







Boring ID: **ILBS0308**

Borehole Diam. (in.): 3	Total Depth (ft): 0.9	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795996.79	Easting (ft): 268391.10	Job Number: 1008208	Site: IEL (North - Building Corner)
Drill Start Date: 02-08-2010	Start Time: 10:38	Logged By: A. Ruotolo	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 13:04	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Asphalt pavement at surface, cored prior to augering	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 13:07

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
						0			Asphalt over gravel road base					
	s			0.4		0.9		SP	Poorly Graded Sand, yellowish brown (10YR 5/4), medium dense, moist, mica present, possibly weathered sandstone [Native]			50	45	5
						1			Sandstone, dark yellowish brown (10YR 4/4), weathered, moderately friable, contains quartz, feldspar, and mica, iron oxidation [Chatsworth Formation] Total Depth = 0.9 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 13:05. Backfilled with soil cuttings and sealed with cold patch.					
						2								
						3								
						4								
						5								
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LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0309**

Borehole Diam. (in.): 3	Total Depth (ft): 0.9	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1796018.41	Easting (ft): 268396.12	Job Number: 1008208	Site: IEL (North - Building Corner)
Drill Start Date: 02-08-2010	Start Time: 10:51	Logged By: A. Ruotolo	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 10:56	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Asphalt pavement at surface, cored prior to augering	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 11:21

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
						0			Asphalt over 1 inch of gravel road base					
	s			1.2		0.9		SP	Poorly Graded Sand, dark greenish gray (GLEY 1 4/1), medium dense, moist, mica present, mild to moderate hydrocarbon odor (no ambient PID) [Native]		tr	60	40	
						1			Sandstone, dark yellowish brown (10YR 4/4), weathered, moderately friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 0.9 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 10:56. Backfilled with soil cuttings and sealed with cold patch.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0310**

Borehole Diam. (in.): 3	Total Depth (ft): 0.9	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795989.77	Easting (ft): 268376.92	Job Number: 1008208	Site: IEL (North - Building Corner)
Drill Start Date: 02-08-2010	Start Time: 10:24	Logged By: A. Ruotolo	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 12:59	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Asphalt pavement at surface, cored prior to augering	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 13:00

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
						0			Asphalt over of gravel road base					
	s			0.7		0.5		SP	Poorly Graded Sand, yellowish brown (10YR 5/4), medium dense, moist, mica present, possibly weathered sandstone [Native]			50	45	5
						1			Sandstone, dark yellowish brown (10YR 4/6), weathered, moderately friable, contains quartz, feldspar, and mica, iron oxidation [Chatsworth Formation] Total Depth = 0.9 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 12:59. Backfilled with soil cuttings and sealed with cold patch.					
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						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0311**

Borehole Diam. (in.): 3	Total Depth (ft): 0.7	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft):	Easting (ft):	Job Number: 1008208	Site: IEL (North - Building Corner)
Drill Start Date: 02-08-2010	Start Time: 13:24	Logged By: A. Ruotolo	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 13:25	Drilling Contractor: B.L. Hall	Field Instrumentation: N/A
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	
Comments: Asphalt pavement at surface, cored prior to augering		Well Comp. Date: N/A	Completion Time: N/A
Samplers: No sample collected		Soil Backfill Date: 02-08-2010	Backfill Time: NR

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
						0			Asphalt					
						0.7			Gravel road base, very moist to wet					
						1			Sandstone, dark yellowish brown (10YR 4/4), weathered, moderately friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 0.7 ft; terminated due to refusal on bedrock. No soil sample collected. Borehole sealed with cold patch.					
						2								
						3								
						4								
						5								
						6								
						7								
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						9								
						10								





LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0312**

Borehole Diam. (in.): 3	Total Depth (ft): 0.9	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1796038.41	Easting (ft): 268385.75	Job Number: 1008208	Site: IEL (North - Building Corner)
Drill Start Date: 02-08-2010	Start Time: 11:02	Logged By: A. Ruotolo	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 11:05	Drilling Contractor: B.L. Hall	Field Instrumentation: N/A
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Asphalt pavement at surface, cored prior to augering	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 11:21

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
						0			Asphalt over 1 inch of gravel road base					
	S					0.9		SP	Poorly Graded Sand, dark greenish gray (GLEY 1 4/1), medium dense, moist, mica present, mild to moderate hydrocarbon odor (no ambient PID) [Native]		tr	60	40	
						1			Sandstone, dark yellowish brown (10YR 4/4), weathered, moderately friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 0.9 ft; terminated due to refusal on bedrock.					
						2			Collected soil sample S001 at 13:50. Backfilled with soil cuttings and sealed with cold patch.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0313**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795933.72	Easting (ft): 268326.05	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 13:03	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 13:20	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 13:25

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.4		0		SC	Clayey Sand, dark brown (10YR 3/3), loose, moist, micaceous [Native]				70	30
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.8 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 13:08. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0314**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795917.57	Easting (ft): 268344.63	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 13:30	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 13:45	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Asphalt at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 13:50

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
						0			Asphalt pavement					
	s			0.2		0.8		SM	Silty Sand, yellowish brown (10YR 5/6), moist, trace clay, micaceous [Native]				60	40
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.8 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 13:35. Backfilled with soil cuttings and sealed with cold patch.					
						2								
						3								
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						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0315**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795957.56	Easting (ft): 268337.61	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 12:48	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 12:55	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 13:00

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.3	s			0.3		0		SC	Clayey Sand, dark yellowish brown (10YR 4/6), loose, moist, micaceous [Native]				70	30
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.8 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 12:50. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
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						7								
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						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0316**

Borehole Diam. (in.): 3	Total Depth (ft): 0.3	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795956.87	Easting (ft): 268322.70	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 12:15	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 12:40	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 12:45

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil					
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay	
	s			0.2		0		SC	Clayey Sand, dark brown (10YR 3/3), loose, moist, micaceous [Native]					60	40
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.3 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 12:35. Stepped out once to obtain sample volume. Backfilled with soil cuttings.						
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						3									
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0317**

Borehole Diam. (in.): 3	Total Depth (ft): 5.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795984.29	Easting (ft): 268294.98	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 10:10	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 11:00	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 11:05

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.9	s	0.9		0.9		0		SC	Clayey Sand, dark brown (10YR 3/3), loose, moist, micaceous [Native]				60	40
0.9 - 5.0	s	0.4		0.4		1			<p>becomes brownish yellow (10YR 6/6)</p>					
						5			<p>Total Depth = 5.0 ft; terminated prior to refusal on bedrock.</p> <p>Collected soil samples S001 at 10:28 and S002 at 10:50.</p> <p>Backfilled with soil cuttings.</p>					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0319**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 3.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795941.03	Easting (ft): 268295.58	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 01-28-2010	Start Time: 09:45	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 01-28-2010	Finish Time: 10:05	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Eric / Walter	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeves	Soil Backfill Date: 01-28-2010	Backfill Time: 10:10

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	S			0.1		0			Dark micaceous topsoil with roots					
	S					0.5		SM	Silty Sand, yellowish brown (10YR 5/8), medium dense, moist, trace clay stringers, micaceous [Native]				75	25
						3.0			Sandstone, weathered [Chatsworth Formation] Total Depth = 3.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 and duplicate D001 at 10:00. Backfilled with soil cuttings topped off with hydrated bentonite.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0321**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 2.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795932.19	Easting (ft): 268307.16	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 01-28-2010	Start Time: 09:28	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 01-28-2010	Finish Time: 09:38	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Eric / Walter	

Comments: **Native soil and weeds at surface** Well Comp. Date: **N/A** Completion Time: **N/A**
 Samplers: **Macrocore, discrete sample retained in 6-inch stainless steel sleeve** Soil Backfill Date: **01-28-2010** Backfill Time: **09:40**

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S			0.5		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, micaceous, contains roots [Native]				80	20
						1			becomes yellowish brown (10YR 5/8), medium dense, slight increase in silt content, no roots				75	25
						2			Sandstone, weathered [Chatsworth Formation] Total Depth = 2.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:30. Backfilled with soil cuttings and topped off with hydrated bentonite.					
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						4								
						5								
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						9								
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LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0322**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 2.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795918.48	Easting (ft): 268298.63	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 01-28-2010	Start Time: 08:40	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 01-28-2010	Finish Time: 09:20	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Eric / Walter	

Comments: Hydroseeded backfill at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 01-28-2010	Backfill Time: 09:24

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.3	s			0.3		0		SM	Silty Sand, yellowish brown (10YR 5/8), medium dense, moist, micaceous [Native]				75	25
						2			Sandstone, weathered [Chatsworth Formation] Total Depth = 2.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:05. Backfilled with soil cuttings and topped off with hydrated bentonite.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0324**

Borehole Diam. (in.): 3	Total Depth (ft): 2.3	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795958.85	Easting (ft): 268299.31	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 09:38	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 10:00	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 10:05

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			1.5		0		SC	Clayey Sand, dark brown (10YR 3/3), loose, moist, micaceous [Native]				70	30
						1			becomes brownish yellow (10YR 6/6)					
						2.3			Sandstone, weathered [Chatsworth Formation] Total Depth = 2.3 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:45. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0325**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1795979.35	Easting (ft): 268316.81	Job Number: 1008208	Site: IEL (North - Grass)
Drill Start Date: 02-08-2010	Start Time: 11:10	Logged By: S. Aichner	Reviewed By: B. Martasin, P.G. #8356
Drill Finish Date: 02-08-2010	Finish Time: 11:35	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Native soil and weeds at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-08-2010	Backfill Time: 11:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.3		0		SC	Clayey Sand, dark brown (10YR 3/3), loose, moist, micaceous [Native]	tr			70	30
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.8 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 11:20. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 2/27/10



Boring ID: **ILBS0341**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: ISRA Data Gap Sampling 2010, Outfall 009, Boeing Property	
Northing (ft): 268301.66	Easting (ft): 1795959.25	Job Number: 1008208	Site: IEL-1
Drill Start Date: 07-27-2010	Start Time: 13:24	Logged By: V. Vathanasin	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 07-27-2010	Finish Time: 13:31	Drilling Contractor: B.L. Hall	Field Instrumentation: N/A
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Surface recently weed abated	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 07-27-2010	Backfill Time: 13:31

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S					0		SM	Silty Sand, very pale brown (10YR 7/3), loose, dry, no odor or staining [Fill - Reworked Native Soil]			10	70	20
						0.5			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; refusal on bedrock.					
						1			Collected soil sample S001 at 13:29. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING: OUTFALL009_ISRA-2010.GPJ_BOEING.GDT 3/25/11



Boring ID: **LFBS0209A**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794279.74	Easting (ft): 267893.91	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 10:13	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 10:30	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 10:30

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, brown (10YR 4/3), loose, moist, micaceous [Native]				60	40
						1			Sandstone, yellowish brown (10YR 5/4), weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 10:20. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0213A**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794274.20	Easting (ft): 267874.14	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 14:03	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: NR	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	
Comments: In small clearing, bare soil covered with loose rock and burnt rock debris		Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve		Soil Backfill Date: 02-04-2010	Backfill Time: NR

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SP	Poorly Graded Sand, brown (10YR 5/3), dense, moist, abundant mica [Native]	5	10	40	40	5
						1			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 14:04. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/11



Boring ID: **LFBS0245**

Borehole Diam. (in.): 6	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 267826.02	Easting (ft): 1794219.74	Job Number: 1891614	Site: LETF
Drill Start Date: 07-14-2009	Start Time: 11:20	Logged By: S. Valenzuela	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 07-14-2009	Finish Time: 11:25	Drilling Contractor: B.L. Hall	Field Instrumentation: N/A
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Trowel	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Ben Cisneros	

Comments: Outside (to W) of debris area, exposed soil with sparse vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Hand trowel (soil placed in stainless steel sleeve)	Soil Backfill Date: 07-14-2009	Backfill Time: 11:25

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s					0		ML	Sandy Silt, light yellowish brown (10YR 6/4), stiff, dry, subangular sandstone gravel, low dry strength	tr	tr	10	20	70
						1			Total Depth = 0.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001. Backfilled with native soil.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2009.GPJ BOEING.GDT 5/4/10



Boring ID: **LFBS0246**

Borehole Diam. (in.): 6	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 267822.12	Easting (ft): 1794296.38	Job Number: 1891614	Site: LETF
Drill Start Date: 07-14-2009	Start Time: 11:25	Logged By: S. Valenzuela	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 07-14-2009	Finish Time: 11:40	Drilling Contractor: B.L. Hall	Field Instrumentation: N/A
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Trowel	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: Ben Cisneros	
Comments: Outside (to SE) of debris area, exposed soil with sparse vegetation at surface		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Hand trowel (soil placed in stainless steel sleeve)		Soil Backfill Date: 07-14-2009	Backfill Time: 11:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S					0		SM	Silty Sand, light yellowish brown (10YR 6/4), medium dense, dry	tr	tr	20	40	30
						1			Total Depth = 0.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001. Backfilled with native soil.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2009.GPJ BOEING.GDT 5/4/10



Boring ID: **LFBS0246A**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 3.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794293.09	Easting (ft): 267823.83	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 12:18	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 12:24	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Flat area, some dried vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 12:47

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SP	Poorly Graded Sand, dark yellowish brown (10YR 4/4), medium dense, moist, contains trace gravel-size sandstone fragments, mica [Native]	tr	15	40	40	5
0.5 - 3.0	s			0.0		1			↓ becomes very dark brown (10YR 2/2) ↓ becomes wet					
3.0 - 3.5						3			Sandstone, light yellowish brown (10YR 6/4), slightly weathered, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 3.5 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 12:22 and S002 at 12:24. Backfilled with soil cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0263**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794251.03	Easting (ft): 268029.79	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 12:29	Logged By: B. Martasin, P.G.	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 12:32	Drilling Contractor: B.L. Hall	Field Instrumentation: N/A
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Grassy surface in center of drainage	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 12:35

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	S					0		SM	Silty Sand, dark brown (7.5YR 3/2), loose, moist, fine angular to rounded sandstone gravel to 1/4 inch dia., contains rootlets [Native]	10	10	10	30	40
						0.5			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock.					
						1			Collected soil sample S001 at 12:30. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0264**

Borehole Diam. (in.): 3	Total Depth (ft): 2.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794255.76	Easting (ft): 268032.11	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 10:35	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 10:45	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 10:45

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, contains trace fine gravel-size sandstone fragments, trace clay, micaceous [Native]	tr			60	40
						2			Sandstone, yellowish brown (10YR 5/6), weathered, friable [Chatsworth Formation] Total Depth = 2.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 10:37. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0265**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794260.42	Easting (ft): 268033.12	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 10:48	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 11:04	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 11:04

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, contains trace fine gravel-size sandstone fragments, trace clay, micaceous [Native]	tr			60	40
						1			Sandstone, yellowish brown (10YR 5/6), weathered, friable [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 10:54. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0266**

Borehole Diam. (in.): 3	Total Depth (ft): 3.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794242.15	Easting (ft): 268031.82	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 11:06	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 11:15	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 11:15

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, contains trace fine gravel-size sandstone fragments, trace clay, micaceous [Native]	tr			60	40
						3			Sandstone, yellowish brown (10YR 5/6), weathered [Chatsworth Formation] Total Depth = 3.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 11:10. Backfilled with soil cuttings.					

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0267**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794270.81	Easting (ft): 267951.41	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 08:20	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 08:35	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 08:35

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, contains trace fine gravel-size sandstone fragments, micaceous [Native]	tr			60	40
						1			Sandstone, yellowish brown (10YR 5/6), weathered [Chatsworth Formation] Total Depth = 0.8 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 08:30. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0268**

Borehole Diam. (in.): 3	Total Depth (ft): 4.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794275.33	Easting (ft): 267954.87	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 08:33	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 09:15	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 09:15

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, very dark grayish brown (10YR 3/2), loose, moist, contains trace gravel-size angular sandstone fragments, micaceous [Native]	tr			60	40
3.5 - 4.0	s			0.0		4		SC	Clayey Sand, dark yellowish brown (10YR 4/4), wet, trace gravel-size sandstone fragments, micaceous [Native]	tr			70	30
<p>Total Depth = 4.5 ft; terminated due to water infiltration. Stepped out and augered a second boring to collect sample at 3.5-4.0 ft.</p> <p>Collected soil sample S001 at 08:40. Collected soil sample S002 from 3.5-4.0 ft in step-out boring at 09:10.</p> <p>Backfilled both borings with soil cuttings.</p>														

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0269**

Borehole Diam. (in.): 3	Total Depth (ft): 5.3	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794280.38	Easting (ft): 267958.32	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 09:18	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 09:45	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 09:45

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, contains trace fine gravel-size angular sandstone gravel, micaceous [Native]	tr			60	40
4.5 - 5.0	s			0.0		5			becomes dark yellowish brown (10YR 4/4)					
Sandstone, yellowish brown (10YR 5/6), weathered, friable [Chatsworth Formation]														
Total Depth = 5.3 ft; terminated due to refusal on bedrock.														
Collected soil samples S001 at 09:19 and S002 at 09:30.														
Backfilled with soil cuttings.														

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Boring ID: **LFBS0270**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794264.00	Easting (ft): 267946.86	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 09:50	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 10:05	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 10:05

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, very dark grayish brown (10YR 3/2), loose, moist, trace clay, micaceous [Native]				60	40
						1			Sandstone, yellowish brown (10YR 5/6), weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:58. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0271**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794258.06	Easting (ft): 267942.73	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-04-2010	Start Time: 10:17	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-04-2010	Finish Time: 10:25	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-04-2010	Backfill Time: 10:25

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, very dark grayish brown (10YR 3/2), loose, moist, trace clay, micaceous [Native]				60	40
						1			Sandstone, yellowish brown (10YR 5/6), weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 10:20. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0272**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794275.33	Easting (ft): 267893.97	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 09:30	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 09:40	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 09:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S			0.0		0		SM	Silty Sand, dark yellowish brown (10YR 4/6), loose, moist, micaceous [Native]				70	30
						1			Sandstone, light yellowish brown (10YR 6/4), weathered, friable [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:40. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0273**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794284.48	Easting (ft): 267890.64	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 09:43	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 09:55	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 09:55

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, yellowish brown (10YR 5/4), loose, moist, trace clay, micaceous [Native]				70	30
						1			Sandstone, brownish yellow (10YR 6/6), weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:50. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0274**

Borehole Diam. (in.): 3	Total Depth (ft): 1.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794290.99	Easting (ft): 267890.71	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 09:58	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 10:10	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 10:10

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), loose, moist, micaceous [Native]				60	40
						1			Sandstone, yellowish brown (10YR 5/4), weathered [Chatsworth Formation] Total Depth = 1.5 ft; terminated due to refusal on bedrock.					
						2			Collected soil sample S001 at 10:05. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0276**

Borehole Diam. (in.): 3	Total Depth (ft): 1.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794256.05	Easting (ft): 267864.53	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 08:12	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 08:40	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 08:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	S			0.1		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), loose, moist, micaceous [Native]				70	30
						1			Sandstone, brownish yellow (10YR 6/8), weathered [Chatsworth Formation] Total Depth = 1.5 ft; terminated due to refusal on bedrock. Collected soil samples S001 and S001SP at 08:30. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0277**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794256.81	Easting (ft): 267886.73	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 09:10	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 09:15	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 09:15

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.1		0		SM	Silty Sand, yellowish brown (10YR 5/6), loose, moist, micaceous [Native]				70	30
						1			Sandstone, brownish yellow (10YR 6/6), weathered, friable [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:12. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0280**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 4.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794240.46	Easting (ft): 267836.42	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 09:06	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 09:10	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Surface covered with gravel road base (1-2 in.), removed prior to drilling	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 09:20

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 2.5	s			0.0		0		SP	Poorly Graded Sand, dark brown (10YR 3/3), medium dense, moist, contains trace gravel-size sandstone fragments, mica [Native]	tr	10	45	40	5
2.5 - 3.5						3		SC	Clayey Sand, dark grayish brown (10YR 4/2), dense, moist, medium plasticity clay, mica present [Native]	tr	5	25	30	40
3.5 - 4.0						4			▼ significant decrease in clay content Sandstone, pale yellow (2.5Y 7/4), moderately weathered, slightly friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 4.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:09. Backfilled with soil cuttings.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0281**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 3.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794255.04	Easting (ft): 267840.67	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 13:18	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 13:24	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Surface covered with gravel road base (1-2 in.), removed prior to drilling	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 13:31

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SW	Well Graded Sand, yellowish brown (10YR 5/6), medium dense, moist, mica present [Native]		20	40	35	5
0.5 - 3.5	s			0.0		1			iron oxidation					
3.5 - 3.5						3			Sandstone, brownish yellow (10YR 6/6), highly weathered, friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 3.5 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 13:23 and S002 at 13:24. Backfilled with soil cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0282**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 5.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794246.82	Easting (ft): 267854.85	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 08:06	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 08:13	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Targeting small metal debris pile, debris scraped away prior to drilling	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 08:25

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, mica present [Native]		10	30	40	20
1.5 - 2.0						2		SM	Silty Sand with Gravel, dark yellowish brown (10YR 4/4), medium dense, moist, fine to coarse sandstone gravel to 1 inch dia., mica present [Native]	30	10	20	20	20
4.0 - 5.0	s			0.0		5		SP	Poorly Graded Sand, brownish yellow (10YR 6/6), dense, dry, mica present [Native]		10	45	40	5
Sandstone, yellow (10YR 7/6), moderately weathered, moderately friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 5.5 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 08:07 and S002 at 08:13. Backfilled with soil cuttings.														

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0283**

Borehole Diam. (in.): 3	Total Depth (ft): 1.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794283.81	Easting (ft): 267877.84	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 13:00	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 13:30	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Sandy fill and black debris at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 13:30

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	s			0.1		0		SP	Poorly Graded Sand, light brownish gray (10YR 6/2), loose, dry, resembles "beach sand" (fine to medium grains), contains burnt black debris [Fill]					
0.1 - 0.2	s			0.1		1		SM	Silty Sand, yellowish brown (10YR 5/4), loose, moist, micaceous [Native]				60	40
Sandstone, brownish yellow (10YR 6/6), weathered [Chatsworth Formation]														
Total Depth = 1.5 ft; terminated due to refusal on bedrock.														
Collected soil samples S001 (grab sample that includes pieces of black debris) at 13:18 and S002 at 13:23.														
Backfilled with soil cuttings.														
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0284**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794309.55	Easting (ft): 267902.19	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 13:33	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 13:51	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 13:51

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.4	s			0.4		0		SM	Silty Sand, yellowish brown (10YR 5/4), loose, moist, micaceous [Native]				60	40
						1			Sandstone, brownish yellow (10YR 6/6), weathered [Chatsworth Formation] Total Depth = 0.8 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 13:43. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0285**

Borehole Diam. (in.): 3	Total Depth (ft): 0.3	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794327.95	Easting (ft): 267902.25	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 13:53	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 14:10	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 14:10

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil					
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay	
0 - 0.3	s			0.4		0		SM	Silty Sand, dark brown (10YR 3/3), loose, moist, micaceous, roots [Native]					60	40
						1			Sandstone, yellowish brown (10YR 5/6), weathered [Chatsworth Formation] Total Depth = 0.3 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 13:58; several step-outs required to obtain sample volume. Backfilled with soil cuttings.						
						2									
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0286**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 2.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794305.65	Easting (ft): 267812.65	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 10:42	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 10:49	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Just NW of open end of old metal pipeline, surrounded by fresh grass	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 10:58

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	s			0.1		0		SP	Poorly Graded Sand, dark brown (10YR 3/3), medium dense, moist, mica present [Native]		10	45	40	5
						1			charred vegetation debris					
						1 - 2			becomes yellowish brown (10YR 5/6)					
						2 - 2.5			becomes dark yellowish brown (10YR 4/4), wet					
						2.5			Sandstone, brownish yellow (10YR 6/6), highly weathered, friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 2.5 ft; terminated due to refusal on bedrock.					
						3			Collected soil sample S001 at 10:49.					
						4			Backfilled with soil cuttings.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0287**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 2.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794321.92	Easting (ft): 267814.94	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 12:51	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 12:56	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Approx. 2 to 3 ft from rock outcrop, fresh grass at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 13:12

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SP	Poorly Graded Sand, dark brown (10YR 3/3), medium dense, moist, mica present [Native]	tr	10	45	40	5
						1			↙ becomes wet					
						2			↙ becomes brownish yellow (10YR 6/6), iron oxidation					
						3			Sandstone, brownish yellow (10YR 6/6), highly weathered, friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 2.5 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 12:56. Backfilled with soil cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0288**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 3.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794312.89	Easting (ft): 267830.65	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 10:12	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 10:20	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: On relatively flat surface sparsely covered with fresh grass	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 10:41

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil					
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay	
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), dense, moist, contains few rootlets, mica present [Native]		10	30	40	20	
0.5 - 1.0						1									
1.0 - 2.5						2									
2.5 - 3.0	s			0.0		3		SP	Poorly Graded Sand, yellowish brown (10YR 5/6), medium dense, moist, abundant mica present [Native]		10	45	40	5	
3.0 - 3.0						3			Sandstone, brownish yellow (10YR 6/6), highly weathered, friable, contains quartz, feldspar, and mica, iron oxidation [Chatsworth Formation] Total Depth = 3.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 10:18 and S002 at 10:20. Backfilled with soil cuttings.						
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0289**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 2.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794333.25	Easting (ft): 267840.94	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 09:49	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 09:57	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Dried and fresh grass at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 10:10

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), medium dense, moist, contains roots and rootlets in first few inches, mica present [Native]		10	30	40	20
0.5 - 1.5						1		SW	Well Graded Sand, yellowish brown (10YR 5/6), medium dense, moist, abundant mica present [Native]	tr	20	40	35	5
1.5 - 2.0						2			Sandstone, yellowish brown (10YR 5/6), highly weathered, friable, contains quartz, feldspar, and mica, iron oxidation [Chatsworth Formation] Total Depth = 2.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:54. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0290**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 3.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794326.82	Easting (ft): 267856.03	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 08:54	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 08:59	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Fresh grass at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-02-2010	Backfill Time: 09:17

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SP-SM	Poorly Graded Sand with Silt, yellowish brown (10YR 5/4), dense, moist, mica present [Native]	5	15	40	30	10
0.5 - 2.8	s			0.0		1			very dark brown (10YR 2/2)					
2.8 - 3.0						3			Sandstone [Chatsworth Formation] Total Depth = 3.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 08:54 and S002 at 08:59. Backfilled with soil cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT 2/25/10



Boring ID: **LFBS0291**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 2.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794344.05	Easting (ft): 267860.32	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-02-2010	Start Time: 09:20	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-02-2010	Finish Time: 09:28	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	
Comments: Dead and fresh grass-covered surface surrounded by rock outcrops		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve		Soil Backfill Date: 02-02-2010	Backfill Time: 09:38

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), medium dense, moist, contains wood fragments, mica present [Native]	tr	10	30	40	20
0.5 - 1.5						1		SW	Well Graded Sand, yellowish brown (10YR 5/6), medium dense, moist, contains rootlets and wood fragments, abundant mica present [Native]	tr	25	35	35	5
Sandstone [Chatsworth Formation]														
Total Depth = 2.5 ft; terminated due to refusal on bedrock.														
Collected soil sample S001 at 09:24.														
Backfilled with soil cuttings.														
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0292**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794231.67	Easting (ft): 267815.92	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 09:34	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 09:40	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: On relatively flat surface sparsely covered with fresh grass	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 09:52

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S			0.0		0		SP	Poorly Graded Sand, brownish yellow (10YR 6/6), medium dense, moist, mica present [Native]		10	45	40	5
0.5 - 1.0	S					1			Sandstone, very pale brown (10YR 7/4), highly weathered, friable, fine-grained, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 09:36 and D001 at 09:39. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0293**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794230.63	Easting (ft): 267797.73	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 10:00	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 10:05	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: On grassy slope adjacent to rock outcrop	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 10:23

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SP	Poorly Graded Sand, yellowish brown (10YR 5/4), medium dense, moist, mica present [Native]		10	45	40	5
						1			Sandstone, pale yellow (2.5Y 7/4), highly weathered, friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 10:04. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0294**

Borehole Diam. (in.): 2-1/4	Total Depth (ft): 4.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794240.98	Easting (ft): 267849.96	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-03-2010	Start Time: 08:39	Logged By: A. Ruotolo	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-03-2010	Finish Time: 08:43	Drilling Contractor: Strongarm	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Geoprobe/Direct Push	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: E. Herrera / D. Hawkins	

Comments: Targeting small depression west of metal debris pile	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Macrocore, discrete sample retained in 6-inch stainless steel sleeve	Soil Backfill Date: 02-03-2010	Backfill Time: 09:03

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil					
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay	
0 - 3.8	s			0.0		0		SP-SM	Poorly Graded Sand with Silt, yellowish brown (10YR 5/6), medium dense, moist, sandstone gravel, mica present [Native]	10	10	30	40	10	
3.8 - 4.0						3		CL	Lean Clay, dark grayish brown (10YR 4/2), medium stiff, moist, medium plasticity					10	90
						4			Sandstone, brownish yellow (10YR 6/6), highly weathered, moderately friable, contains quartz, feldspar, and mica [Chatsworth Formation] Total Depth = 4.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 08:41. Backfilled with soil cuttings.						
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL009.GPJ - BOEING.GDT - 2/25/10



Boring ID: **LFBS0295**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794231.87	Easting (ft): 267870.02	Job Number: 1008208	Site: A1LF-2 (Southern Drainage)
Drill Start Date: 02-09-2010	Start Time: 08:16	Logged By: S. Aichner	Reviewed By: V. Vathanasin, P.G.
Drill Finish Date: 02-09-2010	Finish Time: 08:45	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Native soil and vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 02-09-2010	Backfill Time: 08:45

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.6	s			0.6		0		SM	Silty Sand, yellowish brown (10YR 5/6), medium dense, moist, micaceous [Native]				60	40
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 08:25. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009.GPJ BOEING.GDT 2/25/10



Boring ID: **LFBS0317**

Borehole Diam. (in.): 3	Total Depth (ft): 3.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794225.30	Easting (ft): 267848.23	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 08:18	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 08:27	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 08:30

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, light yellowish brown (10YR 6/4), dense, moist, contains sandstone fragments, micaceous [Native]				70	30
						3			Sandstone, light yellowish brown (10YR 6/4), fine-grained, weathered, friable [Chatsworth Formation] Total Depth = 3.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 08:20. Backfilled with soil cuttings.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0318**

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794259.59	Easting (ft): 267811.81	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 08:09	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 08:15	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments:	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 08:16

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.6	s			0.0		0		SM	Silty Sand, brown (10YR 5/3), medium dense, moist, contains weathered sandstone fragments [Native]			10	55	35
						1			Sandstone, yellowish brown (10YR 5/4), weathered, moderately strong, friable [Chatsworth Formation] Total Depth = 0.6 ft (7 in.); terminated due to refusal on bedrock. Collected soil sample S001 at 08:12. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0319**

Borehole Diam. (in.): 3	Total Depth (ft): 2.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794277.52	Easting (ft): 267830.68	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 08:02	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 08:07	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Imported gravel at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 08:09

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, contains weathered sandstone fragments [Native]				60	40
						2			Sandstone, yellowish brown (10YR 5/4), weathered, weak, friable [Chatsworth Formation]					
						2.0			Total Depth = 2.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 08:03. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0320**

Borehole Diam. (in.): 3	Total Depth (ft): 0.8	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794294.55	Easting (ft): 267846.22	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 07:50	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 07:58	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Sparsely vegetated surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 08:00

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.8	s			0.0		0		SM	Silty Sand, yellowish brown (10YR 5/4), medium dense, moist, contains weathered sandstone fragments, iron oxide staining [Native]				70	30
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 0.8 ft (9 in.); terminated due to refusal on bedrock. Collected soil sample S001 at 07:52. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0321**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794282.43	Easting (ft): 267916.74	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 08:53	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 08:57	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 08:58

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, contains weathered sandstone fragments, rootlets [Native]			15	50	35
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 08:55. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0321A**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794282.43	Easting (ft): 267916.74	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-09-2010	Start Time: 08:15	Logged By: J. Wokurka	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-09-2010	Finish Time: 08:22	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Bare soil surface east of road, below (north of) ridgeline	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-09-2010	Backfill Time: 08:22

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S			0.0		0		SM	Silty Sand, light yellowish brown (10YR 6/4), loose to medium dense, moist, subrounded sandstone gravel, no staining or odor [Alluvium/Colluvium]	10		5	65	20
						0.5			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock.					
						1			Collected soil sample S001. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0322**

Borehole Diam. (in.): 3	Total Depth (ft): 1.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794291.68	Easting (ft): 267920.33	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 09:02	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 09:07	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 09:08

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, contains weathered sandstone fragments, rootlets [Native]			10	60	30
						1			Sandstone, weathered [Chatsworth Formation] Total Depth = 1.0 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:05. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0322B**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794291.68	Easting (ft): 267920.33	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-09-2010	Start Time: 08:30	Logged By: J. Wokurka	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-09-2010	Finish Time: 08:40	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Bare soil surface east of road, below (north of) ridgeline	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-09-2010	Backfill Time: 08:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	S			0.1		0		SM	Silty Sand, very dark gray (10YR 3/1), loose, moist, subrounded grains, no staining or odor [Alluvium/Colluvium]				80	20
						0.5			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock.					
						1			Collected soil sample S001. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0323**

Borehole Diam. (in.): 3	Total Depth (ft): 0.6	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794277.15	Easting (ft): 267915.99	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 08:46	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 08:50	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Sparsely vegetated surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 08:51

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.0		0		SM	Silty Sand, brown (10YR 5/3), medium dense, moist, contains weathered sandstone fragments, rootlets [Native]			10	60	30
						1			Sandstone, yellowish brown (10YR 5/4), fine-grained, weathered, friable [Chatsworth Formation] Total Depth = 0.6 ft (7 in.); terminated due to refusal on bedrock. Collected soil sample S001 at 08:49. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0323A**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794277.15	Easting (ft): 267915.99	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-09-2010	Start Time: 08:38	Logged By: J. Wokurka	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-09-2010	Finish Time: 08:50	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Bare soil surface east of road, below (north of) ridgeline	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-09-2010	Backfill Time: 08:50

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.1		0		SM	Silty Sand, very dark gray (10YR 3/1), loose, moist, subrounded grains, no staining or odor [Alluvium/Colluvium]				80	20
						0.5			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock.					
						1			Collected soil sample S001. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0324**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794296.21	Easting (ft): 267922.78	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-03-2010	Start Time: 09:08	Logged By: B. Martasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-03-2010	Finish Time: 09:15	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Vegetation at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-03-2010	Backfill Time: 09:16

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.0		0		SM	Silty Sand, dark brown (7.5YR 3/2), loose, moist, contains rootlets [Native]			15	60	25
						1			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 09:10. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0324A**

Borehole Diam. (in.): 3	Total Depth (ft): 0.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794296.21	Easting (ft): 267922.78	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-09-2010	Start Time: 08:50	Logged By: J. Wokurka	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-09-2010	Finish Time: 09:00	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: M. Hoehn	

Comments: Bare soil surface east of road, below (north of) ridgeline	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-09-2010	Backfill Time: 09:00

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
	s			0.1		0		SM	Silty Sand, very dark gray (10YR 3/1), loose to medium dense, moist, subrounded grains, contains minor organics, no staining or odor [Alluvium/Colluvium]				75	25
						0.5			Sandstone [Chatsworth Formation] Total Depth = 0.5 ft; terminated due to refusal on bedrock.					
						1			Collected soil sample S001. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **LFBS0325**

Borehole Diam. (in.): 3	Total Depth (ft): 3.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794253.71	Easting (ft): 267993.82	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 14:00	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 14:20	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: In drainage	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 14:20

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, dark brown (10YR 3/3), loose, dry, trace fine gravel, trace clay, contains organic debris, no staining or odor [Native]	tr		15	60	25
						3			Sandstone, weathered [Chatsworth Formation] Total Depth = 3.0 ft; terminated due to refusal on bedrock. One step-out met refusal at same depth. Collected soil sample S001 at 14:00. Backfilled both locations with soil cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0326**

Borehole Diam. (in.): 3	Total Depth (ft): 4.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794259.48	Easting (ft): 267995.11	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 13:00	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 13:15	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	
Comments: Steep slope west of drainage, surface covered with brush and grass		Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve		Soil Backfill Date: 03-17-2010	Backfill Time: 13:15

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	s			0.1		0		SM	Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, trace fine gravel, no staining or odor [Native]	tr	tr	10	65	25
0.1 - 0.2						1								
0.2 - 0.3						2								
0.3 - 0.4						3			↙ slight increase in sand content, grades coarser	tr	5	20	55	20
0.4 - 0.5	s			0.0		4			Sandstone [Chatsworth Formation] Total Depth = 4.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 13:00 and S002 at 13:10. Backfilled with soil cuttings.					
0.5 - 0.6						5								
0.6 - 0.7						6								
0.7 - 0.8						7								
0.8 - 0.9						8								
0.9 - 1.0						9								
1.0 - 1.1						10								

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Boring ID: **LFBS0327**

Borehole Diam. (in.): 3	Total Depth (ft): 4.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794264.56	Easting (ft): 267995.93	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 12:35	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 12:55	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: North-facing slope covered with brush	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 12:55

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	s	0.1				0		SM	Silty Sand, brown (10YR 4/3), loose, dry, contains roots, no staining or odor [Native]		5	15	60	20
0.1 - 0.4	s	0.0				0.1			becomes pale brown (10YR 6/3)					
0.4 - 4.0						4			Sandstone [Chatsworth Formation] Total Depth = 4.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 12:37 and S002 at 12:49. Backfilled with soil cuttings.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0328**

Borehole Diam. (in.): 3	Total Depth (ft): 1.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794248.73	Easting (ft): 267992.30	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 13:25	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 13:40	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Grassy surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 13:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, brown (10YR 4/3), loose, moist, trace fine gravel, no staining or odor [Native]	tr		15	55	30
						1.5			Sandstone [Chatsworth Formation] Total Depth = 1.5 ft; terminated due to refusal on bedrock. Collected soil sample S001 at 13:25. Backfilled with soil cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0329**

Borehole Diam. (in.): 3	Total Depth (ft): 2.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794242.98	Easting (ft): 267989.51	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 13:40	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 13:55	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Small bushes at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 13:55

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	s			0.1		0		SM	Silty Sand, brown (10YR 4/3), loose, dry, trace fine gravel, contains small amount of burned roots, no staining or odor [Native]	tr		15	65	20
						2.5			Sandstone, weathered [Chatsworth Formation] Total Depth = 2.5 ft; terminated due to refusal on bedrock. One step-out met refusal at same depth. Collected soil sample S001 at 13:47. Backfilled both locations with soil cuttings.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0330**

Borehole Diam. (in.): 3	Total Depth (ft): 5.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794257.85	Easting (ft): 267972.69	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 09:45	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 10:12	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: In drainage, scattered debris at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 10:15

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, brown (10YR 4/3), loose, dry, fine gravel, no staining or odor [Native]	5	10	10	60	15
						3			↙ becomes moist					
						5			↙ increase in fines content	5	10	5	55	25
						5			Sandstone, weathered [Chatsworth Formation] Total Depth = 5.0 ft (second attempt); terminated due to refusal on bedrock. Refusal at 1.3 ft in first boring. Collected soil samples S001 at 09:54 and S002 at 10:10. Backfilled both locations with soil cuttings.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0331**

Borehole Diam. (in.): 3	Total Depth (ft): 4.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794262.84	Easting (ft): 267973.62	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 10:25	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 10:55	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Grass and organic debris at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 10:55

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.1	s			0.0		0		SM	Silty Sand, brown (10YR 4/3), loose, dry, trace fine gravel, no staining or odor [Native]	tr	tr	15	65	20
0.1 - 4.0	s			0.1		4			Sandstone [Chatsworth Formation] Total Depth = 4.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 10:28 and S002 at 10:42. Backfilled with soil cuttings.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0332**

Borehole Diam. (in.): 3	Total Depth (ft): 2.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794268.59	Easting (ft): 267974.63	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 11:00	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 11:10	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Grassy slope along east bank of drainage	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 11:10

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, brown (10YR 4/3), loose, dry, trace fine gravel, dark staining, no odor [Native]	tr		15	65	20
						2			Sandstone [Chatsworth Formation] Total Depth = 2.0 ft; terminated due to refusal on bedrock. One step-out met refusal at same depth. Collected soil sample S001 at 11:01. Backfilled both locations with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0333**

Borehole Diam. (in.): 3	Total Depth (ft): 6.0	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794252.53	Easting (ft): 267970.92	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 09:20	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 09:42	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: On north facing slope covered with brush	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 09:42

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.1		0		SM	Silty Sand, pale brown (10YR 6/3), loose, dry, no staining or odor [Native]	tr	5	20	55	20
						2			becomes brown (10YR 5/3), contains roots					
						5			becomes moist, slight increase in sand content, grades coarser	tr	10	25	50	15
						6			Sandstone, weathered [Chatsworth Formation] Total Depth = 6.0 ft; terminated due to refusal on bedrock. Collected soil samples S001 at 09:19 and S002 at 09:40. Backfilled with soil cuttings.					

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0334**

Borehole Diam. (in.): 3	Total Depth (ft): 5.5	Project: SSFL - ISRA Data Gap Sampling 2010 (Outfall 009 Area)	
Northing (ft): 1794247.54	Easting (ft): 267969.48	Job Number: 1008208	Site: A1LF-2 (Debris Drainage)
Drill Start Date: 03-17-2010	Start Time: 08:35	Logged By: V. Vathanasin, P.G.	Reviewed By: C. Carter, P.G.
Drill Finish Date: 03-17-2010	Finish Time: 09:00	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: Heavy brush at surface	Well Comp. Date: N/A	Completion Time: N/A
Samplers: 6-inch stainless steel sleeve	Soil Backfill Date: 03-17-2010	Backfill Time: 09:02

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil					
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay	
0 - 0.5	s			0.0		0		SM	Silty Sand, pale brown (10YR 6/3), loose, dry, no staining or odor [Native]	tr	5	20	55	20	
						1									
						2									
						3									
						4									
						4.5			↙ becomes moist						
						5		SP-SM	Poorly Graded Sand with Silt, brown (10YR 5/3), loose, moist, no staining or odor [Native]	tr	10	35	45	10	
						6			Total Depth = 5.5 ft; terminated prior to refusal on bedrock. Collected soil samples S001 at 08:39 and S002 at 09:00. Backfilled with soil cuttings.						
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL009-2010.GPJ BOEING.GDT 3/28/10



Boring ID: **LFBS0335**

Borehole Diam. (in.): 3	Total Depth (ft): 5.1	Project: ISRA Data Gap Sampling 2010, Outfall 009, Boeing Property	
Northing (ft): 267995.76	Easting (ft): 1794261.20	Job Number: 1008208	Site: CTLI-1
Drill Start Date: 05-26-2010	Start Time: 08:22	Logged By: A. Ruotolo	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 05-26-2010	Finish Time: 08:40	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: On moderate slope covered with moderate to heavy brush	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 05-26-2010	Backfill Time: 08:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 4.8	s	0.0		0.0		0		SM	Silty Sand, very dark grayish brown (10YR 3/2), loose, dry, weak cementation, mica present, contains roots and twigs [Native]	5	15	25	35	20
4.8 - 5.1	s	0.0		0.0		5		SP	Poorly Graded Sand, dark yellowish brown (10YR 4/4), medium dense, moist, weak cementation, iron oxidation [Weathered Chatsworth Formation Sandstone] Total Depth = 5.1 ft; refusal on weathered bedrock. Collected soil samples S001 at 08:24 and S002 at 08:34. Backfilled with soil cuttings.	10	40	45	5	
						6								
						7								
						8								
						9								
						10								

LOG OF BORING: OUTFALL009_ISRA-2010.GPJ_BOEING.GDT 3/30/11



Boring ID: **LFBS0336**

Borehole Diam. (in.): 3	Total Depth (ft): 1.5	Project: ISRA Data Gap Sampling 2010, Outfall 009, Boeing Property	
Northing (ft): 267997.21	Easting (ft): 1794267.72	Job Number: 1008208	Site: CTLI-1
Drill Start Date: 05-26-2010	Start Time: 08:45	Logged By: A. Ruotolo	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 05-26-2010	Finish Time: 08:59	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	
Comments: On slope covered with moderate to heavy brush		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Samples retained in 6-inch stainless steel sleeve		Soil Backfill Date: 05-26-2010	Backfill Time: 08:59

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SM	Silty Sand, very dark grayish brown (10YR 3/2), loose, dry, weak cementation, mica present, contains roots and twigs [Native]	5	15	25	35	20
						1								
						2			Total Depth = 1.5 ft; refusal on weathered Chatsworth Formation Sandstone. Collected soil sample S001 at 08:46. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING: OUTFALL009_ISRA-2010.GPJ_BOEING.GDT 3/30/11



Boring ID: **LFBS0337**

Borehole Diam. (in.): 3	Total Depth (ft): 2.9	Project: ISRA Data Gap Sampling 2010, Outfall 009, Boeing Property	
Northing (ft): 267973.90	Easting (ft): 1794273.73	Job Number: 1008208	Site: CTLI-1
Drill Start Date: 05-26-2010	Start Time: 09:08	Logged By: A. Ruotolo	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 05-26-2010	Finish Time: 09:21	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	
Comments: On slope covered with moderate to heavy brush		Well Comp. Date: N/A	Completion Time: N/A
Samplers: Samples retained in 6-inch stainless steel sleeve		Soil Backfill Date: 05-26-2010	Backfill Time: 09:21

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.5	s			0.0		0		SW	Well Graded Sand, brown (10YR 4/3), loose, dry, weak cementation, mica present, contains roots and twigs [Native]	5	20	40	30	5
						3			Total Depth = 2.9 ft; refusal on weathered Chatsworth Formation Sandstone. Three step-out borings met similar refusal. Collected soil sample S001 at 09:10. Backfilled with soil cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING: OUTFALL009_ISRA-2010.GPJ_BOEING.GDT 3/30/11



Boring ID: **LFBS0338**

Borehole Diam. (in.): 3	Total Depth (ft): 2.0	Project: ISRA Data Gap Sampling 2010, Outfall 009, Boeing Property	
Northing (ft): 267972.00	Easting (ft): 1794278.81	Job Number: 1008208	Site: CTLI-1
Drill Start Date: 05-26-2010	Start Time: 09:25	Logged By: A. Ruotolo	Reviewed By: M. Milman-Barris, P.G.
Drill Finish Date: 05-26-2010	Finish Time: 09:39	Drilling Contractor: B.L. Hall	Field Instrumentation: PID
Depth 1st H ₂ O (ft): N/A	Date / Time: N/A	Drill Rig Type/Method: Hand Auger	
Depth H ₂ O After Drilling (ft): N/A	Date / Time: N/A	Driller's Name: R. Cano	

Comments: On slope covered with moderate to heavy brush	Well Comp. Date: N/A	Completion Time: N/A
Samplers: Samples retained in 6-inch stainless steel sleeve	Soil Backfill Date: 05-26-2010	Backfill Time: 09:40

Sample Interval Retained	Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil				
										Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0 - 0.0	s			0.0		0		SP	Poorly Graded Sand, dark grayish brown (10YR 4/2), loose, dry, fine gravel, weak cementation, mica present [Native]	10	15	40	30	5
						2			Total Depth = 2.0 ft; refusal on weathered Chatsworth Formation Sandstone. Three step-out borings met similar refusal. Collected soil sample S001 at 09:27. Backfilled with soil cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING: OUTFALL009_ISRA-2010.GPJ_BOEING.GDT_3/30/11