

WELL BORING LOG

| Boring/Well Number: HES-22 | | Permit Number: | | | | | | | | | |
|---|------------------------------|--|----------------------------|---|--------------|---------|--------------|--|-------------|------------------|--|
| ABC RANCH (Solon Crews Mills Property) | | | | | | | | | | | |
| Project Name: C-139 Regional Study | | Borehole Start Date: | | 10/13/09 | | | | | | | |
| | | End Date: | | 10/14/09 | | | | | | | |
| | | Borehole Start Time: | | 4:15 am <input checked="" type="checkbox"/> pm | | | | | | | |
| | | End Time: | | 12:00 am <input checked="" type="checkbox"/> pm | | | | | | | |
| 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): 71 | | | | | | | |
| 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 at 1.5 gpm and Deep well pumped at 1.5 gpm using 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 (include grain size based on USCS, odors, staining, and other remarks) | USCS Symbol | Moisture Content | Notes: |
| SC | 0-3 | 36 | NA | NA | NA | NA | 0-3 | Unconsolidated-grayish brown, fine to medium grained quartz sand with traces of coarse quartz sand and light tan limestone pebbles | | D | Depth to Water HES-22S = 5.45' w/ TOC 2.29' ags |
| SC | 3-5 | 24 | NA | NA | NA | NA | 3-5 | Unconsolidated-light brown, medium to fine grained quartz sand and soft-tan weathered limestone fragments | | D | Depth to Water HES-22D = 5.44' w/ TOC 2.42' ags |
| SC | 5-8 | 36 | NA | NA | NA | NA | 5-8 | Unconsolidated-yellowish tan, silty fine to medium grained quartz sand and small to very small limestone pebbles | | M | |
| SC | 8-10 | 24 | NA | NA | NA | NA | 8-10 | Soft-light tan, marly fine to medium grained quartz sand with traces of coarse quartz sand, and some medium limestone pebbles | | W | |
| SC | 10-12 | 24 | NA | NA | NA | NA | 10-12 | Soft-thin light gray limestone layers interbedded with unconsolidated-light tan fine to coarse grained quartz sand and light tan marl clay | | W | 2 feet of 0.02 slot well screen set from 10 to 12 feet |
| SC | 12-15 | 36 | NA | NA | NA | NA | 12-15 | Soft-light olive gray, silty clay with some medium to fine grained quartz sand and small shell fragments | | W | |
| SC | 15-21 | 72 | NA | NA | NA | NA | 15-21 | Soft-Light gray clayey, medium to very fine grained quartz sand and small shell fragments | | M | |
| SC | 21-25 | 48 | NA | NA | NA | NA | 21-25 | Unconsolidated-Light gray, coarse to fine grained quartz sand and small to medium shell fragments | | W | |
| SC | 25-30 | 60 | NA | NA | NA | NA | 25-30 | Same as above | | W | |
| SC | 30-33 | 36 | NA | NA | NA | NA | 30-33 | Unconsolidated-light gray, coarse to fine grained quartz sand with some small shell fragments, and traces of dark gray coarse grained phosphatic sand | | W | |
| SC | 33-35 | 24 | NA | NA | NA | NA | 33-35 | Unconsolidated-light gray, coarse to fine grained quartz sand and very small shell fragments with traces of dark gray coarse grained phosphatic sand and very fine grained quartz 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

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| | | Borehole Start Time: | 4:15 am <input checked="" type="checkbox"/> pm |
| | | End Date: | 10/14/09 |
| | | End Time: | 12:00 am <input checked="" type="checkbox"/> pm |
| 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): 71 |
| 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) | | | |

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|-------------|------------------------------|--------------------------|----------------------------|----------------|--------------|---------|--------------|--|-------------|------------------|--|
| SC | 35-40 | 60 | NA | NA | NA | NA | 35-40 | Unconsolidated-light gray, medium to coarse grained quartz sand with traces of fine grained quartz sand, very small shell fragments and dark gray coarse grained phosphatic sand | | W | |
| SC | 40-45 | 60 | NA | NA | NA | NA | 40-45 | Unconsolidated-light gray, medium to fine grained quartz sand with traces of coarse grained quartz sand and very small shell fragments | | W | |
| SC | 45-50 | 60 | NA | NA | NA | NA | 45-50 | Same as above | | W | |
| SC | 50-51 | 12 | NA | NA | NA | NA | 50-51 | Firm-light olive gray, fine to medium grained quartz sandy clay with traces of coarse grained quartz sand and some small to medium shell fragments | | W | |
| SC | 51-55 | 48 | NA | NA | NA | NA | 51-55 | Firm-olive gray, clayey fine to medium grained quartz sand with traces of coarse grained quartz sand and some small to medium shell fragments | | W | |
| SC | 55-57 | 24 | NA | NA | NA | NA | 55-57 | Firm-olive gray, clayey fine to medium grained quartz sand with traces of coarse grained quartz sand and some very small to small shell fragments | | W | |
| SC | 57-60 | 36 | NA | NA | NA | NA | 57-60 | Soft to unconsolidated-light gray, medium to fine grained quartz sand with traces of coarse grained quartz sand, silt, clay, and very small shell fragments | | W | |
| SC | 60-62 | 24 | NA | NA | NA | NA | 60-62 | Unconsolidated-light gray, medium to coarse grained quartz sand and very small to medium shell fragments | | W | |
| SC | 62-65 | 36 | NA | NA | NA | NA | 62-65 | Unconsolidated-light gray, coarse to medium grained quartz sand and small shell fragments with traces of silt, very small cemented sandstone nodules and dark gray, coarse grained phosphatic sand | | W | |
| SC | 65-69 | 48 | NA | NA | NA | NA | 65-69 | Same as above | | W | |
| SC | 69-71 | 12 | NA | NA | NA | NA | 69-71 | Unconsolidated-light olive gray, medium to fine grained quartz sand with some coarse grained quartz sand, clay, small shell fragments, and with traces of small cemented sandstone nodules and dark gray, coarse grained phosphatic sand | | W | 2 feet of 0.02 slot well screen set from 69 to 71 feet |

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