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TRANSMITTAL

To: Todd Del Frate
CVRWQCB
11020 Sun Center Drive
Rancho Cordova, CA 95670

Date: May 3, 2011
Reference No: 116084-1
Copies to: Jeffory Scharff (jscharff@scharff.us
Jerry Hicks (jhicks@cityofsacramento.org)
Marty Strauss (mstrauss@cityofsacramento.org)

Subject: **DELLAR LANDFILL**

We are sending the following: ☒ **Attached** ☐ **Under separate cover**

Draft boring logs from borings advanced in the vicinity of the two proposed detention basins at the Dellar Landfill.

Via:
- ☐ Messenger/Courier
- ☒ First Class Mail
- ☐ FedEx
- ☐ United Parcel
- ☐ DHL
- ☐ Lone Star Overnight
- ☐ Freight
- ☒ Other (email)

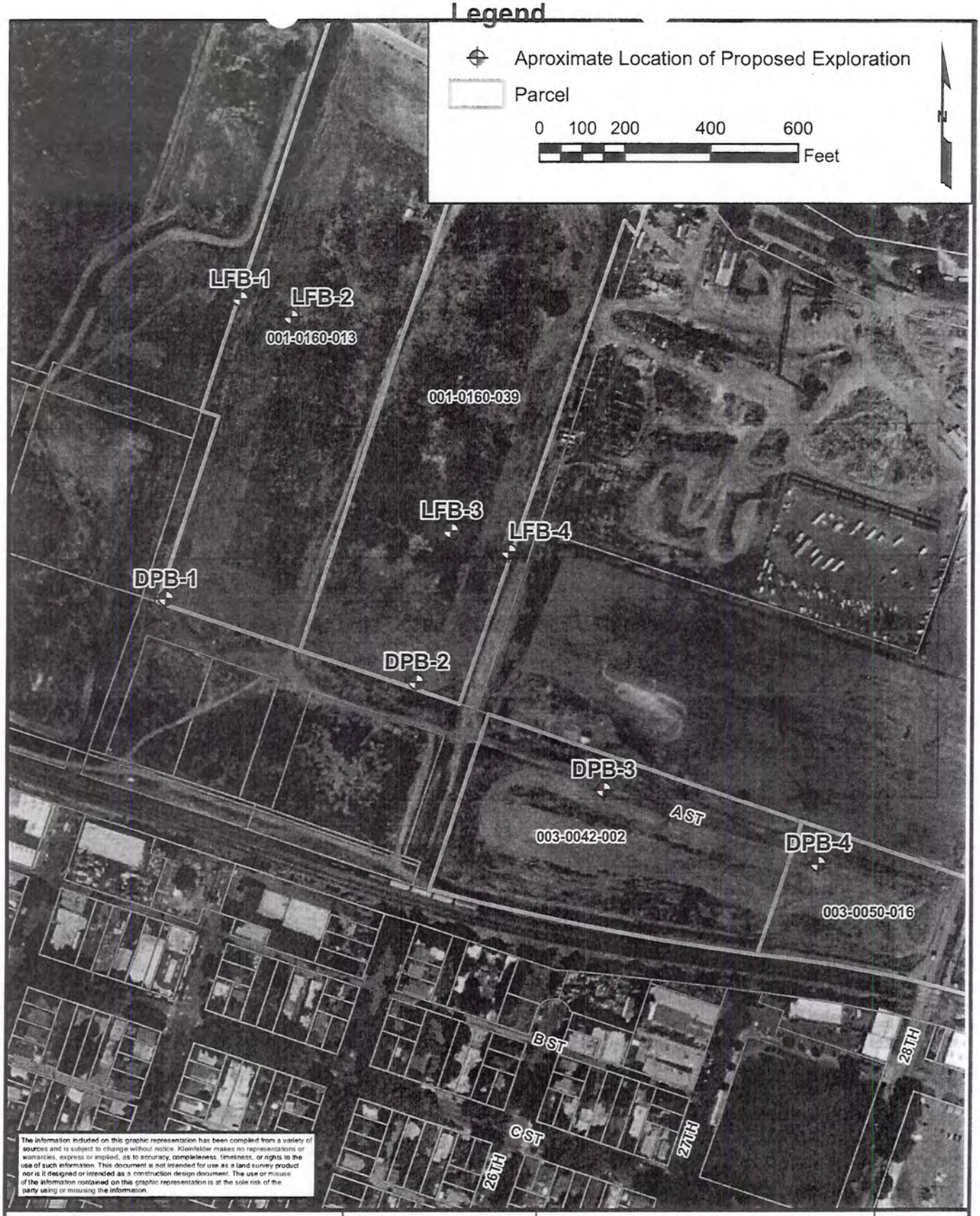
Transmitted:
- ☐ As Requested
- ☐ For Approval
- ☒ For Your Use
- ☐ For Review & Comment

Remarks:

By: Timothy A. Crandall, P.E.

116084/SAC11T041

3077 Fite Circle; Sacramento, CA 95827 • 916.366-1701 • 916.366-7013 fax



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PROJECT NO.	116081
DRAWN:	3/9/11
DRAWN BY:	I.McGovern
CHECKED BY:	C.White
FILE NAME:	EXP.MXD

PROPOSED EXPLORATION MAP

DELLAR LANDFILL CLOSURE
SACRAMENTO, CALIFORNIA

PLATE
1

DRAFT

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM 2487)

MAJOR DIVISIONS				GRAPHIC LOG		TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVELS WITH <5% FINES	Cu≥4 and 1≤Cc≤3		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			Cu<4 and/or 1>Cc>3		GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH 5 to 12% FINES	Cu≥4 and 1≤Cc≤3		GW-GM	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
			Cu<4 and/or 1>Cc>3		GP-GM	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GP-GC	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		GRAVELS WITH >12% FINES			GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
					GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
	SANDS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu≥6 and 1≤Cc≤3		SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu<6 and/or 1>Cc>3		SP	POORLY-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5 to 12% FINES	Cu≥6 and 1≤Cc≤3		SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
			Cu<6 and/or 1>Cc>3		SP-SM	POORLY-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SP-SC	POORLY-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		SANDS WITH >12% FINES			SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
					SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid limit less than 50)				ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY,
					CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid limit greater than 50)				MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
					CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
					OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

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Project Number:	**UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487)**	Plate
Date: 04-01-11		
Entry By:		
Checked By:		
File Name:		

USCS (D2487) KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/3/11

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SOIL DESCRIPTION KEY

MOISTURE CONTENT

DESCRIPTION	ABBR	FIELD TEST
Dry	D	Absence of moisture, dusty, dry to the touch
Moist	M	Damp but no visible water
Wet	W	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

PLASTICITY

DESCRIPTION	ABBR	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm) thread cannot be rolled at any water content.
Low (L)	LP	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	MP	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit
High (H)	HP	It takes considerable time rolling and kneeding to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4 in. thick, note thickness
Laminated	Alternating layers of varying material or color with the layer less than 1/4 in. thick, note thickness
Fissured	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided	Fracture planes appear polished or glossy, sometimes striated
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness
Homogeneous	Same color and appearance throughout

CONSISTENCY - FINE-GRAINED SOIL

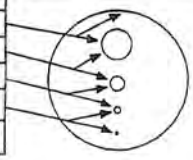
CONSISTENCY	ABBR	FIELD TEST
Very Soft	VS	Thumb will penetrate soil more than 1 in. (25 mm)
Soft	S	Thumb will penetrate soil about 1 in. (25 mm)
Firm	F	Thumb will indent soil about 1/4 in. (6 mm)
Hard	H	Thumb wil not indent soil but readily indented with thumbnail
Very Hard	VH	Thumbnail will not indent soil

GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		>12"	>12"	Larger than basketball-sized
Cobbles		3 - 12'	3 - 12"	Fist-sized to basketball-sized
Gravel	coarse	3/4 -3"	3/4 -3"	Thumb-sized to fist-sized
	fine	#4 - 3/4"	0.19 - 0.75"	Pea-sized to thumb-sized
Sand	coarse	#10 - #4	0.079 - 0.19"	Rock salt-sized to pea-sized
	medium	#40 - #10	0.017 - 0.079"	Sugar-sized to rock salt-sized
	fine	#200 - #10	0.0029 - 0.017"	Flour-sized to sugar-sized
Fines		Passing #200	<0.0029	Flour-sized and smaller

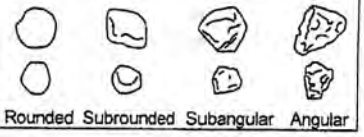
REACTION WITH HCL

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately



ANGULARITY

DESCRIPTION	ABBR	CRITERIA
Angular	A	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular	SA	Particles are similar to angular description but have rounded edges
Subrounded	SR	Particles have nearly plane sides but have well-rounded corners and edges
Rounded	R	Particles have smoothly curved sides and no edges



APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	ABBR	SPT (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)	FIELD TEST
Very Loose	VL	<4	<4	<5	0 - 15	Easily penetrated with 1/2-inch reinforcing rod by hand
Loose	L	4 - 10	5 - 12	5 - 15	15 - 35	Difficult to penetrate with 1/2-inch reinforcing rod pushed by hand
Medium Dense	MD	10 - 30	12- 35	15 - 40	35 - 65	Easily penetrated a foot with 1/2-inch reinforcing rod driven with 5-lb. hammer
Dense	D	30 - 50	35 - 60	40 - 70	65 - 85	Difficult to penetrate a foot with 1/2-inch reinforcing rod driven with 5-lb. hammer
Very Dense	VD	>50	>60	>70	85 - 100	Penetrated only a few inches with 1/2-inch reinforcing rod driven with 5-lb. hammer

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Project Number:	SOIL DESCRIPTION KEY	Plate
Date: 04-01-11		
Entry By:		
Checked By:		
File Name:		

SOIL BORING KEY KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/3/11

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LOG SYMBOLS

	BULK / BAG SAMPLE	-4	PERCENT FINER THAN THE NO. 4 SIEVE (ASTM Test Method C 136)
	MODIFIED CALIFORNIA SAMPLER (2-1/2 inch outside diameter)	-200	PERCENT FINER THAN THE NO. 200 SIEVE (ASTM Test Method C 117)
	CALIFORNIA SAMPLER (3 inch outside diameter)	LL	LIQUID LIMIT (ASTM Test Method D 4318)
	STANDARD PENETRATION SPLIT SPOON SAMPLER (2 inch outside diameter)	PI	PLASTICITY INDEX (ASTM Test Method D 4318)
	CONTINUOUS CORE	TXUU	CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (EM 1110-1-1906)/ASTM TEST METHOD D2850
	SHELBY TUBE	EI	EXPANSION INDEX (UBC STANDARD 18-2)
	ROCK CORE	COL	COLLAPSE POTENTIAL
	WATER LEVEL (level where first encountered)	UC	UNCONFINED COMPRESSION (ASTM Test Method D 2166)
	WATER LEVEL (level after completion)		
	SEEPAGE	MC	MOISTURE CONTENT (ASTM Test Method D 2216)

GENERAL NOTES

Boring log data represents a data snapshot.

This data represents subsurface characteristics only to the extent encountered at the location of the boring.

The data inherently cannot accurately predict the entire subsurface conditions to be encountered at the project site relative to construction or other subsurface activities.

Lines between soil layers and/or rock units are approximate and may be gradual transitions.

The information provided should be used only for the purposes intended as described in the accompanying documents.

In general, Unified Soil Classification System designations presented on the logs were evaluated by visual methods.

Where laboratory tests were performed, the designations reflect the laboratory test results.

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Project Number:	LOG KEY	Plate
Date: 04-01-11		
Entry By:		
Checked By:		
File Name:		

KA LOG KEY KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/3/11

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DRAFT

Boring Number: LFB-1	**Location:**	**Drilling Method:** Hollow-stem auger
Boring Total Depth: 26.5 ft	**Coordinates (X/Y, Lat/Long):** ft / ft	**Drilling Equipment:** CME 750
Depth to Rock: No Rock was Encountered	**Datum/Coordinate System:**	**Drilling Company:** Precision
Date Begin/End: 03-28-11 / 03-28-11	**Top of Boring Elevation:**	**Bit Size/Type:** 6 inch
Surface Conditions: Grassy area	**Coordinate Data Source:**	**Hammer Type/Method:** Automatic
Groundwater Meas. Pt.	**Depth to Groundwater Initial/Time:**	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: J. Hernandez	**Depth to Groundwater Final/Time:**	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Pocket Pen. (tsf)	Graphic Log	ASTM Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Consistency / Apparent Density	Plasticity	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes
5		1	2 2 3			SP-SM	**SAND** With Silt (SP-SM): brown, moist, fine to medium sand, (Fill)									
						SM	**Silty SAND** (SM): brown, moist, fine sand, (Fill)									
10		2	1 2 2													
						ML	Sandy **SILT** (ML): brown, moist, fine sand, (Native)	S								
15		3	2 4 6													
						SP	Poorly Graded **SAND** (SP): gray, dry to moist, fine to coarse sand									
20		4b 4a	6 12 14													

SOIL BORING LOG KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/9/11

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Project Number:	**BORING LOG LFB-1**
Date: 04-01-11	
Entry By:	
Checked By:	
File Name:	

Plate 1 of 2

DRAFT

Boring Number: LFB-1	**Location:**	**Drilling Method:** Hollow-stem auger
Boring Total Depth: 26.5 ft	**Coordinates (X/Y, Lat/Long):** ft / ft	**Drilling Equipment:** CME 750
Depth to Rock: No Rock was Encountered	**Datum/Coordinate System:**	**Drilling Company:** Precision
Date Begin/End: 03-28-11 / 03-28-11	**Top of Boring Elevation:**	**Bit Size/Type:** 6 inch
Surface Conditions: Grassy area	**Coordinate Data Source:**	**Hammer Type/Method:** Automatic
Groundwater Meas. Pt.	**Depth to Groundwater Initial/Time:**	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: J. Hernandez	**Depth to Groundwater Final/Time:**	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Pocket Pen. (tsf)	Graphic Log	ASTM Symbol	Field Soil Description & Classification: *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* — Description	Consistency / Apparent Density	Plasticity	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes
25		5	6 8 9				Boring completed at a depth of 26.5 ft below existing site grade.									
30																
35																
40																

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Project Number:	**BORING LOG LFB-1**
Date: 04-01-11	
Entry By:	
Checked By:	
File Name:	

Plate 2 of 2

SOIL BORING LOG KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/3/11

DRAFT

Boring Location/ Surface Conditions: Grassy

Groundwater: Groundwater not encountered.

Method: Hollow Stem Auger

Equipment: CME 750 With 140 lb. Automatic Hammer

Date Completed: 3/28/2011

Logged By: J. Hernandez

Total Depth: 26-1/2 feet

Boring Diameter: 6 inches

Depth (feet)	FIELD: Sample Type	FIELD: Sample No.	FIELD: Blows/6 inches	FIELD: PID (ppmv)	Graphic Log	DESCRIPTION
		1	1 2 3			**SILT With Sand** (ML): Brown, moist, soft, low plasticity, fine sand, (Fill)
		2	1 3 4			**SILT With Sand** (ML): Brown, moist, soft, low plasticity, fine sand, (Fill) Gray, fine to medium sand, glass and fabric on auger
5			1 3 4			-No Recovery in SPT at 5 feet Blow counts not recorded
		4a				**Sandy SILT** (ML): Dark brown, moist, soft, fine to coarse sand, with organics, (Fill)
10		5b 5a	1 2 3			**Poorly Graded SAND** (SP): Gray, moist, fine to coarse sand, (Fill)
		6a	1 2 3			**SILT With Sand** (ML): Black, moist, soft, fine to coarse sand, with organics, (Fill)
15		7a	5 5 6			**Poorly Graded SAND** (SP): Dark gray, moist, with cardboard and organics, (Fill)
		8b 8a	7 9 10			**SILT With Sand** (ML): Dark brown, moist, soft, fine to coarse sand, (Fill) **Poorly Graded SAND** (SP): Gray, moist, fine to coarse sand, (Native)
20		9	6 6 8			
		10	6 7 7			
25		11	6 7 7			
						Boring completed at a depth of 26-1/2 feet below existing site grade.

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Project Number: 116081	LOG LFB-2
Date: 5/3/2011	
Entry By: D. Ross	DELLAR PROPERTY
Checked By:	
File No. 116081-lfb	

Plate 1 of 1

ENV-REPORT 116081-LFB.GPJ 5/3/11

DRAFT

Boring Location/ Surface Conditions:	Highly vegetated	Date Completed:	3/30/2011
Groundwater:	Groundwater not encountered.	Logged By:	J. Hernandez
		Total Depth:	26-1/2 feet
Method:	Hollow Stem Auger	Boring Diameter:	6 inches
Equipment:	CME 750 With 140 lb. Automatic Hammer		

Depth (feet)	FIELD: Sample Type	Sample No.	Blows/6 inches	PID (ppmv)	Graphic Log	DESCRIPTION
		1	1 1 1			**SILT With Sand** (ML): Brown, moist, **soft, low plasticity, fine to medium sand, (Fill)**
		2	1 3 5			**SANDY SILT/SILTY SAND** (ML-SM): Brown to gray, moist, soft, low plasticity, fine to coarse sand, (Fill)
5		3	1 3 6			**Silty SAND** (SM): Gray, moist, fine to coarse sand, with wood, paper and glass, (Fill)
		4	2 3 4			**Poorly Graded SAND** (SP): Gray, moist, fine to coarse sand, with cardboard, wood and plastic, (Fill)
10		5	3 3 4			**Sandy SILT** (ML): Brown, moist, soft, low plasticity, fine to coarse sand, with wood, (Fill)
		6	2 2 2			**Poorly Graded SAND** (SP): Gray, moist, fine to coarse sand, with plastic, wood and hair, (Fill)
15		7	5 30 4			**Sandy SILT** (ML): Brown, moist, soft, low plasticity, fine to coarse sand, with plastic, glass, hair, and wood (Fill)
		8	7 3 5			With cardboard, wood and glass (Fill)
20		9	4 5 4			With wood, cardboard, plastic and fabric, (Fill)
		10	8 12 10			**SILT With Sand** (ML): Brown, moist, soft, fine to medium sand, (Fill)
25		11a	16 17 29			**Sandy SILT** (ML): Brown, moist, soft, fine to coarse sand, with glass and plastic (Fill)
						Boring completed at a depth of 26-1/2 feet below existing site grade.

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Project Number: 116081	LOG LFB-3	Plate 1 of 1
Date: 5/3/2011		
Entry By: D. Ross	DELLAR PROPERTY	
Checked By:		
File No. 116081-lfb		

ENV-REPORT 116081-LFB.GPJ 5/3/11

DRAFT

Boring Number: LFB-4	**Location:** Along eastern fence line	**Drilling Method:** Hollow-stem auger
Boring Total Depth: 26.5 ft	**Coordinates (X/Y, Lat/Long):** ft / ft	**Drilling Equipment:** CME 750
Depth to Rock: No Rock was Encountered	**Datum/Coordinate System:**	**Drilling Company:** Precision
Date Begin/End: 03-28-11 / 03-28-11	**Top of Boring Elevation:**	**Bit Size/Type:** 6 inch
Surface Conditions: Grassy	**Coordinate Data Source:**	**Hammer Type/Method:** Automatic
Groundwater Meas. Pt.	**Depth to Groundwater Initial/Time:**	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: J. Hernandez	**Depth to Groundwater Final/Time:**	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Pocket Pen. (tsf)	Graphic Log	ASTM Symbol	Field Soil Description & Classification *The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.* Description	Consistency / Apparent Density	Plasticity	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes
		1				ML	Sandy SILT (ML): brown, moist, fine to coarse sand, trace mica	S	Lp							
						SP-SM	Poorly Graded SAND With Silt (SP-SM): grayish brown, moist, fine to coarse sand									
5		2	2 3 2													
						SP	Poorly Graded SAND (SP): gray, moist, fine to medium sand, fabric and galss present									
10		3	3 2 3													
						SM	Silty SAND (SM): brown, moist, fine to medium sand									
15		4	4 8 8			ML	Sandy SILT (ML): grayish brown, moist, fine sand, wood debris	S	Lp							
						SM	Silty SAND (SM): gray, moist, fine sand									
20		5	4 3 5			SP	Poorly Graded SAND (SP): gray, moist, fine to coarse sand									

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Project Number:	**BORING LOG LFB-4**
Date: 04-01-11	
Entry By:	
Checked By:	
File Name:	

Plate 1 of 2

SOIL BORING LOG KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/3/11

DRAFT

Boring Number: LFB-4	**Location:** Along eastern fence line	**Drilling Method:** Hollow-stem auger
Boring Total Depth: 26.5 ft	**Coordinates (X/Y, Lat/Long):** ft / ft	**Drilling Equipment:** CME 750
Depth to Rock: No Rock was Encountered	**Datum/Coordinate System:**	**Drilling Company:** Precision
Date Begin/End: 03-28-11 / 03-28-11	**Top of Boring Elevation:**	**Bit Size/Type:** 6 inch
Surface Conditions: Grassy	**Coordinate Data Source:**	**Hammer Type/Method:** Automatic
Groundwater Meas. Pt.	**Depth to Groundwater Initial/Time:**	**Hammer Drop/Weight:** 30 in. / 140 lbs.
Logged By: J. Hernandez	**Depth to Groundwater Final/Time:**	**Angle From Horizontal/Bearing:** -90°

Depth (ft)	Sample Type Symbol	Sample Number	Blows per 6 in.	Pocket Pen. (tsf)	Graphic Log	ASTM Symbol	Field Soil Description & Classification: Description	Consistency / Apparent Density	Plasticity	Laboratory: Plasticity Index	Liquid Limit	Water Content (%)	Dry Unit Weight (pcf)	Passing #4 Sieve (%)	Passing #200 Sieve (%)	Other Tests and Field Notes
25		6	4 5 4				Boring completed at a depth of 26.5 ft below existing site grade.									
30																
35																
40																

The report and log key are an integral part of these logs. All data and interpretations in this log are subject to those stated explanations and limitations.

KLEINFELDER
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Project Number:	**BORING LOG LFB-4**
Date: 04-01-11	
Entry By:	
Checked By:	
File Name:	

Plate 2 of 2

SOIL BORING LOG KA CORPORATE STD.GDT KA CORPORATE STD - FEBRUARY 02.GLB 116081-1.GPJ 5/3/11