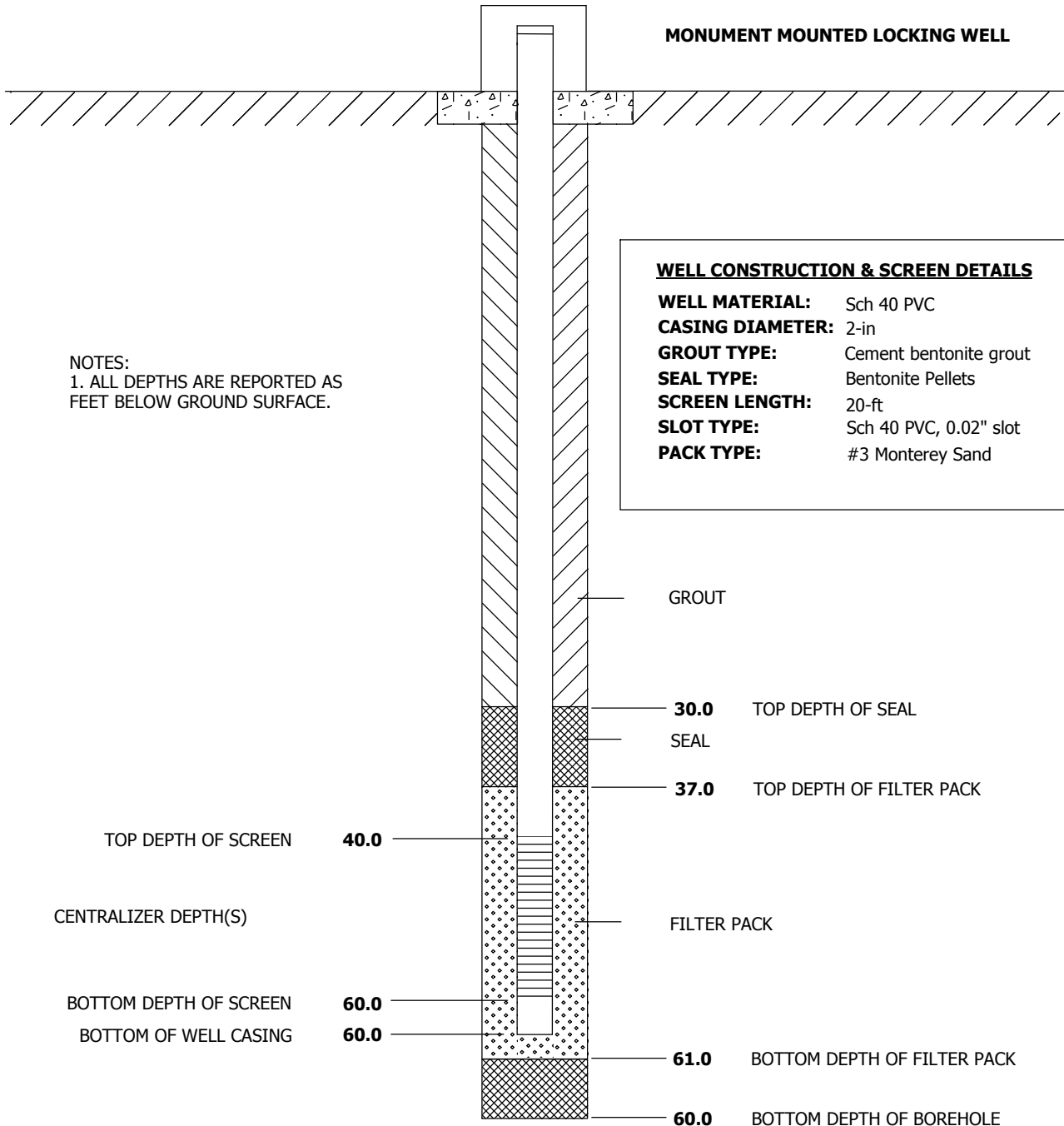


# WELL COMPLETION DIAGRAM

|                                                                    |                                                               |                        |
|--------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| <b>PROJECT NO:</b> 326128.01.07.AR                                 | <b>PROJECT:</b> IM-3 Hydrogeologic Investigation, PG&E Topock | <b>WELL NO:</b> MW-41S |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06              |                                                               |                        |
| <b>DRILLING CONTRACTOR:</b> WDC Exploration & Wells, Montclair, CA | <b>DRILLING START DATE:</b> 11/01/2004                        |                        |
| <b>DRILLING METHOD:</b> Rotosonic                                  | <b>DRILLING END DATE:</b> 11/01/2004                          |                        |
| <b>LOGGER:</b> T. McDonald                                         | <b>WELL COMPLETION DATE:</b> 11/08/2004                       |                        |
| <b>TOP OF WELL CASING (NGVD 29):</b> 480.07                        | <b>NORTHING COORDINATE (CCS DAND 27, ZONE 5):</b> 2103518.07  |                        |
| <b>GROUND SURFACE ELEVATION (NGVD 29):</b> 477.41                  | <b>EASTING COORDINATE (CCS NAD 27 ZONE 5):</b> 7614588.78     |                        |

## MONUMENT MOUNTED LOCKING WELL



### WELL CONSTRUCTION & SCREEN DETAILS

|                         |                        |
|-------------------------|------------------------|
| <b>WELL MATERIAL:</b>   | Sch 40 PVC             |
| <b>CASING DIAMETER:</b> | 2-in                   |
| <b>GROUT TYPE:</b>      | Cement bentonite grout |
| <b>SEAL TYPE:</b>       | Bentonite Pellets      |
| <b>SCREEN LENGTH:</b>   | 20-ft                  |
| <b>SLOT TYPE:</b>       | Sch 40 PVC, 0.02" slot |
| <b>PACK TYPE:</b>       | #3 Monterey Sand       |

**NOTES:**  
1. ALL DEPTHS ARE REPORTED AS FEET BELOW GROUND SURFACE.

WELL DIAGRAM IS NOT TO SCALE

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotosonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION<br><br>SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.                                                                                         | COMMENTS<br><br>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES. |
|------------------|----------|-------------|---------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                                                 |                                                                                                                                    |
| 5                |          |             |               | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - 45% rnd to ang gravel/cobbles up to 0.75", 40% f-m sand, 10% coarse sand, 5% silty clay.                                                                                                             | 0 to 20 ft not collected in core barrel during conductor casing set.<br>Description is from homogenized cuttings                   |
| 10               |          |             |               |           |                                                                                                                                                                                                                                                 |                                                                                                                                    |
| 15               |          |             |               |           |                                                                                                                                                                                                                                                 |                                                                                                                                    |
| 20               |          |             |               |           |                                                                                                                                                                                                                                                 |                                                                                                                                    |
| 25               |          | CC1         | 11            | GW-GM     | <b>WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM)</b> - 65% f-c gravel avg 2.5" up to 3", 20% c sand, 10% silt/clay, 5% f-m sand, sand and gravel ang to subang, metamorphic, 50% of gravels are highly weathered, moist, abrupt lower boundary. | Box 1 - 20 to 23 ft                                                                                                                |
| 30               |          |             |               |           |                                                                                                                                                                                                                                                 | Box 2: 23 to 27 ft                                                                                                                 |
| 35               |          |             |               | SC        | <b>SILTY SAND WITH GRAVEL (SC)</b> - olive brn (2.5Y 4/3), 30% c sand, 25-30% silt, 20% m sand, 10% f gravel (0.2" to 0.75"), 10% f sand, sand and gravel ang to subang, metamorphic, moist.                                                    | Box 3: 27 to 31 ft<br><br>Box 4: 31 to 34 ft<br>Appears to be fining upward from to 31 to ___ ft bgs<br><br>Box 5: 34 to 38 ft     |

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotosonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION<br><br>SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.                                                                       | COMMENTS<br><br>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES. |
|------------------|----------|-------------|---------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                               |                                                                                                                                    |
| 40               |          | CC2         | 8.5           | SW-SC     | <b>WELL GRADED SAND WITH SILT AND GRAVEL (SW-SC)</b> - olive brn (2.5Y 4/3), 40% f sand, 30% m sand, 10-15% silt, 10% c sand, 5-10% f gravel, sand and gravel ang to subang, metamorphic, moist, abrupt lower boundary.       | Box 6: 38 to 42 ft                                                                                                                 |
|                  |          |             |               | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (7.5YR 4/4), 50% m sand, 20% f sand, 15% c sand, 10% f gravel coarsening with depth, 5% silt, moderate caliche development, sand and gravel ang to subang, metamorphic, moist. |                                                                                                                                    |
| 45               |          | CC3         | 9.5           | SW-SM     | <b>SAND WITH SILT AND GRAVEL (SW-SM)</b> - brn (10YR 4/4), 40% m sand, 25% c sand, 10-15% f gravel, 10-15% silt, 10% f sand well graded, sand and gravel ang to subang, metamorphic.<br><br>- lt to moderate caliche          | Box 7: 42 to 46 ft                                                                                                                 |
|                  |          |             |               |           | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - dark grayish brn to brn (10YR 4/2-4/3), 60% m sand, 15% f sand, 15% f-m gravel, 10% f sand, ang to subang, metamorphic, wet.<br><br>- 20% f gravel                                 | Box 8: 46 to 50 ft                                                                                                                 |
| 50               |          |             |               |           | - 5% gravel, 15% silt                                                                                                                                                                                                         | Box 9: 50 to 54 ft                                                                                                                 |
| 55               |          | CC4         | 10            |           | - 30% f gravel, 25% vf sand, 15% silt, 15% f sand, 5% m sand, 10% c sand                                                                                                                                                      | Box 10: 54 to 58 ft                                                                                                                |
|                  |          |             |               |           | - brn (10YR 4/3), 40% c sand, 15% f sand, 15% m sand, 15% f gravel, 10% c gravel, 5% silt, ang to subang, metamorphic, wet                                                                                                    | Box 11: 58 to 62 ft                                                                                                                |
| 65               |          | CC5         | 10            | SW        | - 5% silt, 10% f sand, 10% m sand, 60% c sand, 5-10% f gravel                                                                                                                                                                 | Box 12: 62 to 66 ft<br>Collect grain size sample at 62 to 64 ft, ID: MW-41D-63                                                     |
|                  |          |             |               |           | - increasing silt content, 10% silt at 70 ft bgs, 15% silt at 71 ft bgs                                                                                                                                                       | Box 13: 66 to 70 ft<br>Collect groundwater grab sample, ID: MW-41D-70                                                              |
| 70               |          |             |               |           |                                                                                                                                                                                                                               |                                                                                                                                    |

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotasonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION<br><br>SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.                                                                                                                        | COMMENTS<br><br>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES. |
|------------------|----------|-------------|---------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                                                                                |                                                                                                                                    |
| 75               |          | CC6         | 9.5           |           | <p><b>WELL GRADED SAND WITH GRAVEL (SW)</b> - dark grayish brn to brn (10YR 4/2-4/3), 60% m sand, 15% f sand, 15% f-m gravel, 10% f sand, ang to subang, metamorphic, wet.</p> <p>- 10-15% silt</p> <p>- 5-10% silt</p>                                                        | <p>Box 14: 70 to 74 ft</p> <p>Box 15: 74 to 78 ft</p> <p>Box 16: 78 to 82 ft</p>                                                   |
| 80               |          |             |               |           |                                                                                                                                                                                                                                                                                | <p>Stop drilling at 80 ft bgs on 10/22/04, continue drilling on 10/23/04</p>                                                       |
| 85               |          | CC7         | 10            | ML        | <p><b>SANDY SILT WITH GRAVEL (ML)</b> - greenish gray (GLE Y1 5/5GY), 50% silt, 20% vf sand, 10% f sand, 10% m sand, 10% f gravel, sand and gravel ang to subang, metamorphic, silty plastic, silty sticky to not sticky, moist to wet. Abrupt lower boundary (&lt; 2 cm).</p> | <p>Box 17: 82 to 86 ft</p>                                                                                                         |
| 90               |          |             |               | SW        | <p><b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (7.5YR 4/4), 40% f sand, 20% m sand, 20% c sand, 10% silt, 10% f gravel, sand and gravel ang to subang, metamorphic, moist, distinct layers of 15-20% silt &lt; 2 cm thick.</p>                                              | <p>Box 18: 86 to 90 ft</p>                                                                                                         |
| 95               |          | CC8         | 10            | SM        | <p><b>SILTY SAND WITH GRAVEL (SM)</b> - brn (10YR 5/3-4/3), 35% f sand, 20% silt, 15% f gravel 0.2" to 1", 10% vf sand, 10% m sand, 10% c sand, sand and gravel dominantly ang to subang, v few subrnd, metamorphic and v few conglomerate, moist.</p> <p>- silt caliche</p>   | <p>Box 19: 90 to 94 ft</p> <p>Collect grain size sample at 93 ft, ID: MW-41D-93</p> <p>Box 20: 94 to 98 ft</p>                     |
| 100              |          |             |               | SW-SM     | <p><b>SAND WITH SILT AND GRAVEL (SW-SM)</b> - brn (7.5YR 4/3), 30% m sand, 20% f sand, 20% c sand, 20% f-m gravel, 10% silt, sand and gravel ang to subang, metamorphic, moist to wet, silt caliche.</p>                                                                       | <p>Box 21: 98 to 102 ft</p> <p>Drilled 100 to 110 ft but dropped core during retrieval and recovered on next run</p>               |
| 105              |          | CC9         | 5             |           | <p>- 15% silt, 5% f-m gravel</p>                                                                                                                                                                                                                                               | <p>Box 22: 102 to 106 ft</p>                                                                                                       |

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotasonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION<br><br>SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.                                                                                                                                                                                                                  | COMMENTS<br><br>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.                               |
|------------------|----------|-------------|---------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                  |
| 110              |          |             |               | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (7.5YR 4/4), 30% m sand, 30% c sand, 20% f sand, 15% f-m gravel, 5% silt, sand and gravel ang to subang, metamorphic, moist. Moderate caliche development, silty cemented throughout. Distinct 1/8" silt layers are dark gray (5Y4/1), 90% silt, 10% vf sand.                                                             | Box 23: 106 to 110 ft                                                                                                                                            |
| 115              |          | CC10        | 14            | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (10YR 4/3), 30% f sand, 30% m sand, 15% silt, 15% c sand, 10% f gravel, ang to subang, metamorphic, wet.                                                                                                                                                                                                                  | Box 24: 110 to 114 ft                                                                                                                                            |
| 120              |          |             |               | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (10YR 4/3 at top, 7.5YR 4/3 at bottom), 30% m sand, 30% c sand, 25% f-c gravel, 10% f sand, 5% silt, sand ang to subang and fining downwards, gravel ang to subrnd, metamorphic, wet.<br><br>- 20% silt                                                                                                                   | Box 25: 114 to 118 ft<br><br>Box 26: 118 to 122 ft                                                                                                               |
| 125              |          | CC11        | 10            | MH        | <b>SILT WITH GRAVEL (MH)</b> - dark brn (2.5Y 4/3 or 4/4), 65% silt, 30% f-m ang to subang gravel up to 2.75", 5% clay, 5% c sand, metamorphic, med-high elasticity, sticky, plastic, dry, caliche on gravels, abrupt lower boundary.<br><br>- interbedded sand with gravels, brn (7.5YR 4/3), 30% c sand, 20% f gravel, 20% m sand, 20% f gravel, 10% silt, well graded | Box 27: 122 to 126 ft<br>Collect grain size sample at 122 to 124 ft, ID: MW-14D-123<br><br>Box 28: 126 to 130 ft                                                 |
| 130              |          |             |               | SW        | <b>SILTY SAND (SW)</b> - dark greenish gray (Y2 4/10G), 30% vf sand, 30% f sand, 20% silt, 10% m-c sand, 10% ang to subang gravel, metamorphic, moist. Moderate caliche development. Mottled brn (7.5YR 4/4) over 10% of surface, mottling increases to 50% of surface at bottom 3".<br><br>- 80% silt, 10% f sand, 10% c sand                                           | Box 29: 130 to 134 ft                                                                                                                                            |
| 135              |          | CC12        | 10            |           | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - 40% m sand, 25% f-c gravel (1/5" to 1"), 20% c sand, 10% f sand, 5% silt, ang to subang, metamorphic, wet.<br><br>- 10% silt, slit horizontal fabric in gravels                                                                                                                                                               | Box 30: 134 to 138 ft<br><br>Collect grain size sample at 136.5 to 137.5 ft, ID: MW-14D-137<br><br>Box 31: 138 to 142 ft<br>Collect groundwater sample at 139 ft |
| 140              |          |             |               |           |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                  |

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotasonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                        | COMMENTS                                                                                                                                                   |
|------------------|----------|-------------|---------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                            |
| 145              |          |             |               | SW        | <p><b>WELL GRADED SAND WITH GRAVEL (SW)</b> - 40% m sand, 25% f-c gravel (1/5" to 1"), 20% c sand, 10% f sand, 5% silt, ang to subang, metamorphic, wet.</p> <p>- dark grayish brn (10YR 4/2), 40% f sand, 20% f-c gravel 1/5" up to 3", 10% m sand, 5-10% silt, moist. Mottling in blocks of brn (7.5YR 4/3)</p> <p>- 35% m sand, 25% c sand, 25% f sand, 15% gravel, 5-10% silt, well graded, caliche development throughout and increased cementation with depth</p> | <p>bgs, ID: MW-41D-139</p> <p>Appears to be reworked due to drilling</p> <p>Box 32: 142 to 146 ft</p>                                                      |
| 150              |          | CC13        | 15            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Box 33: 146 to 150 ft                                                                                                                                      |
| 155              |          |             |               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Box 34: 150 to 154 ft                                                                                                                                      |
| 160              |          |             |               | SW-SM     | <p>- brn (10YR 4/3 to 7.5YR 4/3), 5% silt, 10% f sand, 40% m sand, 35% c sand, 10% f gravel, well graded, sand and gravel ang to subang - metamorphic. Gravels less than 2 cm</p> <p><b>WELL GRADED SAND WITH SILT (SW-SM)</b> - brn (7.5YR 4/2 to 4/3), 35% m sand, 30% f sand, 15% c sand, 10-15% silt, 5-10% f-c gravel (0.2" avg, up to 2"), ang to subang with v few subang gravel, moist to wet.</p>                                                              | <p>Box 35: 154 to 158 ft</p> <p>Reworking at 140 to 176 indicated by lack of fabric, no silt layers around gravels, color, and blocks of mottled brown</p> |
| 165              |          | CC14        | 10            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Collect grain size sample at 172.5 to 173.5 ft, ID: MW-41D-173                                                                                             |
| 170              |          |             |               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                            |
| 175              |          |             |               |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                            |

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotasonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION                                                                                                                                                                                                                                                                                                | COMMENTS |
|------------------|----------|-------------|---------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                                                                                                                 |          |
| 180              |          | CC15        | 10            |           | <b>WELL GRADED SAND WITH SILT (SW-SM)</b> - brn (7.5YR 4/2 to 4/3), 35% m sand, 30% f sand, 15% c sand, 10-15% silt, 5-10% f-c gravel (0.2" avg, up to 2"), ang to subang with v few subang gravel, moist to wet<br>- < 5% red mottling (2.5YR 4/6), < 5% silt, 20% f sand, 50% m sand, 20% c sand, 5% gravel   |          |
| 185              |          |             |               | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (10YR 5/3), 50% m sand, 20% c sand, 20% f sand, 5% silt, 5% gravel avg 0.5", ang to subang, metamorphic, wet.                                                                                                                                                    |          |
|                  |          |             |               | SP        | <b>POORLY GRADED SAND (SP)</b> - grayish brn (10YR 5/2), 85% m sand, 10% f sand, < 5% silt, ang to subang, metamorphic, wet.                                                                                                                                                                                    |          |
|                  |          |             |               | SW        | <b>WELL GRADED SAND WITH GRAVEL (SW)</b> - brn (10YR 5/3), 50% m sand, 20% f sand, 20% c sand, 5% silt, 5% gravel avg 0.5", ang to subang, metamorphic, wet.                                                                                                                                                    |          |
| 190              |          | CC16        | 18            |           | <b>SILTY SAND WITH GRAVEL (SM)</b> - brn (7.5YR 4/3) with 15% dark greenish gray (GLE1 4/10Y) and 10% red (10R 4/6) mottling, 25% m sand, 25% c sand, 20% silt, 15% f sand, 15% gravel 0.5" - 2.5", ang to subang with v few subrnd, metamorphic. Silty caliche development, faint fabric with aligned gravels. |          |
| 195              |          |             |               | SM        |                                                                                                                                                                                                                                                                                                                 |          |
| 200              |          |             |               |           |                                                                                                                                                                                                                                                                                                                 |          |
| 205              |          |             |               | SW-SM     | <b>WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM)</b> - brn (7.5YR 4/3) with 10% dark greenish gray (GLE1 4/10Y) mottling, 30% m sand, 25% c sand, 20% f sand, 15% gravel from 0.5" - 2.5", 10% silt, sand and gravel ang to subang, metamorphic, silt caliche development, abrupt lower boundary.               |          |
| 210              |          |             |               |           |                                                                                                                                                                                                                                                                                                                 |          |





**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotosonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE                                                                                                                                                                                        | SOIL DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | COMMENTS                                                                                                                         |
|------------------|----------|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |
| 250              |          | CC19        | 10            | SW                                                                                                                                                                                               | <p><b>WELL GRADED SAND (SW)</b> - brn (7.5YR 5/3), 40% m sand, 30% c sand, 15% f sand, 10% gravel, 5% silt, sand and gravel ang to subang, metamorphic, wet, silt cementation.</p> <p>- reddish brn (5YR 4/4), 5% red (10R 4/8), 5% grayish green (GLE1 4/5G) mottled, 60-70% m sand, 10-15% silt, 15% f sand, 5% gravel, some caliche, silty consolidated</p> <p>- 40% f sand, 40% m sand, 10% c sand, 5% silt, 5% f gravel, very few c gravel of 4 to 5 cm, silty indurated, slit fabric with horizontal gravel, strongest at base</p> <p>- brn (10YR 5/3) matrix, 60% yellowish red (5YR 4/6), 20% v dark greenish gray GLEY2 3/5BG mottling, 30% f sand, 20% vf sand, 20% m sand, 15-20% silt, 5% c sand, 5% c gravel, few thin layers of 25-30% silt, abrupt lower boundary</p> <p>- reddish brn (5YR 4/4), 40% f sand, 35% c sand, 10% m sand, 10% f gravel up to 2 cm, 5% silt, gravel ang to subang, c sand ang to subround, metamorphic, wet, slit clay films on gravels</p> <p>- red (2.5YR 4/4 to 4/6), 5-10% silt/clay, 30% f sand, 30% c sand, 20% m sand, 15% gravel, increased induration, v few weak clay films around gravels</p> <p>- strong caliche</p> <p>- 2 to 6 cm gravels from 267 to 268 ft bgs</p> <p>- brn (5YR 4/4), 50% c sand, 25% f gravel up to 0.5", 10% f sand, 10% m sand, 5% clay/silt</p> <p>- v few spots of dk greenish gray (GLE2 4/5BG) mottling, 40% f sand, 20% m sand, 20% c sand, 10% silt, 10% f gravel, well graded, silty indurated, moderate caliche, strongest in top 6 inches</p> | <p><b>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES.</b></p> |
| 255              |          | CC20        | 9             |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |
| 260              |          |             |               |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |
| 265              |          | CC21        | 9             |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |
| 270              |          |             |               |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |
| 275              |          | CC22        | 5             |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |
| 280              |          |             |               | <p><b>SILTY SAND WITH GRAVEL (SM)</b> - dark reddish brn (2.5YR 3/3), 30% f sand, 25% silt, 20% c sand, 15% gravel, 10% m sand, subang, little metamorphic, wet, silty indurated, weathered.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                  |

**SOIL BORING LOG**

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotosonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS (feet) | SAMPLE   |             |               | USCS CODE | SOIL DESCRIPTION<br><br>SOIL NAME, USCS SYMBOL, COLOR, PERCENT COMPOSITION, GRADING, GRAIN SHAPE, MINERALOGY, DENSITY/CONSISTENCY, STRUCTURE, MOISTURE.                                                         | COMMENTS<br><br>DRILLING OBSERVATIONS AND OPERATIONS, DAILY START AND END TIMES, DRILL RATE, REFUSALS, SAMPLING AND TESTING NOTES. |
|------------------|----------|-------------|---------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                  | INTERVAL | TYPE/NUMBER | RECOVERY (ft) |           |                                                                                                                                                                                                                 |                                                                                                                                    |
| 285              |          | CC23        | 5             | SM        | <b>SILTY SAND WITH GRAVEL (SM)</b> - dark reddish brn (2.5YR 3/3), 30% f sand, 25% silt, 20% c sand, 15% gravel, 10% m sand, subang, little metamorphic, wet, silty indurated, weathered.                       |                                                                                                                                    |
| 290              |          | CC24        | 15            | SW        | <b>WELL GRADED SAND (SW)</b> - grayish brn (10YR 5/2), 40% m sand, 25% c sand, 15% f sand, 10% fines, 10% gravel to 0.5", sand and gravel ang to subang, some metamorphic, wet, silty indurated, trace caliche. |                                                                                                                                    |
| 295              |          |             |               | SM        | <b>SILTY SAND (SM)</b> - grayish brn (10YR 5/2), 30% m sand, 25% fines, 25% gravel, 20% c sand, 10% f sand, ang to subang, some metamorphic, wet, moderately indurated.                                         |                                                                                                                                    |
| 300              |          |             |               | SW        | <b>SAND (SW)</b> - dark red (2.5YR 3/6) with brn (7.5YR4/3 clay layer, 30% m sand, 25% gravel up to 1.5", 20% c sand, 15% fines, 10% f sand, weathered bedrock, moderately indurated, wet.                      |                                                                                                                                    |
| 305              |          | CC25        | 15            | BR        | <b>CONGLOMERATE (BR)</b> - dark reddish brn (2.5YR 3/3), 30% m sand, 30% c sand, 20% f sand, 10% fines, 10% gravel up to 1.5", ang to subang, dry, strongly indurated.                                          |                                                                                                                                    |
|                  |          |             |               | BR        | <b>CONGLOMERATE (BR)</b> - reddish brn (2.5YR 4/4), 30% m sand, 30% c sand, 20% f sand, 10% fines, 10% gravel, gravel subrnd, dry.                                                                              |                                                                                                                                    |
| 310              |          |             |               | BR        | <b>CONGLOMERATE (BR)</b> - reddish brn (2.5YR 4/3), 30% f sand, 20% fines, 20% c sand, 20% subang gravel up to 1", 10% m sand, wet.                                                                             |                                                                                                                                    |
| 315              |          |             |               |           | <b>CONGLOMERATE (BR)</b> - dark reddish brn (2.5YR 3/3), 30% m sand, 30% subang gravel to 1.5", 20% f sand, 10% fines, 10% c sand, dry, silty indurated, weathered.                                             |                                                                                                                                    |

Angled bedding plane seen at 301' (photo)

## SOIL BORING LOG

|                                                                       |                                                   |                                                  |                                                                       |                                      |
|-----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|
| <b>PROJECT NAME:</b><br>IM-3 Hydrogeologic Investigation, PG&E Topock |                                                   | <b>HOLE DEPTH (ft):</b><br>320.0                 | <b>DRILLING CONTRACTOR:</b><br>WDC Exploration & Wells, Montclair, CA |                                      |
| <b>SURFACE ELEVATION:</b><br>476.9 ft. MSL                            | <b>NORTHING (CCS NAD 27 Z 5):</b><br>2,103,536.66 | <b>EASTING (CCS NAD 27 Z 5):</b><br>7,614,578.85 | <b>DATE STARTED:</b><br>10/22/2004                                    | <b>DATE COMPLETED:</b><br>11/05/2004 |
| <b>DRILLING METHOD:</b><br>Rotosonic                                  |                                                   | <b>WATER LEVEL (ft):</b><br>---                  | <b>DRILLING EQUIPMENT:</b><br>Gefco SS-15K-HL                         |                                      |
| <b>LOCATION:</b> Bat Cave Wash, Parcel No. 650-151-06                 |                                                   |                                                  | <b>LOGGED BY:</b><br>T. McDonald                                      |                                      |

| DEPTH BGS<br>(feet)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SAMPLE       |                 |                  | USCS<br>CODE | SOIL DESCRIPTION                                                                                                                                                                                                                           | COMMENTS                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INTERVAL     | TYPE/<br>NUMBER | RECOVERY<br>(ft) |              |                                                                                                                                                                                                                                            |                                                                                                                                                                               |
| 320                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <del> </del> | CC26            | 5                | BR           | <p><b>CONGLOMERATE (BR)</b> - dark reddish brn (2.5YR 3/3), 30% m sand, 30% subang gravel to 1.5", 20% f sand, 10% fines, 10% c sand, dry, silty indurated, weathered.</p> <p style="margin-left: 20px;">- silty more indurated, moist</p> | <p>Well Completion: TD = 311.5' bgs;<br/>Screen Interval = 271 to 291 ft bgs;<br/>Filter Pack = 299 - 261 ft bgs; Stick-up<br/>Approx = 2.6 ft; Sump = 291 to 311<br/>bgs</p> |
| <p>Boring Terminated at 320 ft</p> <p><b>ABBREVIATIONS</b></p> <p>cc = continuous core run<br/>brn = brown<br/>lt = light<br/>dk = dark<br/>vf = very fine-grained<br/>f = fine-grained<br/>m = medium-grained<br/>c = coarse-grained<br/>vc = very coarse-grained<br/>ang = angular<br/>subang = subangular<br/>subrnd = subrounded<br/>rnd = rounded<br/>br = bedrock formation<br/>ss = sandstone<br/>conglom = conglomerate<br/>comptd = compacted<br/>qtz = quartz</p> |              |                 |                  |              |                                                                                                                                                                                                                                            |                                                                                                                                                                               |