

## **Appendix C**

### **Boring Logs**



# GeoSyntec Consultants

2100 Main Street, Suite 150  
 Huntington Beach, California 92648  
 Tel: (714) 969-0800 Fax: (714) 969-0820

PROJECT  
 PROJECT LOCATION  
 PROJECT NUMBER

## KEY SHEET - CLASSIFICATIONS AND SYMBOLS

GS FORM:  
 KEYSYMB 7/02

### EMPIRICAL CORRELATIONS WITH STANDARD PENETRATION RESISTANCE N VALUES \*

	N VALUE * (BLOWS/FT)	CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH (TONS/SQ FT)		N VALUE * (BLOWS/FT)	RELATIVE DENSITY
<b>FINE GRAINED SOILS</b>	0 - 2	VERY SOFT	<0.25	<b>COARSE GRAINED SOILS</b>	0 - 4	VERY LOOSE
	3 - 4	SOFT	0.25 - 0.50		5 - 10	LOOSE
	5 - 8	FIRM	0.50 - 1.00		11 - 30	MEDIUM DENSE
	9 - 15	STIFF	1.00 - 2.00		31 - 50	DENSE
	16 - 30	VERY STIFF	2.00 - 4.00		>50	VERY DENSE
	31 - 50	HARD	>4.00			
	>50	VERY HARD				

\* ASTM D 1586; NUMBER OF BLOWS OF 140 POUND HAMMER FALLING 30 INCHES TO DRIVE A 2 IN. O.D., 1.4 IN. I.D. SAMPLER ONE FOOT.

### UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

MAJOR DIVISIONS		SYMBOLS	DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS  MORE THAN 50% OF COARSE FRACTION RETAINED ON NO.4 SIEVE	CLEAN GRAVELS  LITTLE OR NO FINES	GW WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES  APPRECIABLE AMOUNT OF FINES	GM SILTY GRAVELS, GRAVEL- SAND-SILT MIXTURES
	SAND AND SANDY SOILS  MORE THAN 50% OF COARSE FRACTION PASSING NO.4 SIEVE	CLEAN SANDS  LITTLE OR NO FINES	SW WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES  APPRECIABLE AMOUNT OF FINES	SM SILTY SANDS, SAND-SILT MIXTURES
		SC CLAYEY SANDS, SAND-CLAY MIXTURES	
FINE GRAINED SOILS	SILTS AND CLAYS  LIQUID LIMIT LESS THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS  LIQUID LIMIT GREATER THAN 50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENT

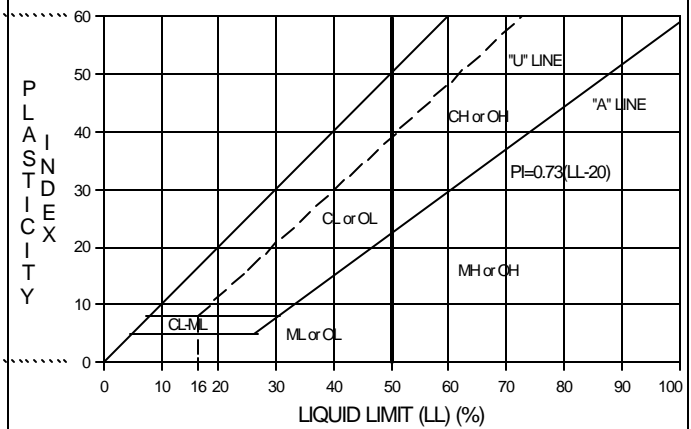
NOTE: DUAL SYMBOLS USED FOR BORDERLINE CLASSIFICATIONS

### PARTICLE SIZE IDENTIFICATION

BOULDERS	>300 mm
COBBLES	75 - 300 mm
GRAVEL: COARSE	19.0 - 75 mm
GRAVEL: FINE	4.75 - 19 mm
SAND: COARSE	2.00 - 4.75 mm
SAND: MEDIUM	0.425 - 2.00 mm
SAND: FINE	0.075 - 0.425 mm
SILT	0.075 - 0.002 mm
CLAY	<0.002 mm

WELL GRADED - HAVING WIDE RANGE OF GRAIN SIZES AND APPRECIABLE AMOUNTS OF ALL INTERMEDIATE PARTICLE SIZES  
 POORLY GRADED - PREDOMINANTLY ONE GRAIN SIZE, OR HAVING A RANGE OF SIZES WITH SOME INTERMEDIATE SIZES MISSING

### PLASTICITY CHART



### OTHER MATERIAL SYMBOLS

	Siltstone		Sand
	Sandstone		Silt
	Siltstone/Claystone		Silty Sand to Sand with Silt
	Claystone		Landslide Debris
	Shale		Artificial Fill
	Siltstone/Sandstone		Refuse
	Conglomerate		
	Granite		

### WELL SYMBOLS

	BENTONITE SEAL
	GROUT
	FILTER PACK
	SAND PACK
	NATIVE/SLUFF
	CONCRETE
	CENTRALIZER

### SAMPLER AND OTHER SYMBOLS

	BULK SAMPLE		Water Level at Time Drilling, or as Shown
	STANDARD PENETRATION TEST		Static Water Level
	SHELBY TUBE		Loss Drilling Fluid
	CORE SAMPLE		MSL: Mean Sea Level
	MODIFIED CALIFORNIA SAMPLE		AGS: Above Ground Surface
	DRIVE SAMPLE		BGS: Below Ground Surface
			BTOC: Below Top of Casing
			HSA: Hollow Stem Auger



# GEOSYNTEC CONSULTANTS

924 Anacapa Street, Suite 4A  
 Santa Barbara, California 93101  
 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING** HP-1  
**START DRILL DATE** May 24, 06  
**FINISH DRILL DATE** May 24, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
5	Artificial Fill (AF): silty Sand; trace clay; olive brown (2.5Y 4/3); dry; non-plastic; fine sand (0,60,40)							--	--	0.1	740	
	silty Clay (CL); olive brown (2.5Y 4/3); soft; moist; medium plasticity (0,0,100)							--	50	0.1	746	
10	sandy Clay @ 10'bgs; very dark greenish gray (2GLE Y 3/10BG); firm; moist to wet; low to medium plasticity; fine sand; shell fragments (0,30,70)			▼ 8.56'bgs: Measured Potentiometric Surface				--	100	0.1	750	
15	well sorted Sand with silt (SP/SM); very dark greenish gray (2GLE Y 3/10BG); medium dense; wet; fine sand; abundant shell fragments (0,90,10)			▽ First Observed Groundwater During Drilling @ 11.5'bgs				--	100	0.2	757	
				Hydropunch Screen set @ 12'-15'bgs						0.2		End of Boring @ 17'bgs

07-WELL BORE PITF\_MAY06.GPJ GEOSNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman

**NORTHING**  
**EASTING**  
**COORDINATE SYSTEM:**

**REVIEWER** J. Zukin

**NOTES:**  
 SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



**GEO SYNTEC CONSULTANTS**

924 Anacapa Street, Suite 4A  
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 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING HP-2**  
**START DRILL DATE** May 24, 06  
**FINISH DRILL DATE** May 24, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

**BOREHOLE LOG**

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, Discoloration, Odor, etc.) 5) Grain Size 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Artificial Fill (AF): silty Sand with clay; olive brown (2.5Y 4/3); dry; non-plastic; fine to medium sand (0,60,40)							--	--		1317	
5	silty Clay (CL); trace sand; very dark grayish brown (2.5Y 3/2); soft; moist; medium plasticity; fine sand (0,5,95)							--	75		1328	0.0ppm Ambient Air
10	silty Clay; trace fine gravel @ 10'bgs; dark olive brown to light olive brown (2.5Y 4/3-5/3); firm to soft; moist to wet @ 11'bgs; medium plasticity (5,0,95); sandy Clay @ 12'bgs; fine sand; abundant shells (0,30,70)			▼ 9.48'bgs: Measured Potentiometric Surface				--	100		1330	
15	silty Sand (SM) grading to well sorted Sand with silt (SP/SM); very dark greenish gray (2GLEY 3/10BG); medium dense; wet; non-plastic; fine sand; shell fragments (0,90,10)			∇ First Observed Groundwater During Drilling @ 12.5'bgs  Hydropunch Screen set @ 13'-16'bgs		1		--	100		1340	
20												
25												
30												
												End of Boring @ 17'bgs

07-WELL BORE PITF\_MAY06.GPJ GEOYNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING EASTING COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
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924 Anacapa Street, Suite 4A  
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 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING HP-3**  
**START DRILL DATE** May 25, 06  
**FINISH DRILL DATE** May 25, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, Discoloration, Odor, etc.) 5) Grain Size 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Artificial Fill (AF): silty Sand with gravel; trace clay; olive brown (2.5Y 4/3); dry; fine sand; fine to coarse gravel up to 1" (20,55,25)										910	
5	silty Clay (CL); olive brown (2.5Y 4/3); firm; moist; medium plasticity; slight HC odor										0.0	
10	silty Clay; trace sand; some small clayey sand layers; greenish black (2GLEY 2.5/10GY); soft; wet; fine sand; medium plasticity; petroleum odor and visual discoloration										50	930
											4.9	
											100	935
											21.7	
15											75	940
											6.8	
											17.2	
	silty Clay; trace sand; greenish black (2GLEY 2.5/10GY); firm; moist; medium plasticity; slight petroleum odor										50	945
20											4.6	
											100	955
25	silty Sand (SM) to well sorted Sand with silt (SP/SM); very dark greenish gray (2GLEY 3/10BG); medium dense; wet; fine sand; shell fragments (0,60,40)-(0,87,13)										56	
30												

▽ 17.01': Measured Potentiometric Surface

▽ First Observed Groundwater During Drilling @ 23'bgs

Hydropunch Screen set @ 23'-26'bgs

End of Boring @ 25'bgs

07-WELL BORE PITF\_MAY06.GPJ GEOYNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING EASTING COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
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924 Anacapa Street, Suite 4A  
 Santa Barbara, California 93101  
 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING** HP-4  
**START DRILL DATE** May 23, 06  
**FINISH DRILL DATE** May 23, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
5	Artificial Fill (AF): clayey Sand with gravel; olive brown (2.5Y 4/3); dry; non-plastic; fine to medium sand; fine gravel up to 0.75"; shell fragments (15,60,25)							--	--		1506	
10	silty Clay (CL); olive brown (2.5Y 4/3); soft to firm; moist; medium plasticity (0,0,100)							--	50		1510	
15	silty Sand (SM) grading to well sorted Sand (SP); trace silt; very dark bluish gray (2GLEY 3/5B); moist to wet; wet @ 13'bgs; shell fragments (0,70,30)-(0,95,5)							--	60		1515	
								--	100		1520	
20												
25												
30												

▼ 12.02': Measured Potentiometric Surface  
 First Observed Groundwater During Drilling @ 13'bgs  
 Hydropunch Screen set @ 13'-16'bgs

End of Boring @ 17'bgs

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING EASTING**  
**COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

07-WELL BORE PITF\_MAY06.GPJ GEOSNTEC.GDT 6/28/06



# GEO SYNTEC CONSULTANTS

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Santa Barbara, California 93101  
Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING** HP-5  
**START DRILL DATE** May 24, 06  
**FINISH DRILL DATE** May 24, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring			
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)		
	silty Clay (CL); trace sand; olive brown (2.5Y 4/3); firm; dry; medium plasticity; fine sand (0,10,90)							-	-	1035				
													0.2	
5	Same as Above; moist							-	50	1040				
													0.2	
													100	1044
10	sandy Clay @ 10'bgs; light olive brown (2.5Y 5/3); soft; wet; medium plasticity; fine sand; trace shell fragments (0,30,70)  color change @ 12'bgs to very dark greenish gray (2GLE Y 3/10BG); grading to clayey Sand @ 13.5'bgs			▽ First Observed Groundwater During Drilling @ 10'bgs				-	100	1044				
													1.2	
													100	1050
15	well sorted Sand with silt (SP/SM); very dark greenish gray (2GLE Y 3/10BG); medium dense; wet; fine sand; abundant shell fragments (0,95,5)			▽ 14.50'bgs: Measured Potentiometric Surface Hydropunch Screen set @ 14'-17'bgs				-	100	1050				
													1.1	
20														
25														
30														
												End of Boring @ 17'bgs		

07-WELL BORE PITF\_MAY06.GPJ GEOSNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING**  
**EASTING**  
**COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
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**BORING** HP-6  
**START DRILL DATE** May 25, 06  
**FINISH DRILL DATE** May 25, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Artificial Fill (AF): silty Sand with gravel; olive brown (2.5Y 4/3); fine sand; fine to coarse gravel up to 1" (20,55,25)											
5	silty Clay with sand (CL); dark olive gray (5Y 3/2); soft; moist-wet; medium plasticity; fine to coarse sand (0,20,80)											0.0 ppm Ambient Air
10	silty Clay; interbedded layers of clayey sand; dark olive gray; moist; sand layers wet; 2" clayey sand layer @ 11.5' has petroleum odor and visual discoloration; product present											
15	Same as Above with petroleum odor and visual discoloration; product present											
20	silty Clay; dark olive brown (5Y 3/2); soft; wet; medium plasticity; petroleum odor and visual honey-like product veins (0,0,100)											
25	well sorted Sand with silt (SP/SM); very dark greenish gray (2GLEY 3/10BG); dense; wet; fine sand; shell fragments; petroleum odor and visual discoloration (0,90,10)											
30												

▼ 17.25'bgs:  
 Measured  
 Potentiometric  
 Surface  
 First Observed  
 Groundwater During  
 Drilling @ 18'bgs

Hydropunch Screen  
 set @ 21'-24'bgs

End of Boring @ 25'bgs

07-WELL BORE PITF\_MAY06.GPJ GEOINTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING**  
**EASTING**  
**COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
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 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING** HP-7  
**START DRILL DATE** May 24, 06  
**FINISH DRILL DATE** May 24, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
5	silty Clay with sand (CL); olive brown (2.5Y 4/3); dry; low plasticity; fine sand (0,15,85)							-	-		855	
10	sandy Clay @ 9.5'bgs; very dark greenish gray (GLE Y 3/10BG); soft; wet; low to medium plasticity; fine sand; strong styrene odor and visual honey-like product veins (0,30,70)			▽ First Observed Groundwater During Drilling @ 9.5'bgs				-	100	292	905	
11.5	well sorted Sand with silt (SP/SM); very dark greenish gray (2GLE Y 3/10BG); medium dense; wet; fine sand (0,80,20)			▽ 11.5'bgs: Measured Potentiometric Surface				-	100	37.1		
12-15	Hydropunch Screen set @ 12'-15'bgs							-	100		910	
15	silty Clay (CL) well sorted Sand with silt (SP/SM); very dark greenish gray (2GLE Y 3/10BG); medium dense; wet; fine sand (0,80,20)							-	100			
17	End of Boring @ 17'bgs							-	100	11.3		

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman

**NORTHING EASTING COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

07-WELL BORE PITF\_MAY06.GPJ GEOSNTEC.GDT 6/28/06



# GEOSYNTEC CONSULTANTS

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 Santa Barbara, California 93101  
 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING** HP-8  
**START DRILL DATE** May 23, 06  
**FINISH DRILL DATE** May 23, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
5	silty Clay with sand (CL); olive brown (2.5Y 4/3); firm; dry; low plasticity; fine sand; clam shells (0,25,75)										1245	
5	silty Clay; olive brown (2.5Y 4/3); firm; moist; medium plasticity; (0,0,100)										0.7	
10	sandy silty Clay (CL) grading to clayey Sand (SC); very dark greenish gray (2GLEY 3/10BG); wet; medium plasticity to low plasticity; fine sand; abundant shell fragments (0,30,70)-(0,70,30)			▼ 8.27'bgs: Measured Potentiometric Surface ▽ First Observed Groundwater During Drilling @ 10'bgs							1251	
10	well sorted Sand with silt (SP/SM); very dark greenish gray (2GLEY 3/10BG); wet; fine sand; slight styrene odor; shell fragments (0,80,20)			Hydropunch Screen set @ 13'-16'bgs							0.3	
15											1256	
15											15.0	
15											0.1	
15											1310	
15											0.1	
15												End of Boring @ 17'bgs

07-WELL BORE PITF\_MAY06.GPJ GEOSNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING EASTING COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
 SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



**GEO SYNTEC CONSULTANTS**

924 Anacapa Street, Suite 4A  
 Santa Barbara, California 93101  
 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING HP-9**  
**START DRILL DATE** May 24, 06  
**FINISH DRILL DATE** May 24, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

**BOREHOLE LOG**

DEPTH (ft-bgs)	DESCRIPTION	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS		
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)	
	Artificial Fill (AF): clayey Sand with gravel; olive brown (2.5Y 4/3); dry; non-plastic; fine to medium sand; fine gravel up to 0.75"												
5	silty Clay (CL); olive brown (2.5Y 4/3); firm to soft; moist; medium plasticity; slight styrene odor (0,0,100)			▽ 7.20'bgs: Measured Potentiometric Surface									
10	sandy Clay @ 10.5'bgs; very dark bluish gray (2GLEY 3/5B); soft; wet; medium plasticity; fine sand; shell fragments; styrene odor and honey-like product veins (0,30,70)			▽ First Observed Groundwater During Drilling @ 10.5'bgs									
15	clayey Sand (SC); (2GLEY 3/5B) (0.60,40) well sorted Sand with silt (SP/SM); very dark greenish gray (2GLEY 3/10BG); medium dense; wet; fine to medium sand; no odor (0,85,15)			Hydropunch Screen set @ 13'-16'bgs		1							
30													End of Boring @ 17'bgs

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman

**NORTHING EASTING**  
**COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
 SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

07-WELL BORE PITF\_MAY06.GPJ GEOSNTEC.GDT 6/28/06



# GEO SYNTEC CONSULTANTS

924 Anacapa Street, Suite 4A  
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 Tel: (805) 897-3800 Fax: (805) 899-8689

**BORING HP-10**  
**START DRILL DATE** May 23, 06  
**FINISH DRILL DATE** May 23, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, Discoloration, Odor, etc.) 5) Grain Size 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
5	silty Clay (CL); trace sand; dark grayish brown (2.5Y 4/2); firm; moist; medium plasticity; fine sand; 5% shell fragments up to 0.5"; tar vein present @ 8'bgs; no odor (0,10,85)											
10	silty Clay; trace sand; very dark greenish gray (2GLEY 3/10BG); firm; moist; medium plasticity; fine sand (0,10,90)											
15	clayey Sand (SC); greenish black (2GLEY 2.5/10BG); loose; wet; low plasticity; fine sand; no odor (0,60,40)			▽ First Observed Groundwater During Drilling @ 14.5'bgs								No Recovery from 9'-13'bgs
20	silty Sand (SM) grading to well sorted Sand (SP); trace silt; very dark greenish gray (2GLEY 3/10BG); wet; fine to medium sand; strong styrene odor and honey-like product globules (0,70,30)-(0,95,5)			▼ 17.70'bgs: Measured Potentiometric Surface Hydropunch Screen set @ 19'-22'bgs								
25												
30												
												End of Boring @ 21'bgs

07-WELL BORE PITF\_MAY06.GPJ GEOYNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING EASTING COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
 SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



# GEO SYNTEC CONSULTANTS

924 Anacapa Street, Suite 4A  
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**BORING** HP-11  
**START DRILL DATE** May 23, 06  
**FINISH DRILL DATE** May 23, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**  
**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

## BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem.7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Artificial Fill (AF); silty Sand; dark brown (7.5YR 3/2); dry; non-plastic; fine sand (0,60,40)							--	--	0.4	805	
5	silty Clay (CL); trace sand; dark grayish brown (2.5Y 4/2); soft; moist; medium plasticity; fine sand (0,10,90)							--	60		810	
	increasing sand content; trace fine gravel up to 0.75" (10,30,60)							--	80	0.4	820	
10	silty Clay; very dark grayish brown (2.5Y 3/2); soft to firm; moist; medium plasticity (0,0,100)							--	80	0.6	830	
	clayey Sand (SC); greenish black (2GLEY 2.5/10BG); loose; wet; low to non-plastic; fine sand; no odor; shell fragments			▽ 11.27'bgs: Measured Potentiometric Surface				--	80	0.6	830	
15	silty Clay (CL); very dark grayish brown; soft; wet; medium plasticity			▽ First Observed Groundwater During Drilling @ 14'bgs				--	100	0.6	840	0.0ppm Ambient Air
20	silty Sand (SM) grading to well sorted Sand (SP); trace silt; very dark greenish gray (2GLEY 3/10BG); wet; fine to medium sand; strong styrene odor and honey-like product globules (0,70,30)-(0,95,5)			Hydropunch Screen set @ 19'-22'bgs			1			336		End of Boring @ 21'bgs
25												
30												

07-WELL BORE PITF\_MAY06.GPJ GEOYNTEC.GDT 6/28/06

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman  
**NORTHING**  
**EASTING**  
**COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**  
 SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

**GeoSYNTEC CONSULTANTS**

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**BORING HP-12**  
**START DRILL DATE** May 25, 06  
**FINISH DRILL DATE** May 25, 06  
**LOCATION** Huntington Beach, CA  
**PROJECT** Ascon Landfill  
**NUMBER** SB0320

**SHEET 1 OF 1**

**ELEVATION DATA:**  
**GROUND SURF.**  
**TOP OF CASING**  
**DATUM**

GS FORM:  
 WELL BORE 01/04

**BOREHOLE LOG**

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 7) Plasticity 2) Soil/Rock Name 8) Density/Consistency 3) Color 9) Structure 4) Moisture 10) Other (Mineralization, 5) Grain Size Discoloration, Odor, etc.) 6) Percentage	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
5	silty Clay (CL); trace sand; olive brown (2.5Y 4/3); soft; moist; medium plasticity											1108
6.62				▽ 6.62'bgs: Measured Potentiometric Surface								0.4
10	color change at 10'bgs to very dark greenish gray (2GLEY 3/10BG)											0.6
13	well sorted Sand with silt (SP/SM); dark greenish gray; moist; wet at 13'; fine sand; shell fragments (0,80,20)-(0,90,10)			▽ First Observed Groundwater During Drilling @ 13'bgs								0.6
13.16				Hydropunch Screen set @ 13'-16'bgs								0.9
15												100
15.16												100
16												0.7
17												1125
17												0.7
17												1125

End of Boring @ 17'bgs

**CONTRACTOR** Gregg Drilling  
**EQUIPMENT** Rhino Rig  
**DRILL MTHD** Direct Push  
**DIAMETER** 1.75" Acetate Liners  
**LOGGER** K. Coffman

**NORTHING**  
**EASTING**  
**COORDINATE SYSTEM:**  
**REVIEWER** J. Zukin

**NOTES:**

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