

# WELL BORING LOG

| Boring/Well Number: HES-24  |   | Permit Number:                       |  |  |                              |         |              |  |             |                  |   |
|---|---|--------------------------------------|--|--|------------------------------|---------|--------------|--|-------------|------------------|---|
| Okaloacoochee Slough State Forest   |   |                                      |  |  |                              |         |              |  |             |                  |   |
| Project Name: C-139 Regional Study  |   | Borehole Start Date:                 | 10/15/09   | Borehole Start Time: 8:30 <input checked="" type="checkbox"/> am <input type="checkbox"/> pm |                              |         |              |  |             |                  |   |
|   |   | End Date:                            | 10/15/09   | End Time: 3:00 <input type="checkbox"/> am <input checked="" type="checkbox"/> pm            |                              |         |              |  |             |                  |   |
| Environmental Contractor:<br>URS Corp.  |   | Geologist's Name:<br>David Schulte   |  | Environmental Technician's Name:<br>NA   |                              |         |              |  |             |                  |   |
| Drilling Company:<br>Drill Pro  |   | Pavement Thickness (inches):<br>None | Borehole Diameter (inches):<br>6                             |  | Borehole Depth (feet):<br>90 |         |              |  |             |                  |   |
| Drilling Method(s):<br>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):<br>NA FID PID   |                              |         |              |  |             |                  |   |
| Disposition of Drill Cuttings [check method(s)]:<br>(describe if other or multiple items are checked):  |   |                                      |  |  |                              |         |              |  |             |                  |   |
|   |   | Drum                                 | Spread   | Backfill   | Stockpile                    |         |              |  |             |                  |   |
|   |   | Other                                | Samples taken off site for examination                       |  |                              |         |              |  |             |                  |   |
| Borehole Completion (check one): <input checked="" type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input type="checkbox"/> Backfill <input type="checkbox"/> Other (describe) |   |                                      |  |  |                              |         |              |  |             |                  |   |
| Shallow well pumped dry and Deep well pumped at 1.5 gpm with 3/8 inch dia tubing - Above Ground protective casings  |   |                                      |  |  |                              |         |              |  |             |                  |   |
| Sample Type   | Sample Depth Interval (feet)                                  | Sample Recovery (inches)             | SPT Blows (per six inches)                                   | Unfiltered OVA   | Filtered OVA                 | Net OVA | Depth (feet) | Sample Description<br>(include grain size based on USCS, odors, staining, and other remarks)   | USCS Symbol | Moisture Content | Notes:  |
| PH  | 0-2   | 24                                   | NA   | NA   | NA                           | NA      | 0-2          | Unconsolidated- brown fine to medium grained quartz sand with some yellowish orange clay nodules   |             | D                | Depth to Water HES-24S = 7.29' w/ TOC 2.37' ags       |
| SC  | 2-10  | 96                                   | NA   | NA   | NA                           | NA      | 2-10         | Soft-light gray to light tan limestone interbedded with coarse limestone sand (oolites) with traces of very fine to medium grained quartz sand   |             | W                | Depth to Water HES-24D = 3.94' w/ TOC 1.8' ags        |
| SC  | 10-15   | 60                                   | NA   | NA   | NA                           | NA      | 10-15        | Soft-grayish tan sandy (coarse to very fine grained quartz sand) marl with traces of coarse to fine phosphatic sand  |             | S                | 2 feet of 0.02 slot well screen set from 8 to 10 feet |
| SC  | 15-18   | 36                                   | NA   | NA   | NA                           | NA      | 15-18        | Soft-grayish tan sandy (coarse to very fine grained quartz sand) marl with some small to large shell fragments and cemented sand/shell nodules, and traces of coarse to fine phosphatic sand |             | W                |   |
| SC  | 18-20   | 24                                   | NA   | NA   | NA                           | NA      | 18-20        | Firm-light gray marl with traces of fine to very fine grained quartz sand and very small shell fragments   |             | M                |   |
| SC  | 20-25   | 60                                   | NA   | NA   | NA                           | NA      | 20-25        | Firm-gray marl with dark gray mottling and traces fine to very fine grained quartz sand  |             | M                |   |
| SC  | 25-30   | 60                                   | NA   | NA   | NA                           | NA      | 25-30        | Same as above  |             | M                |   |
| SC  | 30-35   | 60                                   | NA   | NA   | NA                           | NA      | 30-35        | Firm-gray marl with dark gray mottling with some small shell fragments and traces fine to very fine grained quartz sand  |             | M                |   |
| SC  | 35-40   | 60                                   | NA   | NA   | NA                           | NA      | 35-40        | Soft-gray marl with tan mottling and traces of fine to very fine grained quartz sand   |             | W                |   |
| SC  | 40-45   | 60                                   | NA   | NA   | NA                           | NA      | 40-45        | Soft-tan with dark gray mottling marl with traces of fine to very fine grained quartz sand and dark gray fine phosphatic sand  |             | W                |   |
| SC  | 45-50   | 60                                   | NA   | NA   | NA                           | NA      | 45-50        | Soft-tan with dark gray mottling marl with some fine to very fine grained quartz sand and dark gray fine phosphatic sand   |             | W                |   |

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

# WELL BORING LOG

| Boring/Well Number: HES-24   |                              |   | Permit Number:             |   |              |         |              |  |             |                  |  |
|--|------------------------------|---|----------------------------|---|--------------|---------|--------------|--|-------------|------------------|--|
| Okaloacoochee Slough State Forest  |                              |   |                            |   |              |         |              |  |             |                  |  |
| Project Name: C-139 Regional Study   |                              | Borehole Start Date:  |                            | Borehole Start Time:  |              |         |              |  |             |                  |  |
|  |                              | 10/15/09  |                            | 8:30 <input checked="" type="checkbox"/> am <input type="checkbox"/> pm |              |         |              |  |             |                  |  |
|  |                              | End Date:   |                            | End Time:   |              |         |              |  |             |                  |  |
|  |                              | 10/15/09  |                            | 3:00 am <input type="checkbox"/> <input checked="" type="checkbox"/> m  |              |         |              |  |             |                  |  |
| Environmental Contractor:  |                              | Geologist's Name:   |                            | Environmental Technician's Name:  |              |         |              |  |             |                  |  |
| URS Corp.  |                              | David Schulte   |                            | NA  |              |         |              |  |             |                  |  |
| Drilling Company:  |                              | Pavement Thickness (inches):                                |                            | Borehole Diameter (inches):   |              |         |              |  |             |                  |  |
| Drill Pro  |                              | None  |                            | 6   |              |         |              |  |             |                  |  |
|  |                              |   |                            | Borehole Depth (feet):  |              |         |              |  |             |                  |  |
|  |                              |   |                            | 90  |              |         |              |  |             |                  |  |
| Drilling Method(s):  |                              | Apparent Borehole DTW (in feet from soil moisture content): |                            | Measured Well DTW (in feet after water recharges in well):              |              |         |              |  |             |                  |  |
| Sonic Drill  |                              | 3   |                            | 3   |              |         |              |  |             |                  |  |
|  |                              |   |                            | OVA (list model and check type):  |              |         |              |  |             |                  |  |
|  |                              |   |                            | NA FID PID  |              |         |              |  |             |                  |  |
| Disposition of Drill Cuttings [check method(s)]:   |                              |   |                            |   |              |         |              |  |             |                  |  |
| <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other                      |                              |   |                            |   |              |         |              |  |             |                  |  |
| (describe if other or multiple items are checked):   |                              |   |                            |   |              |         |              |  |             |                  |  |
| Samples taken off site for examination   |                              |   |                            |   |              |         |              |  |             |                  |  |
| Borehole Completion (check one):   |                              |   |                            |   |              |         |              |  |             |                  |  |
| <input checked="" type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input type="checkbox"/> Backfill <input type="checkbox"/> Other (describe) |                              |   |                            |   |              |         |              |  |             |                  |  |
| Sample Type  | Sample Depth Interval (feet) | Sample Recovery (inches)                                    | SPT Blows (per six inches) | Unfiltered OVA  | Filtered OVA | Net OVA | Depth (feet) | Sample Description<br>(include grain size based on USCS, odors, staining, and other remarks)   | USCS Symbol | Moisture Content | Notes:   |
| SC   | 50-55                        | 60  | NA                         | NA  | NA           | NA      | 50-55        | Soft-tan with dark gray mottling marl with some fine to very fine grained quartz sand and dark gray fine phosphatic sand   |             | S                |  |
| SC   | 55-60                        | 60  | NA                         | NA  | NA           | NA      | 55-60        | Soft-tan with gray mottling silty medium to fine grained quartz sand with some gray marl and very small shell fragments, and traces of very fine grained quartz sand                 |             | S                |  |
| SC   | 60-62                        | 24  | NA                         | NA  | NA           | NA      | 60-62        | Same as above  |             | S                |  |
| SC   | 62-65                        | 36  | NA                         | NA  | NA           | NA      | 62-65        | Semi-firm - olive gray silty marl with some gray coarse grained quartz sand lenses.  |             | S                |  |
| SC   | 65-68                        | 60  | NA                         | NA  | NA           | NA      | 65-68        | Semi-firm - gray with light gray mottling silty fine to medium grained quartz sand with some gray marl and traces of coarse grained quartz sand and dark gray coarse phosphatic sand |             | S                |  |
| SC   | 68-70                        | 24  | NA                         | NA  | NA           | NA      | 68-70        | Unconsolidated-light tan medium grained quartz sand with traces of fine to very fine grained quartz sand, small shell fragments, and dark gray medium phosphatic sand                |             | S                |  |
| SC   | 70-80                        | 120   | NA                         | NA  | NA           | NA      | 70-80        | Unconsolidated-light tan medium grained quartz sand with traces of fine to very fine grained quartz sand, small shell fragments, and dark gray medium phosphatic sand                |             | S                |  |
| SC   | 80-90                        | 120   | NA                         | NA  | NA           | NA      | 80-90        | Unconsolidated-light tan medium grained quartz sand with some small shell fragments and traces of fine to very fine grained quartz sand and dark gray medium phosphatic sand         |             | S                | 2 feet of 0.02 slot well screen set from 88 to 90 feet |
|  |                              |   |                            |   |              |         |              |  |             | S                | Boring Terminated @ 90'                                |
|  |                              |   |                            |   |              |         |              |  |             |                  |  |

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 Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated