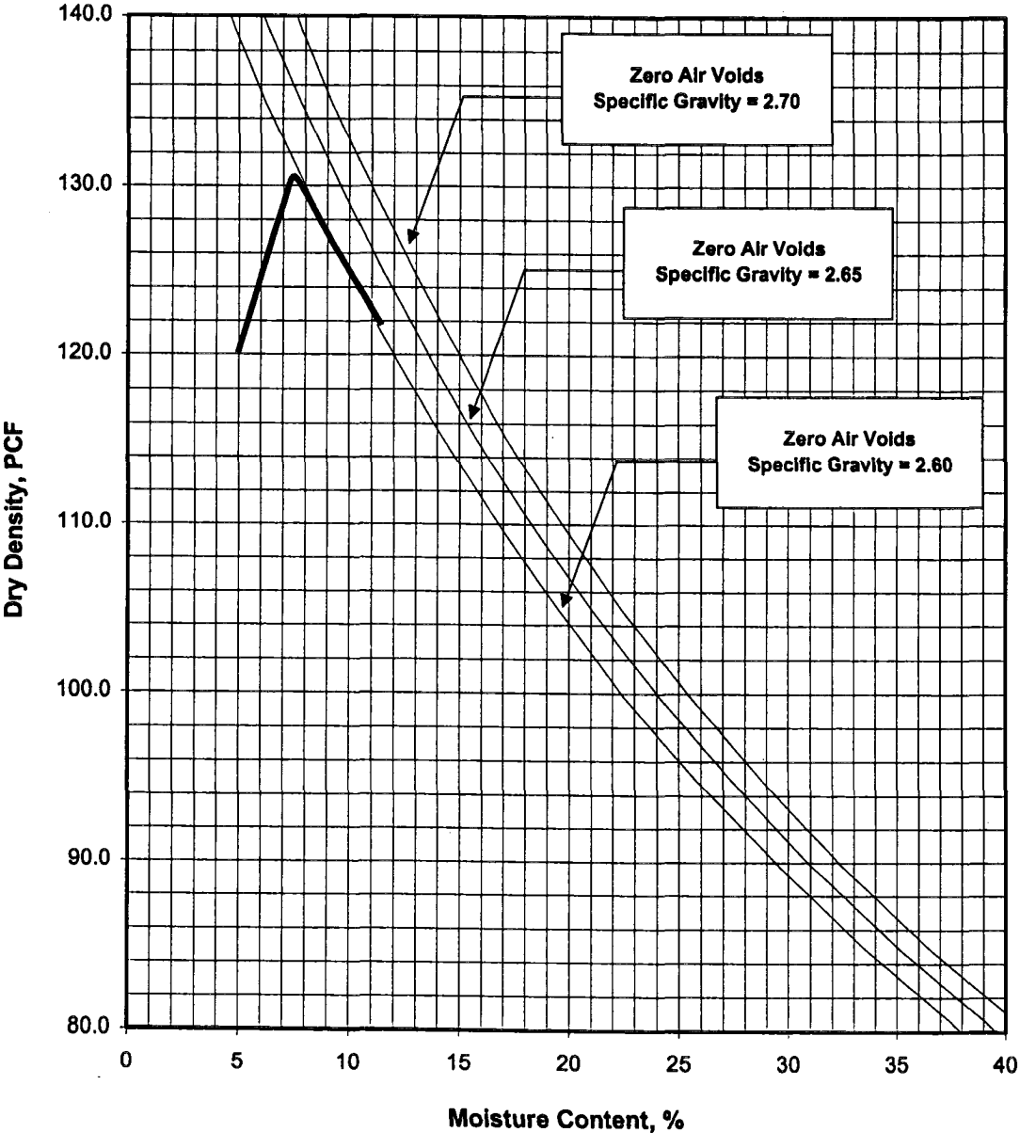
Ninyo & Moore

MAXIMUM DENSITY TEST RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-26

Maxp4@13



SAMPLE LOCATION	DEPTH (FT)	SOIL DESCRIPTION	MAXIMUM DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
P6-1	1.0 - 2.0	FILL - Brown, silty SAND	130.5	7.5

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1557-00

Ninyo & Moore

MAXIMUM DENSITY TEST RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-27

Maxp6@1

A0001000031030

SAMPLE LOCATION	SAMPLE DEPTH (FT)	SOIL TYPE	HYDRAULIC CONDUCTIVITY (CM/SEC)
P1-4	4.0	Fill - Silty Sand	4.49E-05
P1-19	9.0	Waste - Fat Clay	1.27E-08
P2-2	2.0	Fill - Silty Sand to Clayey Sand	6.29E-07
P2-15	15.0	Waste - Fat Clay	1.86E-08
P3-6	6.0	Fill - Clayey Sand	6.45E-07
P4-2	2.0	Fill - Clayey Sand	2.74E-06
P4-9.5	9.5	Waste - Clay	1.54E-07
P5-3	3.0	Fill- Sand to Clayey Sand	2.47E-05
P5-17	17.0	Waste - Fat Clay	2.06E-08
P6-3	3.0	Fill - Silty Sand to Clayey Sand	4.64E-06
P6-23	23.0	Waste - Fat Clay	2.02E-08
P7-11	11.0	Fill - Silty Sand to Clayey Sand	1.15E-06
P7-16	16.0	Waste- Fat Clay	1.46E-08
P8-2	2.0	Fill - Clayey Sand	3.40E-06
P8-5.5	5.5	Waste - Clay	2.29E-08
P9-3	3.0	Fill - Silty Sand to Clayey Sand	6.06E-06
P9-13	13.0	Waste - Clayey Sand	5.05E-08
P10-2	2.0	Fill - Clay	9.90E-05

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 5084-00

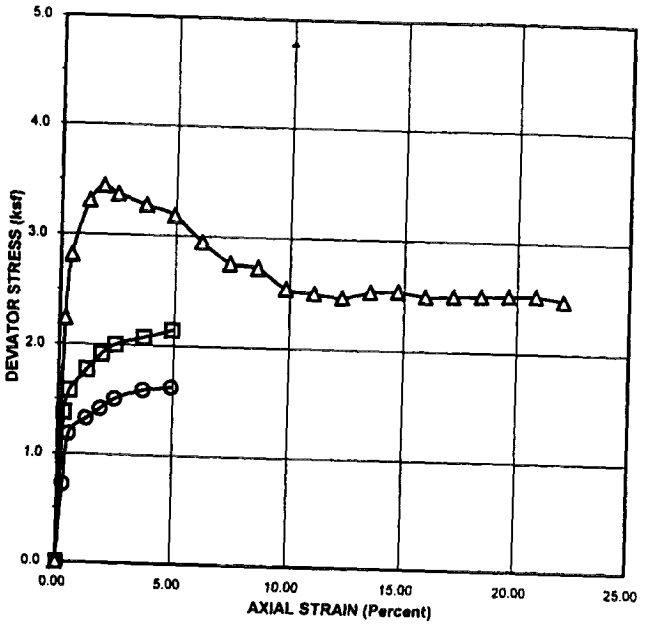
Ninyo & Moore

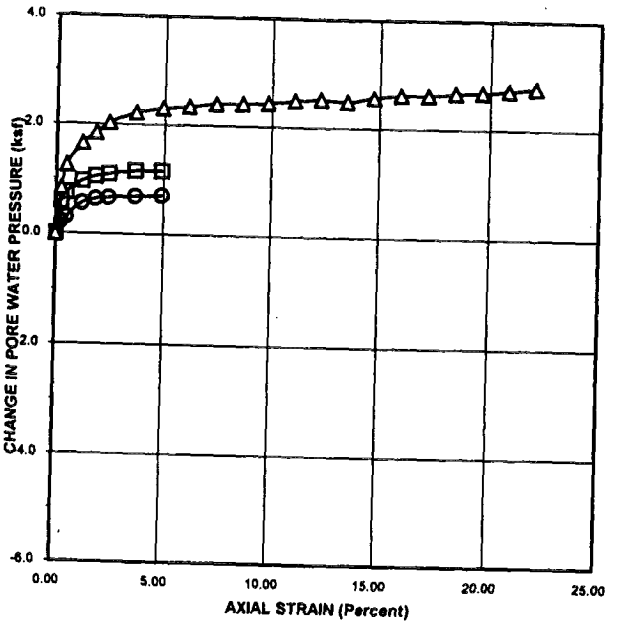
HYDRAL_TABLE

HYDRAULIC CONDUCTIVITY

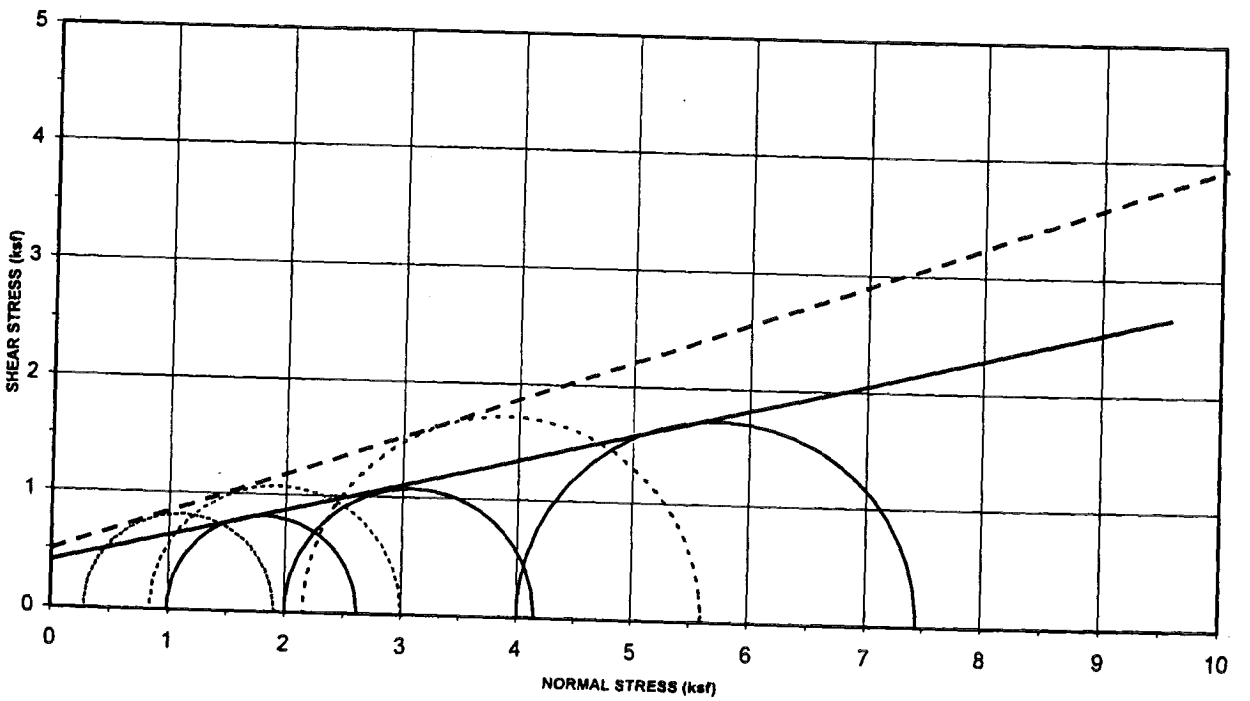
ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-28





LEGEND: CONFINING PRESSURES= ○ 1.0 KSF □ 2.0 KSF △ 4.0 KSF



STRENGTH PARAMETERS: TOTAL STRESS: C=0.40 ksf ϕ = 13° EFFECTIVE STRESS: C'=0.5 ksf ϕ' = 19°

Project Name:	Navigator/Ascon L.F.	Sample Type:	2-inch Dia&6-inch Long Sleeve
Project No.:	204110001	Sample Description:	Gray Fat Clay (waste)
Boring No.:		Dry Unit Weight (pcf):	98.4
Sample No.:	P1-20	Initial Moisture Content (%):	11.7
Depth (ft):	20.0	Eff. Confining Pressure (ksf):	1.0, 2.0, 4.0

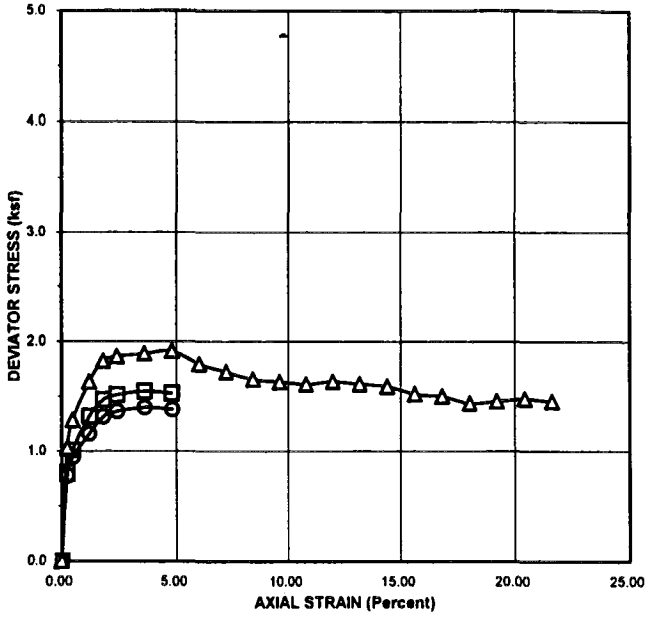
MULTI-STAGE CU TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENT

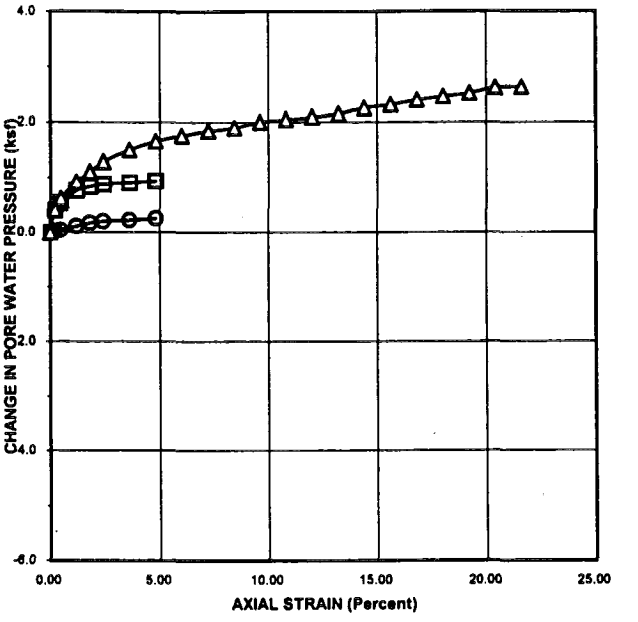
ASTM D 4767

AP ENGINEERING AND TESTING, INC.

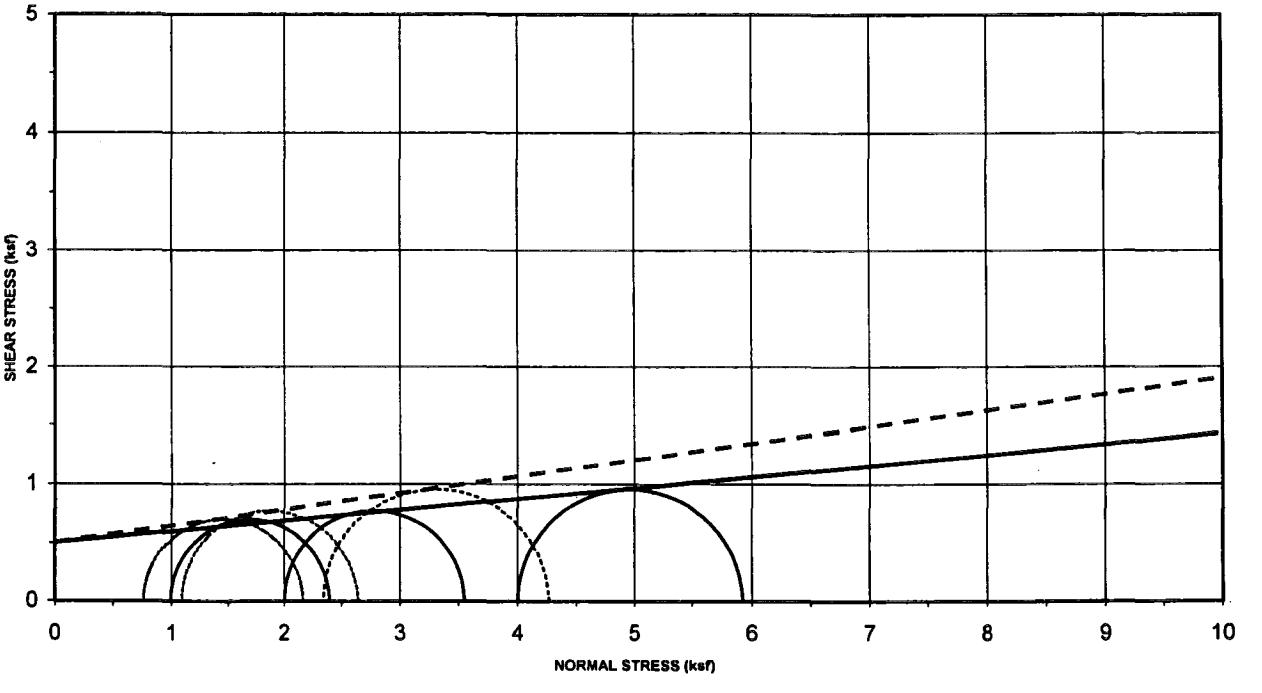
Geotechnical Testing Laboratory

A0001000031032





LEGEND: CONFINING PRESSURES= ○ 1.0 KSF □ 2.0 KSF △ 4.0 KSF



STRENGTH PARAMETERS: TOTAL STRESS: C=0.50 ksf ϕ = 5° EFFECTIVE STRESS: C'=0.5 ksf ϕ' = 8°

Project Name:	Navigator/Ascon L.F.	Sample Type:	2-inch Dia&6-inch Long Sleeve
Project No.:	204110001	Sample Description:	Gray Fat Clay (waste)
Boring No.:		Dry Unit Weight (pcf):	46.1
Sample No.:	P2-15	Initial Moisture Content (%):	85.4
Depth (ft):	15.0	Eff. Confining Pressure (ksf):	1.0, 2.0, 4.0

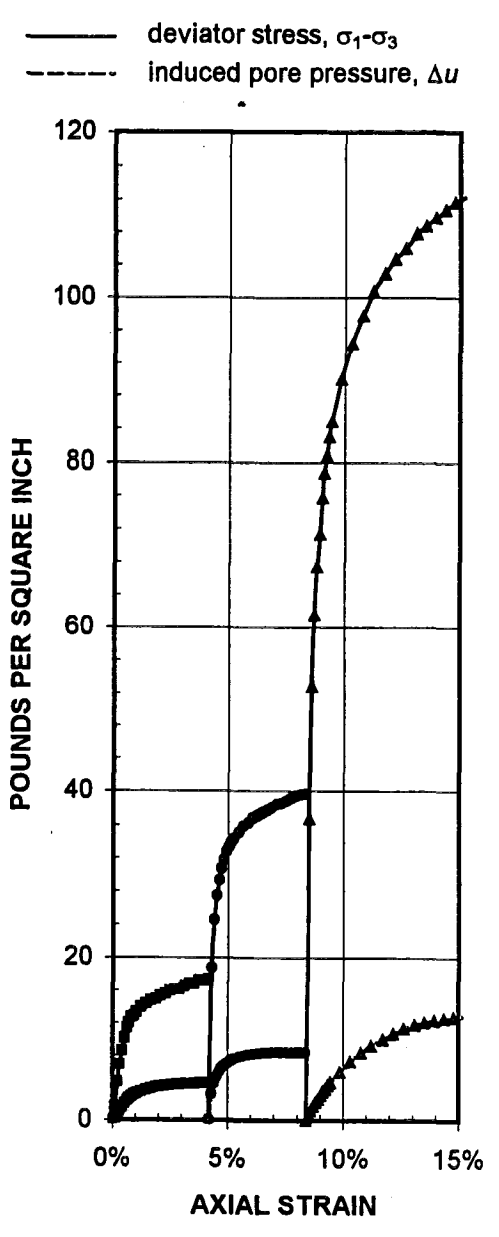
MULTI-STAGE CU TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENT

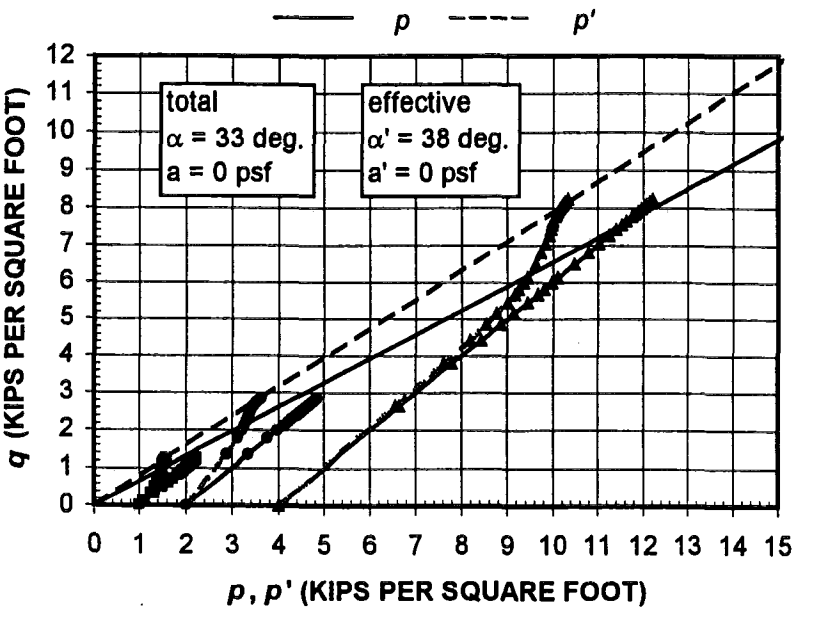
ASTM D 4767

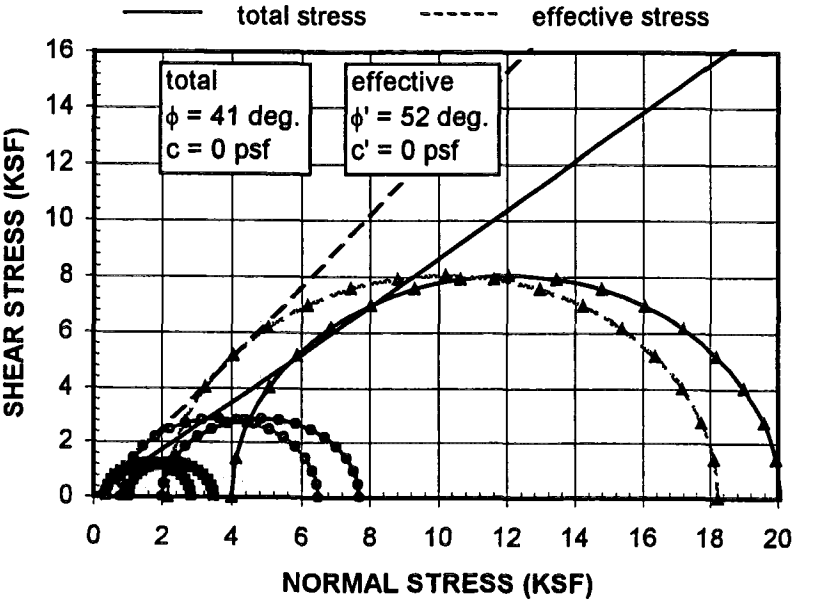
AP ENGINEERING AND TESTING, INC.

Geotechnical Testing Laboratory

A0001000031033







Sym.	Description	Soil Type	Sample Location	Sample Depth (ft.)	Initial Moisture (%)	Initial Dry Density (pcf)	Initial Degree Saturation	Confining Stress (ksf)	Rate of Strain (%/min)
□	Waste - Clay	CL	P4-10	10	27.5%	99.6	107%	1.00	0.54%
○	Waste - Clay	CL	P4-10	10	27.5%	99.6	107%	2.00	0.24%
△	Waste - Clay	CL	P4-10	10	27.5%	99.6	107%	4.00	0.21%

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4767

Ninyo & Moore

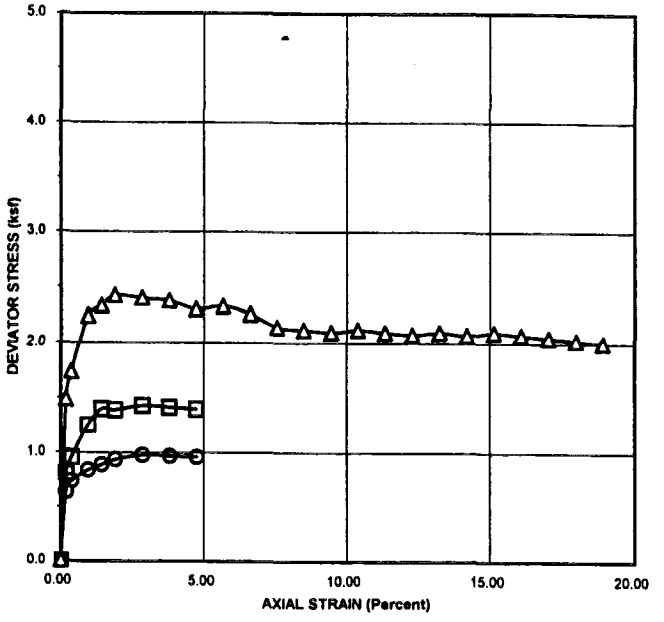
Cutriax

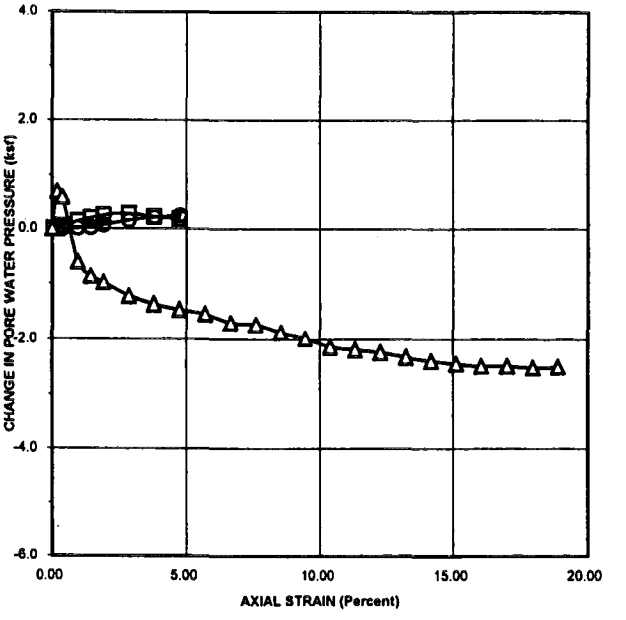
CU TRIAXIAL COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

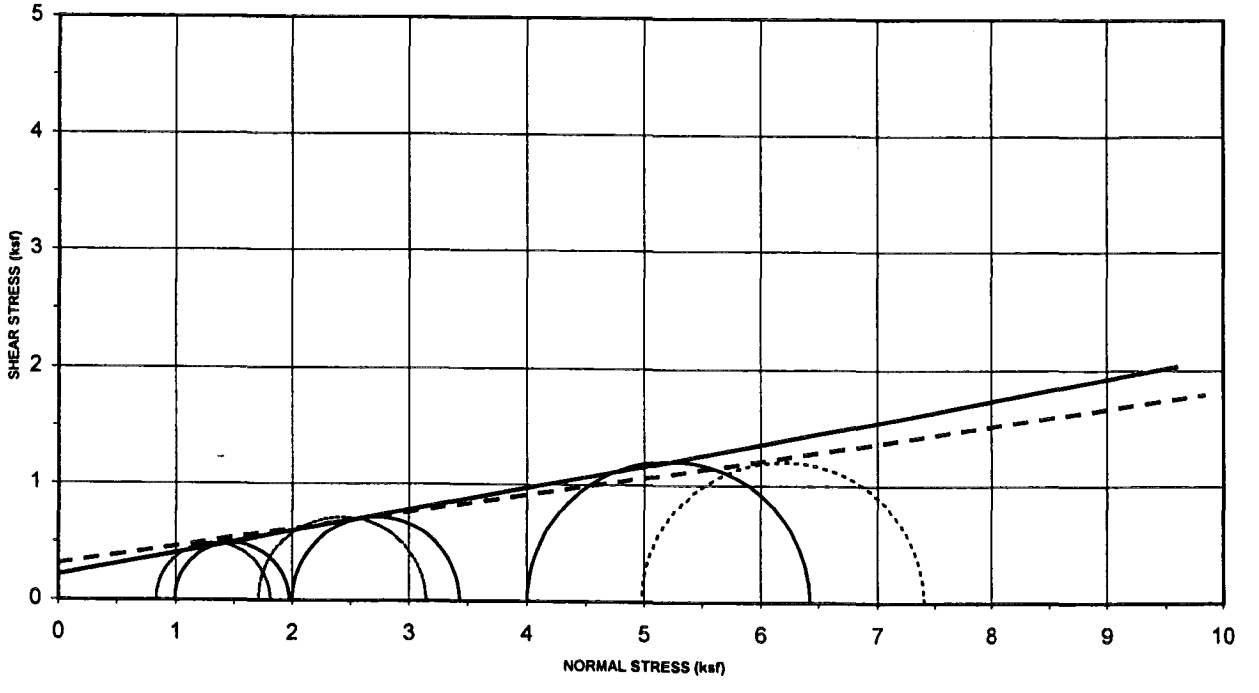
PROJECT NO.	DATE	FIGURE
204110001	10/02	A-31

A0001000031034





LEGEND: CONFINING PRESSURES= ○ 1.0 KSF □ 2.0 KSF △ 4.0 KSF



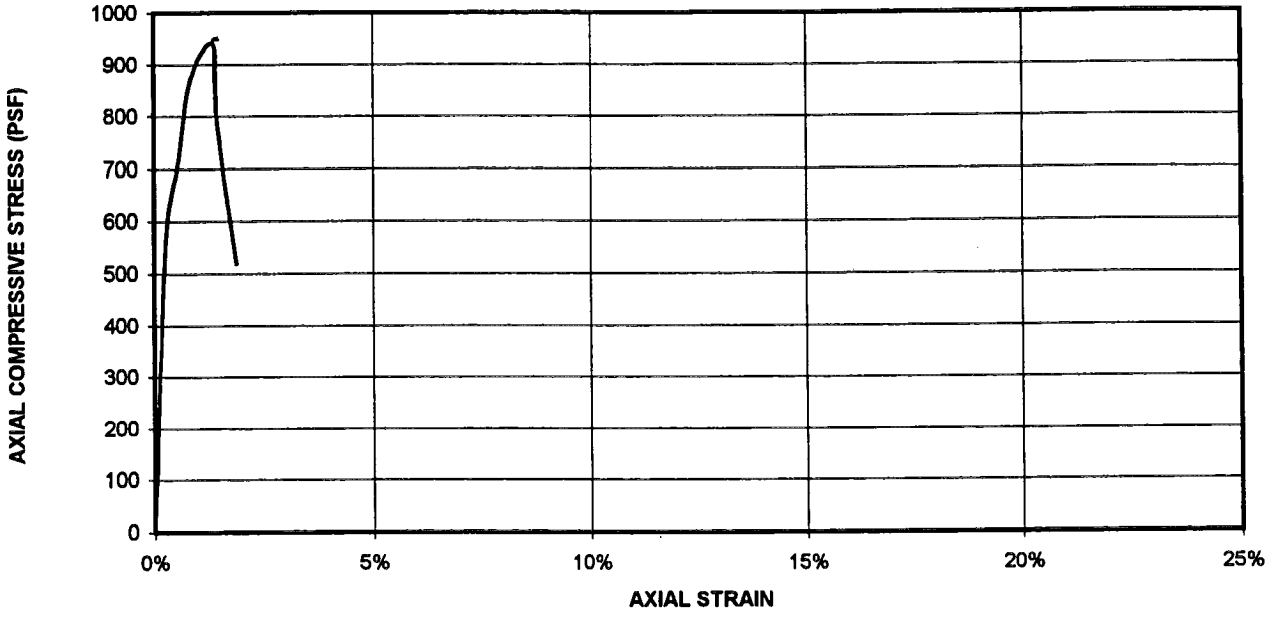
STRENGTH PARAMETERS: TOTAL STRESS: C=0.20 ksf ϕ = 11° EFFECTIVE STRESS: C'=0.3 ksf ϕ' = 8°

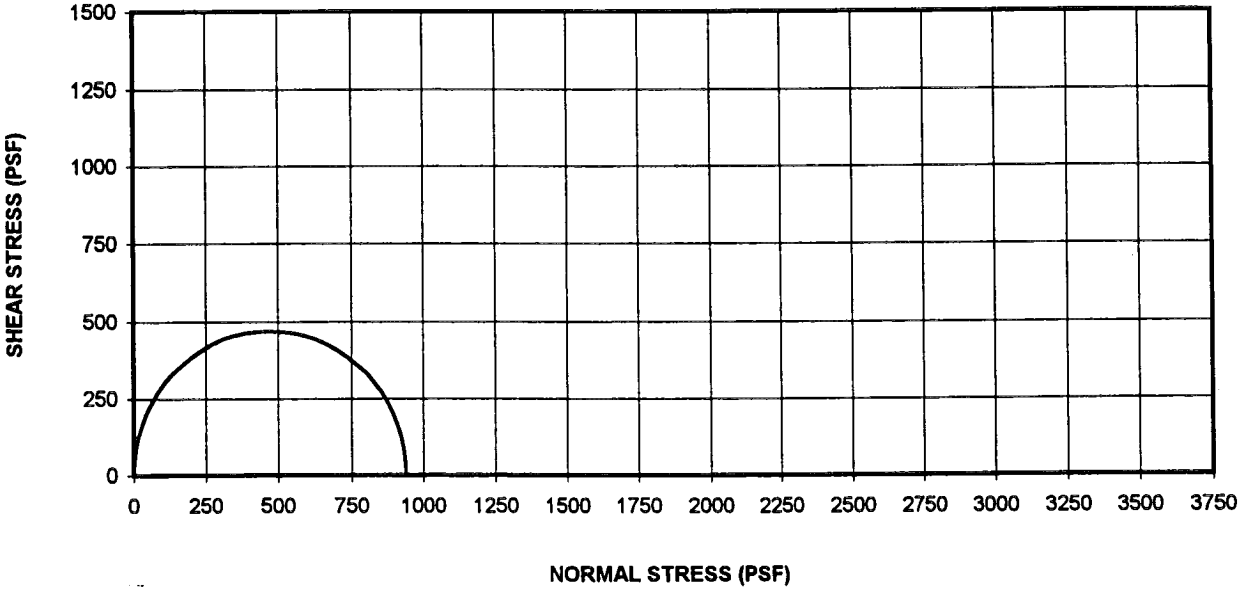
Project Name:	Navigator/Ascon L.F.	Sample Type:	2-inch Dia&6-inch Long Sleeve
Project No.:	204110001	Sample Description:	Gray Lean Clay (waste)
Boring No.:		Dry Unit Weight (pcf):	77.5
Sample No.:	P5-17.5	Initial Moisture Content (%):	33.0
Depth (ft):	17.5	Eff. Confining Pressure (ksf):	1.0, 2.0, 4.0

MULTI-STAGE CU TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENT

ASTM D 4767

A0001000031035





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P1-5	5	5.5	98.1	940	470

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

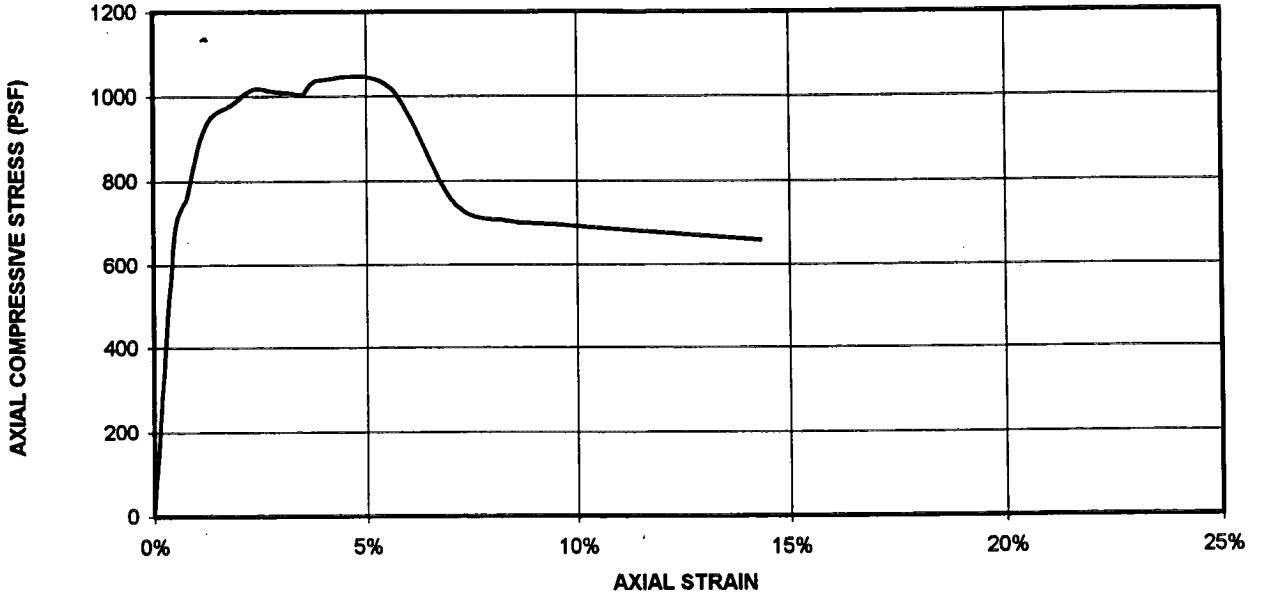
Ninyo & Moore

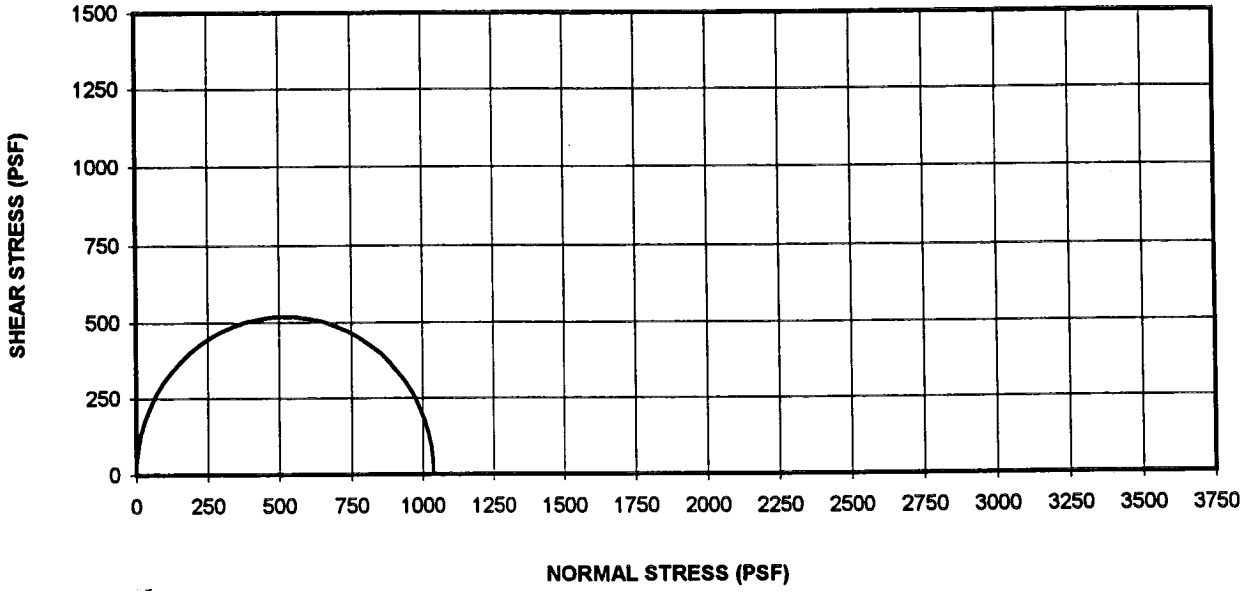
UCComprP1@5

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-33





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P1-20	20	48.6	68.8	1040	520

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

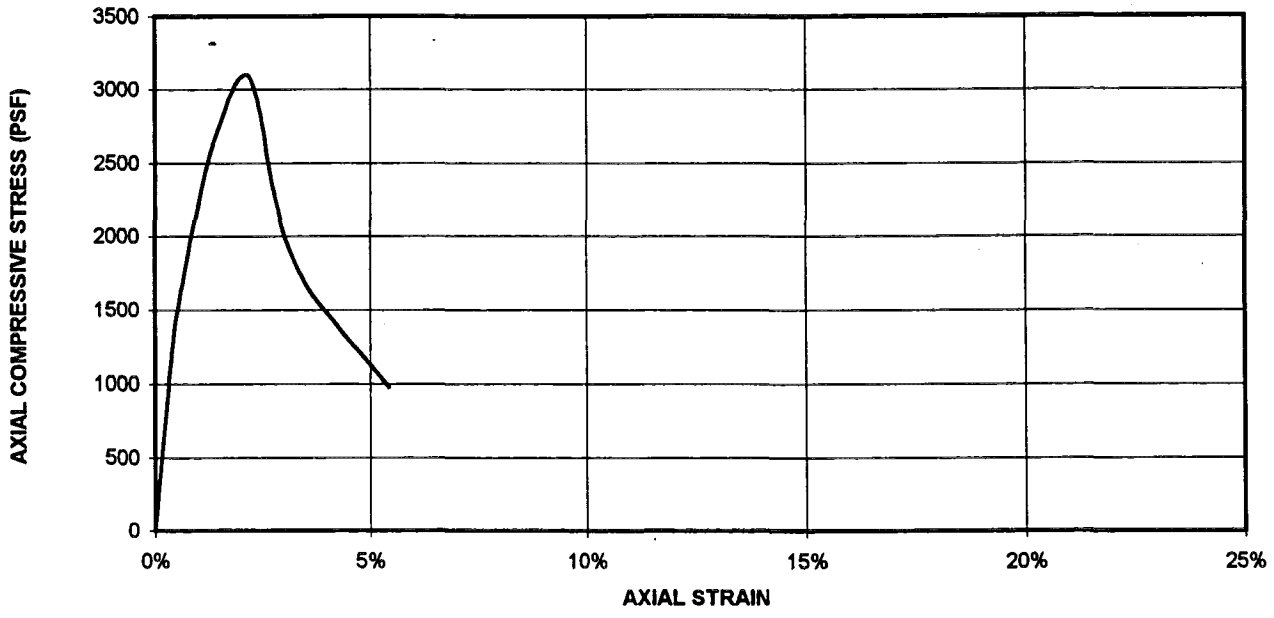
Ninyo & Moore

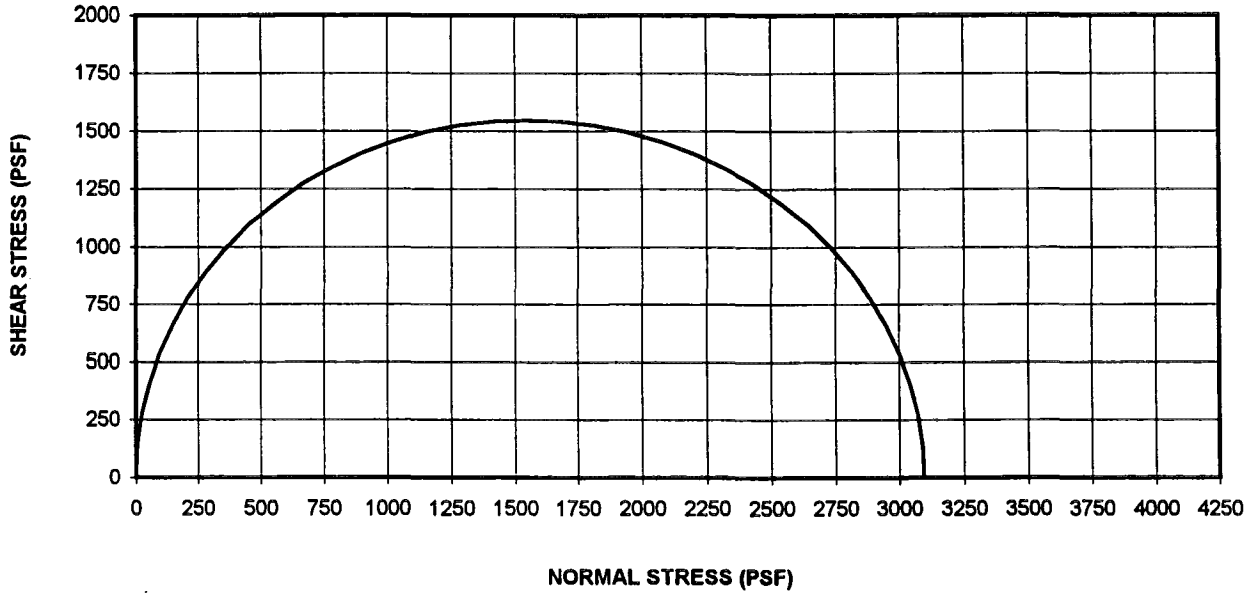
UCComprP1@20

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-34





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P2-2	2	14.5	99.8	3095	1545

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

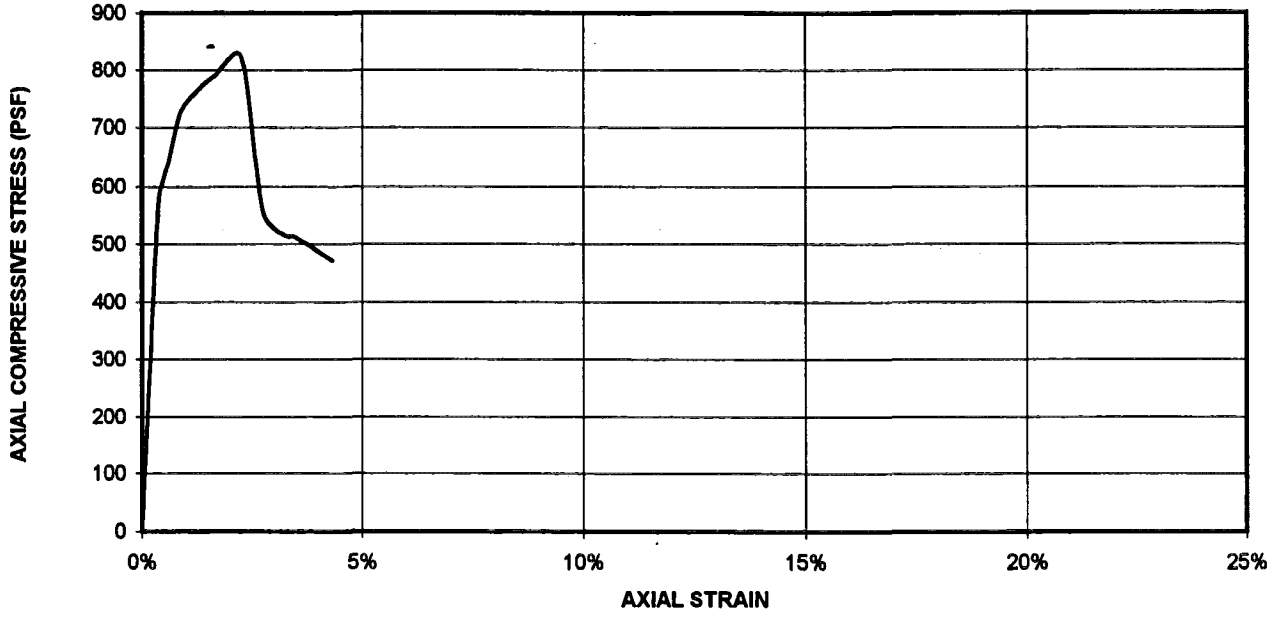
Ninyo & Moore

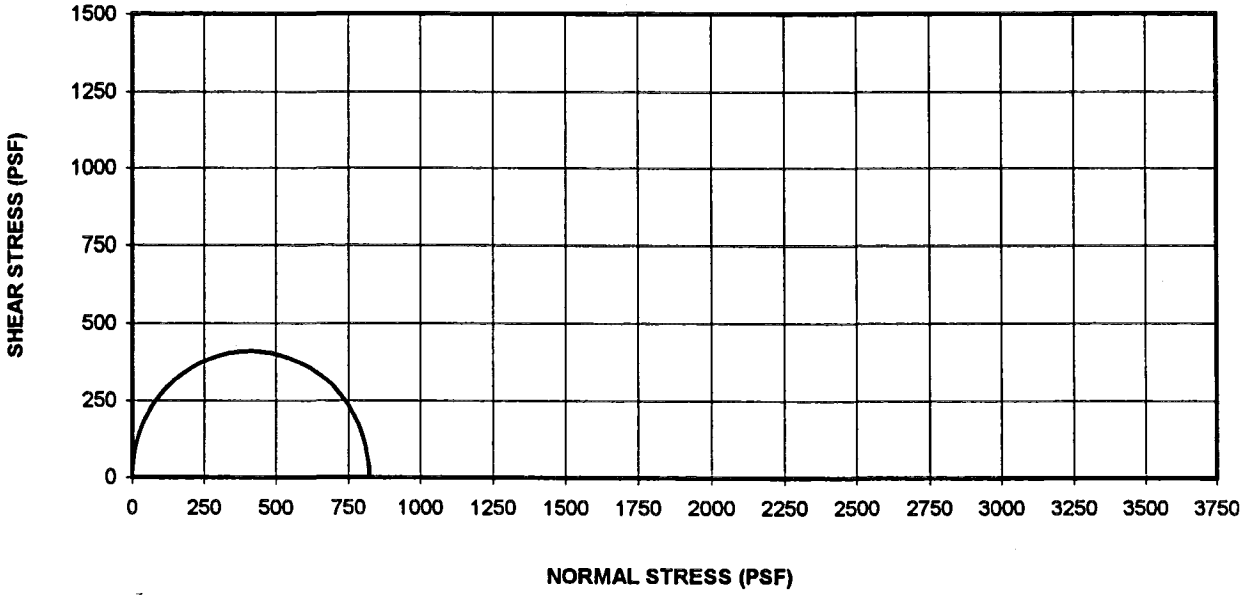
UCComprP2@2

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-35





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P2-20	20	15.0	87.4	820	410

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

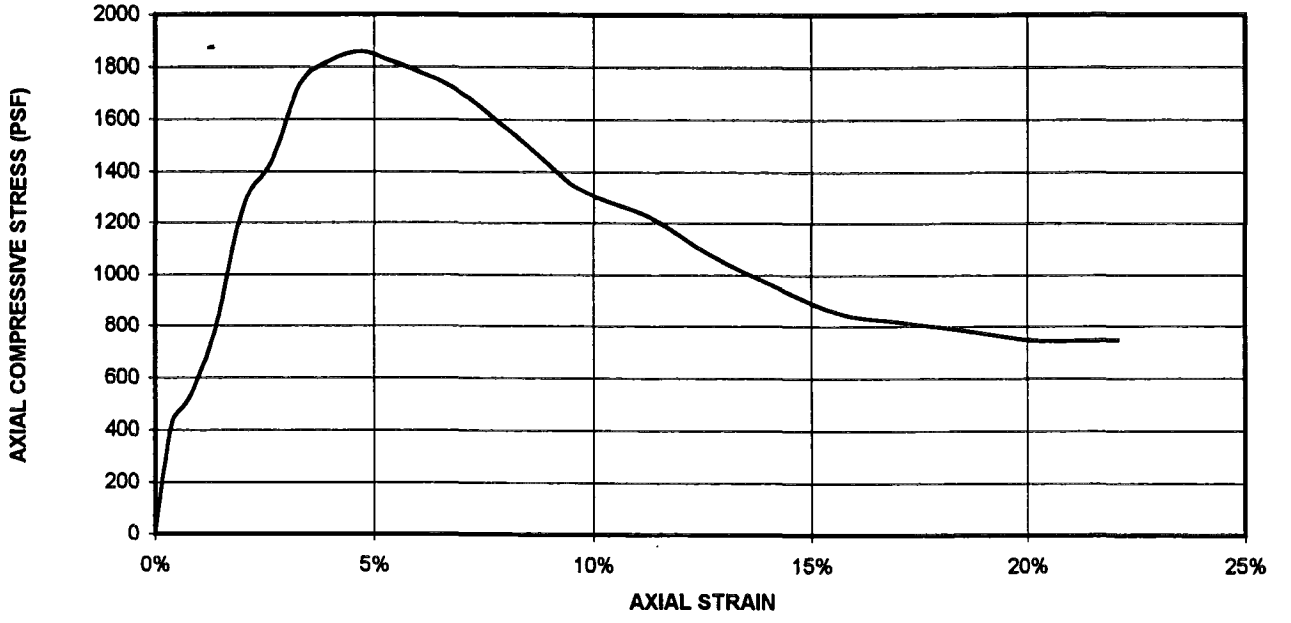
Ninyo & Moore

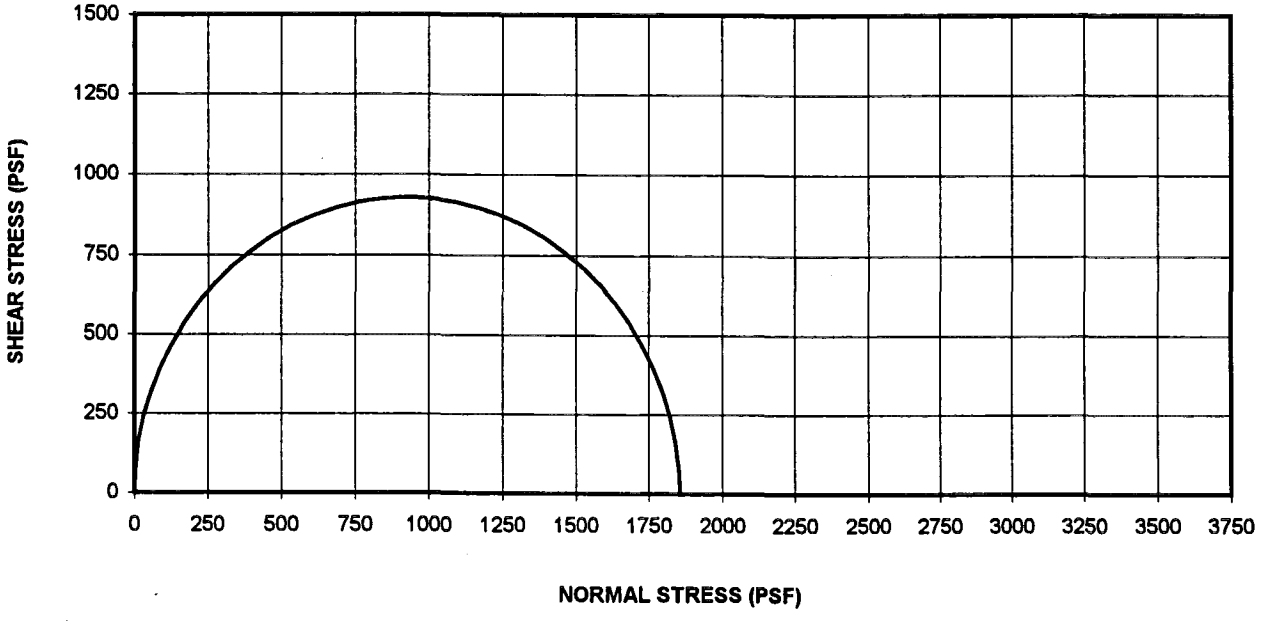
UCComprP2@20

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-36





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P3-4	4	11.4	99.5	1850	925

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

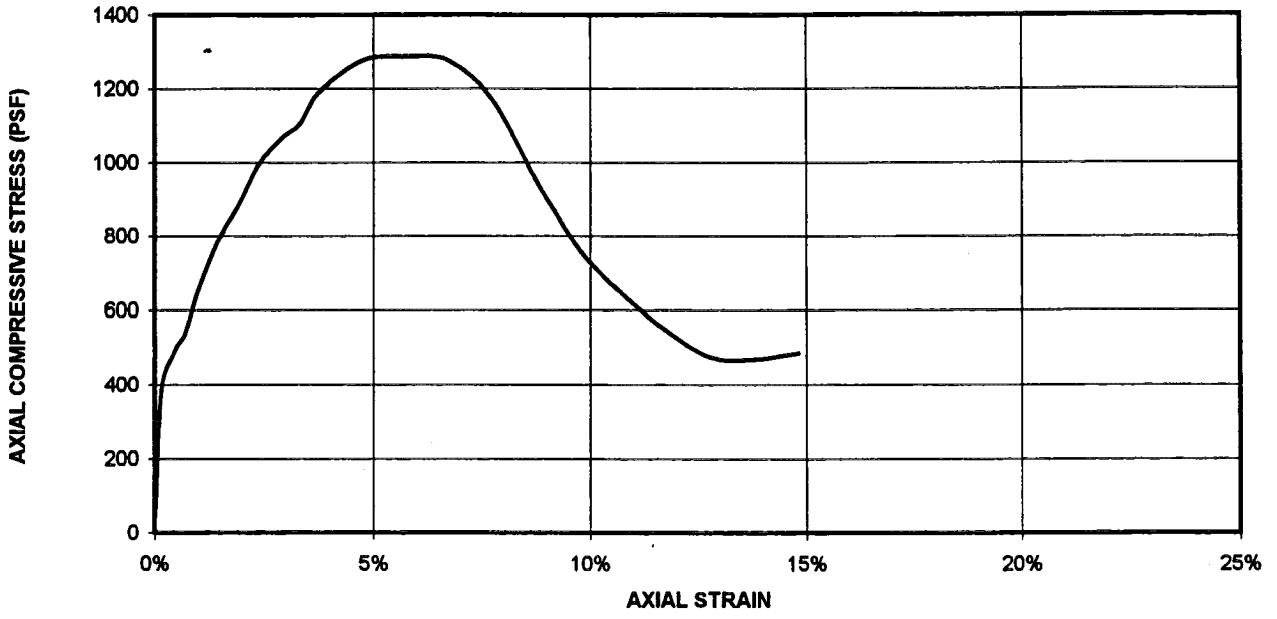
Ninyo & Moore

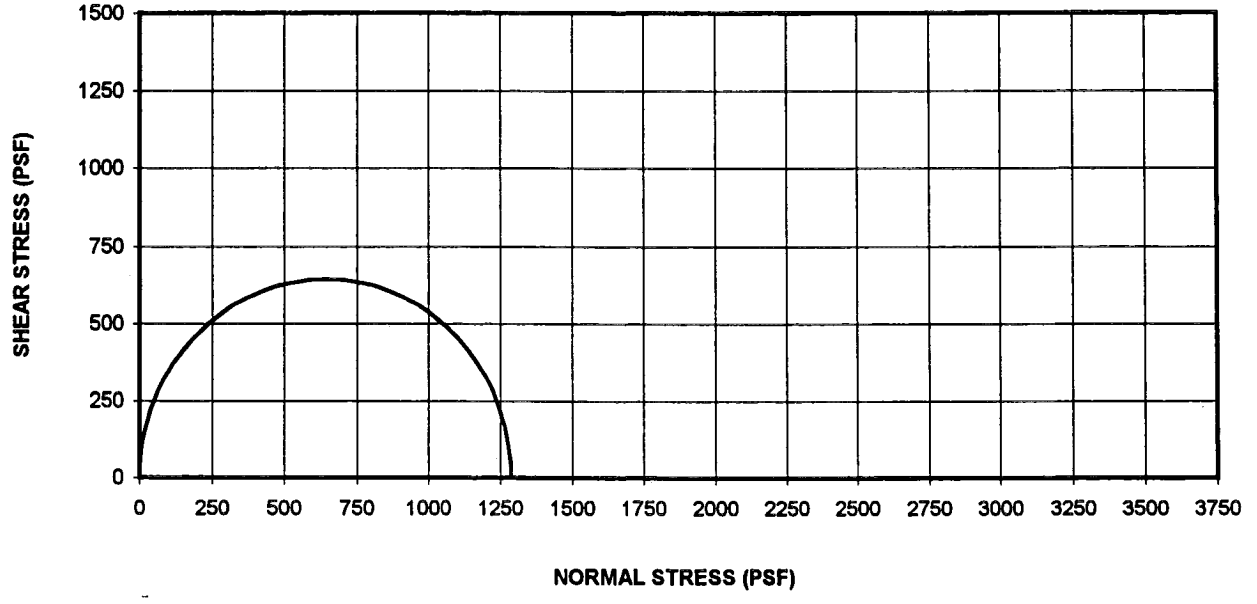
UCComprP3@4

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-37





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P3-8.5	8.5	18.4	95.7	1290	645

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

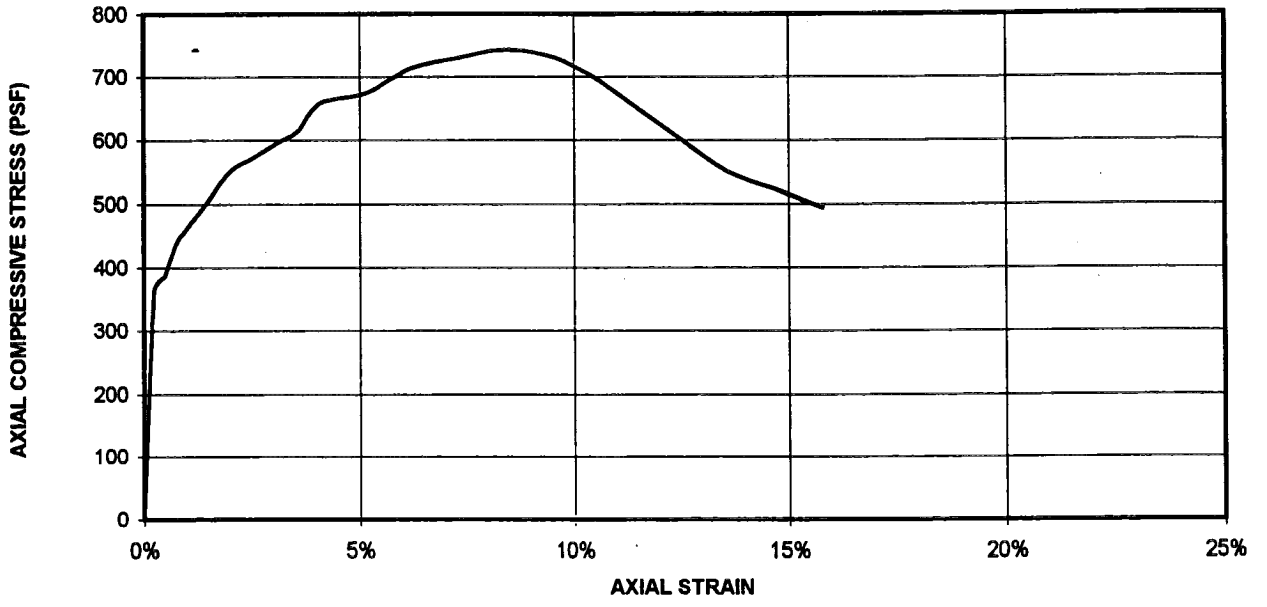
Ninyo & Moore

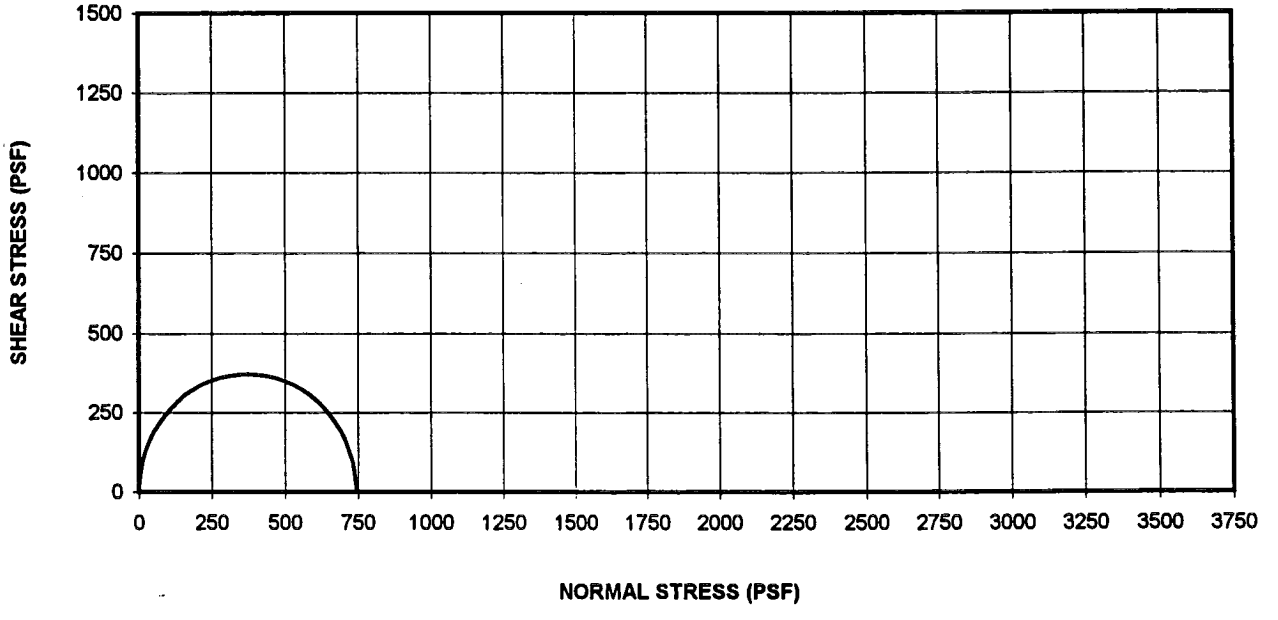
UCComprP3@8_5

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-38





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P3-9	9	24.1	85.4	740	370

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

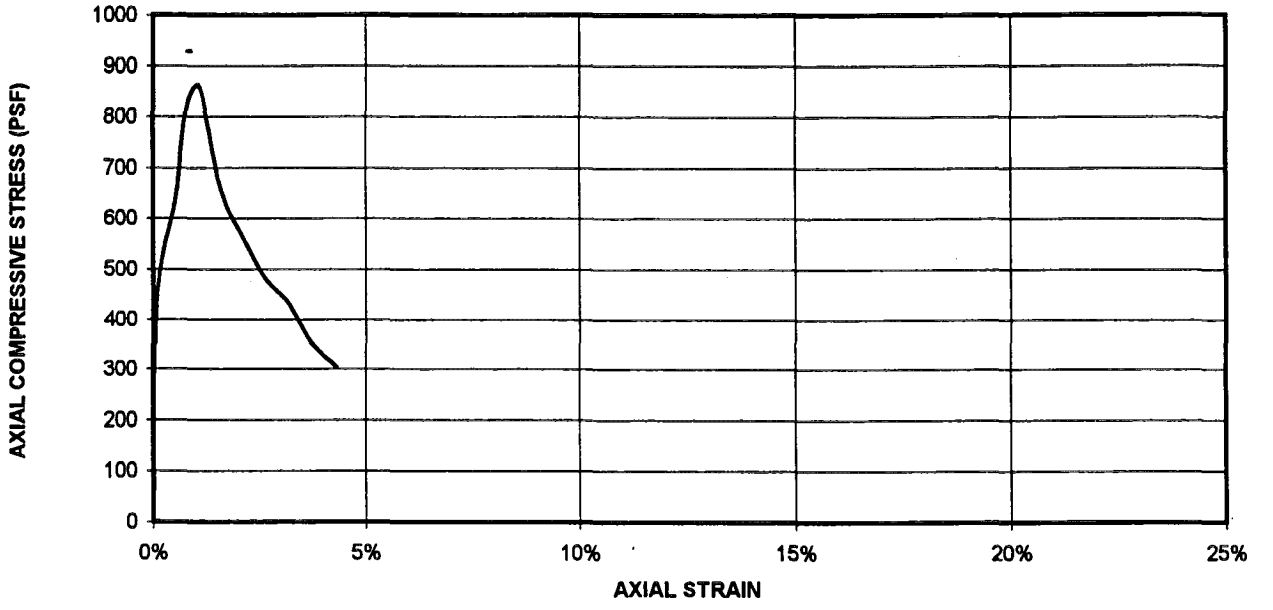
Ninyo & Moore

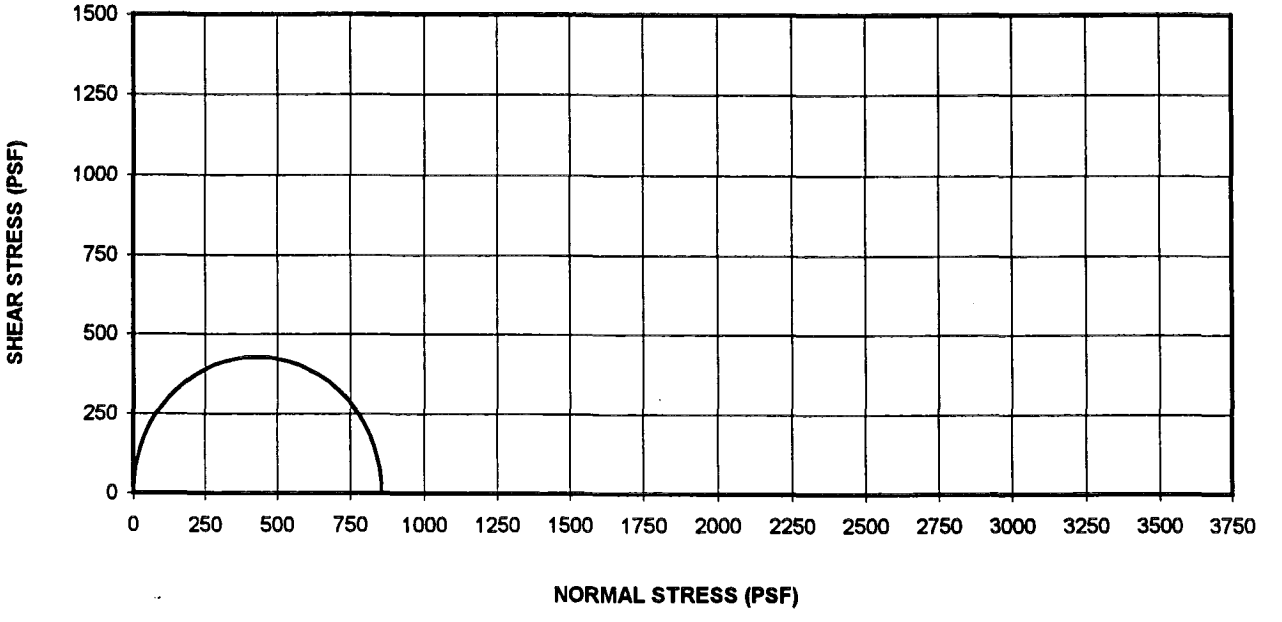
UCComprP3@9

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-39





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P4-3.5	3.5	8.2	102.5	860	430

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

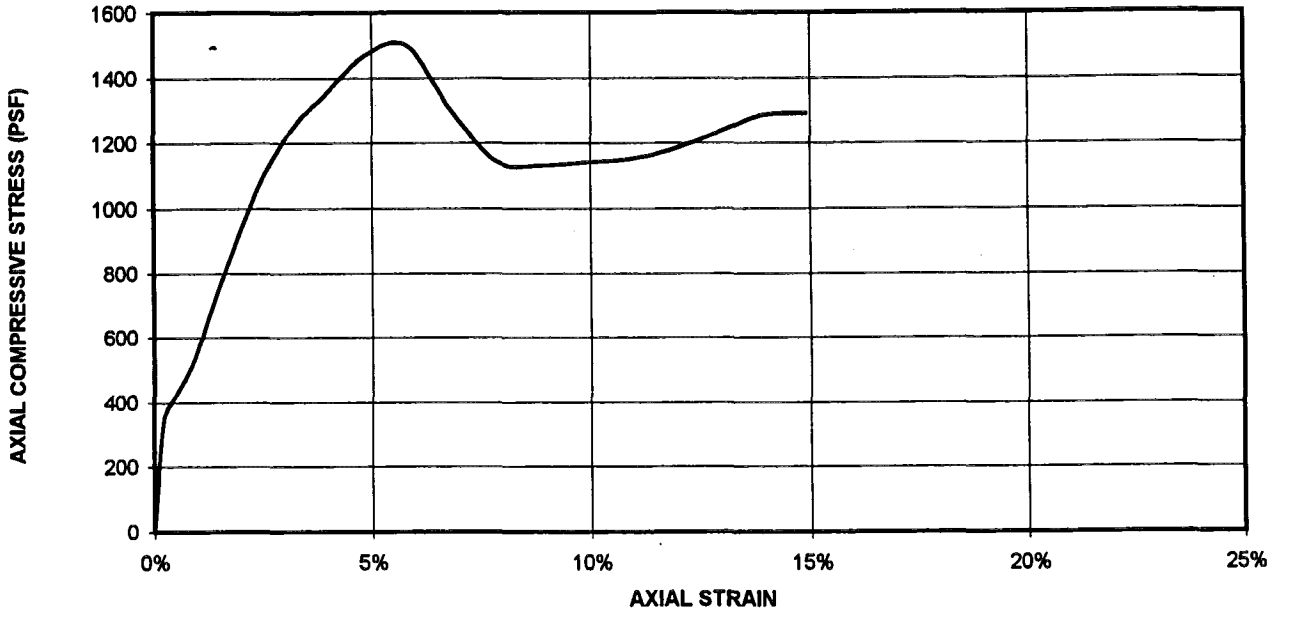
Ninyo & Moore

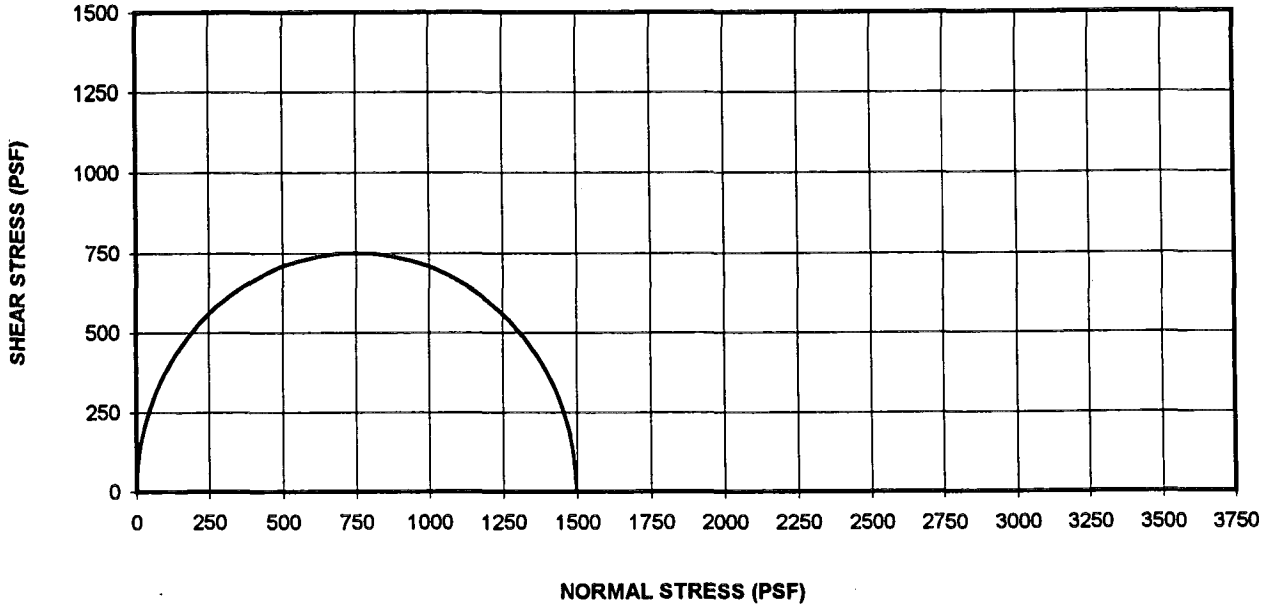
UCComprP4@3_5

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-40





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P4-11	11	39.0	79.3	1500	750

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

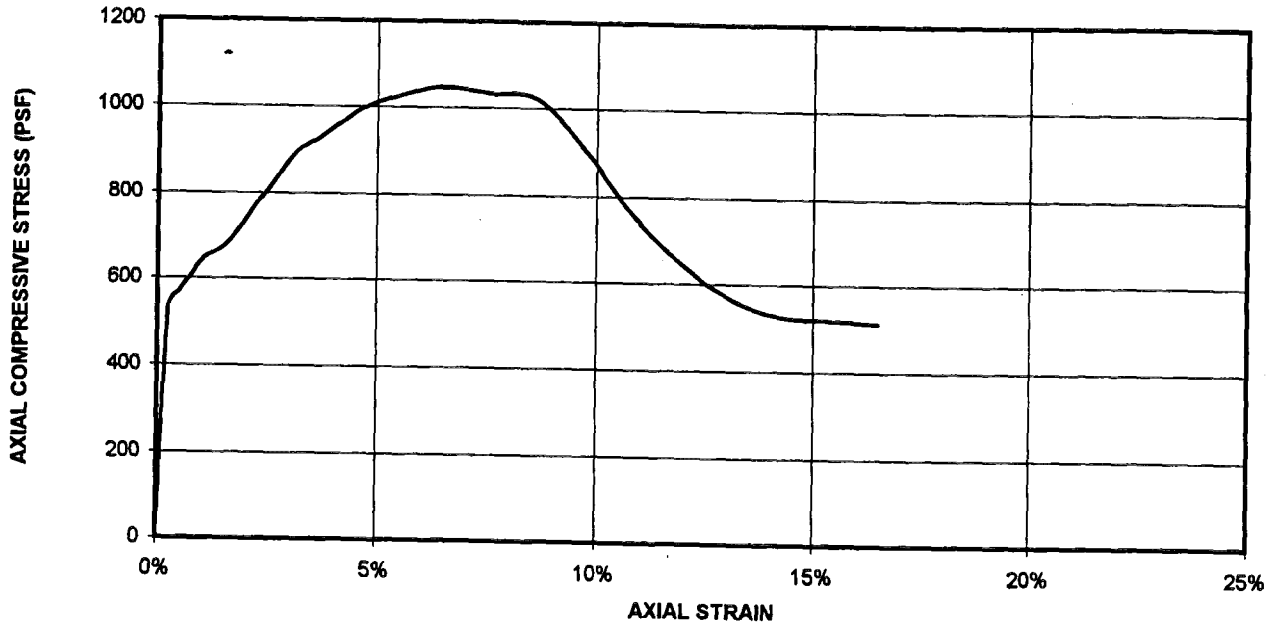
Ninyo & Moore

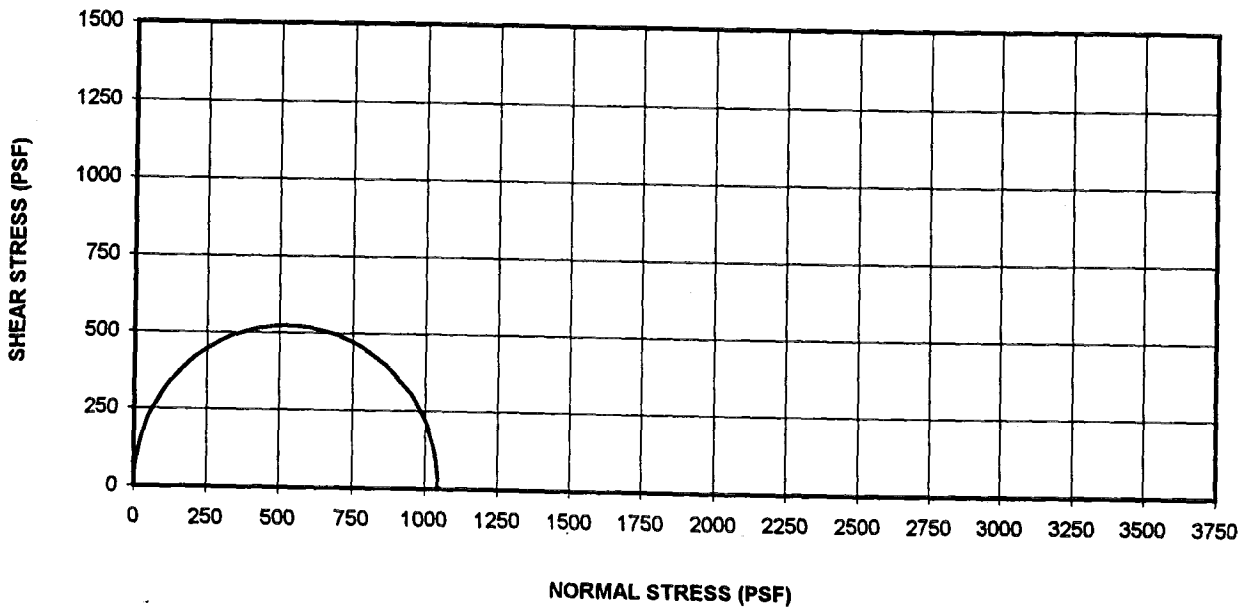
UCComprP4@11

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-41





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P5-18	18	55.7	62.7	1045	520

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

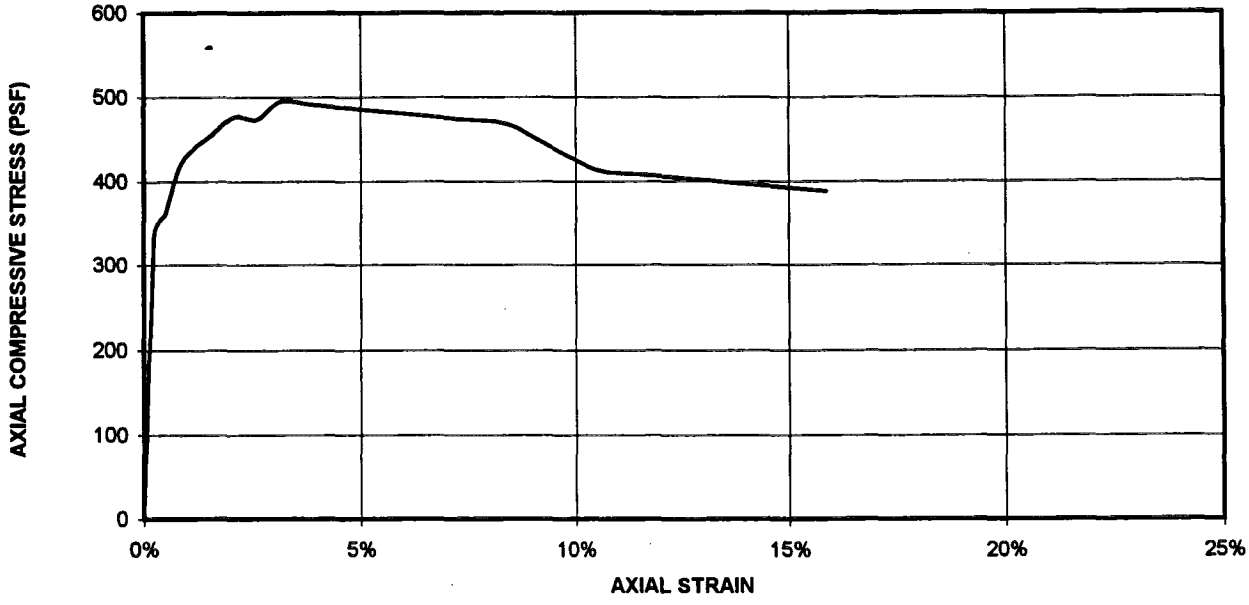
Ninyo & Moore

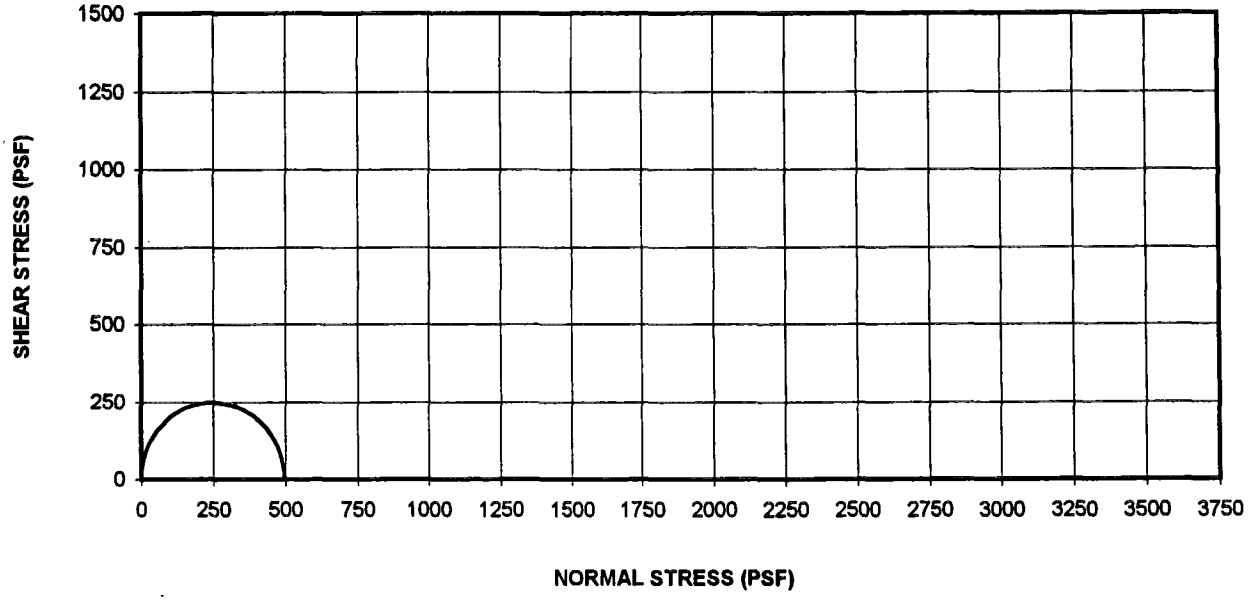
UCComprP5@18

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-42





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P6-24	24	78.6	48.4	490	250

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

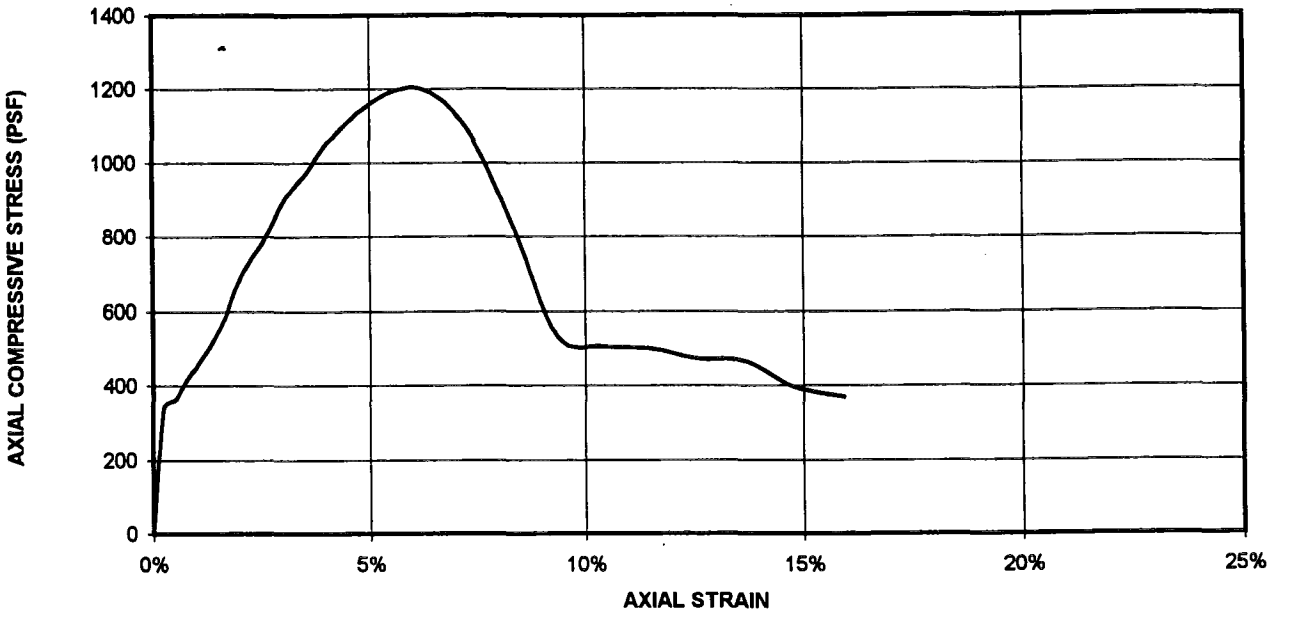
Ninyo & Moore

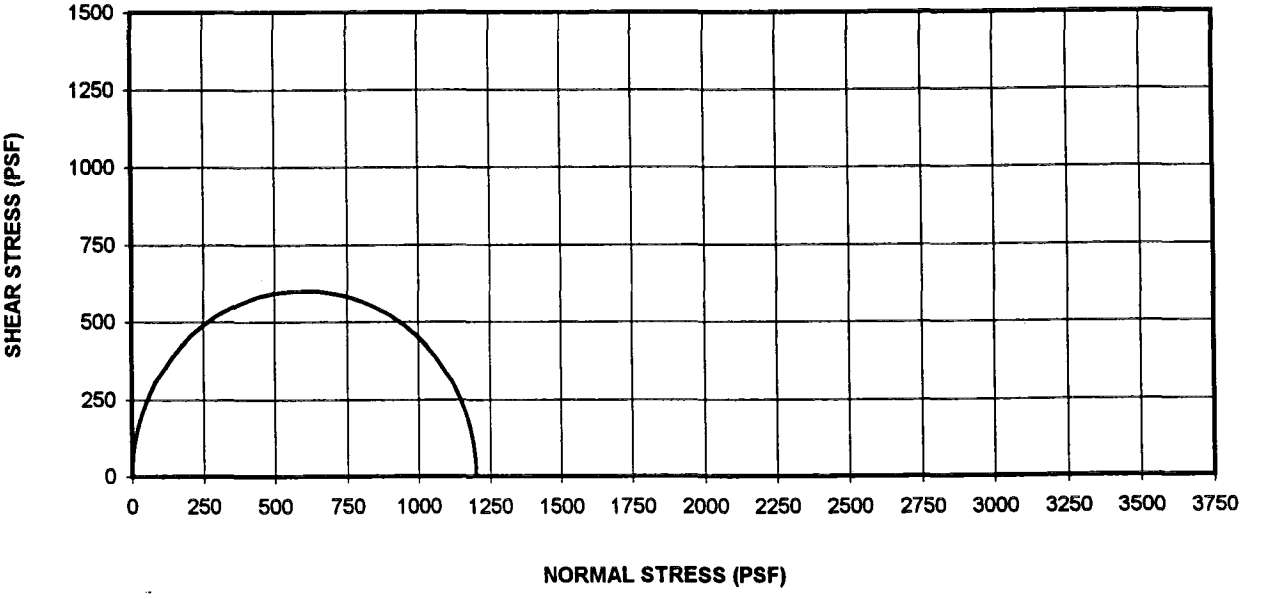
UCComprP6@24

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-43





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P7-11.5	11.5	39.2	75.7	1200	600

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

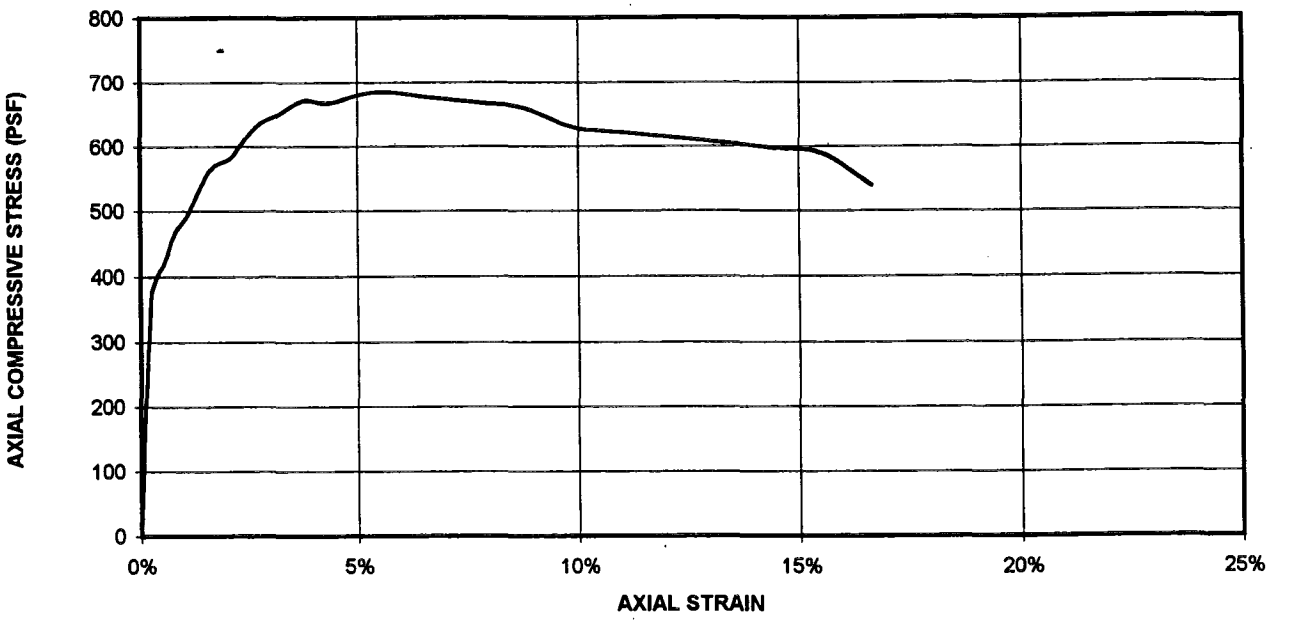
Ninyo & Moore

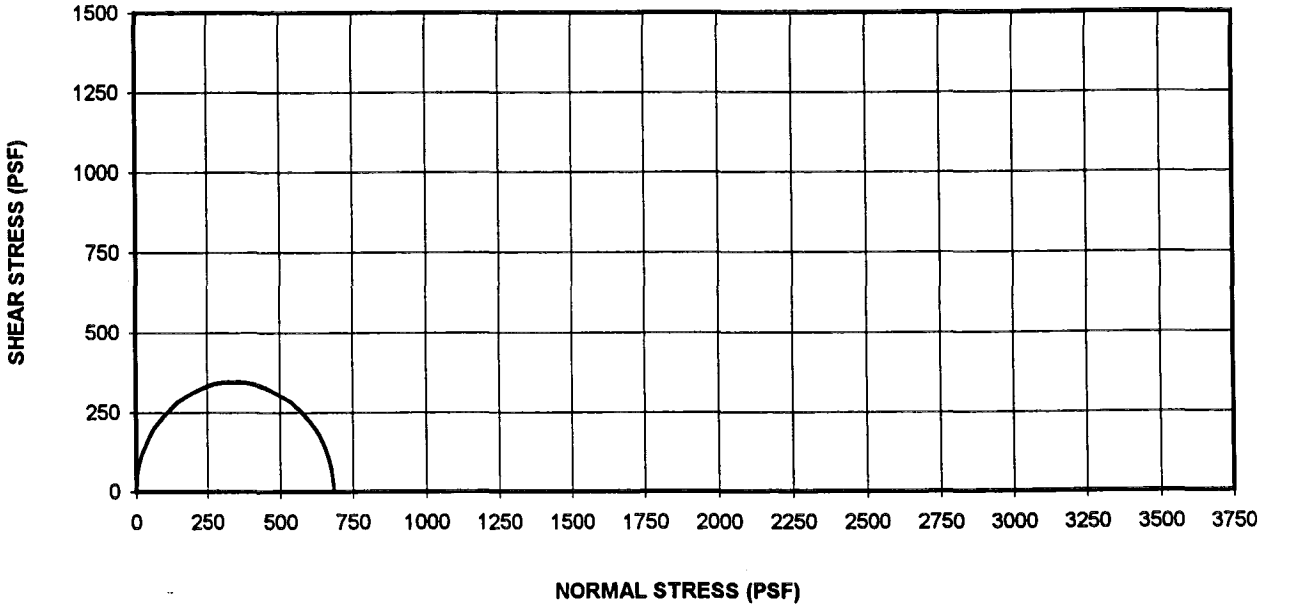
UCComprP7@11_5

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-44





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P7-17	17	51.6	67.7	680	340

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

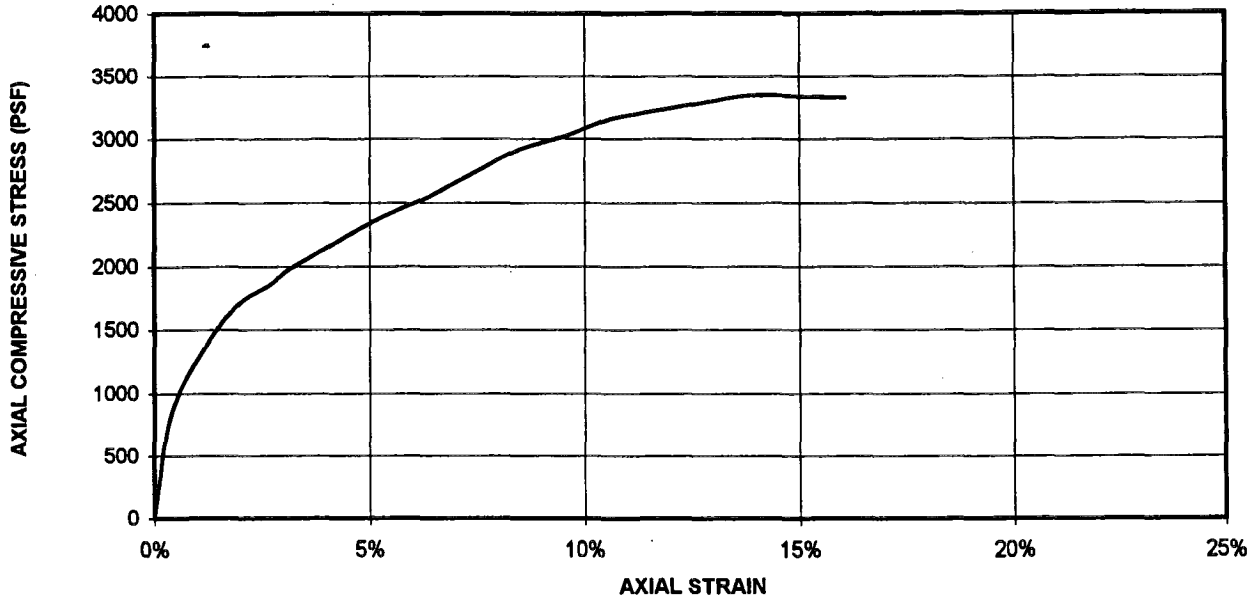
Ninyo & Moore

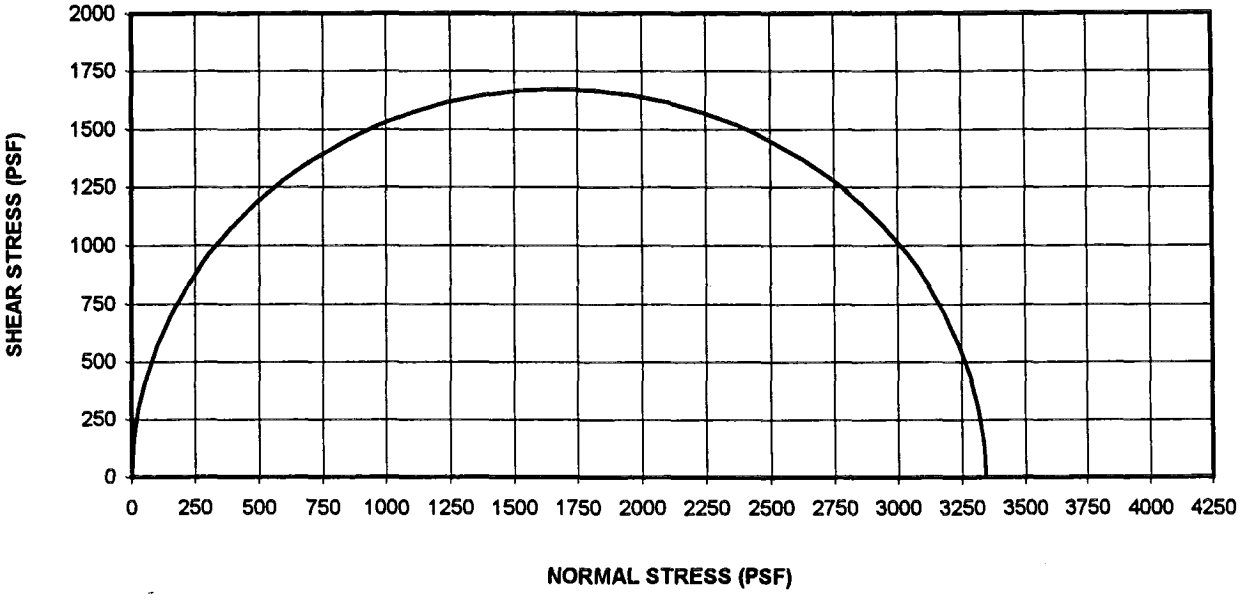
UCComprP7@17

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-45





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P8-3	3	10.7	100.8	3340	1670

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

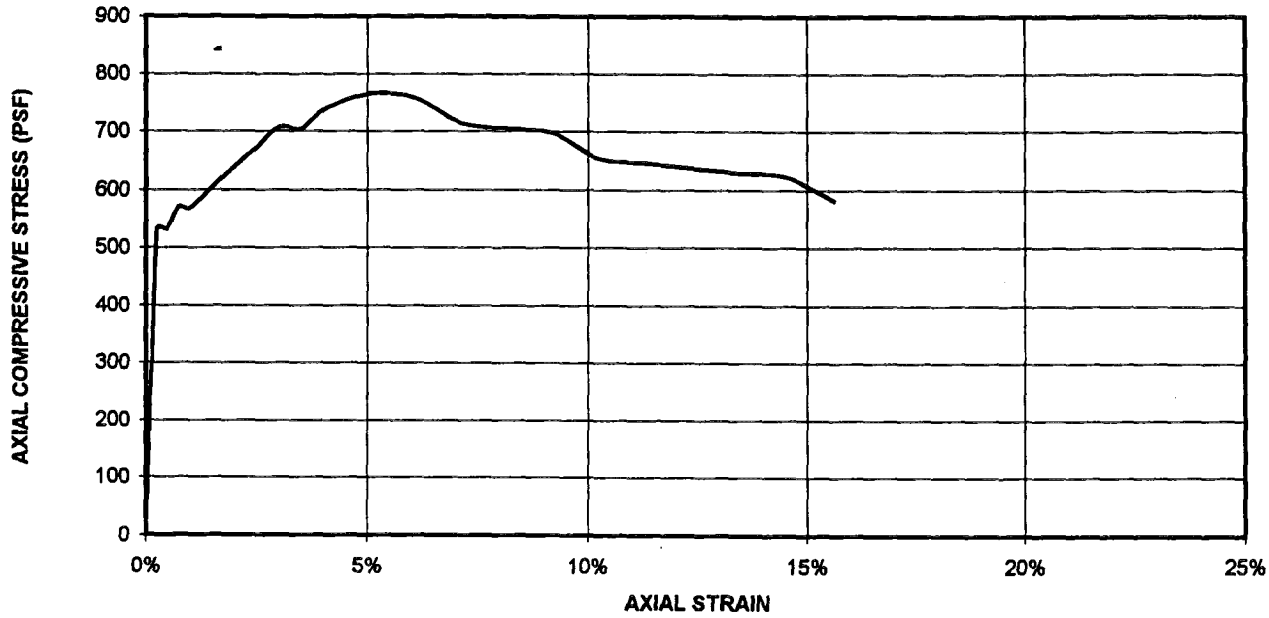
Ninyo & Moore

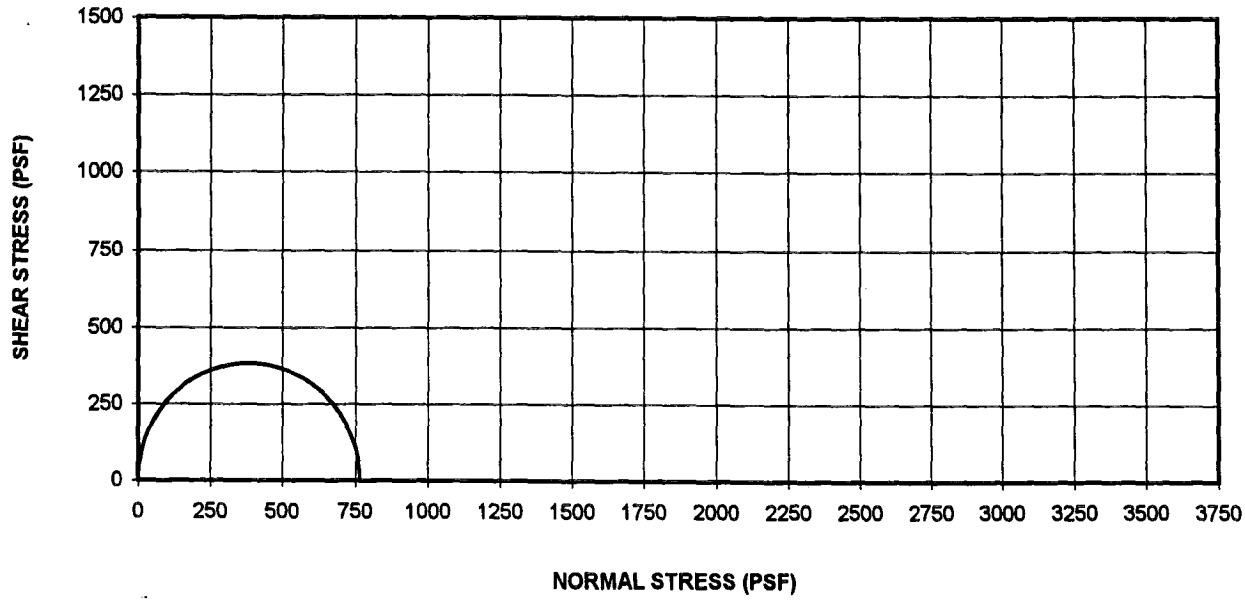
UCComprP8@3

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-46





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P8-6.5	6.5	54.3	61.1	765	380

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

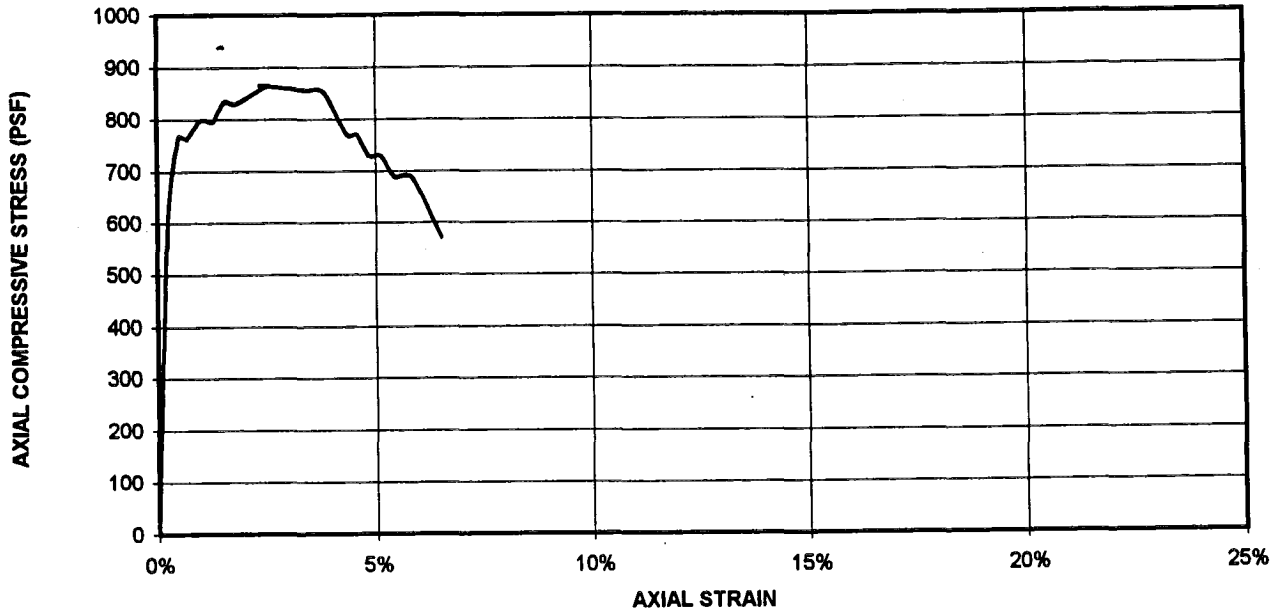
Ninyo & Moore

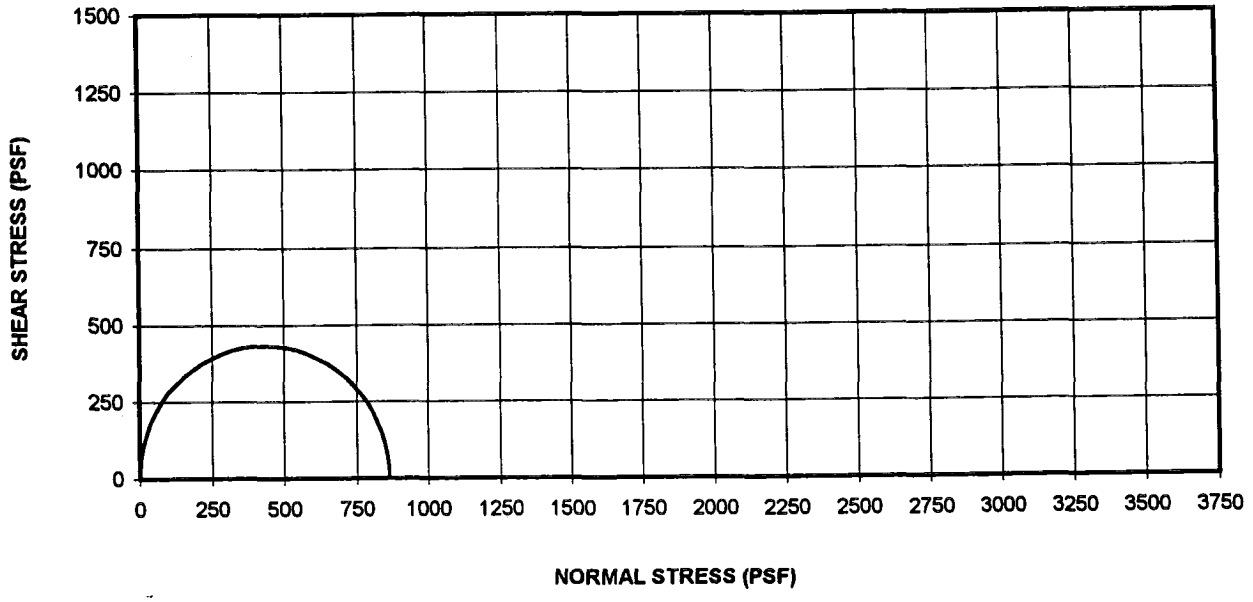
UCComprP8@6_5

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-47





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P9-14	14	101.8	42.1	860	430

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

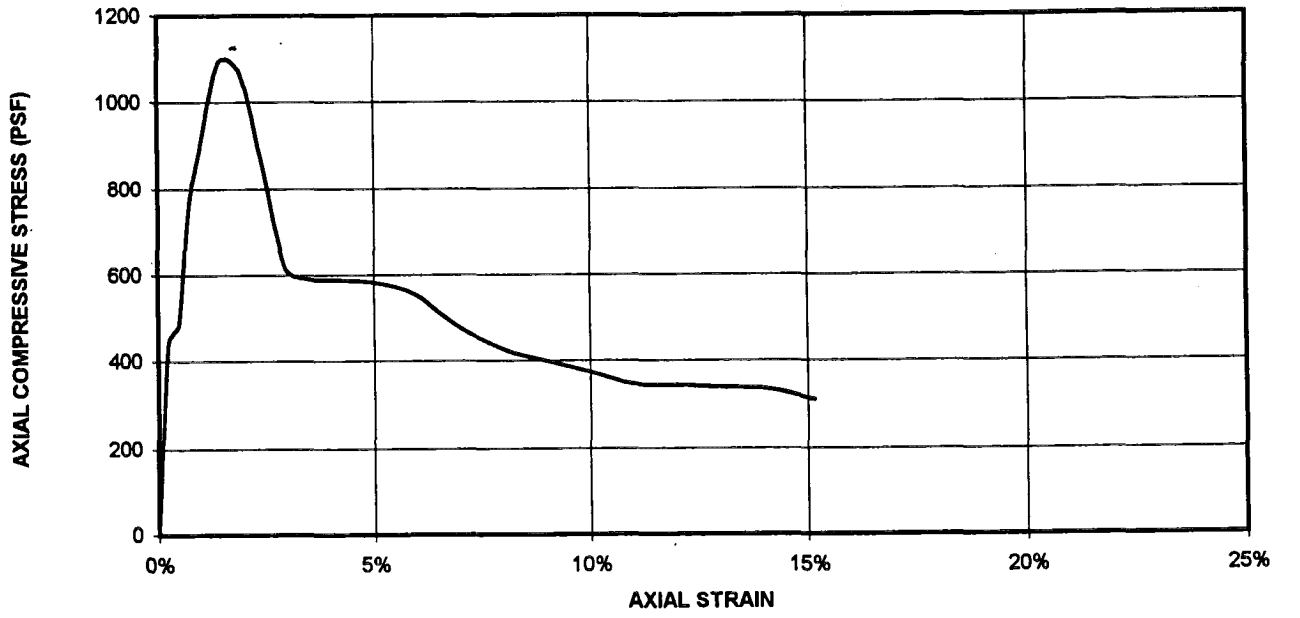
Ninyo & Moore

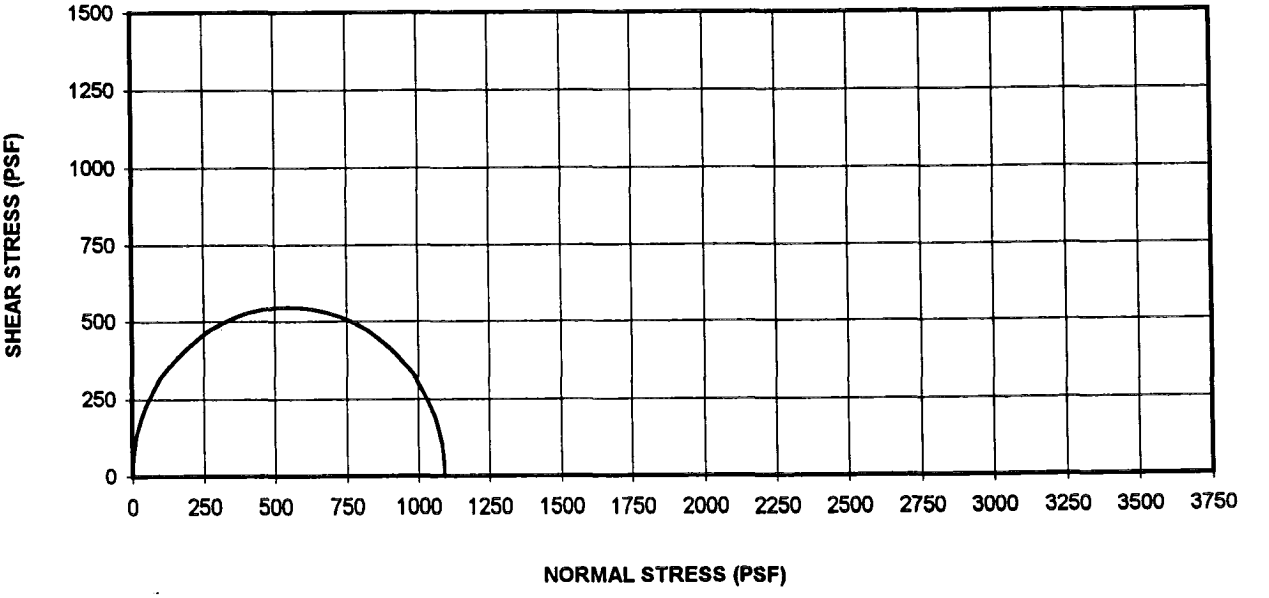
UCComprP9@14

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-48





Sample Location	Depth (ft)	Initial Moisture (%)	Initial Dry Density (pcf)	Unconfined Compressive Stress (psf)	Undrained Shear Strength (psf)
P10-4	4	21.9	80.7	1090	550

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2166-91

Ninyo & Moore

UCComprP10@4

UNCONFINED COMPRESSION RESULTS

ASCON LANDFILL
21641 MAGNOLIA STREET
HUNTINGTON BEACH, CALIFORNIA

PROJECT NO.	DATE	FIGURE
204110001	10/2002	A-49

APPENDIX B

ANALYSIS REQUESTS & CHAIN OF CUSTODY RECORD

[redacted] ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Page of

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
☐ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #:
Site/Location: Huntington Beach, CA
Project Manager: Alex Isaly
Fax Results to: (714) 449-8929
e-mail Final Report to: aisaly@projectnavigator.com, jrusso@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature: Jack O. Russo

Laboratory:

TAT: Same Day 24h 48h 3d 4d (Standard (5-7 days))

Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel carbon chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260 Fuel Oxy.	SVOCs by 8270 PAHs Density ASTM D 2937	Grain Size ASTM D 422	Atterburg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Consolidated Undrained ASTM D 4767	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
1 Ascon-P7-7	8/30/02	08:46	7'	Soil	1	SS Sleeve	N				X							Fill Samples
2 Ascon-P7-9.5	8/30/02	08:55	9.5	Soil	1	SS Sleeve	N								X			
3 Ascon-P7-10	8/30/02	08:55	10	Soil	1	SS Sleeve	N					X	X					
4 Ascon-P7-11	8/30/02	08:58	11	Soil	1	SS Sleeve	N							X				
5 Ascon-P7-11.5	8/30/02	08:58	11.5	Soil	1	SS Sleeve	N									X	X	
6 Ascon-P7-15'	8/30/02	10:29	15'	Soil	1	SS Sleeve	N				X							
7 Ascon-P7-15.5'	8/30/02	10:29	15.5'	Soil	1	SS Sleeve	N					X	X					Waste Samples
8 Ascon-P7-16'	8/30/02	10:29	16'	Soil	1	SS Sleeve	N							X				
9 Ascon-P7-17'	8/30/02	10:45	17'	Soil	1	SS Sleeve	N									X	X	
10 Ascon-P7-16.5	8/30/02	10:29	16.5'	Soil	1	SS Sleeve	N								X			
11																		
12																		
13																		
14																		
15																		

Jack O. Russo

Relinquished by:	Date & Time	Received by:	Date & Time	
1 Jack O. Russo	9/3/02 10:20		9/03/02 10:20AM	Total Containers per COC:
2				Cooler Temp:
3				

N AND M IRV

PAGE 14/14

A0001000031054

[redacted] ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
☐ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #: 01-114
Site/Location: Huntington Beach, CA
Project Manager: Alex Tsaly
Fax Results to: 714-449-8529
e-mail Final Report to: jrusso@projectnavigator.com / atsaly@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature: Jack Russo
Laboratory:
TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel carbon chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260	Fuel Oxy.	Density ASTM D 2937	SVOCs by 8270	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Direct Shear ASTM D 3080	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
Ascon P3-4'	8/30/02	09:32	4'	Soil	1	SS Sleeve	N											X	X	
Ascon-P3-4.5	8/30/02	09:32	4.5'	Soil	1	SS Sleeve	N					X								Fill Samples
Ascon-P3-5.5	8/30/02	09:36	5.5'	Soil	1	SS Sleeve	N							X	X					
Ascon-P3-6'	8/30/02	09:36	6'	Soil	1	SS Sleeve	N									X				
Ascon-P3-7'	8/30/02	09:40	7'	Soil	1	SS Sleeve	N										X			
Ascon-P3-8.5	8/30/02	09:44	8.5'	Soil	1	SS Sleeve	N											X	X	
Ascon-P3-9'	8/30/02	09:44	9'	Soil	1	SS Sleeve	N											X	X	Waste Samples
Ascon-P3-9.5'	8/30/02	09:44	9.5'	Soil	1	SS Sleeve	N					X								
Ascon-P3-10'	8/30/02	09:49	10'	Soil	1	SS Sleeve	N							X	X					
Ascon-P3-10.5'	8/30/02	09:49	10.5'	Soil	1	SS Sleeve	N										X			

INSTEAD OF ASTM D3080 WE ARE TO RUN CU TESTS PER ASTM D4767

Jack R. Russo

Relinquished by:	Date & Time	Received by:	Date & Time	
Jack R. Russo	8/30/02 10:25		8/30/02 10:12	Total Containers per COC:
				Cooler Temp:

08/08/2002 08:42 19497537?? N AND M IRV PAGE 14/14

A0001000031055

[redacted] AL[redacted]S R[redacted]QUES[redacted] & CHAIN OF CUSTODY RECORD

Page [redacted] of [redacted]

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
☒ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #:
Site/Location: Huntington Beach, CA
Project Manager: Alex Isaly
Fax Results to: 714-449-8929
e-mail Final Report to: aisaly@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature:

Laboratory:

TAT: Same Day 24h 48h 3d 4d (Standard (5-7 days)) — circled: Standard (5-7 days)

	Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	~~TPH by 8015M gas diesel carbon chain~~	~~Title 22 Metals by 6010/7000~~	~~VOCs by 8010 8260 Fuel Oxys~~	~~SVOCs by 8270 PAHs~~	Density ASTM D 2937	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Consolidated Undrained ASTM D 4767	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Maximum Density ASTM D 1557	~~[struck out]~~	ASTM D 4767 Consolidated Undrained on Remolded Specimens (Compacted to 95%)
1	ASCON P6-23.5'	9/9/02	1615	23.5'	Soil	1	SS Sleeve	N									X					
2	ASCON P6-23'	9/9/02	1615	23'	Soil	1	SS Sleeve	N								X						
3	ASCON P6-22.5'	9/9/02	1615	22.5	Soil	1	SS Sleeve	N						X	X							
4	ASCON P6-22'	9/9/02	1615	22'	Soil	1	SS Sleeve	N					X									
5	ASCON P6-24'	9/9/02	1625	24'	Soil	1	SS Sleeve	N										X	X			
6	ASCON P6-3'	9/9/02	1500	3'	Soil	1	SS Sleeve	N								X						
7	ASCON P6-2'	9/9/02	1455	2'	Soil	1	SS Sleeve	N						X	X							
8	ASCON P6-1.5'	9/9/02	1455	1.5'	Soil	1	SS Sleeve	N					X									
9	ASCON P6-4'	9/9/02	1505	4'	Soil	1	SS Sleeve	N										X	X			
10	ASCON P6-3.5'	9/9/02	1500	3.5'	Soil	1	SS Sleeve	N									X					
11	ASCON P4-13'	9/9/02	~~0900~~ 0843	13'	Soil	1	bulk bag	N												X		X
12	ASCON P6-1'	9/9/02	1455	1'	Soil	1	bulk bag	N												X		X
13																						
14																						
15																						

Right margin notes: 1–10 (bracketed) "geotech"; 11 "waste"; 12 "fill"

Jack D. Russo [signature across unused rows]

	Relinquished by:	Date & Time	Received by:	Date & Time	
1	Jack D. Russo [signature]	9/10/02 17:00	[signature] 17:00	9/10/02	Total Containers per COC:
2					Cooler Temp:
3					

ANALYSIS REQUEST & CHAIN CUSTODY RECORD

Page 1 of 1

- ☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
- ☒ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
- ☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
- ☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
- ☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
- ☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
- ☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
- ☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
- ☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #: 01-114
Site/Location: Huntington Beach, CA
Project Manager: Alex Isaly
Fax Results to: (714) 449-8929
e-mail Final Report to: jrusso@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature: Jack D. Russo

Laboratory:

TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel carbon chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260 Fuel Oxy.	~~SVOCs by 8270 PAHs~~ Density ASTM D 2937	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Consolidated Undrained ASTM D 4767	Unconfined Compressive ASTM D 2166	Moisture Content ASTM D 2216	Comments
Ascon-P4-1	9/9/02	08:07	1'	Soil	1	SS Sleeve	N				X							Fill Samples
Ascon-P4-1.5'	9/9/02	08:07	1.5'	Soil	1	SS Sleeve	N					X	X					
Ascon-P4-2'	9/9/02	08:07	2'	Soil	1	SS Sleeve	N							X				
Ascon-P4-3'	9/9/02	08:10	3'	Soil	1	SS Sleeve	N								X			
Ascon-P4-3.5'	9/9/02	08:10	3.5'	Soil	1	SS Sleeve	N									X	X	
Ascon-P4-8.5'	9/9/02	08:24	8.5	Soil	1	SS Sleeve	N				X	X	X					Waste Samples
Ascon-P4-9'	9/9/02	08:30	9'	Soil	1	SS Sleeve	N				X							
Ascon-P4-9.5	9/9/02	08:30	9.5	Soil	1	SS Sleeve	N							X				
Ascon-P4-10'	9/9/02	08:35	10'	Soil	1	SS Sleeve	N								X			
Ascon-P4-11'	9/9/02	08:35	11'	Soil	1	SS Sleeve	N									X	X	

Relinquished by:	Date & Time	Received by:	Date & Time	Total Containers per COC:
Jack D. Russo	9/9/02	[signature]	9/9/02 11:00am	Cooler Temp:

08/08/2002 08:42 19497537071 N AND M IRV PAGE 14/

A0001000031057

- 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
- 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
- 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
- 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
- P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
- 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
- 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
- 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
- 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #: 01-114
Site/Location: Huntington Beach, CA
Project Manager: Alex Isely
Fax Results to: (714) 449-8929 jrusso[redacted]@projectnavigator.com
e-mail Final Report to: aisely@projectnavigator.com
Geotracker ID:
Sampler Name: Jack
Signature: Jack D. Russo
Laboratory:
TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

	Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel carbon chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260 Fuel Oxy.	Density ASTM 3937 SVOCs by 8270 PAHs	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Direct Shear ASTM D 3080	Unconfined Compression ASTM D 2166	Moisture content ASTM D 2216	Comments
1	ASCON P8 - 1	8/28/02	07:38	1'	Soil	1	SS sleeve	N				X							
2	ASCON P8-1.5	8/28/02	07:38	1.5'	Soil	1	SS sleeve	N					X	X					
3	ASCON P8 - 2.5	8/28/02	07:41	2.5'	Soil	1	SS sleeve	N								X			Fill Samples
4	ASCON P8 - 2	8/28/02	07:38	2'	Soil	1	SS sleeve	N							X				
5	ASCON P8 - 3	8/28/02	07:41	3'	Soil	1	SS sleeve	N									X	X	
6	ASCON P8 - 3.5	8/28/02	07:41	3.5	Soil	1	SS sleeve	N				X							
7	ASCON P8 - 5	8/28/02	07:44	5'	Soil	1	SS sleeve	N					X	X					
8	ASCON P8 - 5.5	8/28/02	07:48	5.5'	Soil	1	SS sleeve	N							X				
9	ASCON P8 - 6	8/28/02	07:48	6'	Soil	1	SS sleeve	N								X			Waste Samples
10	ASCON P8 - 6.5	8/28/02	07:48	6.5'	Soil	1	SS sleeve	N									X	X	
11	Ascon-P5-1.5'	8/28/02	13:20	1.5'	Soil	1	SS Sleeve	N				X							
12	Ascon-P5-2'	8/28/02	13:20	2'	Soil	1	SS Sleeve	N					X	X					
13	Ascon-P5-2.5'	8/28/02	13:23	2.5'	Soil	1	SS Sleeve	N								X			Fill Samples
14	Ascon-P5-3'	8/28/02	13:23	3'	Soil	1	SS Sleeve	N							X				
15	Ascon-P5-3.5'	8/28/02	13:23	3.5	Soil	1	SS Sleeve	N									X	X	

Relinquished by:	Date & Time	Received by:	Date & Time	
1 Jack Russo	8/30/02 10:25		8/30/02 10:17	Total Containers per COC:
2				Cooler Temp:
3				

INSTEAD OF ASTM D 3080 WE ARE TO RUN CU TESTS PER ASTM D 4767

A0001000031058

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
☐ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1169f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #: 01-114
Site/Location: Huntington Beach, CA
Project Manager: Alex Isely
Fax Results to: (714) 449-8929
e-mail Final Report to: jrusso@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature: Jack D. Russo

Laboratory:

TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

	Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel carbon chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260 Fuel Oxy.	~~Density ASTMD 2937 SVOCs by 8270 PAHs~~	Grain Size ASTM 422	Atterburg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Direct Shear ASTM D 3080	Uncontined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
1	Ascon-PS-16'	8/28/02	13:50	16'	Soil	1	SS Sleeve	N				X							
2	Ascon-PS-16.5'	8/28/02	13:50	16.5'	Soil	1	SS Sleeve	N					X	X					Waste Samples
3	Ascon-PS-17'	8/28/02	13:50	17'	Soil	1	SS Sleeve	N							X				
4	Ascon-PS-17.5'	8/28/02	13:55	17.5'	Soil	1	SS Sleeve	N								X			
5	Ascon-PS-18'	8/28/02	13:55	18'	Soil	1	SS Sleeve	N									X	X	
6	~~Ascon PS-17~~	~~8/28/02~~	~~14:00~~	~~17'~~	~~Soil~~	~~1~~	~~SS Sleeve~~	~~N~~											
7	~~Ascon PS-4~~	~~8/28~~																	
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Jack Russo

INSTEAD OF ASTM D 3080 WE ARE TO RUN CU TESTS PER ASTM D 4767

Relinquished by:	Date & Time	Received by:	Date & Time	Total Containers per COC:
Jack Russo	8/30/02 10:25		8/30/02 10:12	Cooler Temp:

08/08/2002 08:42 1949753771 N AND M IRV PAGE 14/14

A0001000031059

[redacted] ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Page of

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
☐ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1169f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: ASCON STATE SUPERFUND SITE
Project #:
Site/Location: Huntington Beach, CA
Project Manager: Alex Isaly
Fax Results to: 714-449-8929
e-mail Final Report to: aisaly@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature:

Laboratory:

TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

	Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	~~TPH by 8015M gas diesel carbon chain~~	~~Title 22 Metals by 6010/7000~~	~~VOCs by 8010 8260 Fuel Oxy:~~	~~SVOCs by 8270 PAHs~~	Density ASTM D 2937	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Consolidated Undrained ASTM D 4767	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
1	ASCONP1D-1'	9/10/02	15:27	1'	Soil	1	SS sleeve	N					X							
2	ASCONP1D-1.5'	9/10/02	15:27	1.5	Soil	1	SS sleeve	N						X	X					
3	ASCONP1D-2'	9/10/02	15:27	2'	Soil	1	SS sleeve	N								X				fill
4	ASCONP1D-3'	9/10/02	15:33	3'	Soil	1	SS sleeve	N									X			
5	ASCONP1D-4'	9/10/02	15:33	4'	Soil	1	SS sleeve	N										X	X	
6	ASCONP1D-	9/10/02			Soil	1	SS sleeve						X							
7	ASCONP1D-	9/10/02			Soil	1	SS sleeve							X	X					
8	ASCONP1D-	9/10/02			Soil	1	SS sleeve									X				waste
9	ASCONP1D-	9/10/02			Soil	1	SS sleeve										X			
10	ASCONP1D-	9/10/02			Soil	1	SS sleeve											X	X	
11																				
12																				
13																				
14																				
15																				

Relinquished by:	Date & Time	Received by:	Date & Time	
1 Jack D. Russo	9/10/02 17:00		9/10/02 17:00	Total Containers per COC:
2				Cooler Temp:
3				

08/08/2002 08:42 19497537071 N AND M IRV PAGE 14/14

A0001000031060

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f.
☐ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #: 01-114 20411000 1
Site/Location: Huntington Beach, CA
Project Manager: Alex Isaly
Fax Results to: (714) 449-8929
e-mail Final Report to: jrusso@projectnavigator.com/aisaly@projectnavigator.com
Geotracker ID:
Laboratory:
Sampler Name: Jack D. Russo
Signature: Jack D. Russo
TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

	Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel carbon chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260 Fuel Oxy.	SVOCs by 8270 PAHs Density ASTM D 2937	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Direct Shear ASTM D 3080	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
1	Ascon-P1-2	8/26/02	10:50	2'	Soil	1	Stainless Steel	N				X							Fill Samples
2	Ascon-P1-4	8/26/02	10:30	4'	Soil	1	Stainless Steel	N							X				
3	Ascon-P1-5	8/26/02	10:30	5'	Soil	1	Stainless Steel	N									X	X	
4	Ascon-P1-3	8/26/02	10:30	3'	Soil	1	Stainless Steel	N					X	X					
5	Ascon-P1-5	8/26/02	10:30	5'	Soil	1	Stainless Steel	N								X			
6	Ascon-P1-14.5	8/26/02	09:30	14.5	Soil	1	Stainless Steel	N					X	X					
7	Ascon-P1-15'	8/26/02	09:30	15'	Soil	1	Stainless Steel	N				X							Waste Samples
8	Ascon-P1-19'	8/26/02	09:30	19'	Soil	1	Stainless Steel	N							X				
9	Ascon-P1-20'	8/26/02	09:30	20'	Soil	1	Stainless Steel	N								X			
10	Ascon-P1-20'	8/26/02	09:30	20'	Soil	1	Stainless Steel	N									X	X	
11	Ascon-P2-1'	8/26/02	14:45	1'	Soil	1	Stainless Steel	N				X							Fill Samples
12	Ascon-P2-1'	8/26/02	14:45	1'	Soil	1	Stainless Steel	N					X	X					
13	Ascon-P2-2'	8/26/02	14:50	2'	Soil	1	Stainless Steel	N									X	X	
14	Ascon-P2-2'	8/26/02	14:50	2'	Soil	1	Stainless Steel	N							X				
15	Ascon-P2-3'	8/26/02	14:50	3'	Soil	1	Stainless Steel	N								X			

	Relinquished by:	Date & Time	Received by:	Date & Time	
1	Jack D. Russo	8/27/02 15:00		8/27/02 15:00	Total Containers per COC:
2					Cooler Temp:
3					

08/08/2002 08:42 19497537071 N AND M IRV PAGE 14/14

[redacted] ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Page [redacted] of [redacted]

- ☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
- ☐ 475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
- ☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
- ☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
- ☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1169f
- ☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
- ☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
- ☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
- ☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: Ascon State Superfund Site
Project #: 01-114
Site/Location: Huntington Beach, CA
Project Manager: Alex Tsaly / Jack Russo
Fax Results to: (714) 449-8929
e-mail Final Report to: jrusso@projectnavigator.com / atsaly@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature: Jack O. Russo

Laboratory:

TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

	Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	TPH by 8015M gas diesel Carbon Chain	Title 22 Metals by 6010/7000	VOCs by 8010 8260 Fuel Oxy.	Density ASTM 2937	Grain Size ASTM 422	Atterburg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Direct Shear ASTM D 3080	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
1	Ascon-P2-10'	8/26/02	15:15	10'	Soil	1	Stainless Sleeve	N				X							
2	Ascon-P2-14'	8/26/02	15:15	14'	Soil	1	Stainless Steel	N					X	X					Waste Samples
3	Ascon-P2-15'	8/26/02	15:15	15'	Soil	1	Stainless Steel	N							X				
4	Ascon-P2-15'	8/26/02	15:15	15'	Soil	1	Stainless Steel	N								X			
5	Ascon-P2-20'	8/26/02	15:15	20'	Soil	1	Stainless Steel	N									X	X	
6	Ascon-P9-1'	8/27/02	09:20	1'	Soil	1	Stainless Steel	N				X	X						
7	Ascon-P9-2'	8/27/02	09:20	2'	Soil	1	SS Sleeve	N									X	X	Fill Samples
8	Ascon-P9-2'	8/27/02	09:20	2'	Soil	1	SS Sleeve	N					X	X					
9	Ascon-P9-3'	8/27/02	09:30	3'	Soil	1	SS Sleeve	N							X				
10	Ascon-P9-4'	8/27/02	09:30	4'	Soil	1	SS Sleeve	N								X			
11	Ascon-P9-12'	8/27/02	10:10	12'	Soil	1	SS Sleeve	N				X							
12	Ascon-P9-12'	8/27/02	10:10	12'	Soil	1	SS Sleeve	N					X	X					
13	Ascon-P9-13'	8/27/02	10:10	13'	Soil	1	SS Sleeve	N							X				Waste Samples
14	Ascon-P9-14'	8/27/02	10:15	14'	Soil	1	SS Sleeve	N									X	X	
15	Ascon-P9-14'	8/27/02	10:15	14'	Soil	1	SS Sleeve	N								X			

	Relinquished by:	Date & Time	Received by:	Date & Time	
1	Jack O. Russo	8/27/02 15:00		8/27/02 15:00	Total Containers per COC:
2					Cooler Temp:
3					

08/08/2002 08:42 19497537071 N AND M IRV PAGE 14/14

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Page of

☐ 5710 Ruffin Rd., San Diego, CA 92123 858.576.1000p 858.576.9600f
☑ 2475 Goddard, Ste. 200, Irvine, CA 92618 949.753.7070p 949.753.7071f
☐ 700 S. Flower St., Ste. 1100, Los Angeles, CA 90017 213.488.5111p 213.892.2206f
☐ 5035 S. 33rd St., Phoenix, AZ 85040 602.243.1600p 602.243.2699f
☐ P.O. Box 107, Salt Lake City, UT 84117 801.363.1229p 801.363.1168f
☐ 675 Hegenberger Rd, Ste 220, Oakland, CA 94621 510.633.5640p 510.633.5646f
☐ 1701 S. Grove Ave, Ste. J, Ontario, CA 91761 909.947.1588p 909.947.0388f
☐ 20 California St., Ste. 400, San Francisco, CA 94111 415.288.2799p 415.983.0171f
☐ 3155 E. Patrick Ln., Ste. 12, Las Vegas, NV 89120 702.433.0330p 702.433.0707f

Project Name: ASCON STATE SUPERFUND SITE
Project #:
Site/Location: Huntington Beach, CA
Project Manager: Alex Isaly
Fax Results to: 714-449-8929
e-mail Final Report to: aisaly@projectnavigator.com
Geotracker ID:
Sampler Name: Jack Russo
Signature:

Laboratory:

TAT: Same Day 24h 48h 3d 4d Standard (5-7 days)

Sample ID	Sampling Date	Time	Depth	Matrix	# Cont.	Container Type	Pres. (Y/N)	~~TPH by 8015M gas diesel carbon chain~~	~~Title 22 Metals by 6010/7000~~	~~VOCs by 8010 8260~~ ~~Fuel Oxy~~	~~SVOCs by 8270~~ ~~PAHs~~	Density ASTM D 2937	Grain Size ASTM D 422	Atterberg Limits ASTM D 4318	Hydraulic Conductivity ASTM D 5084	Consolidated Undrained ASTM D 4767	Unconfined Compression ASTM D 2166	Moisture Content ASTM D 2216	Comments
1 ASCON PID-1'	9/10/02	15:27	1'	Soil	1	SS sleeve	N					X							
2 ASCON PID-1.5'	9/10/02	15:27	1.5	Soil	1	SS sleeve	N						X	X					
3 ASCON PID-2'	9/10/02	15:27	2'	Soil	1	SS sleeve	N								X				fill
4 ASCON PID-3'	9/10/02	15:33	3'	Soil	1	SS sleeve	N									X			
5 ASCON PID-4'	9/10/02	15:33	4'	Soil	1	SS sleeve	N										X	X	
6 ASCON PID-	9/10/02			Soil	1	SS sleeve						X							
7 ASCON PID-	9/10/02			Soil	1	SS sleeve							X	X					
8 ASCON PID-	9/10/02			Soil	1	SS sleeve									X				waste
9 ASCON PID-	9/10/02			Soil	1	SS sleeve										X			
10 ASCON PID-	9/10/02			Soil	1	SS sleeve											X	X	
11																			
12																			
13																			
14																			
15																			

Relinquished by:	Date & Time	Received by:	Date & Time	Total Containers per COC:
1 Jack D. Russo	9/10/02 17:00		9/10/02 17:00	Cooler Temp:
2				
3				

10/14/2002 10:29 19497537071 PAGE 08/10
09/09/2002 09:42 19497537071 N AND M IRV PAGE 14/14

A0001000031063