December 23, 2009

California Energy Commission
Docket Unit
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: LOW RESOLUTION SCAN OF THE BOREHOLE LOGS FOR OBS-1, OBS-2, TW-1, AND TW-2 FOR GENESIS SOLAR ENERGY PROJECT
   DOCKET NO. (09-AFC-8)

Enclosed for filing with the California Energy Commission is the original of LOW RESOLUTION SCAN OF THE BOREHOLE LOGS FOR OBS-1, OBS-2, TW-1, AND TW-2 FOR GENESIS SOLAR ENERGY PROJECT, for the Genesis Solar Energy Project Docket No. (09-AFC-8).

Sincerely,

[Signature]
Ashley Y Garner
Date Drilled: 05/08/2009 to 05/09/2009
Borehole Location: N33°40'24.91" W115°03'5.85"

Drilling Method: Air Rotary, 10" Diameter
Ground Surface Elevation: 383 feet amsl

Drilling Contractor: WDG Exploration
Staic Water Level: 76.77 feet amsl

Geologist: Ryan Farrel
Reviewer: Nat Beal
Total Depth: 160 ft
Well Depth:

Notes:

<table>
<thead>
<tr>
<th>Depth, Feet</th>
<th>USCS Soil Type</th>
<th>Geologic Description</th>
<th>Remarks</th>
<th>Well Schematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>Silty Sand, well graded, dry</td>
<td>Collected off top of spoils could be biased to finer grains.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>SC</td>
<td>Clayey Sand, ~ 40% clay, ~ 60% fine - coarse sand, trace fine subangular gravel, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>SM</td>
<td>Silty fine sand, trace subangular fine gravel, slightly moist, 10YR 5/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>CL</td>
<td>Sandy lean Clay, fine sand, high dry strength, medium plasticity, medium toughness, 10YR 6/4 (Yellowish brown)</td>
<td>Driller says he feels clay at 35 feet.</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>SP</td>
<td>Poorly graded fine Sand with silt, approximately 20% silt, dry, 10YR 5/4 (Yellowish brown).</td>
<td>Driller says back into sand at 40 feet.</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>SC</td>
<td>Clayey Sand, moist, 10YR 6/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>SM</td>
<td>Silty Sand, fine sand, low plasticity, low toughness, slightly moist, 10YR 5/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>Lithology Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Clayey Sand, fine sand, trace angular gravel, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Sandy lean Clay/Clayey Sand, fine sand, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Clayey Sand, wet, fine sand, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>First water/cap fringe observed at approx. 95 feet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>Fat Clay, high toughness, high plasticity, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Clayey Sand, ~ 60% fine sand, ~ 40% clay, 10YR 5/4 (Yellowish brown).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water level in borehole at 113 feet bgs on 5/10/09.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>130</td>
<td>Sandy lean Clay, med-high plasticity, med toughness, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>Silty Sand, fine sand, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>Clayey Sand/Sandy lean Clay, fine sand, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Color change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Sandy lean Clay/Sandy Fat Clay, ~ 30% fine sand, 10 YR 5/3 (brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lithologic Log of OBS-2 - 0 fbgs to 75 fbgs

Genesis Solar, LLC
Project Number: 52004617

Date Drilled: 05/28/2009 to 07/02/2009
Borehole Location: N33°40.419' W115°03.268
Drilling Method: Mud Rotary, 10" Diameter
Ground Surface Elevation: 383 feet amsl
Drilling Contractor: WDC Exploration
Static Water Level: N/A
Geologist: Andie Gehlhausen
Reviewer: Nat Beal
Total Depth: 900 ft
Well Depth: 405 ft

Notes:
1) Lithologic log was adjusted based on the cuttings log from OBS-1 and the geophysical logs
2) RSN and RLS have been corrected to 77 degrees F
3) Soil samples were collected using a Modified California Split Spoon Sampler and a standard 140-pound drive hammer

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GEOPHYSICAL LOGS

<table>
<thead>
<tr>
<th>Depth - Feet</th>
<th>USCS Soil Type</th>
<th>Geologic Description</th>
<th>Remarks</th>
<th>Well Schematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>RSN (Gravel)</td>
<td>Well graded sand with gravel, find to coarse sand sub-rounded, gravel very angular to angular, color 10YR 5/4 (yellowish brown).</td>
<td>25 feet - Tofanes: 2.5</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>SM</td>
<td>Silty Sand, dry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>SP</td>
<td>Poorly graded Sand, fine to medium, trace gravel and silt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>SC</td>
<td>Clayey Sand, ~50% clay, ~50% fine to coarse sand, trace fine subangular gravel, 10YR 6/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>SM</td>
<td>Silty fine sand, trace subangular fine gravel, slightly moist, 10YR 5/4 (Yellowish brown).</td>
<td>30 feet - 2.75 push test, Tofanes: 1.0</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>SP</td>
<td>Poorly graded Sand with silt, fine, ~25% silt, dry, 10YR 6/4 (Yellowish brown).</td>
<td>35 feet - 3.25 push test, Tofanes: 1.5</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>CL</td>
<td>Sandy Clay, fine sand, high dry strength, medium plasticity, medium toughness, 10YR 5/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>SM</td>
<td>Silty Sand, moist, 10YR 5/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>SC</td>
<td>Clayey Sand, moist, 10YR 5/4 (Yellowish brown).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>SM</td>
<td>Silty Sand, line sand, slightly moist, 10YR 5/4 (Yellowish brown) with clay lenses.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>CL</td>
<td>Clay with silt and sand.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>SC</td>
<td>Clayey Sand, fine sand, trace angular gravel, 10YR 5/4</td>
<td>70 feet - 1.5 unconfined compressive strength</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>CL</td>
<td>Black Marble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>SM</td>
<td>Silty Sand, dry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>CL</td>
<td>Clay with silt and sand.</td>
<td>70 feet - 1.5 unconfined compressive strength</td>
<td></td>
</tr>
<tr>
<td>Depth (ft)</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Unconfined compressive strength</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80-110</td>
<td>Clayey Sand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110-140</td>
<td>Sandy loam Clay, fine sand, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120-130</td>
<td>Clayey Sand, mod high plasticity, mod toughness, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130-140</td>
<td>Silt clay, micaceous, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140-150</td>
<td>Clayey sand/sandy loam Clay, fine sand, micaceous, 10YR 5/4 (Yellowish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150-170</td>
<td>Fat Clay with fine sand, high toughness, high plasticity, 2.5Y 5/2 (grayish brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>Sandy silt, color 2.5Y 5/3 (light olive brown)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lithologic Log of OBS-2

Genesis Solar, LLC
Project Number: 52004617

SM
Silty Sand, fine sand, 2.5Y 5/3
(light olive brown).

SP
Poorly graded fine Sand with
silt, micaceous, 2.5Y 5/3 (light
olive brown).

SM/NL
Silty sand/sandy silt, fine
sand, micaceous, 2.5Y 5/3
(light olive brown).

CL
Clay
No observed in
cullings, based on
gapophysical log.

SL/SM
Sandy Silt/Silty Sand, fine
sand, trace angular fine
gravel, color 2.5Y 5/2 (erowish
brown).

CL
Lean Clay with silt, ~ 64.64% clay
and ~1.07% silt, ~1.28%
trace fine sand, angular fine
sandstone gravel (5-7%),
medium dry strength, color
2.5Y 5/1 (Grey)

Grab sample at
206 feet in well
TW-1. December
is based in part on
laboratory grain
size analysis. Color
change.

ML
Sandy Silt, fine sand, trace
angular fine sandstone gravel.

Color charge

Filter
Pack,
#2/16
Lapto
Leptic
Sand

Drilled
Pressure
Transducer
### Lithologic Log of OBS-2

**Project Number:** 52004617

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>290-300</td>
<td>2.5Y 5/3 (light olive brown).</td>
</tr>
<tr>
<td>310-315</td>
<td>sandy clay/clayey sand, sand is fine to medium grain size, 2.5Y 5/3 (light olive brown).</td>
</tr>
<tr>
<td>320-325</td>
<td>Silty sand/sandy silt, fine-grained sand, sand is micaceous, trace fine angular gravel, 2.5Y 5/2 (grayish brown).</td>
</tr>
<tr>
<td>330-335</td>
<td>Silty clay, 2.5Y 5/3 (light olive brown).</td>
</tr>
<tr>
<td>340-345</td>
<td>Sandy silt/silty silt, some clay (approx. 7-10%), 2.5Y 5/3 (light olive brown).</td>
</tr>
<tr>
<td>350-355</td>
<td>Clay with silt, 71.00% clay and 28.51% silt, 2.5Y 5/3 (light olive brown).</td>
</tr>
<tr>
<td>360-365</td>
<td>Poorly graded fine sand with silt, trace fine angular sandstone gravel, 2.5Y 5/3 (light olive brown), trace gravel disappears at 385-410 ft bgs.</td>
</tr>
<tr>
<td>370-375</td>
<td>Clay.</td>
</tr>
<tr>
<td>380-390</td>
<td>Poorly graded fine sand, 6Y 7/1 (light gray).</td>
</tr>
</tbody>
</table>

- **Transition Seal** - Bentonite Chips
- **Buried Pressure Transducer**
- **Filter Pack** - 3/16 Lapco Lead Squee Sand
- **Buried Pressure Transducer**

Note: Description is based on laboratory grain size analysis. Geotechnical sample was collected at approximately 360 feet bgs. The depth of the geotechnical sample collected may slightly offset the sample's location from this interval.
Lithologic Log of OBS-2
Genesis Solar, LLC
Project Number: 52004617

SC Clayey sand, fine sand, 2.5YS/2 (grayish brown)

CL Clay

SP Sand

CL Clay with silt and trace fine sand, 46.21% clay, 45.22% silt and 8.57% sand, 2.5YS/2 (grayish brown).

SC Clayey sand, fine sand, medium plasticity, low toughness, 2.5YS/2 (grayish brown).

CL Clay

SC Clayey sand, fine sand.

CL Clay with silt, 74.41% clay and 25.59% silt, 2.5YS/2 (grayish brown).

CL Clay with silt and trace fine sand, 53.48% clay, 44.62% silt and trace 1.95% fine sand.

Description is based on laboratory grain size analysis. Geotechnical sample was collected at 550 foot bgs.

Description is based on laboratory grain size analysis. Geotechnical sample collected at 700 foot bgs.

Description is based on laboratory grain size analysis. Geotechnical sample was collected at approximately 510 foot bgs from OBS-2.

Not observed in cuttings, based on geophysical log.

Not observed in cuttings, based on geophysical log.
## Lithologic Log of OBS-2

**Genesis Solar, LLC**

**Project Number:** 52004617

<table>
<thead>
<tr>
<th>Interval</th>
<th>Lithology Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>760 ft - 74 ft</td>
<td>Silty sand</td>
<td>Not observed in cuttings, based on geophysical log.</td>
</tr>
<tr>
<td>740 ft - 720 ft</td>
<td>Clay</td>
<td>Not observed in cuttings, based on geophysical log.</td>
</tr>
<tr>
<td>720 ft - 700 ft</td>
<td>Clayey sand</td>
<td>Not observed in cuttings, based on geophysical log.</td>
</tr>
<tr>
<td>700 ft - 680 ft</td>
<td>Sand, interbed of clayey sand at 760 and 770 feet bgs</td>
<td>Not observed in cuttings, based on geophysical log.</td>
</tr>
<tr>
<td>680 ft - 660 ft</td>
<td>Silty sand with trace clay, 67.76% fine sand, 29.01% silt, and 3.22% clay.</td>
<td>Description is based on laboratory grain size analysis. Geotechnical sample was collected at 600 feet bgs.</td>
</tr>
</tbody>
</table>

*Simiprobe Sample*
### Lithologic Log of OBS-2

**Genesis Solar, LLC**
**Project Number: 52004617**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>810</td>
<td>SM Silty sand</td>
</tr>
<tr>
<td>820</td>
<td>CL Clay</td>
</tr>
<tr>
<td>830</td>
<td>SC Clayey Sand</td>
</tr>
<tr>
<td>840</td>
<td>CL Clay</td>
</tr>
<tr>
<td>850</td>
<td>SP Sand with an interbed of clay between 876 and 878</td>
</tr>
<tr>
<td>860</td>
<td>CL Clay</td>
</tr>
</tbody>
</table>
Calculated TDS for OBS-2

Genesis Solar, LLC
Project Number: 52004617

Date Drilled: 05/28/2009 to 07/02/2009
Borehole Location: N33°40.419' W115°03.268

Drilling Method: Mud Rotary, 10" Diameter
Ground Surface Elevation: 383 feet amsl

Drilling Contractor: WDG Exploration
First Groundwater: 80 feet bgs

Geologist: Andie Gehlhausen
Reviewer: Nat Beal
Total Depth: 900 ft
Well Depth: 405 ft

Notes:
1) The upper 160 ft was adjusted based on the cuttings log from OBS-1 and the geophysical logs.
2) From 160 ft to 550 ft the log was adjusted based on the cuttings logs and geophysical logs for this well and TW-1.
3) From 550 ft to 900 ft the log was adjusted based on the borehole geophysical logs for this well.
4) FSR and FSH have been corrected to 77 degrees F.
5) TDS calculated from the formation water salinity determined from the Formation Factor (10 for 0 to 500 lbs/g, and 0.5 for 550 to 800 lbs/g).

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>RBN (CN/AA)</th>
<th>Gamma (GAPI)</th>
<th>TDS (mg/L)</th>
<th>Screen</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
<td>40</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>RSS (GRH/I)</td>
<td>15</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Well Completion Legend:
- Nac: Cement
- Yellow: Filter Pack
- Brown: Grout
- Medium: Screen
- Light: Transition Soil

Geophysical Logs:
- SW: Unsaturated Alluvium (0 lbs/g to 80 lbs/g)
- Interbedded sand and clay

Well Schematic:
- OBS-1
- OBS-2
- TW-01
Calculated TDS for OBS-2

Bouse Formation
(260 ftgs to 542 ftgs)

Interbedded sand, silt and clay

Calculated TDS:
5000 to 18000 mg/L
Calculated TDS for OBS-2

Genesis Solar, LLC
Project Number: 52004617

GW Sample from TW-1:
TDS: 6500 mg/L
(Calculated Formation Factor: 1.2)

Douse Formation
(542 fbgs to 748 fbgs)

Interbedded silts and clays

Calculated TDS: 5800 to 7050 mg/L
Adjusted Lithologic Log of TW-1

Genesis Solar, LLC
Project Number: 52004617

Date Drilled: 05/15/2009 to 05/18/2009
Borehole Location: N33°40.419' W115°03.268

Drilling Method: Mud Rotary, 10’ Diameter
Ground Surface Elevation: 383 feet amsl

Drilling Contractor: WDC Exploration
Static Water Level: 86.26 feet amsl

Geologist: Nat Beal
Reviewer: Nat Beal
Total Depth: 564 ft
Well Depth: 555 ft

Notes:
1) The upper 160 ft were adjusted based on the cuttings log from OBS-1 and the geophysical logs.
2) From 160 ft to 550 ft the log was adjusted based on the borehole geophysical logs for this well and geotechnical samples collected from well OBS-2.
3) RLN and RSN logs have been corrected to 77 degrees F

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>RLN (GRD/MLI)</th>
<th>Gamma</th>
<th>USCS Soil Type</th>
<th>Geologic Description</th>
<th>Remarks</th>
<th>Well Schematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>140</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Geophysical Logs**

- **SW**: Well graded Sand with gravel, fine to coarse sand sub-rounded, gravel very angular to angular, color 10YR 5/4 (yellowish brown).
- **SM**: Silty sand, dry.
- **SC**: Clayey Sand, ~40% clay, ~60% fine, coarse sand, trace fine subangular gravel, 10YR 5/4 (Yellowish brown).
- **SM**: Silty fine sand, trace subangular fine gravel, slightly moist, 10YR 5/4 (Yellowish brown).
- **CL**: Sandy lean Clay, fine sand, high dry strength, medium plasticity, medium toughness, 10YR 5/4 (Yellowish brown).
- **SP**: Poorly graded Sand with silt, fine, ~20% silt, dry, 10YR 5/4 (Yellowish brown).
- **SC**: Clayey Sand, 10YR 5/4 (Yellowish brown).
- **SM**: Silty Sand, fine sand, low plasticity, low toughness, slightly moist, 10YR 5/4 (Yellowish brown).
### Adjusted Lithologic Log of TW-1

**Genius Solar, LLC**

**Project Number: 52004617**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Lithology Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>Clayey Sand, fine sand, trace angular gravel, 10YR 5/4 (Yellowish brown)</td>
</tr>
<tr>
<td>100</td>
<td>Silty Sand, fine sand, some clay likely (10%), 10YR 5/4 (Yellowish brown)</td>
</tr>
<tr>
<td>110</td>
<td>Fat Clay, high toughness, high plasticity, 10YR 5/4 (Yellowish brown). Large chunks of clay came out of the borehole (10-12 inches) between 100 and 120 feet bgs.</td>
</tr>
<tr>
<td>120</td>
<td>Sandy lean Clay, 10YR 5/4 (Yellowish brown).</td>
</tr>
<tr>
<td>130</td>
<td>Silty fine Sand, micaceous, 10YR 5/4 (Yellowish brown), interbeds of clay between 128 and 130 feet bgs and 142 and 144 feet bgs.</td>
</tr>
<tr>
<td>150</td>
<td>Clayey Sand/Sandy lean Clay, fine sand, micaceous, 10YR 5/4 (Yellowish brown)</td>
</tr>
<tr>
<td>160</td>
<td>Fat Clay with fine sand, high toughness, high plasticity, 2.5Y 5/2 (grayish brown). Color change.</td>
</tr>
<tr>
<td>170</td>
<td>Sandy Silt, low toughness, low plasticity, 2.5Y 5/3 (light olive brown)</td>
</tr>
</tbody>
</table>

**ML**

Sandy Silt, low toughness, low plasticity, 2.5Y 5/3 (light olive brown). Color change.
Adjusted Lithologic Log of TW-1

Genesis Solar, LLC
Project Number: 52004617

ML Sandy Silt

SP Poorly graded fine Sand.

ML Sandy silt, silt 47.91% and fine sand 44.74% with trace clay (7.35%).

SP

CL Clay with silt, and trace fine sand, 57.24% clay, 41% silt and 1.75% sand. At 420' color change 2.5Y/2 (grayish brown), becomes finer with depth Clay (67.24%) with silt (32.74%).

SC Clayey Sand, line to medium sand, 2.5Y5/2 (grayish brown)

SP Sand

SC Clayey Sand, line to medium sand, 2.5Y5/2 (grayish brown)

CL Clay

SP Poorly graded line Sand with silt, 2.5Y5/2 (grayish brown)

SC/CL Clayey Sand/Sandy Clay, 2.5Y5/2 (grayish brown)
<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Clay</td>
</tr>
<tr>
<td>510</td>
<td>Clay with silt and trace fine sand, 46.21% silt, 45.12% clay, and 8.57% sand, 2.5Y5/2 (grayish brown).</td>
</tr>
<tr>
<td>520</td>
<td>Clay with silt and trace fine sand, medium plasticity, low toughness, 2.5Y5/2 (grayish brown).</td>
</tr>
<tr>
<td>530</td>
<td>Clay with silt, 74.41% clay and 25.86% silt, 2.5Y5/2 (grayish brown).</td>
</tr>
<tr>
<td>540</td>
<td>Clay, fine sand, medium plasticity, low toughness, 2.5Y5/2 (grayish brown).</td>
</tr>
<tr>
<td>550</td>
<td>Not observed in cuttings, based on geophysical log.</td>
</tr>
</tbody>
</table>

Description is based on laboratory grain size analysis. Geotechnical sample was collected at approximately 510 feet bgs from OB3-2.

Rig chatter at 515 and 518 ft bgs could be a boulder or cobble.

Description is based on laboratory grain size analysis. Geotechnical sample was collected at 550 feet bgs.
Date Drilled: 11/17/2009 to 12/09/2009
Northing 2169119.765 Easting 6970187.073

Drilling Method: Mud Rotary, 10" Diameter Tricone
Ground Surface Elevation: 390.12 feet asl

Drilling Contractor: WDC Exploration
Total Depth: 1641 ft
Well Depth: 1830 ft

Geologist: Nat Beal, Ed Baquirdo, Ryan Farrell
Reviewer: Mike Tietze

Notes: The cutting log was adjusted based on the interpretation of the geophysical logs.

GEOPHYSICAL LOGS

<table>
<thead>
<tr>
<th>Depth - Feet</th>
<th>USCS Soil Type</th>
<th>Geologic Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 20</td>
<td>BSN</td>
<td>Poorly Graded Sand (SP): Brown (10YR 5/3), fine grained, subrounded, micaceous, dry.</td>
<td>ARCH drilling to 40 feet bgs. Set 11 1/4&quot; conductor casing.</td>
</tr>
<tr>
<td>20 - 33</td>
<td>CL/CH</td>
<td>Leaky Clay/Fat Clay (10YR 5/4): Light yellowish brown (10YR 8/6), some silt (approx. 15%), medium to high plasticity, medium toughness, high to very high dry strength, hard, dry.</td>
<td>Drill 33 feet cutting clay at 35 feet bgs.</td>
</tr>
<tr>
<td>33 - 46</td>
<td>CL</td>
<td>Clay with Silt (CL): Light yellowish brown (10YR 8/4), approx 20-30% silt, some sand (~15%), low to medium toughness, medium plasticity, none slow diameter.</td>
<td>Start Mud Rotary at 40 feet bgs. Color change.</td>
</tr>
<tr>
<td>46 - 59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59 - 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 - 80</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20 bags cement - Portland Type III
94 lb bags

Page 1 of 19
At 290 feet tops approx., 30-40% sand

SM
Silty Sand (SM): Brown (1YR 5/3), micaceous, 20% silt and clay.

OP

Color change.

CL
Lean Clay (CL): Brown (10YR 4/3), medium plasticity, trace fine sand (1-5%), sericite-micaeous.

At 315 feet tops show dry sand.

At 314 feet tops driller slightly

At 313 feet tops Driller lacer.

At 343 feet tops oil show.

At 360 feet tops grades smaller. Color change.

Color change.
<table>
<thead>
<tr>
<th>Depth</th>
<th>Lithology Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>460</td>
<td>Sand, Fine Grained Clay, medium plasticity</td>
</tr>
<tr>
<td>470</td>
<td>Clayey Sand, very pale brown, fine grained sand</td>
</tr>
<tr>
<td>480</td>
<td>Lean Clay with Sand and Silt, grayish brown, 60-30% silt, 15-20% sand, medium plasticity, low toughness, low dry strength</td>
</tr>
<tr>
<td>490</td>
<td>Silt-Lace Clay (MLC), grayish brown, equal amounts of silt and clay, medium plasticity, low toughness, high dry strength</td>
</tr>
<tr>
<td>500</td>
<td>Silt-Lace Clay (MLC), grayish brown, equal amounts of silt and clay, medium plasticity, low toughness, high dry strength</td>
</tr>
</tbody>
</table>

At 500 feet, bentonite grout 50 lb bags 90 BAGS.
<table>
<thead>
<tr>
<th>Depth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>580 ft to 594 ft</td>
<td>Small chunks of black shale at 1/4 in length. At 585 percent oil, clay becomes very sticky.</td>
</tr>
<tr>
<td>600 ft</td>
<td>Lean clay/fat clay (CL/CH): Brown (10YR 5/3), some silt (approx. 10%), medium to high plasticity, medium to high toughness. At 600 feet, lbs striking, sample taken for geotech sampling, borehole controls to 230 feet to 530 feet lbs. At 603 feet, lbs very slow drilling.</td>
</tr>
<tr>
<td>610 ft</td>
<td>Fat clay (CL): Brown (10YR 4/3), trace silt, medium to high plasticity, high toughness. Color change. At 611 feet, lbs drilling becomes faster.</td>
</tr>
<tr>
<td>620 ft</td>
<td>Silt (ML): Brown (10YR 5/3), trace white (10YR 8/1), 20% clay, low - medium plasticity. At 623 feet, lbs rig chatter.</td>
</tr>
<tr>
<td>630 ft</td>
<td>Lean clay with silt (CL): Yellowish brown (10YR 5/4), 30% silt, trace coarse grained sand, medium - high plasticity, medium to high toughness. At 633 feet, lbs rig chatter. Color change. At 647 very slow drilling. Yellowish red sand observed in shaker, possibly from shalower.</td>
</tr>
<tr>
<td>640 ft</td>
<td>Fat clay (CH): Dark brown (5YR 4/1), trace silt, high toughness, moderate - high</td>
</tr>
</tbody>
</table>

**Page 7 of 19**
<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>Lean Clay (CL)</td>
<td>Based on geophysics.</td>
</tr>
<tr>
<td>Q1h</td>
<td>Pebbly Graded Gravel with Sand (GP): Gravel brown (10YR 5/2), angular to very angular, clasts of coarse gravel up to 5mm in diameter.</td>
<td>At 895-895 feet BGS slow drilling.</td>
</tr>
<tr>
<td>SWGW</td>
<td>Well Graded Sand</td>
<td>Well Graded Gravel</td>
</tr>
<tr>
<td>ML</td>
<td>Silt with Clay: Gray (10YR 5/1), low plasticity, low toughness. Dikes noted it could be a siltstone.</td>
<td>Color change: 1 hand drilling.</td>
</tr>
<tr>
<td>CL</td>
<td>Lean Clay with Silt (CL): Dark gray (2.5Y 4/1), high dry strength, fine sand, percent sand decreases with depth.</td>
<td>Color change: Drilling becomes easier.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 970 feet BGS Lean Clay with Silt: approx. 15-23% silt, high dry strength.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 980 feet BGS Lean Clay (CL): some silt (approx. 5-10%), medium to high plasticity, medium toughness, high dry strength.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 910 feet BGS Lean Clay with Silt and Sand (CL): approx. 20% silt and 10-15% fine grained sand.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 915 feet BGS location becomes sandy (approx. 10-25%).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 920 feet BGS trace coarse sand.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At 960 feet BGS short trip out of the hole to remove clay ring and increase mud flow.</td>
</tr>
</tbody>
</table>
CLAYEY GRAVEL (GG): Dark gray (0.5Y 4/1), fine grained gravel, subrounded to subangular, traces fine sand.

WELL GRAINED SAND (SW): Dark gray (2.5Y 4/1), fine to coarse grained sand, some fine gravel (approx. 10%), some silts and clays (approx. 5 to 10%). At 1120 feet legs thin percentage of silt and clay increase (approx. 10%).

At 1100 feet legs very slow drilling.

Lining becomes easier at 1110 feet.

LEAN CLAY WITH SAND (CL): Dark gray (2.5Y 4/1) moderate to high plasticity, fine grained sand.

At 1130 feet legs very slow drilling.

Dining becomes easier at 1110 feet.

WELL GRAINED SAND (SW): Dark gray (2.5Y 4/1), medium to coarse grained sand, some fine gravel.

At 1140 feet legs very slow drilling.

SILT WITH CLAY (ML): Dark gray (2.5Y 4/1), low plasticity, some fine gravel. At 1160 percentage of gravel increases. At 1170 gravel is angular.

At 1160 feet legs too slow for drilling.

CLAY WITH SILT (CL): Dark gray (5Y 4/1), medium to low plasticity, medium to high dry strength, approx. 20% to 30% silt. Possibly cherty or siliceous.

Color Change.

At 1180 very hard drilling, 1 hour delay to fix shake.
At 1210 feet lbs CLAY WITH SILT AND SAND (CL): approx. 20-30% silt, approximately 15-20% fine sand, trace angular fine gravel.

At 1105 feet lbs drilling becomes easier.

SC
CLAYEY SANDY SAND (SC): Dark gray (8Y 4/1), fine grained sand, slip gravel lens present at approx. 1254 feet lbs.

At 1265 feet lbs (29350) (for 5') POORLY PRACTICED SAND WITH SILT (SP): Dark gray (8Y 4/1), fine grained sand, weakly cemented, with approx. 10% silt. Possibly concretizations.

At 1565 feet lbs sample probe sample attempted. No sample collection.

LEAF CLAY (CL): Dark gray (2.5Y 4/1), dense, high plasticity.
At 1360 feet lgs has sandstone, possible thin bed of limestone, very hard, fine, laminated fragments in cuttings. At 1370 feet lgs percent sand increases. Could be thin interbeds of sandstone.

At 1360 feet lgs had another sample attempted. No water sample.
At 1450 feet bgs some fine gravel.

CL: RAN CI: AV WITH SAMI (CI): Dark grey (5Y 4/1), fine sand, medium plasticity.

SC: CI: AYFY SAMI (SC): Dark grey (5Y 4/1), fine grain sand, some fine gravel.
LEAN CLAY WITH SLT (CL): Dark Gray (2.5Y 4/1), medium toughness, medium to high plasticity, approx. 15-60% silt, some thin shale, some coarse gravel.

At 1597 feet base rig chattier.

SANDY LEAN CLAY (CL): Dark Gray (2.5Y 4/1), approx. 30% fine sand.

At 1625 feet lugs, drilling becomes harder.

LEAN CLAY WITH SAND (CL): Dark Gray (2.5Y 4/1), fine sand approx. 15-20%, chunks of hard dry angular clay in cuttings approx. 5mm in diameter. At 1610 feet thin interbeds of fine sand likely. At 1640 feet lugs thin interbeds of weakly cemented sand, possibly sandstone.

24 BAGS - BENTONITE - 3/8 HOLE FILM BY BAROID 50LB BAGS

At 1675 feet base LEAN CLAY WITH SLT (CL): medium toughness, medium to high plasticity, approx. 15-60% silt.

At 1660 rig chatter.
WorleyParsons

Draft Lithologic Logs and Well Completion Details for TW-2

Genesis Solar, L.L.C
Project Number: 52004617

GW
SANDY WELL-GRACED GRAVEL (GW): Gray
Dark Gray (5YR 4/1), course sand,
angular.

CH
FAT CLAY (CH): Dark Gray (10YR 4/1),
medium to high bioturbation, medium to
high plasticity, some silt (approx. 10%).

Color change.

CL
LEAN CLAY (CL): Greenish Gray (6Y
5/10), medium to high plasticity.

Color change.

GW
WELL GRACED GRAVEL (GW): Angular
course gravel fragments, possibly cobbles.

At 1500 feet, stiff clay and binding, intraclasts.

Recommends salting at 1800 feet bgs.
SANDY WELL-GRACED GRAVEL (GW):
Fine to coarse gravel, possible cobbles,
subangular to angular, course sand, little
to no fines.

At 1650 feet bgs, WELL-GRACED
GRAVEL WITH SAND (GW): Fine to
coarse gravel, subangular to angular,
possible cobbles, coarse sand (approx
10-15%)

1.9 SUPER SACK
AND 9 BAGS
SAND #8
MONTEREY
SAND
(100LB
BAGS)
APPLICATION FOR CERTIFICATION FOR THE
GENESIS SOLAR ENERGY PROJECT

Docket No. 09-AFC-8

PROOF OF SERVICE
(Revised 12/22/09)

APPLICANT
Ryan O'Keefe, Vice President
Genesis Solar LLC
700 Universe Boulevard
Juno Beach, Florida 33408
Ryan.o'keefe@nexteraenergy.com

COUNSEL FOR APPLICANT
Scott Galati
Galati & Blek, LLP
455 Capitol Mall, Ste. 350
Sacramento, CA 95814
sgalati@gb-lp.com

INTERESTED AGENCIES
California ISO
e-recipient@caiso.com

APPLICANT’S CONSULTANTS
Tricia Bernhardt/Project Manager
Tetra Tech, EC
143 Union Boulevard, Ste 1010
Lakewood, CO 80228
Tricia.bernhardt@tteci.com

INTERVENORS
Tanya A. Gulesserian,
Marc D. Joseph
Adams Broadwell Joesph & Cardoza
601 Gateway Boulevard, Ste
1000
South San Francisco, CA 94080
tgulesserian@adamsbroadwell.com

*Michael E. Boyd, President
Californians for Renewable
Energy, Inc. (CARE)
5439 Soquel Drive
Soquel, CA 95073-2659
michaelboyd@sbcglobal.net

*Alfredo Figueroa
424 North Carlton
Blythe, CA 92225
LaCunaDeAtzlan@aol.com

*indicates change
I, Ashley Y Garner, declare that on December 23, 2009, I served and filed copies of the attached LOW RESOLUTION SCAN OF THE BOREHOLE LOGS FOR OBS-1, OBS-2, TW-1, AND TW-2 FOR GENESIS SOLAR ENERGY PROJECT dated December 23, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/genesis_solar].

The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

For service to all other parties:

__X__ sent electronically to all email addresses on the Proof of Service list;

__X__ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

For filing with the Energy Commission:

__X__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-8
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

____________________
Ashley Y Garner