

# WELL BORING LOG

Boring/Well Number: HES-23		Permit Number:									
CR 833 South of Hill Grade Road											
Project Name: C-139 Regional Study		Borehole Start Date:	10/15/09								
		Borehole Start Time:	4:15 am <input checked="" type="checkbox"/> m								
		End Date:	10/16/09								
		End Time:	2:00 am <input checked="" type="checkbox"/> m								
Environmental Contractor: URS Corp.		Geologist's Name: David Schulte									
Environmental Technician's Name: NA											
Drilling Company: Drill Pro		Pavement Thickness (inches): None	Borehole Diameter (inches): 6								
		Borehole Depth (feet): 90									
Drilling Method(s): Sonic Drill		Apparent Borehole DTW (in feet from soil moisture content): 3	Measured Well DTW (in feet after water recharges in well): 3								
OVA (list model and check type): NA FID PID											
Disposition of Drill Cuttings [check method(s)]: (describe if other or multiple items are checked):											
Drum <input checked="" type="checkbox"/> Spread Backfill Stockpile Other Samples taken off site for examination											
Borehole Completion (check one): <input checked="" type="checkbox"/> Well Grout Bentonite Backfill Other (describe)											
Shallow well pumped dry and Deep well pumped below 25 feet with 3/8 inch dia tubing - Flush finished well manholes											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Notes:
SC	0-2	24	NA	NA	NA	NA	0-2	Unconsolidated-light brown, fine to medium grained quartz sand		D	Depth to Water HES-23S = 2.10'
SC	2-5	36	NA	NA	NA	NA	2-5	Unconsolidated-light gray, medium to fine grained quartz sand		D	Depth to Water HES-23D = 2.57'
SC	5-10	60	NA	NA	NA	NA	5-10	Soft-light tan marl and small to medium shell fragments with some medium to fine grained quartz sand and traces of coarse grained quartz sand		S	2 feet of 0.02 slot well screen set from 7.5 to 9.5 feet
SC	10 -15	60	NA	NA	NA	NA	10-15	Firm-light tan silty marl with some fine to medium grained quartz sand and coarse grained phosphatic sand and traces of coarse grained quartz sand and very small shell fragments		M	
SC	15 -22	84	NA	NA	NA	NA	15-22	Firm-light tan silty marl with some fine to medium grained quartz sand and coarse grained phosphatic sand and traces of coarse grained quartz sand and very small shell fragments		M	
SC	22-25	36	NA	NA	NA	NA	22-25	Firm-light gray silty marl with some fine to medium grained quartz sand and coarse grained phosphatic sand and traces of coarse grained quartz sand and very small shell fragments		M	
SC	25-28	36	NA	NA	NA	NA	25-28	Soft-Light gray sandy marl with traces of small shell fragments and medium to fine phosphatic sand		S	
SC	28-30	24	NA	NA	NA	NA	28-30	Soft-Light tan sandy marl with traces of small shell fragments and medium to fine phosphatic sand		S	
SC	30-35	60	NA	NA	NA	NA	30-35	Soft-light tan silty medium to fine grained quartz sand with traces of coarse grained quartz sand and medium to fine phosphatic sand and with some very small to large cemented sand nodules		S	
SC	35-37	24	NA	NA	NA	NA	35-37	Soft-light gray silty/clayey medium to fine grained quartz sand with traces of medium phosphatic sand, and some small shell fragments and small cemented sand nodules		S	
SC	37-40	36	NA	NA	NA	NA	37-40	Soft-light tan silty/clayey fine to medium grained quartz sand with some small cemented sand nodules and traces of small shell fragments		S	

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings  
 Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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Drilling Method(s): Sonic Drill	Apparent Borehole DTW (in feet from soil moisture content): 3	Measured Well DTW (in feet after water recharges in well): 3	OVA (list model and check type): NA FID PID
Disposition of Drill Cuttings [check method(s)]: Drum <input checked="" type="checkbox"/> Spread Backfill Stockpile Other (describe if other or multiple items are checked): Samples taken off site for examination			
Borehole Completion (check one): <input checked="" type="checkbox"/> Well Grout Bentonite Backfill Other (describe)			

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SC	40-42	24	NA	NA	NA	NA	40-42	Soft-tannish gray silty/clayey fine to medium grained quartz sand with some medium to large cemented sand nodules and traces of small shell fragments		S	
SC	42-45	36	NA	NA	NA	NA	42-45	Soft-light olive gray silty fine to medium grained quartz sand with some small sand nodules and traces of very fine grained quartz sand and very small shell fragments		S	
SC	45-48	36	NA	NA	NA	NA	45-48	Soft-light gray silty medium to fine grained quartz sand with traces of small sand nodules and very small shell fragments		S	
SC	48-50	24	NA	NA	NA	NA	48-50	Soft-gray silty medium to fine grained quartz sand with traces of small sand nodules and very small shell fragments		S	
SC	50-55	60	NA	NA	NA	NA	50-55	Soft-gray silty medium to fine grained quartz sand with traces of very fine grained quartz sand, small shell fragments, and small to medium cemented sand nodules		S	
SC	55-60	60	NA	NA	NA	NA	55-60	Soft-light olive gray silty medium to fine grained quartz sand with traces of clay, small shell fragments, small to large cemented sand/shell nodules		S	
SC	60-63	36	NA	NA	NA	NA	60-63	Soft-light olive gray silty medium to fine grained quartz sand with traces of clay, large shell fragments, medium to large cemented sand/shell nodules		S	
SC	63-65	24	NA	NA	NA	NA	63-65	Soft-light gray silty fine to medium quartz sand with traces of coarse and very fine grained quartz sand, clay, and small to large cemented sand/shell nodules		S	2 feet of 0.02 slot well screen set from 63 to 65 feet
SC	65-70	60	NA	NA	NA	NA	65-70	Soft-light gray silty fine to medium quartz sand with traces of coarse and very fine grained quartz sand, and small to large cemented sand/shell nodules		S	5 feet of bentonite
SC	70-75	60	NA	NA	NA	NA	70-75	Firm-olive gray marl with tracs of silt and very fine grained quartz sand		W	Sand to bottom of boring
SC	75-80	60	NA	NA	NA	NA	75-80	Firm-olive gray marl with tracs of silt, very fine grained quartz sand, and very small shell fragments		M	

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Disposition of Drill Cuttings [check method(s)]:      Drum <input checked="" type="checkbox"/> Spread      Backfill      Stockpile      Other					
<i>(describe if other or multiple items are checked):</i> Samples taken off site for examination					
Borehole Completion (check one): <input checked="" type="checkbox"/> Well      Grout      Bentonite      Backfill      Other (describe)					

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SC	80-85	60	NA	NA	NA	NA	80-85	Firm-olive gray marl with tracs of silt, very fine grained quartz sand, and very small shell fragments		M	
SC	85-90	60	NA	NA	NA	NA	85-90	Soft-olive gray sandy marl with some very small to medium shell fragments		W	Boring Terminated

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