



Boring ID: **HZBS0158**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267034.35</b>	Easting (ft): <b>1796220.33</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>12:05</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>12:12</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	
Comments: <b>About 2 ft SW of gravel road, gravel and partial vegetative cover at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>NR</b>

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, yellowish brown (10YR 5/4), loose, dry, fine gravel consisting of sandstone fragments, mica present [Alluvium]	10	20	20	15	35
						1			Total Depth = 0.5 ft; terminated prior to refusal. Collected soil sample S001 at 12:10. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0159**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.7</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267101.30</b>	Easting (ft): <b>1796203.24</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>12:18</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>12:22</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	
Comments: <b>About 18 ft N of gravel road, upgrade of heavily vegetated gully just to E</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>12:23</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), loose, dry, fine sandstone gravel, mica present [Fill]	tr	5	20	35	40
						1			Total Depth = 0.7 ft; refusal on Chatsworth Formation Sandstone. Collected soil sample S001 at 12:20. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0160**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.7</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267130.06</b>	Easting (ft): <b>1796256.45</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>12:28</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>12:32</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	
Comments: <b>In flat, densely vegetated area, no debris</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>12:35</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), loose, dry, fine gravel consisting of sandstone fragments, mica present [Alluvium]	5	10	20	30	35
						1			Total Depth = 0.7 ft; terminated prior to refusal. Collected soil sample S001 at 12:30. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0161**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266990.85</b>	Easting (ft): <b>1796251.19</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>11:55</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>12:05</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	
Comments: <b>In flat area along gravel road, 4 ft SW of HVBF33, vegetation 3 ft to E</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>12:06</b>

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		SM/ML	Silty Sand / Sandy Silt, brownish yellow (10YR 6/6), loose, dry, slightly clayey, mica present [Alluvium]			20	30	50
						1								
						2			Total Depth = 1.8 ft; refusal on Chatsworth Formation Sandstone. Collected soil sample S001 at 12:00. Backfilled with auger cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0162**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.1</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267211.65</b>	Easting (ft): <b>1796267.96</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>12:58</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>13:02</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	

Comments: <b>In flat, vegetated area with surficial ash, outcrop and 6-ft boulder nearby</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>13:03</b>

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		SM	Silty Sand, brown (10YR 5/3), loose, dry, fine gravel consisting of sandstone fragments, mica present [Alluvium]	tr	15	15	30	40
	S					1			Total Depth = 1.1 ft; refusal on Chatsworth Formation Sandstone. Collected soil sample S001 at 13:00. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0163**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267214.67</b>	Easting (ft): <b>1796302.54</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>12:48</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>12:52</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	
Comments: <b>On steep, sparsely vegetated slope, burned wood/organics at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>12:54</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), loose, dry, mica present [Alluvium]		5	20	40	35
	S					1			Total Depth = 1.0 ft; refusal on Chatsworth Formation Sandstone. Collected soil sample S001 at 12:50. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0164**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267163.78</b>	Easting (ft): <b>1796272.14</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>12:38</b>	Logged By: <b>S. Dawson</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>12:42</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Mike Hoehn</b>	

Comments: **In slight gully densely vegetated with brush, ash at surface** Well Comp. Date: **N/A** Completion Time: **N/A**  
 Samplers: **Grab sample collected in 6-inch stainless steel sleeve** Soil Backfill Date: **07-01-2009** Backfill Time: **12:44**

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		SM	Silty Sand, brown (10YR 5/3), loose, dry to moist, mica present [Alluvium]		15	20	30	35
	S					1								
						2			Total Depth = 1.2 ft; terminated prior to refusal. Collected soil sample S001 at 12:40. Backfilled with auger cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0165**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266903.59</b>	Easting (ft): <b>1796146.27</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>08:50</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>08:55</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	
Comments: <b>Tall grass and weeds at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>08:55</b>

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		CL	Sandy Lean Clay, dark brown (10YR 3/3), soft, moist, subrounded sand, low plasticity fines, no cementation, trace rootlets and insects [Alluvium]		tr	5	25	70
						1			Total Depth = 0.5 ft; terminated prior to refusal. Collected soil sample S001 at 08:53. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZBS0166**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266916.73</b>	Easting (ft): <b>1796101.94</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>09:00</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>09:05</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	

Comments: <b>Tall grass and exposed soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>09:05</b>

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		CL	Sandy Lean Clay, light yellowish brown (10YR 6/4), soft, dry, subrounded sand, low plasticity fines, medium dry strength, no cementation, trace rootlets [Alluvium]		5	5	20	70
						1			Total Depth = 0.5 ft; terminated prior to refusal. Collected soil sample S001 at 09:04. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0167**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266911.86</b>	Easting (ft): <b>1796118.69</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>09:15</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>09:22</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	
Comments: <b>Tall grass and exposed soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>09:22</b>

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		CL/ML	Sandy Silty Clay, light yellowish brown (10YR 6/4), medium stiff, dry, low plasticity fines, low to medium dry strength [Alluvium] ↙ becomes soft, moist		5	10	20	65	
	S					1									
						2			Total Depth = 1.5 ft; terminated prior to refusal. Collected soil sample S001 at 09:22. Backfilled with auger cuttings.						
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0168**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266929.89</b>	Easting (ft): <b>1796127.71</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>09:25</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>09:35</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	
Comments: <b>Tall grass and exposed soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>09:35</b>

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		CL	Sandy Lean Clay, yellowish brown (10YR 5/4), soft to medium stiff, dry, low to medium plasticity fines, medium dry strength, trace rootlets [Alluvium]		tr	10	20	70
						1			Total Depth = 0.8 ft; terminated prior to refusal. Collected soil sample S001 at 09:35. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0169**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.6</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266925.69</b>	Easting (ft): <b>1796103.34</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>09:45</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>10:00</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	
Comments: <b>Tall grass and exposed soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>10:00</b>

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		ML	Sandy Silt, yellowish brown (10YR 5/4), medium stiff, dry, low plasticity fines, low dry strength, trace rootlets [Alluvium]		tr	10	20	70
						1								
						2			Total Depth = 1.6 ft; terminated prior to refusal. Collected soil sample S001 at 09:53. Backfilled with auger cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0170**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.6</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266936.57</b>	Easting (ft): <b>1796095.42</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>09:55</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>10:05</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	

Comments: <b>Tall grass and exposed soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>10:05</b>

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		ML	Sandy Silt, yellowish brown (10YR 5/4), medium stiff, dry, nonplastic fines, low dry strength [Alluvium]			10	30	60
	S					1		SP-SM	Poorly Graded Sand with Silt, yellow (10YR 7/6), loose, moist, no cementation [Alluvium]				90	10
						2			Total Depth = 1.6 ft; refusal on weathered Chatsworth Formation Sandstone. Collected soil sample S001 at 10:01. Backfilled with auger cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0171**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266951.44</b>	Easting (ft): <b>1796112.78</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>10:00</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>10:20</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	

Comments: <b>Sparse vegetation and exposed soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>10:20</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), medium dense, moist			10	70	20
	S					1			Total Depth = 1.0 ft; terminated prior to refusal. Collected soil sample S001 at 10:16. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0172**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>0.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266971.19</b>	Easting (ft): <b>1796118.19</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B</b>
Drill Start Date: <b>07-01-2009</b>	Start Time: <b>10:15</b>	Logged By: <b>S. Valenzuela</b>	Reviewed By: <b>M. Milman-Barris, P.G.</b>
Drill Finish Date: <b>07-01-2009</b>	Finish Time: <b>10:30</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Paul Iler</b>	
Comments: <b>Tall grass and exposed soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>07-01-2009</b>	Backfill Time: <b>10:30</b>

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, yellowish brown (10YR 5/4), medium dense, moist			10	70	20
						1			Total Depth = 0.5 ft; terminated prior to refusal. Collected soil sample S001 at 10:28. Backfilled with auger cuttings.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0173**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267079.03</b>	Easting (ft): <b>1796216.03</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>08-20-2009</b>	Start Time: <b>09:30</b>	Logged By: <b>M. Milman-Barris</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-20-2009</b>	Finish Time: <b>09:55</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger (no slam bar)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Allison Ruotolo</b>	
Comments: <b>In sinkhole next to road, dry bare soil at surface (vegetation cleared earlier)</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>08-20-2009</b>	Backfill Time: <b>09:59</b>

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		0		CL	Lean Clay, yellowish brown (10YR 5/4), soft, dry to moist, no cementation, no debris, no odor, no staining [Fill]				10	90
	s					1								
						2								
						3			← plastic and metal debris (plastic netting, non-corroded metal coil)					
	s					4			Total Depth = 4.0 ft; refusal on Chatsworth Formation Sandstone. Collected soil samples S001 at 09:40 and S002 at 09:57. Backfilled with auger cuttings.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZBS0174**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>5.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267084.12</b>	Easting (ft): <b>1796209.71</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>08-20-2009</b>	Start Time: <b>10:27</b>	Logged By: <b>M. Milman-Barris</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-20-2009</b>	Finish Time: <b>10:56</b>	Drilling Contractor: <b>B.L. Hall</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger (no slam bar)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Allison Ruotolo</b>	

Comments: <b>NW end of sinkhole next to rusted pipeline, dry bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>08-20-2009</b>	Backfill Time: <b>NR</b>

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		CL	Lean Clay, yellowish brown (10YR 5/4), soft, dry to moist, very weak cementation, no debris [Fill]					100
	s			0.5		1								
						2								
						3			← white plastic sheeting debris					
						4		CL	Lean Clay with Sand, light yellowish brown (10YR 6/4), soft, dry to moist, no cementation, no debris [Weathered Chatsworth Formation?]				20	80
	s			0.5		5								
						6			Total Depth = 5.0 ft; terminated prior to refusal. Collected soil samples S001 at 10:35 and S002 at 10:56. Backfilled with auger cuttings.					
						7								
						8								
						9								
						10								

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Boring ID: **HZBS0175**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267090.14</b>	Easting (ft): <b>1796338.40</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	

Comments: <b>Soil with mowed vegetation at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>10-06-2009</b>	Backfill Time: <b>09:45</b>

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, yellowish brown (10YR 5/6), loose to medium dense, dry to moist, roots and rootlets, no odor, no staining [Fill]	5	5	25	30	35
0.5 - 1.0	S					1								
						2			Total Depth = 1.5 ft; refusal on Chatsworth Formation Sandstone. Collected soil samples S001 at 13:50 and S002 at 14:10. Backfilled with auger cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZBS0177**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>25.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267044.49</b>	Easting (ft): <b>1796380.27</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>10-06-2009</b>	Backfill Time: <b>09:15</b>

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, dark yellowish brown (10YR 4/4) to brown (10YR 4/3), medium dense, dry to moist, roots and rootlets, no odor, no staining [Fill]		10	20	30	40
0.5 - 3.5	S					2		SM	Silty Sand, yellowish brown (10YR 5/4), dense, moist, roots and rootlets, no odor, no staining [Colluvium]		10	20	30	40
3.5 - 18.0						6			fewer roots and rootlets					
						8			grades without roots and rootlets					
18.0 - 20.0						18			Sandstone, dark yellowish brown (10YR 4/4), weathered, hard, friable, moist [Chatsworth Formation]					

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Boring ID: **HZBS0177**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>25.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267044.49</b>	Easting (ft): <b>1796380.27</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>10-06-2009</b>	Backfill Time: <b>09:15</b>

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
						20			Sandstone, dark yellowish brown (10YR 4/4), weathered, hard, friable, moist [Chatsworth Formation] <i>(continued)</i>					
						22								
						24								
						26			Total Depth = 25.0 ft; terminated prior to refusal per Ben Stewart. Collected soil samples S001 at 15:00 and S002 at 15:15. Backfilled with auger cuttings.					
						28								
						30								
						32								
						34								
						36								
						38								
						40								

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Boring ID: **HZBS0178**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>5.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267059.79</b>	Easting (ft): <b>1796484.52</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>10-06-2009</b>	Backfill Time: <b>09:00</b>

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 with Gravel, yellowish brown (10YR 5/8 to 5/4), medium dense, dry, roots and rootlets, no odor, no staining [Fill]	15	5	30	25	25
0.5 - 1.0						1		SM	Silty Sand, yellowish brown (10YR 5/4), dense, moist, rootlets, no odor, no staining [Colluvium]		5	30	25	40
1.0 - 3.0						2								
3.0 - 3.5	S					3								
3.5 - 4.5						4								
4.5 - 5.0						5			Siltstone, yellowish brown (10YR 5/4), weathered, hard, thinly bedded [Chatsworth Formation]					
5.0 - 5.5						5			Total Depth = 5.0 ft; refusal on Chatsworth Formation Siltstone.					
5.5 - 6.0						6			Collected soil samples S001 at 11:15 and S002 at 11:30.					
6.0 - 6.5						6			Backfilled with auger cuttings.					
6.5 - 7.0						7								
7.0 - 7.5						7								
7.5 - 8.0						8								
8.0 - 8.5						8								
8.5 - 9.0						9								
9.0 - 9.5						9								
9.5 - 10.0						10								

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Boring ID: **HZBS0179**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266988.79</b>	Easting (ft): <b>1796475.35</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	

Comments: <b>Soil with brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>10-06-2009</b>	Backfill Time: <b>08:55</b>

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, dark yellowish brown (10YR 4/6), loose to medium dense, dry to moist, roots and rootlets, no odor, no staining [Colluvium]		5	30	35	30	
2.5 - 3.0	S					3									
						3			Total Depth = 3.0 ft; refusal on Chatsworth Formation Sandstone. Collected soil samples S001 at 12:40 and S002 at 12:50. Backfilled with auger cuttings.						
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0180**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>21.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266994.47</b>	Easting (ft): <b>1796371.18</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>10-05-2009</b>	Backfill Time: <b>09:50</b>

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, dark yellowish brown (10YR 4/4), loose to medium dense, dry to moist, rootlets, no odor, no staining [Fill]		5	20	35	40
1.5 - 2.5	S					2		SM	Silty Sand, yellowish brown (10YR 5/6), dense, moist, rootlets, no odor, no staining [Colluvium]		5	25	35	35
						8			becomes very dense					
						20			Sandstone, mottled yellowish brown (10YR 5/4) to very pale brown (10YR 7/3), weathered, hard to very hard, moist [Chatsworth Formation]					

LOG OF BORING - OUTFALL008.GPJ - BOEING.GDT - 12/16/09



Boring ID: **HZBS0180**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>21.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266994.47</b>	Easting (ft): <b>1796371.18</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>10-05-2009</b>	Backfill Time: <b>09:50</b>

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
						20			Sandstone, mottled yellowish brown (10YR 5/4) to very pale brown (10YR 7/3), weathered, hard to very hard, moist [Chatsworth Formation] ( <i>continued</i> )					
						22			Total Depth = 21.2 ft; refusal on Chatsworth Formation Sandstone. Collected soil samples S001 at 09:30 and S002 at 10:00. Backfilled with auger cuttings.					
						24								
						26								
						28								
						30								
						32								
						34								
						36								
						38								
						40								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZBS0181**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266995.25</b>	Easting (ft): <b>1796514.61</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-27-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-27-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>10-27-2009</b>	Backfill Time: <b>NR</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, roots and rootlets, no odor, no staining [Fill/Slopewash]	10	5	25	20	40
	S					1		SM	Silty Sand, brown (10YR 4/3) to dark yellowish brown (10YR 4/4), dense, moist, no odor, no staining [Colluvium]		10	25	20	45
						2								
	S					3			Sandstone, light yellowish brown (10YR 6/4), weathered, hard, friable when augered [Chatsworth Formation]					
						4			Total Depth = 3.5 ft at deepest of 8 step-outs within 5-15 ft to S, SW, and SE of GPS location; refusal on Chatsworth Formation Sandstone at each location at depths ranging from 1.3 ft to 3.5 ft.  Collected soil samples S001 at 10:30 and S002 at 10:45.  Backfilled all locations with auger cuttings.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0182**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266990.56</b>	Easting (ft): <b>1796550.95</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-27-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-27-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>No sample collected</b>		Soil Backfill Date: <b>10-27-2009</b>	Backfill Time: <b>NR</b>

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		SM	Silty Sand with Gravel, brown (10YR 5/3), loose to dense, dry to moist, gravel- and cobble-size clasts, roots and rootlets, no odor, no staining [Fill/Slopewash]	20	5	20	20	35
						1			Sandstone, hard [Chatsworth Formation]					
						2			Total Depth = 1.5 ft; attempted 3 step-outs and met refusal on Chatsworth Formation Sandstone at each location.  No sample collected.  Backfilled all locations with auger cuttings.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0183**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267051.35</b>	Easting (ft): <b>1796569.41</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-27-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-27-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>10-27-2009</b>	Backfill Time: <b>NR</b>

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		SM	Silty Sand, brown (10YR 5/3), loose to dense, moist, roots and rootlets, no odor, no staining [Slopewash/Colluvium]	5	5	30	25	35
	S					0.5								
						1								
						2								
						3			Sandstone, grayish brown (10YR 5/2) to brown (10YR 4/3), very weathered, hard, moist, rootlets [Chatsworth Formation]					
	S					3.5			Total Depth = 3.5 ft; attempted 3 step-outs to NE and met refusal on Chatsworth Formation at each location. Collected samples S001 at 10:55 and S002 at 11:15. Backfilled all locations with auger cuttings.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZBS0184**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267088.40</b>	Easting (ft): <b>1796552.51</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-27-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-27-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>10-27-2009</b>	Backfill Time: <b>NR</b>

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		SM	Silty Sand, brown (10YR 5/3), medium dense to dense, moist, roots and rootlets, no odor, no staining [Slopewash]		5	30	25	40
	S					0.5								
						1								
						2								
						3			Siltstone, grayish brown (10YR 5/2), weathered, hard, fractured, moist, rootlets [Chatsworth Formation]					
	S					3.5								
						4			Total Depth = 3.5 ft; refusal on Chatsworth Formation. Sampled at two step-out locations for soil volume. Collected samples S001 at 13:55 and S002 at 14:20. Backfilled all locations with auger cuttings.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZBS0185**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267059.77</b>	Easting (ft): <b>1796520.16</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South</b>
Drill Start Date: <b>10-27-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-27-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>A. Goldenberg</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>10-27-2009</b>	Backfill Time: <b>NR</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, roots and rootlets, no odor, no staining [Fill/Slopewash]	10	5	25	20	40
	S					1								
						2		SM	Silty Sand, brown (10YR 4/3) to dark yellowish brown (10YR 4/4), dense, moist, no odor, no staining [Colluvium]	10	25	20	45	
						3			Sandstone, very pale brown (10YR 7/4), hard [Chatsworth Formation]					
	S					4			Total Depth = 3.5 ft; refusal on Chatsworth Formation. Sampled at one step-out location for soil volume. Collected samples S001 at 12:35 and S002 at 13:00. Backfilled both locations with auger cuttings.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0100**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266767.71</b>	Easting (ft): <b>1795862.76</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-1</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Located near roadway; soil with scattered gravel at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, roots and rootlets, no odor, no staining [Fill]	5	10	30	25	30
	S					1			[See Trench Log ISRA-HVS-1 for lithology]					
						3			Total Excavation Depth = 3.0 ft. Collected soil samples S001, S001-RWQCB, and D001 at 09:25 from excavation sidewall. Excavation backfilled 12-01-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0101**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266764.38</b>	Easting (ft): <b>1795900.47</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-1</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling) / Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with cut brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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 with Gravel, dark yellowish brown (10YR 4/4), dense, dry to moist, subangular gravel, no odor, no staining [Fill]	15	5	25	20	35
0.5 - 4.0	S					0.5 - 4.0			Sandstone, weathered [Chatsworth Formation] becomes less weathered, hard					
						4.0			Total Depth = 4.0 ft.  Collected samples S001 and S001-RWQCB from excavation sidewall. Hand augered about 1 ft below base of 3-ft-deep excavation and collected sample S002 at 13:10.  Hand auger borehole backfilled with auger cuttings. Excavation backfilled 12-01-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0102**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266786.75</b>	Easting (ft): <b>1795864.61</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-1</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with cut and mowed brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Fill [See Trench Log ISRA-HVS-1 for lithology]					
						1		SM	Silty Sand, yellowish brown (10YR 5/4), dense, dry, roots and rootlets, no odor, no staining [Colluvium]		10	25	20	45
						2			Total Depth = 1.3 ft. Collected soil sample S001 along with MS/MSD at 12:55 from excavation floor. Excavation backfilled 12-01-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0103**

Borehole Diam. (in.): <b>3</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266769.46</b>	Easting (ft): <b>1795883.62</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-1</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling) / Hand Auger</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with cut and mowed brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>



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, dark yellowish brown (10YR 4/4), medium dense to dense, dry, subrounded gravel, no odor, no staining [Fill]	5	10	30	20	35	
0.5 - 3.8						1									
3.8 - 4.0	S					4			Sandstone, weathered [Chatsworth Formation]						
4.0 - 4.0						4			Total Depth = 4.0 ft.						
						5			Collected sample S001 at 12:45 from excavation sidewall. Hand augered about 1 ft below base of 3-ft-deep excavation and collected sample S002 at 13:25.						
						5			Hand augered borehole backfilled with auger cuttings. Excavation backfilled 12-01-2009.						
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0104**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266778.29</b>	Easting (ft): <b>1795910.23</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-1</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with grass and brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Fill [See Trench Log ISRA-HVS-1 for lithology]					
	s					1		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense to dense, dry to moist, roots, no odor, no staining [Colluvium]	5	20	35	40	
						2			Total Excavation Depth = 2.0 ft. Collected soil sample S001 at 13:20 from excavation sidewall. Excavation backfilled 12-01-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								



LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0105**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266782.61</b>	Easting (ft): <b>1795917.37</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-1</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Fill [See Trench Log ISRA-HVS-1 for lithology]					
	s					1		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense to dense, dry to moist, roots, no odor, no staining [Colluvium]	5	20	35	40	
						2			Total Excavation Depth = 2.0 ft. Collected soil sample S001 at 13:35 from excavation sidewall. Excavation backfilled 12-01-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								


LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0200**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267181.82</b>	Easting (ft): <b>1796301.47</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, fine subrounded gravel up to 1/2 inch diameter, roots and rootlets, no odor, no staining [Colluvium]	5	10	25	20	40
						5			Total Depth = 4.0 ft. Collected soil sample S001 at 09:40 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0201**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267171.37</b>	Easting (ft): <b>1796304.46</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, fine subrounded gravel up to 1/2 inch diameter, roots and rootlets, no odor, no staining [Colluvium]	5	10	25	20	40
						5			Total Depth = 4.3 ft. Collected soil sample S001 at 10:00 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0202**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267156.44</b>	Easting (ft): <b>1796303.67</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, fine subrounded gravel up to 1/2 inch diameter, organic debris (roots), no odor, no staining [Colluvium]	5	10	25	20	40
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 10:45 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0203**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267138.64</b>	Easting (ft): <b>1796298.89</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						5		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, fine subrounded gravel up to 1/2 inch diameter, no odor, no staining [Colluvium]	5	10	30	25	30
						6			Total Depth = 5.5 ft. Collected soil sample S001 at 11:15 from excavation floor. Excavation backfilled 12-02-2009.					
						7								
						8								
						9								
						10								


LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0204**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267118.84</b>	Easting (ft): <b>1796297.05</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						4.8		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, fine subrounded gravel up to 1/2 inch diameter, no odor, no staining [Colluvium]	5	15	25	20	35
						5			Total Depth = 4.8 ft. Collected soil sample S001 at 11:20 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0205**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267098.02</b>	Easting (ft): <b>1796292.61</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4								
						5		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, fine subrounded gravel up to 1/2 inch diameter, no odor, no staining [Colluvium]	5	15	25	20	35
						6			Total Depth = 5.0 ft. Collected soil sample S001 at 12:45 from excavation floor. Excavation backfilled 12-02-2009.					
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0206**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267094.50</b>	Easting (ft): <b>1796301.85</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil covered with mowed grass at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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, dark yellowish brown (10YR 4/4), medium dense, dry, organic debris (roots, rootlets, and grass fragments), no odor, no staining [Fill]		5	20	30	45
						1			[See Trench Log ISRA-HVS-2A for lithology]					
						2								
						3								
						4			Total Excavation Depth = 3.8 ft. Collected soil sample S001 at 13:00 from excavation sidewall. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0207**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267080.04</b>	Easting (ft): <b>1796289.70</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil covered with mowed grass at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, fine subrounded gravel up to 1/2 inch diameter, roots and rootlets, no odor, no staining [Colluvium]	5	10	30	25	30
						5			Total Depth = 4.0 ft.  Collected soil sample S001 at 13:10 from excavation floor.  Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0208**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267058.95</b>	Easting (ft): <b>1796287.76</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil covered with mowed grass at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						3.8		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, no odor, no staining [Colluvium]	10	30	25	35	
						4			Total Depth = 3.8 ft. Collected soil sample S001 at 13:20 from excavation floor. Excavation backfilled 12-02-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0209**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267040.22</b>	Easting (ft): <b>1796285.57</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, fine subrounded gravel up to 1/2 inch diameter, no odor, no staining [Colluvium]	5	10	30	25	30
						5			Total Depth = 4.3 ft. Collected soil samples S001 and S001SP at 13:30 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0210**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267019.32</b>	Easting (ft): <b>1796285.58</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4								
						5		SM	Silty Sand, dark brown (10YR 3/3), medium dense, moist, subrounded gravel, roots and rootlets, no odor, no staining [Colluvium]	5	10	20	35	30
						6			Total Depth = 5.0 ft. Collected soil sample S001 at 13:40 from excavation floor. Excavation backfilled 12-02-2009.					
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0211**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267002.27</b>	Easting (ft): <b>1796282.31</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, organic debris (roots), no odor, no staining [Colluvium]	10	25	30	35	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 13:50 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0212**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266992.65</b>	Easting (ft): <b>1796285.99</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-10-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-10-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
	s					1.5 - 2.0		SM	Silty Sand, dark brown (10YR 3/3), dense, moist, organic debris (roots), no odor, no staining [Colluvium]	5	30	25	40	
						3.3			Total Excavation Depth = 3.3 ft. Collected soil sample S001 at 14:00 from excavation sidewall. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0213**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267005.56</b>	Easting (ft): <b>1796258.24</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil covered with grass and brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark brown (10YR 3/3) to strong brown (7.5YR 4/6), organic debris (rootlets), pore space possibly due to bioturbation, no odor, no staining [Colluvium]	5	25	35	35	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 12:39 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0214**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267023.92</b>	Easting (ft): <b>1796259.06</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4			Sandstone, light yellowish brown (10YR 6/4), highly weathered, friable, weak cementation, organic debris, no odor, no staining [Chatsworth Formation]					
						5			Total Depth = 4.5 ft. Collected sample S001 at 12:45 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								


LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0215**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267041.97</b>	Easting (ft): <b>1796266.77</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, subrounded sand, weak to moderate cementation, no odor, no staining [Colluvium]	10	20	30	40	
						4			Total Depth = 4.0 ft. Collected soil sample S001 at 12:55 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								


LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0216**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267064.35</b>	Easting (ft): <b>1796268.44</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						4		SM	Silty Sand, dark yellowish brown (10YR 4/4) to yellowish brown (10YR 5/4), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	10	20	35	35	
						4			Total Depth = 4.0 ft. Collected soil sample S001 at 13:07 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0217**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267083.62</b>	Easting (ft): <b>1796270.52</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, yellowish brown (10YR 5/4), dense, moist, subrounded sand, roots and rootlets, no odor, no staining [Colluvium]	5	20	35	40	
						5			Total Depth = 4.0 ft. Collected soil sample S001 at 13:28 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0218**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267102.57</b>	Easting (ft): <b>1796272.87</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						3.8		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, subrounded sand, roots and rootlets, no odor, no staining [Colluvium]	10	25	30	35	
						4.0			Total Depth = 4.0 ft. Collected soil sample S001 at 13:35 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0219**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267123.17</b>	Easting (ft): <b>1796277.13</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, subrounded sand, roots and rootlets, no odor, no staining [Colluvium]	10	20	25	45	
						5			Total Depth = 4.0 ft. Collected soil samples S001 and S001SP at 13:40 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0220**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267143.89</b>	Easting (ft): <b>1796280.19</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-14-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-14-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						3.8 - 4.0		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, no odor, no staining [Colluvium]	10	20	25	45	
						4.0			Total Depth = 4.0 ft. Collected soil sample S001 at 13:45 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0221**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267160.28</b>	Easting (ft): <b>1796282.94</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, rootlets, no odor, no staining [Colluvium]	10	25	25	40	
						5			Total Depth = 4.3 ft. Collected soil sample S001 at 07:50 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0222**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267182.23</b>	Easting (ft): <b>1796283.73</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense to very dense, moist, roots and rootlets, no odor, no staining [Colluvium]	10	25	30	35	
						5			Total Depth = 4.0 ft. Collected soil sample S001 at 08:05 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0223**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267187.71</b>	Easting (ft): <b>1796271.23</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Near Chatsworth Formation outcrops, soil covered with brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 3/4), medium dense, dry to moist, roots and rootlets, no odor, no staining [Colluvium]		5	20	30	45	
	S					1									
						2			Total Depth = 1.5 ft. Collected soil sample S001 at 08:15 from excavation floor. Excavation backfilled 12-02-2009.						
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0224**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267166.21</b>	Easting (ft): <b>1796265.31</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 3/4), dense, moist, organic debris (rootlets), no odor, no staining [Colluvium]					
						5			Total Depth = 4.0 ft. Collected soil sample S001 at 08:20 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0225**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267147.72</b>	Easting (ft): <b>1796259.76</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						3.8		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense to very dense, moist, organic debris (rootlets), no odor, no staining [Colluvium]	10	30	25	35	
						4			Total Depth = 3.8 ft. Collected soil sample S001 at 08:30 from excavation floor. Excavation backfilled 12-02-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0226**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267129.30</b>	Easting (ft): <b>1796253.87</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						3.8 - 4.0		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, organic debris (rootlets), no odor, no staining [Colluvium]	5	20	35	40	
						4.0			Total Depth = 4.0 ft. Collected soil sample S001 at 08:35 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0227**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267108.54</b>	Easting (ft): <b>1796246.41</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, organic debris (rootlets), no odor, no staining [Colluvium]	5	30	25	40	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 09:48 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0228**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267088.09</b>	Easting (ft): <b>1796248.52</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/6), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	5	30	25	40	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 10:00 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0229**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267049.69</b>	Easting (ft): <b>1796246.68</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4			Sandstone, yellowish brown (10YR 5/6) to dark yellowish brown (10YR 4/6), weathered, hard, no odor, no staining [Chatsworth Formation]					
						5			Total Depth = 4.0 ft. Collected sample S001 at 10:10 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0230**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267145.16</b>	Easting (ft): <b>1796307.40</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]						
						2		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense to dense, dry to moist, subangular to subrounded gravel, roots, no odor, no staining [Colluvium]	5	10	25	20	40	
						3									
						4			Total Excavation Depth = 3.3 ft. Collected soil sample S001 at 10:25 from excavation sidewall. Excavation backfilled 12-02-2009.						
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0231**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267193.60</b>	Easting (ft): <b>1796304.42</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil covered with mowed grass at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense to dense, dry to moist, subangular to subrounded gravel, roots and rootlets, no odor, no staining [Colluvium]	5	10	30	20	35
						2								
						3			Total Excavation Depth = 3.0 ft. Collected soil sample S001 at 10:15 from excavation sidewall. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0232**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267219.49</b>	Easting (ft): <b>1796290.93</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil covered with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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 yellowish brown (10YR 4/4), loose to medium dense, dry, subangular gravel, no odor, no staining [Colluvium]  [See Trench Log ISRA-HVS-2A for lithology]	10	5	20	25	40
						2			Total Excavation Depth = 2.0 ft.  Collected soil sample S001 at 10:05 from excavation sidewall.  Excavation backfilled 12-02-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0233**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267189.78</b>	Easting (ft): <b>1796268.70</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Located under oak tree; soil surface, sandstone outcrop nearby</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark brown (10YR 3/3), medium dense, dry to moist, roots and rootlets, no odor, no staining [Colluvium]	0	5	20	35	40
	S					1								
						2			Total Depth = 1.5 ft. Collected soil sample S001 at 11:10 from excavation floor. Excavation backfilled 12-02-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0234**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267136.07</b>	Easting (ft): <b>1796242.37</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark brown (10YR 3/3), medium dense to dense, dry to moist, subangular to subrounded gravel, roots, no odor, no staining [Colluvium]	5	5	20	30	40
	S					1			[See Trench Log ISRA-HVS-2A for lithology]					
						3			Total Excavation Depth = 2.8 ft. Collected soil sample S001 at 11:20 from excavation sidewall. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0235**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267068.59</b>	Easting (ft): <b>1796246.64</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						3.8		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	10	20	35	35	
						4			Total Depth = 3.8 ft. Collected soil sample S001 at 11:00 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								



LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0236**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267033.98</b>	Easting (ft): <b>1796244.58</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Located just east of gravel roadway; soil and gravel at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Fill [See Trench Log ISRA-HVS-2A for lithology]					
 s						1		SM	Silty Sand, yellowish brown (10YR 5/4), dense to very dense, moist, rootlets, no odor, no staining [Colluvium]		10	25	20	45
						2								
						3			Total Excavation Depth = 3.0 ft. Collected soil sample S001 at 11:30 from excavation sidewall. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0237**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>7.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267086.06</b>	Easting (ft): <b>1796210.63</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4								
						5								
						6								
						7			Sandstone, very pale brown (10YR 7/4), moderately weathered, hard, friable with moderate pressure, no odor, no staining [Chatsworth Formation]					
						7			Total Depth = 7.0 ft. Collected soil samples S001 and S001-RWQCB at 13:55 from excavation floor. Excavation backfilled 12-02-2009.					
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0238**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267078.13</b>	Easting (ft): <b>1796218.44</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4								
						5								
						6			Sandstone, yellowish brown (10YR 5/4), moderately weathered, hard, no odor, no staining [Chatsworth Formation]					
						7			Total Depth = 6.3 ft. Collected soil samples S001 and S001-RWQCB at 14:00 from excavation floor. Excavation backfilled 12-02-2009.					
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0239**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267075.21</b>	Easting (ft): <b>1796211.61</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						4		SM	Silty Sand with Gravel, yellowish brown (10YR 5/4), medium dense, dry to moist, subangular gravel, wood debris, roots and rootlets, no odor, no staining [Fill]	15	5	30	25	25
						6			Total Excavation Depth = 5.8 ft. Collected soil sample S001 at 14:18 from excavation sidewall. Excavation backfilled 12-02-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0240**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267085.85</b>	Easting (ft): <b>1796223.81</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4								
						5								
						6		SM	Silty Sand, yellowish brown (10YR 5/6), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	10	35	25	30	
						7			Total Depth = 6.5 ft. Collected soil sample S001 at 14:10 from excavation floor. Excavation backfilled 12-02-2009.					
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0241**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267070.21</b>	Easting (ft): <b>1796225.97</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-05-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, yellowish brown (10YR 5/4), dense, moist, no odor, no staining [Colluvium]	10	30	25	35	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 14:05 from excavation floor. Excavation backfilled 12-02-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0242**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267092.24</b>	Easting (ft): <b>1796203.01</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2A</b>
Drill Start Date: <b>10-06-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Fill [See Trench Log ISRA-HVS-2A for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 3/6), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	5	25	35	35	
						5								
						6								
						7			Total Excavation Depth = 6.5 ft. Collected soil sample S001 at 10:10 from excavation sidewall. Excavation backfilled 12-02-2009.					
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0300**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266930.03</b>	Easting (ft): <b>1796110.25</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-1</b>
Drill Start Date: <b>09-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-01-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with cut grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, brown (10YR 4/3), dense, dry to moist, straw debris [Fill]		10	20	25	45
						3		SM	Silty Sand with Gravel, light yellowish brown (10YR 6/4), dense, moist, fine to coarse subrounded sandstone and granitic gravel to 2-1/2 inches diameter, debris observed (rope, asphalt, glass, copper wire) [Fill]	15	10	20	25	30
						4			Total Depth = 4.0 ft. Collected soil samples S001, S001-RWQCB, and D001 at 11:50 from excavation floor. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0301**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266926.92</b>	Easting (ft): <b>1796122.90</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-1</b>
Drill Start Date: <b>09-01-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-01-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with cut grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, brown (10YR 4/3), medium dense, dry to moist, subangular gravel, rootlets, no odor, no staining [Fill]	5	10	20	25	40	
						1									
						2			becomes light yellowish brown (10YR 6/4) to yellowish brown (10YR 5/6), dense, moist, angular to subrounded gravel, decrease in fines, no rootlets	5	10	25	30	30	
						3									
						4			Total Depth = 4.0 ft. Collected soil samples S001 and S001-RWQCB at 11:38 from excavation floor. Excavation backfilled 11-23-2009.						
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0302**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266915.23</b>	Easting (ft): <b>1796102.46</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-1</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with cut brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, brown (10YR 4/3), dense, dry to moist, subangular gravel, rootlets, no odor, no staining [Fill]	5	10	20	25	40
	S					1			[See Trench Log ISRA-HVS-2B-1 for lithology]					
						2								
						3								
						4			Total Excavation Depth = 3.5 ft. Collected soil samples S001 and S001-RWQCB at 09:15 from excavation sidewall. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/28/09



Boring ID: **HZET0303**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266926.55</b>	Easting (ft): <b>1796108.99</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-1</b>
Drill Start Date: <b>09-15-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>09-15-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with cut brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2B-1 for lithology]					
						4		SM	Silty Sand, light yellowish brown (10YR 6/4), dense, moist, subrounded gravel, no odor, no staining [Possible Fill]	5	10	25	30	30
				0.0		5			Total Depth = 4.5 ft; terminated on Chatsworth Formation bedrock. Collected soil samples S001 and S001-RWQCB at 09:00 from excavation floor. Excavation backfilled 11-23-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/28/09



Boring ID: **HZET0304**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266948.69</b>	Easting (ft): <b>1796105.91</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-1</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, very pale brown (10YR 7/4), medium dense, dry to moist, angular to subangular gravel, rootlets, no odor, no staining [Fill]	20	5	30	20	25
						2			[See Trench Log ISRA-HVS-2B-1 for lithology]					
						4			Total Excavation Depth = 3.8 ft. Collected soil sample S001 at 08:45 from excavation sidewall. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0305**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266922.20</b>	Easting (ft): <b>1796100.26</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-1</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense to dense, moist, concrete debris, rootlets, no odor, no staining [Fill]		10	30	35	25	
						1									
						2									
						3									
						4									
						4.5			[See Trench Log ISRA-HVS-2B-1 for lithology]						
						5			Total Excavation Depth = 5.0 ft. Collected soil sample S001 at 08:50 from excavation sidewall. Excavation backfilled 11-23-2009.						
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0500**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266895.75</b>	Easting (ft): <b>1796185.37</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Rip-rap rock at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry to moist, rootlets, no odor, no staining [Fill]	5	5	20	30	40
						4		SM	Silty Sand with Gravel, mottled dark yellowish brown (10YR 3/4) to brownish yellow (10YR 6/6), dense, moist, fine to coarse subangular to subrounded gravel to 1-3/4 inches diameter, trace debris observed (wood/carbon), no odor, no staining [Fill]	15	5	25	30	25
						6			Total Depth = 5.5 ft. Collected soil samples S001 and S001-RWQCB at 08:03 from excavation floor. Excavation backfilled 11-23-2009.					

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0501**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266839.33</b>	Easting (ft): <b>1796173.60</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, light yellowish brown (10YR 6/4), loose to medium dense, dry, bioturbation observed, roots and rootlets, no odor, no staining [Fill]	5	15	25	20	35
						1			Sandstone [Chatsworth Formation]					
						3			Total Excavation Depth = 3.0 ft.  Collected soil samples S001 and S001-RWQCB at 08:18 from excavation sidewall.  Excavation backfilled 11-23-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0502**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266884.84</b>	Easting (ft): <b>1796192.90</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Rip-rap at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), medium dense, dry to moist, few rootlets, no odor, no staining [Fill]	5	5	20	30	40
						1		GP	Poorly Graded Gravel, subrounded gravel 3/4 inch to 1-1/4 inches diameter, between layers of filter fabric above and below	100				
						2		SM	Silty Sand with Gravel, mottled dark yellowish brown (10YR 3/4) to brownish yellow (10YR 6/6), dense, moist, fine to coarse subangular to subrounded gravel to 2 inches diameter, asphalt debris observed, no odor, no staining [Fill]	15	10	25	20	30
						4			Total Depth = 4.0 ft. Collected soil samples S001 and duplicate D001 at 09:45 from excavation floor. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0503**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.1</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266882.94</b>	Easting (ft): <b>1796205.74</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with grass and dry brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), medium dense, dry to moist, fine to coarse subrounded gravel to 1-1/2 inches diameter, roots and rootlets, no odor, no staining [Fill]	5	5	20	30	40
						3			↙ increase in coarse to medium sand, slight decrease in fine sand and fines	5	10	30	20	35
						4			Total Excavation Depth = 4.1 ft. Collected soil sample S001 at 10:10 from excavation sidewall. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0504**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266873.45</b>	Easting (ft): <b>1796178.78</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Rip-rap at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, rootlets, no odor, no staining [Fill]	5	5	20	30	40
						1		GP	Poorly Graded Gravel, subrounded gravel 3/4 inch to 1-1/4 inches diameter, between layers of filter fabric above and below	100				
						2		SM	Silty Sand with Gravel, dark yellowish brown (10YR 4/4) to light yellowish brown (10YR 6/4), dense, moist, fine to coarse subangular gravel to 3 inches diameter, asphalt and glass debris observed, no odor, no staining [Fill]	20	10	30	10	30
						3								
						4			Total Depth = 3.5 ft. Collected soil sample S001 at 10:00 from excavation floor. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0505**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266880.44</b>	Easting (ft): <b>1796170.07</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil and possible rip-rap at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry to moist, fine gravel, roots and rootlets, no odor, no staining [Fill]	5	5	20	25	45
						3			↙ increase in coarse to medium sand, decrease in fine sand and fines, fewer roots and rootlets	5	10	30	20	35
						5		SM	Silty Sand with Gravel, mottled dark yellowish brown (10YR 4/4) to brownish yellow (10YR 6/6), dense, moist, subangular gravel, metal debris (pipe) observed, no odor, no staining [Fill]	15	10	25	20	30
						6			Total Depth = 6.0 ft. Collected soil sample S001 at 09:50 from excavation floor. Excavation backfilled 11-23-2009.					
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



S



Boring ID: **HZET0506**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.1</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266864.70</b>	Easting (ft): <b>1796164.09</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil and rip-rap at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2B for lithology]					
				0.0		4		SM	Silty Sand with Gravel, mottled dark yellowish brown (10YR 4/4) to brownish yellow (10YR 6/6), dense, moist, subangular gravel, no odor, no staining [Fill]	15	10	25	20	30
						5			Total Depth = 4.1 ft. Collected soil sample S001 at 09:30 from excavation floor. Excavation backfilled 11-23-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/28/09



Boring ID: **HZET0507**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266869.40</b>	Easting (ft): <b>1796150.48</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-03-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-03-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>About 2 inches of soil over filter fabric at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry to moist, subangular to subrounded gravel, rootlets, asphalt debris observed, no odor, no staining [Fill]	10	5	25	30	30
						3.8		SM	Silty Sand with Gravel, yellowish brown (10YR 5/6), dense, moist, subangular to subrounded gravel, no odor, no staining [Fill]	15	5	20	30	30
						4			Total Excavation Depth = 3.8 ft. Collected soil sample S001 and MS/MSD at 09:15 from excavation sidewall. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0508**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266911.23</b>	Easting (ft): <b>1796187.23</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2B-2</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, yellowish brown (10YR 5/6), medium dense to dense, moist, subangular to subrounded gravel, slightly clayey fines, no odor, no staining [Fill]	15	10	20	15	40
						2			[See Trench Log ISRA-HVS-2B for lithology]					
						4			Total Excavation Depth = 4.0 ft. Collected soil sample S001 at 09:00 from excavation sidewall. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0600**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266999.09</b>	Easting (ft): <b>1796003.91</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2C</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense to dense, dry to moist, subangular gravel, roots and rootlets, no odor, no staining [Fill]	10				
						2.3			Total Depth = 2.3 ft. Collected soil samples S001, S001-RWQCB, and D001 at 09:00 from excavation floor. Excavation backfilled 11-30-2009.					

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0601**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267000.10</b>	Easting (ft): <b>1795991.77</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2C</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), medium dense to dense, dry to moist, subangular gravel, roots and rootlets, no odor, no staining [Fill]	5	10	30	25	30	
						1									
						2									
						3			Total Depth = 2.3 ft. Collected soil sample S001 at 10:40 from excavation floor. Excavation backfilled 11-30-2009.						
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0602**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266999.25</b>	Easting (ft): <b>1795923.16</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2C</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, light yellowish brown (10YR 6/4), dense, dry, angular to subangular gravel, no odor, no staining [Fill]	15	10	25	20	30
						2			[See Trench Log ISRA-HVS-2C for lithology]					
						6			Total Excavation Depth = 6.0 ft. Collected soil samples S001 and S001-RWQCB at 09:05 from excavation sidewall. Excavation backfilled 11-30-2009.					
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0603**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267007.23</b>	Easting (ft): <b>1795995.65</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2C</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), dense, dry to moist, subangular to subrounded gravel, roots and rootlets, no odor, no staining [Fill]	10	10	25	20	35
						2.3			Total Depth = 2.3 ft. Collected soil sample S001 at 10:50 from excavation floor. Excavation backfilled 11-30-2009.					



LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0604**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>0.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267034.82</b>	Easting (ft): <b>1795991.66</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2C</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with grass and brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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	
0-0.2	S					0		SM	Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, subangular to subrounded gravel up to 1 inch diameter, roots and rootlets, no odor, no staining [Colluvium] Total Depth = 0.2 ft.  Collected soil sample S001 at 11:08 from excavation sidewall.  Excavation backfilled 11-30-2009.	10	5	25	30	30	
						1									
						2									
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0605**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267049.62</b>	Easting (ft): <b>1795920.18</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2C</b>
Drill Start Date: <b>09-21-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-21-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, brownish yellow (10YR 6/6), medium dense, dry to moist, subangular to subrounded gravel, trace cobbles, no odor, no odor, no staining [Colluvium]	20	10	25	15	30
						1			[See Trench Log ISRA-HVS-2C for lithology]					
						2								
						3								
						4			Total Excavation Depth = 4.0 ft. Collected soil sample S001 at 11:00 from excavation sidewall. Excavation backfilled 11-30-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0700**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266995.25</b>	Easting (ft): <b>1795559.46</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						3		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, rootlets, no odor, no staining [Colluvium]	5	25	30	40	
						4			Total Depth = 3.5 ft. Collected soil sample S001 at 13:39 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0701**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266998.57</b>	Easting (ft): <b>1795566.65</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark brown (10YR 3/3), medium dense, moist, roots and rootlets, no odor, no staining [Colluvium]	10	5	25	35	25
						1			[See Trench Log ISRA-HVS-3 for lithology]					
						2								
						3								
						4			Total Excavation Depth = 3.3 ft. Collected soil sample S001 at 13:34 from excavation sidewall. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0702**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266980.37</b>	Easting (ft): <b>1795576.56</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>



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			[See Trench Log ISRA-HVS-3 for lithology]					
						3		SM	Silty Sand, dark yellowish brown (10YR 3/4), medium dense, moist, subangular to subrounded gravel, roots and rootlets, no odor, no staining [Colluvium]	5	5	25	35	30
						4			Total Excavation Depth = 3.5 ft. Collected soil sample S001 at 13:42 from excavation sidewall. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0703**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266986.61</b>	Easting (ft): <b>1795593.36</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with grass and brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
 S						1			Sandstone, yellowish brown (10YR 5/4-5/6), weathered, very hard, no odor, no staining [Chatsworth Formation]					
						2								
						3								
						4			Total Excavation Depth = 3.3 ft. Collected soil sample S001 at 13:45 from excavation sidewall. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZET0704**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266964.45</b>	Easting (ft): <b>1795579.43</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]						
						1		SM	Silty Sand with Gravel, light yellowish brown (10YR 6/4), dense, dry to moist, angular to subrounded gravel and cobbles, roots and rootlets, no odor, no staining [Fill]	15	5	35	25	20	
						2									
						3			[See Trench Log ISRA-HVS-3 for lithology]						
						4			Total Excavation Depth = 3.0 ft. Collected soil sample S001 at 13:47 from excavation sidewall. Excavation backfilled 12-02-2009.						
						5									
						6									
						7									
						8									
						9									
						10									

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Boring ID: **HZET0705**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266970.17</b>	Easting (ft): <b>1795587.75</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						4		SM	Silty Sand, dark yellowish brown (10YR 3/6), medium dense, moist, rootlets, no odor, no staining [Colluvium]	10	5	25	35	25
						4			Total Depth = 4.0 ft. Collected soil sample S001 at 13:15 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								


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Boring ID: **HZET0706**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266954.93</b>	Easting (ft): <b>1795608.63</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						3.5		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, subangular gravel, roots and rootlets, no odor, no staining [Colluvium]	10	5	25	35	25
						4			Total Depth = 3.8 ft. Collected soil sample S001 at 11:25 from excavation floor. Excavation backfilled 12-02-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0707**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266943.20</b>	Easting (ft): <b>1795612.43</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with grass and brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2		SM	Silty Sand with Gravel, light yellowish brown (10YR 6/4) to pale brown (10YR 6/3), medium dense, dry to moist, gravel and cobbles, no odor, no staining [Fill]	15	5	25	30	25
						3			[See Trench Log ISRA-HVS-3 for lithology]					
						4			Total Excavation Depth = 3.0 ft. Collected soil sample S001 at 11:10 from excavation sidewall. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0708**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266948.90</b>	Easting (ft): <b>1795627.82</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						3		SM	Silty Sand, dark yellowish brown (10YR 3/6), medium dense to dense, moist, no odor, no staining [Colluvium]	10	30	35	25	
						4			Total Depth = 3.3 ft. Collected soil sample S001 at 11:05 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0709**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266983.23</b>	Easting (ft): <b>1795632.49</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 3/4), loose to medium dense, dry, subangular gravel, roots and rootlets, no odor, no staining [Colluvium]	5	5	25	35	30
						1			Total Excavation Depth = 1.0 ft. Collected soil sample S001 at 11:00 from excavation sidewall. Excavation backfilled 12-02-2009.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0710**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266963.90</b>	Easting (ft): <b>1795653.71</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-25-2009</b>	Start Time: <b>07:10</b>	Logged By: <b>M. Baumgardner</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-25-2009</b>	Finish Time: <b>07:18</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Tall grass and weeds up to 2 ft high at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, brown (10YR 4/3), loose, dry, no odor, no staining [Alluvium]			35	50	15
	S					1		SP	Poorly Graded Sand, yellowish brown (10YR 5/6), loose to medium dense, dry to moist, angular sandstone fragments, no odor, no staining [Alluvium]	10	30	25	30	5
Total Depth = 1.5 ft. Collected soil samples S001, S001SP, and S001-RWQCB at 07:15 from excavation floor. Excavation backfilled 12-02-2009.														
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0711**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266957.79</b>	Easting (ft): <b>1795670.48</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						3			Sandstone, pale brown (10YR 6/3), weathered, hard, dry, no odor, no staining [Chatsworth Formation]					
						4			Total Depth = 3.5 ft. Collected soil sample S001 at 10:55 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0712**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266940.62</b>	Easting (ft): <b>1795647.84</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						3.8		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense, moist, rootlets, no odor, no staining [Colluvium]	5	25	25	45	
						4			Total Depth = 3.8 ft. Collected soil sample S001 at 10:40 from excavation floor. Excavation backfilled 12-02-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0713**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266936.68</b>	Easting (ft): <b>1795664.36</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						3		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense, moist, rootlets, no odor, no staining [Colluvium]	5	25	40	30	
						4			Total Depth = 3.5 ft. Collected soil sample S001 at 10:35 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0714**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266931.79</b>	Easting (ft): <b>1795678.30</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2		SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense, moist, rootlets, no odor, no staining [Colluvium]		5	25	30	40
						3			Total Depth = 2.8 ft. Collected soil sample S001 at 09:45 from excavation floor. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0715**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267004.77</b>	Easting (ft): <b>1795693.24</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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 yellowish brown (10YR 4/6), loose to medium dense, dry to moist, rootlets, no odor, no staining [Colluvium]  [See Trench Log ISRA-HVS-3 for lithology]	10	5	30	25	30	
						1									
						2			Total Excavation Depth = 1.3 ft. Collected soil sample S001 at 13:37 from excavation sidewall. Excavation backfilled 12-02-2009.						
						3									
						4									
						5									
						6									
						7									
						8									
						9									
						10									

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0716**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267001.19</b>	Easting (ft): <b>1795733.50</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-24-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-24-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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 yellowish brown (10YR 4/6), loose to medium dense, dry, roots and rootlets, no odor, no staining [Colluvium]  [See Trench Log ISRA-HVS-3 for lithology]	5	5	30	25	35
						1			Total Excavation Depth = 1.3 ft.  Collected soil sample S001 at 13:40 from excavation sidewall.  Excavation backfilled 12-02-2009.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0717**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266972.40</b>	Easting (ft): <b>1795698.56</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-25-2009</b>	Start Time: <b>07:20</b>	Logged By: <b>M. Baumgardner</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-25-2009</b>	Finish Time: <b>07:35</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Tall grass and weeds up to 2 ft high at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SP-SM	Poorly Graded Sand with Silt, brown (10YR 4/3), loose, dry, no odor, no staining [Alluvium]			30	60	10
						1		SW	Well Graded Sand, dark brown (10YR 3/3), medium dense to dense, dry to moist, no odor, no staining [Alluvium]		30	35	30	5
						2			Sandstone, very pale brown (10YR 8/3), well indurated but rippable by excavator [Chatsworth Formation]					
						2.5			Total Excavation Depth = 2.5 ft.					
						3			Collected soil samples S001 and S001-RWQCB at 07:25 from excavation sidewall.					
						3.5			Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0718**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266927.76</b>	Easting (ft): <b>1795711.29</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with broken asphalt at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark brown (10YR 3/3), medium dense, moist, minor asphalt debris observed, no odor, no staining [Fill]		5	20	35	40
	S					1			[See Trench Log ISRA-HVS-3 for lithology]					
						2								
						3			Total Excavation Depth = 2.5 ft. Collected soil sample S001 at 13:15 from excavation sidewall. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0719**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.6</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266931.74</b>	Easting (ft): <b>1795739.37</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with mowed grass and brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						2		SM	Silty Sand, brown (10YR 4/3), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	10	25	35	30	
						3			Total Depth = 2.6 ft. Collected soil sample S001 at 13:35 from excavation floor. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0720**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266946.09</b>	Easting (ft): <b>1795746.57</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2								
						3		SM	Silty Sand, brown (10YR 4/3), dense, moist, rootlets, no odor, no staining [Colluvium]		10	20	35	35
						4			Total Depth = 3.0 ft. Collected soil sample S001 at 13:55 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0721**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266963.80</b>	Easting (ft): <b>1795753.01</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2								
						3		SM	Silty Sand, strong brown (7.5YR 4/6) to dark yellowish brown (10YR 4/4), dense, moist, subangular to subrounded gravel, roots and rootlets, no odor, no staining [Colluvium]	5	5	25	30	35
						4			Total Depth = 3.0 ft. Collected soil sample S001 at 14:05 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZET0722**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266979.90</b>	Easting (ft): <b>1795758.75</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2								
						3		SM	Silty Sand, strong brown (7.5YR 4/6), dense, moist, rootlets, no odor, no staining [Colluvium]	5	20	35	40	
						4			Total Depth = 3.2 ft. Collected soil sample S001 at 14:16 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZET0723**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266993.27</b>	Easting (ft): <b>1795768.81</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with mowed grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2								
						3		SM	Silty Sand, strong brown (7.5YR 4/6), dense, moist, roots and rootlets, no odor, no staining [Colluvium]	5	20	35	40	
						4			Total Depth = 3.2 ft. Collected soil sample S001 at 14:25 from excavation floor. Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZET0724**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266956.47</b>	Easting (ft): <b>1795763.17</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Excavation in soil and gravel roadway</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2								
				0.0		2.5		SM	Silty Sand with Gravel, brown (10YR 4/3) to dark brown (10YR 3/3), medium dense, moist, angular to subrounded gravel and cobbles, unknown odor, no staining [Fill]	15	5	30	25	25
						3			[See Trench Log ISRA-HVS-3 for lithology]					
						4			Total Excavation Depth = 3.5 ft. Collected soil sample S001 at 13:30 from excavation sidewall. Ben Stewart onsite to observe unknown odor and take headspace PID reading (0.0 ppm at background of 0.0 ppm). Excavation backfilled 12-02-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZET0725**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266919.95</b>	Easting (ft): <b>1795719.10</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>09-30-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-30-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with broken asphalt at surface, along roadway</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry to moist, asphalt and metal debris observed, no odor, no staining [Fill]		5	25	35	35
						1			[See Trench Log ISRA-HVS-3 for lithology]					
						2								
						3			Total Excavation Depth = 2.5 ft. Collected soil sample S001 at 13:25 from excavation sidewall. Excavation backfilled 12-02-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

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Boring ID: **HZET0726**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266933.91</b>	Easting (ft): <b>1795714.01</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>10-19-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-19-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						5		SM	Silty Sand, dark yellowish brown (10YR 3/4) to dark brown (10YR 3/3), medium dense, moist, rootlets, no odor, no staining [Colluvium]	5	25	35	35	
						6			Total Depth = 6.0 ft. Collected soil samples S001 and S001-RWQCB at 08:55 from excavation floor. Excavation backfilled 12-02-2009.					
						7								
						8								
						9								
						10								

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Boring ID: **HZET0727**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>6.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266938.19</b>	Easting (ft): <b>1795724.92</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>10-19-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-19-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-3 for lithology]					
						1								
						2								
						3								
						4								
						5		SM	Silty Sand, dark brown (10YR 3/3), medium dense, moist, roots and rootlets, no odor, no staining [Colluvium]	5	25	35	35	
						6			Total Excavation Depth = 6.0 ft.  Collected soil samples S001 and S001-RWQCB at 09:05 from excavation sidewall.  Excavation backfilled 12-02-2009.					
						7								
						8								
						9								
						10								

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Boring ID: **HZET0728**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.2</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266922.95</b>	Easting (ft): <b>1795731.56</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>10-29-2009</b>	Start Time: <b>10:50</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-29-2009</b>	Finish Time: <b>10:55</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Adjacent to metal pipe, bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, brown (10YR 4/3) to dark yellowish brown (10YR 4/4), loose to dense, moist, angular sandstone gravel, debris observed (ceramic and metal pipe), no odor, no staining [Fill]	15	5	25	20	35
						1			Sandstone, very hard [Chatsworth Formation] Total Depth = 1.2 ft. Collected soil sample S001 at 10:50 from excavation floor. Excavation backfilled 12-02-2009.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0729**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.7</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266926.06</b>	Easting (ft): <b>1795732.12</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>10-29-2009</b>	Start Time: <b>11:05</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-29-2009</b>	Finish Time: <b>11:10</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Adjacent to metal pipe, bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, brown (10YR 4/3) to dark yellowish brown (10YR 4/4), loose to medium dense, moist, subangular sandstone gravel, subrounded to rounded fill gravel, no odor, no staining [Fill]	15	5	25	20	35
						1.7			Sandstone, very hard [Chatsworth Formation]					
						2			Total Depth = 1.7 ft. Collected soil sample S001 at 11:05 from excavation floor. Excavation backfilled 12-02-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0730**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>9.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266925.10</b>	Easting (ft): <b>1795727.21</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>10-29-2009</b>	Start Time: <b>11:20</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-29-2009</b>	Finish Time: <b>11:25</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Former tank location</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Former tank					
						2								
						4								
						6								
						8								
						8.5			Gravel and cobbles 2 to 4 inches diameter [Fill]					
					0.0	9.5			Sandstone, very pale brown (10YR 7/4) to yellow (10YR 7/6), very hard, well indurated, massive [Chatsworth Formation]					
						10			Total Depth = 9.5 ft.					
						11			Collected soil samples S001 and S001-RWQCB at 11:25 from excavation floor. Collected two additional sleeves at 12:46 on 11-02-09 (HZET0730AS001).					
						12			Excavation backfilled 12-02-2009.					
						14								
						16								
						18								
						20								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0731**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>9.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266923.94</b>	Easting (ft): <b>1795728.72</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-3</b>
Drill Start Date: <b>10-29-2009</b>	Start Time: <b>11:40</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>B. Martasin, P.G.</b>
Drill Finish Date: <b>10-29-2009</b>	Finish Time: <b>11:45</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			Fill [See Trench Log ISRA-HVS-3 for lithology]					
						2			Sandstone, very pale brown (10YR 7/4) to yellow (10YR 7/6), very hard, well indurated, massive [Chatsworth Formation]					
				0.0		4								
						6								
						8								
						10			Total Excavation Depth = 9.0 ft. Collected soil sample S001 at 11:45 from excavation sidewall. Excavation backfilled 12-02-2009.					
						12								
						14								
						16								
						18								
						20								



LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0800**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>5.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266908.96</b>	Easting (ft): <b>1795644.27</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-4 for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, rootlets, no odor, no staining [Colluvium]		5	30	25	40
						5			Total Depth = 5.0 ft. Collected soil sample S001 at 10:10 from excavation floor. Excavation backfilled 11-24-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0801**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266891.12</b>	Easting (ft): <b>1795637.56</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Bare soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-4 for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, moist, rootlets, no odor, no staining [Colluvium]	10	30	25	35	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 10:40 from excavation floor. Excavation backfilled 11-24-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0802**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.3</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266899.85</b>	Easting (ft): <b>1795623.56</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-4 for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, dark yellowish brown (10YR 4/4), dense, dry, subangular gravel, roots, no odor, no staining [Colluvium]	10	10	30	20	30
						5			Total Depth = 4.3 ft. Collected soil samples S001 and S001-RWQCB at 09:10 from excavation floor. Excavation backfilled 11-24-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0803**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266911.91</b>	Easting (ft): <b>1795605.57</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with loose asphalt debris at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-4 for lithology]					
						1								
						2								
						3								
						4		SM	Silty Sand, yellowish brown (10YR 5/4), dense, dry, roots and rootlets, no odor, no staining [Colluvium]	5	30	25	40	
						5			Total Depth = 4.5 ft. Collected soil sample S001 at 10:50 from excavation floor. Excavation backfilled 11-24-2009.					
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0804**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266895.85</b>	Easting (ft): <b>1795610.47</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Asphalt 3 inches thick at surface, no road base</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/4), dense, dry, roots and rootlets, no odor, no staining [Fill]	15	10	25	20	30
						1			[See Trench Log ISRA-HVS-4 for lithology]					
						2								
						3								
						4			Total Excavation Depth = 3.8 ft. Collected soil sample S001 at 10:40 from excavation sidewall. Excavation backfilled 11-24-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET0805**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.8</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266917.79</b>	Easting (ft): <b>1795629.46</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Bare soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, subangular gravel, roots and rootlets, asphalt and metal (wire) debris observed, no odor, no staining [Fill]	5	10	30	20	35	
						1									
						2									
						3			[See Trench Log ISRA-HVS-4 for lithology]						
						4									
						5			Total Excavation Depth = 4.8 ft. Collected soil samples S001 and duplicate D001 at 10:25 from excavation sidewall. Excavation backfilled 11-24-2009.						
						6									
						7									
						8									
						9									
						10									

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Boring ID: **HZET0806**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>4.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266890.84</b>	Easting (ft): <b>1795655.64</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-23-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-23-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with brush at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, roots and rootlets, no odor, no staining [Fill]		10	30	25	35
	S					1			[See Trench Log ISRA-HVS-4 for lithology]					
						2								
						3								
						4			Total Excavation Depth = 4.0 ft.					
						5			Collected soil samples S001 and S001-RWQCB at 09:20 from excavation sidewall.					
						6			Excavation backfilled 11-24-2009.					
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0808**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>266917.43</b>	Easting (ft): <b>1795590.68</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-4</b>
Drill Start Date: <b>09-29-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>09-29-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil and asphalt at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, dark yellowish brown (10YR 4/6), medium dense to dense, dry to moist, subangular gravel, no odor, no staining [Fill]	15	5	25	30	25
	S					1.5			[See Trench Log ISRA-HVS-4 for lithology]					
						2								
						3								
						4			Total Excavation Depth = 3.5 ft. Collected soil sample S001 at 08:00 from excavation sidewall. Excavation backfilled 11-24-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0900**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>265869.99</b>	Easting (ft): <b>1795444.02</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - DRG-1</b>
Drill Start Date: <b>08-26-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-26-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with brush, old hydromulch at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), loose to medium dense, dry, angular to subangular gravel, roots and rootlets, bioturbation observed, no odor, no staining [Alluvium]	5	5	10	35	45
						1			becomes yellowish brown (10YR 5/6), dense, no gravel, decrease in fine sand and fines, no roots or bioturbation	15	25	20	40	
						3			Sandstone, light yellowish brown (10YR 6/4), weathered, hard, dry [Chatsworth Formation]					
									Total Depth = 3.0 ft.					
									Collected soil sample S001 at 14:55 from excavation floor in ISRA Area DRG-1.					
									Excavation backfilled 11-23-2009.					
						2								
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0901**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>265879.78</b>	Easting (ft): <b>1795453.07</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - DRG-1</b>
Drill Start Date: <b>08-26-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-26-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with brush, old hydromulch at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, roots and rootlets, no odor, no staining [Alluvium]		5	20	35	40
	s			0.0		1			Sandstone, light yellowish brown (10YR 6/4), weathered, hard, dry, fine-grained, thinly bedded, fractured [Chatsworth Formation]				100	
						2								
						3			Total Excavation Depth = 2.5 ft.  Collected soil sample S001 at 15:30 from excavation sidewall in ISRA Area DRG-1.  Excavation backfilled 11-23-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0902**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>265860.80</b>	Easting (ft): <b>1795421.03</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - DRG-1</b>
Drill Start Date: <b>08-26-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-26-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with brush, old hydromulch at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		ML/SM	Sandy Silt / Silty Sand, dark yellowish brown (10YR 4/4), loose to medium dense, dry, angular to subangular sandstone gravel, roots and rootlets, bioturbation observed, no odor, no staining [Alluvium]	5		5	40	50
						1				5		10	45	45
						2			Sandstone, light yellowish brown (10YR 6/4), weathered, very hard, dry, fine-grained, fractured; rootlets at upper contact [Chatsworth Formation]					100
						2.5			becomes less fractured					
						3			Total Excavation Depth = 2.5 ft. Collected soil sample S001 and MS/MSD at 14:25 from excavation sidewall in ISRA Area DRG-1. Excavation backfilled 11-23-2009.					
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0903**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>265879.73</b>	Easting (ft): <b>1795426.86</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - DRG-1</b>
Drill Start Date: <b>08-26-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-26-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Soil with brush, old hydromulch at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		ML	Sandy Silt, dark yellowish brown (10YR 4/4), loose to medium dense, dry, angular to subangular sandstone gravel, roots and rootlets, bioturbation observed, no odor, no staining [Alluvium]	5		5	40	50
						2			Sandstone, yellowish brown (10YR 5/6) to light yellowish brown (10YR 6/4), slightly weathered, hard, dry, fine-grained, fractured [Chatsworth Formation]				100	
				0.0		3			becomes less fractured					
						4			Total Depth = 3.5 ft. Collected sample S001 at 14:40 from excavation floor from ISRA Area DRG-1. Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET0904**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>3.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>265865.19</b>	Easting (ft): <b>1795459.14</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - DRG-1</b>
Drill Start Date: <b>08-26-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>S. Valenzuela, P.G.</b>
Drill Finish Date: <b>08-26-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>PID</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Soil with grass and brush at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		ML/SM	Sandy Silt / Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, subangular sandstone gravel, roots and rootlets, bioturbation observed, no odor, no staining [Alluvium]	5		15	30	50
						0.5				5		15	35	45
						3			Sandstone, yellowish brown (10YR 5/4) to light yellowish brown (10YR 6/4), weathered, hard, dry, fine-grained [Chatsworth Formation]					100
						3			Total Excavation Depth = 3.0 ft.					
						4			Collected soil sample S001 at 15:10 from excavation sidewall in ISRA Area DRG-1.					
						4			Excavation backfilled 11-23-2009.					
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09





Boring ID: **HZET1000**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267129.57</b>	Easting (ft): <b>1796214.61</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2D</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Located in unpaved road</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, light yellowish brown (10YR 6/4), dense, dry to moist, angular to subangular gravel and cobbles, rootlets, white hair-like fibers, no odor, no staining [Fill]	15	5	20	25	35
						2			Total Depth = 1.5 ft. Collected soil samples S001 and S001-RWQCB at 10:30 from excavation floor. Excavation backfilled 11-23-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET1001**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267170.83</b>	Easting (ft): <b>1796217.10</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2D</b>
Drill Start Date: <b>10-05-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-06-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Located in unpaved road</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand with Gravel, light yellowish brown (10YR 6/4), dense, dry to moist, angular to subangular gravel and cobbles, rootlets, white hair-like fibers, no odor, no staining [Fill]	15	5	20	30	30
						2			Total Depth = 2.0 ft.  Collected soil samples S001 and S001-RWQCB at 10:35 and S002 and S002-RWQCB at 10:38 from excavation floor.  Excavation backfilled 11-23-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET1002**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>2.0</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267141.84</b>	Easting (ft): <b>1796216.37</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2D</b>
Drill Start Date: <b>10-19-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-19-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	
Comments: <b>Fill soil at surface</b>		Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>		Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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		SM	Silty Sand, yellowish brown (10YR 5/4), dense to very dense, dry to moist, rootlets, white hair-like fibers, no odor, no staining [Fill]		5	25	30	40
						2			Total Depth = 2.0 ft. Collected soil samples S001 and S001-RWQCB at 10:00 from excavation floor. Excavation backfilled 11-23-2009.					
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09



Boring ID: **HZET1100**

Borehole Diam. (in.): <b>2</b>	Total Depth (ft): <b>1.5</b>	Project: <b>SSFL ISRA Sampling - Outfall 008 Area</b>	
Northing (ft): <b>267006.68</b>	Easting (ft): <b>1796201.65</b>	Job Number: <b>1891614</b>	Site: <b>Happy Valley South - HVS-2D</b>
Drill Start Date: <b>10-19-2009</b>	Start Time: <b>NR</b>	Logged By: <b>A. Goldenberg</b>	Reviewed By: <b>V. Vathanasin, P.G.</b>
Drill Finish Date: <b>10-19-2009</b>	Finish Time: <b>NR</b>	Drilling Contractor: <b>Envirosolve</b>	Field Instrumentation: <b>N/A</b>
Depth 1st H <sub>2</sub> O (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Drill Rig Type/Method: <b>Grab (hand sampling)</b>	
Depth H <sub>2</sub> O After Drilling (ft): <b>N/A</b>	Date / Time: <b>N/A</b>	Driller's Name: <b>Not applicable</b>	

Comments: <b>Fill soil at surface</b>	Well Comp. Date: <b>N/A</b>	Completion Time: <b>N/A</b>
Samplers: <b>Grab sample collected in 6-inch stainless steel sleeve</b>	Soil Backfill Date: <b>N/A</b>	Backfill Time: <b>N/A</b>

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			[See Trench Log ISRA-HVS-2D for lithology]					
						1			Sandstone, pale brown (10YR 6/3) to light yellowish brown (10YR 6/4), weathered, hard, medium- to fine-grained, no odor, no staining [Chatsworth Formation]					
						2			Total Excavation Depth = 1.5 ft. Collected soil samples S001 and S001-RWQCB at 12:05 from excavation sidewall. Excavation backfilled 11-23-2009.					
						3								
						4								
						5								
						6								
						7								
						8								
						9								
						10								

LOG OF BORING - OUTFALL008.GPJ BOEING.GDT 12/16/09