

| | | |
|-------------------------------------|---|--|
| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | | | |
|------------|-----------------------|----------------------------|-----------|------------|--|------------------------------|---|--|--|--|
| 0 | | | | | (+0.4 - 1.5') Surface completion | | (+0.4 - 1.5') 7 bags Note: 2.5 x 2.5 ft concrete pad with 18 diameter lockable vault, King Kon-Crete 4000 PSI | | | |
| 1 | | Topock - Alluvium Deposits | SM | | (0.1 - 172.0') 2" PVC Sch 80 Casing | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | (1.5 - 10.0') Bentonite seal chips Enviroplug medium chips | (1.5 - 10.0') 8.75 bags | (1.5 - 10.0') 19 bags (217%) Note: Installed to fill 24 to 36 inch void from ~5 to 10 ft bgs. Used >20% of the calculated volume to fill the void. | | | |
| 7 | | Topock - Alluvium Deposits | SW-SM | | (0.0 - 15.0') 12.0" Borehole | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | Note: During installation of the first lift of high solids grout a 10 ft section of tremie pipe became unthreaded, during attempts to retrieve the pipe, the pipe fell to ~20 ft. bgs and was grouted in place. | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | NR | | (10.0 - 66.8') Portland Cement 5% Bentonite Type I, II and V with Hydrogel | (10.0 - 66.8') 221.8 gallons | (10.0 - 66.8') 320 gallons (144%) Note: Grout seal, used >20% of the calculated volume due to potential voids forming during drilling and grout migration. | | | |
| 16 | | | | | | | | | | |
| 17 | | Topock - Alluvium Deposits | SM | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | SW-SM | | (15.0 - 279.0') 10.0" Borehole | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK TOPOCK DRAFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

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| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
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| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|-----------------------|----------------------------|-----------|------------|--|------------------------------|---|
| 20 | | Topock - Alluvium Deposits | SW-SM | | (0.1 - 172.0') 2" PVC Sch 80 Casing | | |
| 21 | | | | | | | |
| 22 | | Topock - Alluvium Deposits | SM | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |
| 25 | | | | | | | |
| 26 | | | | | (25.5 - 26.5') Centralizer | | |
| 27 | | | | | | | |
| 28 | | Topock - Alluvium Deposits | SW-SM | | | | |
| 29 | | | | | | | |
| 30 | | | | | (10.0 - 66.8') Portland Cement 5% Bentonite Type I, II and V with Hydrogel | (10.0 - 66.8') 221.8 gallons | (10.0 - 66.8') 320 gallons (144%) Note: Grout seal, used >20% of the calculated volume due to potential voids forming during drilling and grout migration. |
| 31 | | | | | | | |
| 32 | | | | | | | |
| 33 | | | | | | | |
| 34 | | Topock - Alluvium Deposits | SW | | | | |
| 35 | | | | | | | |
| 36 | | | NR | | | | |
| 37 | | | | | | | |
| 38 | | Topock - Alluvium Deposits | SM | | | | |
| 39 | | | | | | | |

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WELL CONSTRUCTION DETAILS_PG&E_TOPOCK_TOPOCKDRAFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

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| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|-----------------------|----------------------------|-----------|------------|--|------------------------------|---|
| 40 | | Topock - Alluvium Deposits | SM | | (0.1 - 172.0') 2" PVC Sch 80 Casing | | |
| 41 | | | | | | | |
| 42 | | | | | | | |
| 43 | | | | | | | |
| 44 | | Topock - Alluvium Deposits | SW-SM | | | | |
| 45 | | | | | | | |
| 46 | | | | | | | |
| 47 | | | | | | | |
| 48 | | | NR | | | | |
| 49 | | | | | | | |
| 50 | | | | | (10.0 - 66.8') Portland Cement 5% Bentonite Type I, II and V with Hydrogel | (10.0 - 66.8') 221.8 gallons | (10.0 - 66.8') 320 gallons (144%) Note: Grout seal, used >20% of the calculated volume due to potential voids forming during drilling and grout migration. |
| 51 | | | | | | | |
| 52 | | | | | | | |
| 53 | | Topock - Alluvium Deposits | SW-SM | | | | |
| 54 | | | | | | | |
| 55 | | | | | | | |
| 56 | | | | | | | |
| 57 | | | | | | | |
| 58 | | | NR | | | | |
| 59 | | | | | | | |

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WELL CONSTRUCTION DETAILS_PG&E_TOPOCK_DRAFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

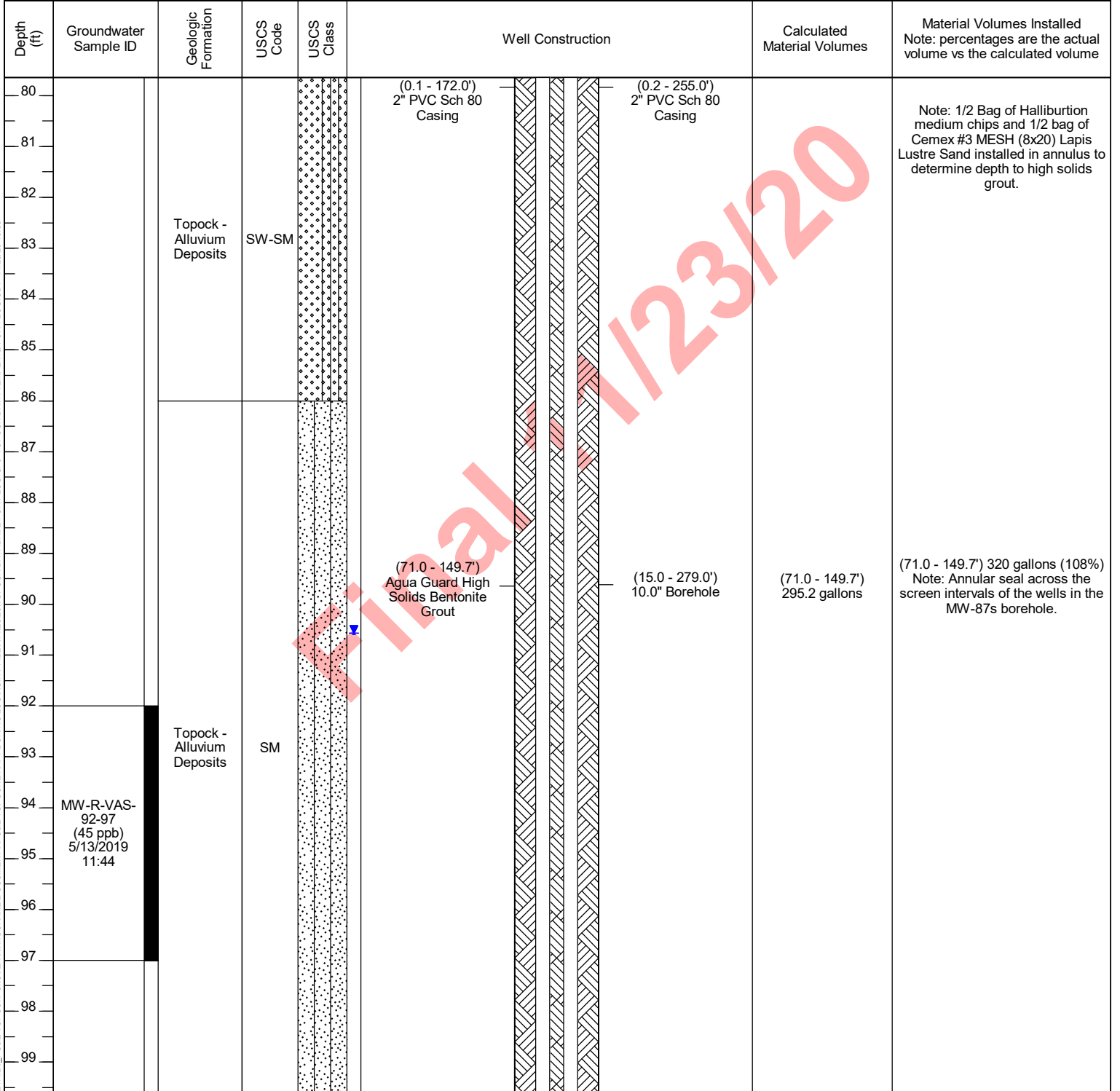
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| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|-----------------------|----------------------------|-----------|------------|--|-------------------------------|---|
| 60 | | | NR | | (0.1 - 172.0') 2" PVC Sch 80 Casing | | |
| 61 | | Topock - Alluvium Deposits | SW-SM | | (0.2 - 255.0') 2" PVC Sch 80 Casing | | |
| 62 | | | | | | | |
| 63 | | Topock - Alluvium Deposits | SM | | (10.0 - 66.8') Portland Cement 5% Bentonite Type I, II and V with Hydrogel | (10.0 - 66.8') 221.8 gallons | (10.0 - 66.8') 320 gallons (144%) Note: Grout seal, used >20% of the calculated volume due to potential voids forming during drilling and grout migration. |
| 64 | | | | | | | |
| 65 | | Topock - Alluvium Deposits | SW | | (65.5 - 66.5') Centralizer | | |
| 66 | | | | | | | |
| 67 | | | | | | | |
| 68 | | | | | | | |
| 69 | | Topock - Alluvium Deposits | SM | | (66.8 - 71.0') Bentonite seal chips Enviroplug medium chips | (66.8 - 71.0') 2.96 bags | (66.8 - 71.0') 5.5 bags (186%) Note: Seal above high solids grout, used >20% for the calculated volume due to chips potentially settling into the high solids grout. |
| 70 | | | | | (15.0 - 279.0') 10.0" Borehole | | |
| 71 | | | | | | | |
| 72 | | | | | | | |
| 73 | | | | | | | |
| 74 | | | | | | | |
| 75 | | Topock - Alluvium Deposits | SW-SM | | (71.0 - 149.7') Agua Guard High Solids Bentonite Grout | (71.0 - 149.7') 295.2 gallons | (71.0 - 149.7') 320 gallons (108%) Note: Annular seal across the screen intervals of the wells in the MW-87s borehole. |
| 76 | | | | | | | |
| 77 | | | | | | | |
| 78 | | | | | | | |
| 79 | | | | | | | |

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| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
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| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
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|-------------------------------------|---|--|
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| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
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| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|--|----------------------------|---|-----------------------------------|--|---|--|
| 100 | | Topock - Alluvium Deposits | SM | [Pattern] | (0.1 - 172.0') 2" PVC Sch 80 Casing | | <p>Note: 1 Bag of Halliburton medium chips and 1/2 bag of Cemex #3 MESH (8x20) Lapis Lustre Sand installed in annulus to determine depth to high solids grout.</p> |
| 101 | | | | | | | |
| 102 | | | | | | | |
| 103 | | | | | | | |
| 104 | | | | | | | |
| 105 | | | | | | | |
| 106 | | | | | (105.5 - 106.5') Centralizer | | |
| 107 | | | | | | | |
| 108 | | | | | | | |
| 109 | | | | | | | |
| 110 | | | (71.0 - 149.7') Aqua Guard High Solids Bentonite Grout | (15.0 - 279.0') 10.0" Borehole | (71.0 - 149.7') 295.2 gallons | (71.0 - 149.7') 320 gallons (108%) Note: Annular seal across the screen intervals of the wells in the MW-87s borehole. | |
| 111 | | | | | | | |
| 112 | | | | | | | |
| 113 | | | | | | | |
| 114 | | | | | | | |
| 115 | | | | | | | |
| 116 | | | | | | | |
| 117 | | | | | | | |
| 118 | MW-R-VAS-117-122 (5.8 ppb) 5/14/2019 10:14 | Topock - Alluvium Deposits | GM | [Pattern] | | | |
| 119 | | | | | | | |

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WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

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| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | |
|------------|---|----------------------------|-----------|------------|---|-----------------------------------|--|---|
| 120 | MW-R-VAS-117-122 (5.8 ppb) 5/14/2019 10:14 | Topock - Alluvium Deposits | GM | [Pattern] | (0.1 - 172.0') 2" PVC Sch 80 Casing | | | |
| 121 | | | | | (0.2 - 255.0') 2" PVC Sch 80 Casing | | | |
| 122 | | | | | | | | |
| 123 | | | | | | | | |
| 124 | | | | | | | | |
| 125 | | | | | | | | |
| 126 | | | | | | | | |
| 127 | | | | | | | | |
| 128 | | | | | | | | |
| 129 | | Topock - Alluvium Deposits | SM | [Pattern] | (71.0 - 149.7') Aqua Guard High Solids Bentonite Grout | (15.0 - 279.0') 10.0" Borehole | (71.0 - 149.7') 295.2 gallons | (71.0 - 149.7') 320 gallons (108%) Note: Annular seal across the screen intervals of the wells in the MW-87s borehole. |
| 130 | | | | | | | | |
| 131 | | | | | | | | |
| 132 | | Topock - Alluvium Deposits | GM | [Pattern] | | | | |
| 133 | | | | | | | | |
| 134 | | | | | | | | |
| 135 | | | | | | | | |
| 136 | | | | | | | | |
| 137 | | | | | | | | |
| 138 | | Topock - Alluvium Deposits | ML | [Pattern] | | | | |
| 139 | | Topock - Alluvium Deposits | SM | [Pattern] | | | | |

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|---------------|---|----------------------------|-----------|------------|--|-------------------------------|--|-------------------------------|---|
| 140 - 141 | | Topock - Alluvium Deposits | SM | [Pattern] | (0.1 - 172.0') 2" PVC Sch 80 Casing | | | | |
| 141 - 149.7 | | | | | (0.2 - 255.0') 2" PVC Sch 80 Casing | | | (71.0 - 149.7') 295.2 gallons | (71.0 - 149.7') 320 gallons (108%) Note: Annular seal across the screen intervals of the wells in the MW-87s borehole. |
| 149.7 - 147.5 | | | | | (71.0 - 149.7') Agua Guard High Solids Bentonite Grout | | | | |
| 147.5 - 148.5 | | | | | (147.5 - 148.5') Centralizer | | | | |
| 148.5 - 150 | | | | | (15.0 - 279.0') 10.0" Borehole | | | | |
| 149.7 - 150 | | | | | (149.7 - 170.0') Bentonite seal pellets Pel-Plug (TR30) 3/8" | (149.7 - 170.0') 16.3 buckets | (149.7 - 170.0') 15 buckets (92%) Note: Seal above filter pack | | |
| 150 - 151 | | | | | | | | | |
| 151 - 153 | MW-R-VAS-151-156 (<0.033 U ppb) 5/15/2019 10.20 | Topock - Alluvium Deposits | GM | [Pattern] | | | | | |
| 153 - 156 | | Topock - Alluvium Deposits | GM | [Pattern] | | | | | |
| 156 - 157 | | Topock - Alluvium Deposits | GW | [Pattern] | | | | | |
| 157 - 158 | | Topock - Alluvium Deposits | GW | [Pattern] | | | | | |
| 158 - 159 | | Topock - Alluvium Deposits | GW | [Pattern] | | | | | |

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| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | | | |
|------------|-----------------------|----------------------------|-----------|------------|---|--|---|--|--|--|
| 160 | | Topock - Alluvium Deposits | GW | | (0.1 - 172.0') 2" PVC Sch 80 Casing | (0.2 - 255.0') 2" PVC Sch 80 Casing | | | | |
| 161 | | | | | | | | | | |
| 162 | | | | | | | | | | |
| 163 | | | | | | | | | | |
| 164 | | | | | | | | | | |
| 165 | | | | | (149.7 - 170.0') Bentonite seal pellets Pel-Plug (TR30) 3/8" | (149.7 - 170.0') 16.3 buckets | (149.7 - 170.0') 15 buckets (92%) Note: Seal above filter pack | | | |
| 166 | | | | | | | | | | |
| 167 | | | | | | | | | | |
| 168 | | | | | | | | | | |
| 169 | | Topock - Alluvium Deposits | SM | | (15.0 - 279.0') 10.0" Borehole | | | | | |
| 170 | | | | | | | | | | |
| 171 | | | | | | | | | | |
| 172 | | | | | | | | (172.0 - 192.0') 2" Sch 80 PVC (20-slot) Screen | | |
| 173 | | | | | | | | | | |
| 174 | | | | | (170.0 - 196.0') Cemex #3 MESH (8x20) Lapis Lustre Sand | (170.0 - 196.0') 25.2 bags | (170.0 - 196.0') 30.75 bags (122%) Note: Filter pack, used >20% of the calculated volume due to potential voids that formed during drilling. | | | |
| 175 | | | | | | | | | | |
| 176 | | | | | | | | | | |
| 177 | | | | | | | | | | |
| 178 | | | | | | | | | | |
| 179 | | Topock - | SW-SM | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

| | | |
|-------------------------------------|---|--|
| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|----------------------------|-----------|------------|---|----------------------------------|---|
| 180 | | Alluvium Deposits | SW-SM | SM | (172.0 - 192.0') 2" Sch 80 PVC (20-slot) Screen | | |
| 181 | | Topock - Alluvium Deposits | SM | SM | | | |
| 182 | | | | | | | |
| 183 | | Topock - Alluvium Deposits | ML | ML | | | |
| 184 | | | | | | | |
| 185 | | | | | | | |
| 186 | | | | | | | |
| 187 | | | | | | | |
| 188 | | | | | (170.0 - 196.0') Cemex #3 MESH (8x20) Lapis Lustre Sand | (170.0 - 196.0') 25.2 bags | (170.0 - 196.0') 30.75 bags (122%) Note: Filter pack, used >20% of the calculated volume due to potential voids that formed during drilling. |
| 189 | | | | | | | |
| 190 | | | | | (15.0 - 279.0') 10.0" Borehole | | |
| 191 | | Topock - Alluvium Deposits | SM | SM | | | |
| 192 | MW-R-VAS-192-197 (<0.033 U ppb) 5/16/2019 09:55 | | | | | | |
| 193 | | | | | (192.5 - 193.5') Centralizer | | |
| 194 | | | | | (192.0 - 194.3') Sump and PVC End Cap | | |
| 195 | | | | | | | |
| 196 | | | | | | | |
| 197 | | | | | | | |
| 198 | | | | | (196.0 - 253.0') Bentonite seal pellets Pel-Plug (TR30) 3/8" | (196.0 - 253.0') 47.7 buckets | (196.0 - 253.0') 54 buckets (113%) Note: Intermediate seal |
| 199 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

| | | |
|-------------------------------------|---|--|
| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|-----------------------|----------------------------|-----------|------------|---|----------------------------------|--|
| 200 | | | | | (0.2 - 255.0') 2" PVC Sch 80 Casing | | |
| 201 | | | | | | | |
| 202 | | | | | | | |
| 203 | | | | | | | |
| 204 | | | | | | | |
| 205 | | | | | | | |
| 206 | | | | | | | |
| 207 | | | | | | | |
| 208 | | | | | | | |
| 209 | | | | | | | |
| 210 | | Topock - Alluvium Deposits | SM | | (196.0 - 253.0') Bentonite seal pellets Pel-Plug (TR30) 3/8" | (196.0 - 253.0') 47.7 buckets | (196.0 - 253.0') 54 buckets (113%) Note: Intermediate seal |
| 211 | | | | | | | |
| 212 | | | | | | | |
| 213 | | | | | | | |
| 214 | | | | | | | |
| 215 | | | | | | | |
| 216 | | | | | | | |
| 217 | | | | | | | |
| 218 | | | | | | | |
| 219 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK_TOPOCKDRAFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

| | | |
|-------------------------------------|---|--|
| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|----------------------------|-----------|------------|---|----------------------------------|--|
| 220 | | | | | (0.2 - 255.0') 2" PVC Sch 80 Casing | | |
| 221 | | | | | | | |
| 222 | | | | | | | |
| 223 | | | | | | | |
| 224 | | | | | | | |
| 225 | | | | | | | |
| 226 | | | | | | | |
| 227 | | | | | | | |
| 228 | | | | | | | |
| 229 | MW-R-VAS-227-232 (<0.033 U ppb) 5/17/2019 10:05 | Topock - Alluvium Deposits | SM | | (196.0 - 253.0') Bentonite seal pellets Pel-Plug (TR30) 3/8" | (196.0 - 253.0') 47.7 buckets | (196.0 - 253.0') 54 buckets (113%) Note: Intermediate seal |
| 230 | | | | | (15.0 - 279.0') 10.0" Borehole | | |
| 231 | | | | | | | |
| 232 | | | | | | | |
| 233 | | | | | | | |
| 234 | | | | | | | |
| 235 | | | | | | | |
| 236 | | | | | (235.5 - 236.5') Centralizer | | |
| 237 | | | | | | | |
| 238 | | | | | | | |
| 239 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK_DRAFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

| | | |
|-------------------------------------|---|--|
| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|----------------------------|-----------|------------|---|----------------------------------|--|
| 240 | | Topock - Alluvium Deposits | SM | | (0.2 - 255.0') 2" PVC Sch 80 Casing | | |
| 241 | | | | | | | |
| 242 | | | | | | | |
| 243 | | | | | | | |
| 244 | | | | | | | |
| 245 | | | | | | | |
| 246 | | | | | (196.0 - 253.0') Bentonite seal pellets Pel-Plug (TR30) 3/8" | (196.0 - 253.0') 47.7 buckets | (196.0 - 253.0') 54 buckets (113%) Note: Intermediate seal |
| 247 | | Topock - Alluvium Deposits | GM | | | | |
| 248 | | | | | | | |
| 249 | | | | | (15.0 - 279.0') 10.0" Borehole | | |
| 250 | | | | | | | |
| 251 | | | | | | | |
| 252 | | | | | | | |
| 253 | | | | | | | |
| 254 | | | | | | | |
| 255 | | | | | | | |
| 256 | MW-R-VAS-255-260 (<0.17 U ppb) 5/29/2019 12:00 | | | | (253.0 - 279.0') Cemex #3 MESH (8x20) Lapis Lustre Sand | (253.0 - 279.0') 27.3 bags | (253.0 - 279.0') 36 bags (132%) Note: Filter pack, used >20% of the calculated volume due to potential voids that formed during drilling. |
| 257 | | | | | | | |
| 258 | | | | | (255.0 - 275.0') 2" Sch 80 PVC (20-slot) Screen | | |
| 259 | | Topock - Alluvium Deposits | SM | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ_TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

Date Started: 05/31/2019 Surface Elevation: 547.35 ft amsl
 Date Completed: 07/31/2019 Shallow Well Elevation: 547.26 ft amsl
 Drilling Co.: Cascade Deep Well Elevation: 547.11 ft amsl Client: PG&E
 Drilling Method: Sonic Drilling Northing (NAD83): 2102445.86 Project: Final GW Remedy Phase 1
 Driller Name: E. Ramos / D. O'Mara Easting (NAD83): 7614401.93 Location: PG&E Topock, Needles, California
 Drilling Asst: L. Amaya / O. Flores Borehole Diameter: 4-12 inches
 Logger: G. Jeffers / C. Stewart Static Water Level: See Log for Depths Project Number: RC000753.0051
 Editor: Sean McGrane Development End Date: 7/9/2019
 Total Depth: 287 ft bgs Well Completion: Flush Stick-up To Be Completed in Well Vault

Well ID: MW-87-192, MW-87-275

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|-----------------------|---|-----------|------------|--|--|--|
| 260 | | Topock - Alluvium Deposits | SM | | (255.0 - 275.0') 2" Sch 80 PVC (20-slot) Screen | | |
| 261 | | | | | | | |
| 262 | | Topock - Weathered Bedrock - conglomerate | SM | | (253.0 - 279.0') Cemex #3 MESH (8x20) Lapis Lustrre Sand | (15.0 - 279.0') 10.0" Borehole | (253.0 - 279.0') 27.3 bags |
| 263 | | | | | | | |
| 264 | | | | | | | |
| 265 | | | | | | | |
| 266 | | Topock - Competent Bedrock - conglomerate | | | (275.5 - 276.5') Centralizer | (275.0 - 277.3') Sump and PVC End Cap | |
| 267 | | | | | | | |
| 268 | | | | | | | |
| 269 | | | | | | | |
| 270 | | MW-R-VAS-269-274 (<0.17 U ppb) 5/30/2019 14:30 | | | | | (279.0 - 287.0') 2.18 bags |
| 271 | | | | | | | |
| 272 | | | | | | | |
| 273 | | | | | | | |
| 274 | | | | | | | (279.0 - 287.0') 2 bags (92%) Note: Decommissioned rathole |
| 275 | | | | | | | |
| 276 | | | | | | | |
| 277 | | | | | | | |
| 278 | | | | | | | |
| 279 | | | | | | | |

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:39

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

| | | |
|-------------------------------------|---|--|
| Date Started: 05/31/2019 | Surface Elevation: 547.35 ft amsl | Well ID: MW-87-192, MW-87-275 |
| Date Completed: 07/31/2019 | Shallow Well Elevation: 547.26 ft amsl | |
| Drilling Co.: Cascade | Deep Well Elevation: 547.11 ft amsl | Client: PG&E |
| Drilling Method: Sonic Drilling | Northing (NAD83): 2102445.86 | Project: Final GW Remedy Phase 1 |
| Driller Name: E. Ramos / D. O'Mara | Easting (NAD83): 7614401.93 | Location: PG&E Topock, Needles, California |
| Drilling Asst: L. Amaya / O. Flores | Borehole Diameter: 4-12 inches | |
| Logger: G. Jeffers / C. Stewart | Static Water Level: See Log for Depths | Project Number: RC000753.0051 |
| Editor: Sean McGrane | Development End Date: 7/9/2019 | |
| Total Depth: 287 ft bgs | Well Completion: <input checked="" type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Well Construction | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|-----------------------|---|-----------|------------|---|-------------------------------|--|
| 280 | | Topock - Competent Bedrock - conglomerate | | | | (279.0 - 287.0') 2.18 bags | (279.0 - 287.0') 2 bags (92%) Note: Decommissioned Rathole |
| 281 | | | | | | | |
| 282 | | | | | | | |
| 283 | | | | | (279.0 - 287.0') Bentonite seal chips Enviroplug medium chips | | |
| 284 | | | | | | | |
| 285 | | | NR | | | | |
| 286 | | | | | | | |
| 287 | | | | | | | |
| | | | | | End of Boring at 287.0 ft bgs. | | |
| 288 | | | | | | | |
| 289 | | | | | | | |
| 290 | | | | | | | |
| 291 | | | | | | | |
| 292 | | | | | | | |
| 293 | | | | | | | |
| 294 | | | | | | | |
| 295 | | | | | | | |
| 296 | | | | | | | |
| 297 | | | | | | | |
| 298 | | | | | | | |
| 299 | | | | | | | |

WELL CONSTRUCTION DETAILS_PG&E_TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E_TOPOCK\DRIFT BORING LOGS\GINT FILES\112320\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GPJ 11/23/20 15:39

Final 112320

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: solid blue and hollow blue water table marks represent depth to water (ft. bgs.) measured post development for the shallow well and deep well respectively; installed in MW-87d

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|-----------------------|----------------------------|-----------|------------|---|---|-----------------------------|
| 1 | 60 | | | Topock - Alluvium Deposits | SM | | (0.0 - 7.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; little granules to very large pebbles, angular to subround; little silt; trace angular to subround; dry; coarser clasts compose of granite, basalt and metadiorite | (0.0 - 5.0') Hand augered to 5 feet bgs for utility clearance. | (0.0 - 27.0') No water used |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | 24 | | | Topock - Alluvium Deposits | SM | | (7.0 - 14.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; little granules to very large pebbles, angular to subangular; little silt; trace angular to subangular; trace mica; coarser clasts composed of metadiorite; dry | (3.5 - 5.0') Lost 12" casing down hole. | |
| 6 | | | | | | | | | |
| 7 | 84 | No Sieve Samples Collected | | Topock - Alluvium Deposits | SW-SM | | (14.0 - 17.0') No recovery (NR) | (13.0') 12 inch casing started to fall added 2 more feet of casing and set at 15 ft. bgs. | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | 120 | | | Topock - Alluvium Deposits | SM | | (17.0 - 19.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some granules to very large pebbles, angular to subangular; little silt; trace angular to subangular; trace mica; coarser clasts composed of metadiorite; dry; iron oxide staining | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | Topock - Alluvium Deposits | SW-SM | | (19.0 - 21.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some granules to very | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |

FINAL 1123120

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E-TOPOCK-C:\USERS\SMC\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\1123120\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid | | | | | | | | |
|------------|---------------|----------------------------|-----------------------|----------------------------|----------------------------|------------|--|--|---|---|----|----------------------------|----|--|---|---|---|
| 21 | 120 | | | Topock - Alluvium Deposits | SW-SM | | large pebbles, angular to subangular; little silt; trace angular to subangular; trace boulders, subangular; trace mica; coarser clasts composed of metadiorite; dry | | | | | | | | | | |
| 22 | | | | Topock - Alluvium Deposits | SM | | (21.0 - 24.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some granules to very large pebbles, angular to subangular; little silt; trace angular to subangular; trace mica; coarser clasts composed of metadiorite; dry | | | | | | | | | | |
| 23 | | | | Topock - Alluvium Deposits | SM | | (24.0 - 33.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some granules to very large pebbles, angular to subangular; little silt; trace angular to subangular; trace mica; coarser clasts composed of metadiorite; dry | | | | | | | | | | |
| 24 | 60 | No Sieve Samples Collected | | Topock - Alluvium Deposits | SW-SM | | (28.5'); pulverized boulder | (29'); and granules to very large pebbles, angular to subangular; decrease in sand | (27.0 - 32.0') Core barrel and sediments in core hot, slow drilling due to tight formation and soils falling out of core during clean out runs. | (27.0 - 32.0') 10 gallons of water used; 0 gallons of water recovered; 10 gallons of water lost | | | | | | | |
| 25 | | | | | | | | | | | 36 | Topock - Alluvium Deposits | SW | | (32'); some granules to very large pebbles, angular to subangular; increase in sand | (32.0 - 37.0') Core barrel and sediments in core hot, slow drilling due to tight formation and soils falling out of core during clean out runs. | (32.0 - 37.0') 5 gallons of water used; 0 gallons of water recovered; 5 gallons of water lost |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | 60 | | | Topock - Alluvium Deposits | SM | | (37.0 - 41.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some silt; little granules to very large pebbles, angular to subangular; trace clay; trace mica; coarser clasts composed of metadiorite; dry | (37.0 - 47.0') Slow drilling due to tight formation and soils falling out of core during clean out runs. | (37.0 - 42.0') 5 gallons of water used; 0 gallons of water recovered; 5 gallons of water lost | | | | | | | | |
| 28 | | | | 36 | Topock - Alluvium Deposits | SM | | | | | | | | | | | |
| 29 | | | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | |
| 30 | 36 | | | Topock - Alluvium Deposits | SM | | | | | | | | | | | | |
| 31 | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | | | |
| 32 | 36 | | | Topock - Alluvium Deposits | SM | | | | | | | | | | | | |
| 33 | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | | | |
| 34 | 36 | | | Topock - Alluvium Deposits | SM | | | | | | | | | | | | |
| 35 | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | | | |
| 36 | 36 | | | Topock - Alluvium Deposits | SM | | | | | | | | | | | | |
| 37 | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | | | |
| 38 | 36 | | | Topock - Alluvium Deposits | SM | | | | | | | | | | | | |
| 39 | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | | | |
| 40 | 36 | | | Topock - Alluvium Deposits | SM | | | | | | | | | | | | |
| 41 | | | | | | | | | | Topock - Alluvium Deposits | SM | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E-TOPOCK-C:\USERS\MCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | | | | |
|------------------|-------------------------|-----------------------|---|---------------------------|-------------------------------------|
| Date Started: | 05/11/2019 | Surface Elevation: | 547.35 ft amsl | Boring No.: MW-87d | |
| Date Completed: | 06/04/2019 | Northing (NAD83): | 2102445.86 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614401.93 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 287 ft bgs | Project: | Final GW Remedy Phase 1 |
| Drill Rig Type: | Prosonic Truck Mount | Borehole Diameter: | 4-12 inches | Location: | PG&E Topock, Needles, California |
| Driller Name: | E. Ramos / D. O'Mara | Depth to First Water: | 91.1 ft bgs | Project Number: | RC000753.0051 |
| Drilling Asst: | L. Amaya / O. Flores | Sampling Method: | 4 inch x 10 ft Core Barrel | | |
| Logger: | G. Jeffers / C. Stewart | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|-----------------|-----------------------|----------------------------|-----------|------------|---|----------------------------------|----------------|
| 41 | 60 | | | Topock - Alluvium Deposits | SM | | | | |
| 42 | | | | Topock - Alluvium Deposits | SW-SM | | (41.0 - 47.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some granules to very large pebbles, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; dry; trace oxidized staining. | (42.0 - 270.0') No water used | |
| 43 | | | | | | | | | |
| 44 | 60 | | | | | | | | |
| 45 | | | | | | | | | |
| 46 | | | | | | | | | |
| 47 | | | | | | | | | |
| 48 | | | | | | | | | |
| 49 | | | | | | | | | |
| 50 | 48 | | | | | | | | |
| 51 | | | | | | | | | |
| 52 | | | | | | | | | |
| 53 | | | | | | | | | |
| 54 | | | | | | | | | |
| 55 | 36 | | | | | | | | |
| 56 | | | | | | | | | |
| 57 | | | | | | | | | |
| 58 | | | | | | | | | |
| 59 | 24 | | | | | | | | |
| 60 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMC\GRAND\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|---|----------------------------|-----------|------------|--|--|----------------|
| 61 | 24 | | | Topock - Alluvium Deposits | SW-SM | | (60.0 - 62.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 4/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; dry | | |
| 62 | | | | Topock - Alluvium Deposits | SM | | (62.0 - 64.5') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some silt; little granules to very large pebbles, angular to subangular; trace clay; trace mica; coarser clasts composed of metadiorite; dry | | |
| 63 | | | (64.5 - 66.5') Topock - Alluvium Deposits; Well graded sand with gravel (SW); brown (10YR 5/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; trace silt; trace clay; trace mica; dry; larger clasts consist of metadiorite and conglomerate | | | | | | |
| 64 | | | | | | | | | |
| 65 | | | | Topock - Alluvium Deposits | SM | | (66.5 - 72.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3) little brown (10YR 4/3); very fine grained to very coarse grained, angular to subround; some granules to very large pebbles, angular to subangular; little silt; trace mica; dry; larger clasts consist of metadiorite and conglomerate | | |
| 66 | | | | | | | | | |
| 67 | 120 | | | | | | | | |
| 68 | | | | | | | | | |
| 69 | | No Sieve Samples Collected | | | | | | | |
| 70 | | | | | | | | | |
| 71 | | | | | | | | | |
| 72 | | | | Topock - Alluvium Deposits | SW-SM | | (72.0 - 86.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3) some brown (10YR 4/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; little silt; trace angular; trace mica; dry; larger clasts consist of metadiorite and conglomerate, trace oxidized staining | (72.0 - 92.0') Slow drilling due to tight formation and soils falling out of core during clean out runs. | |
| 73 | | | | | | | | | |
| 74 | 60 | | | | | | | | |
| 75 | | | | | | | | | |
| 76 | | | | | | | | | |
| 77 | | | | | | | | | |
| 78 | | | | | | | | | |
| 79 | 108 | | | | | | | | |
| 80 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya/ O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|---|-----------------------|----------------------------|-----------|------------|---|-------------------------------------|----------------|
| 81 | 108 | | | Topock - Alluvium Deposits | SW-SM | [Pattern] | | | |
| 82 | | | | | | | | | |
| 83 | | | | | | | | | |
| 84 | | | | | | | | | |
| 85 | 72 | No Sieve Samples Collected | | Topock - Alluvium Deposits | SM | [Pattern] | (86.0 - 117.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3); very fine grained to very coarse grained, angular to subround; some granules to very large pebbles, angular to subangular; little silt; trace clay; trace mica; dry; larger clasts consist of metadiorite and conglomerate (87'); decrease in silt, increase in sand | | |
| 86 | | | | | | | | | |
| 87 | | | | | | | | | |
| 88 | | | | | | | | | |
| 89 | | | | | | | | | |
| 90 | | | | | | | | | |
| 91 | | | | | | | | | |
| 92 | | | | | | | | | |
| 93 | 60 | MW-R-VAS-92-97 (45 ppb) 5/13/2019 11:44 | | Topock - Alluvium Deposits | SM | [Pattern] | (91'); moist; weak cementation | (92.0') Approximate depth to water. | |
| 94 | | | | | | | | | |
| 95 | | | | | | | | | |
| 96 | | | | | | | | | |
| 97 | 120 | | | Topock - Alluvium Deposits | SM | [Pattern] | (92'); some silt; little small to very large pebbles, angular to subangular; wet; no clay, no cementation | | |
| 98 | | | | | | | | | |
| 99 | | | | | | | | | |
| 100 | | | | | | | | | |

Final 123120

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|--|----------------------------|-----------|------------|--|-----------------------------------|----------------|
| 101 | | | | | | | | | |
| 102 | | | | | | | | | |
| 103 | 120 | | | | | | | | |
| 104 | | | | | | | | | |
| 105 | | | | | | | | | |
| 106 | | | | | | | | | |
| 107 | | | | | | | | | |
| 108 | | | | Topock - Alluvium Deposits | SM | | | | |
| 109 | | | | | | | | | |
| 110 | | No Sieve Samples Collected | | | | | | | |
| 111 | | | | | | | | | |
| 112 | 120 | | | | | | (112'); pulverized weathered metadiorite boulder fragments | | |
| 113 | | | | | | | (112.5') brown (10YR 5/3) trace reddish brown (2.5YR 5/4); some granules to very large pebbles, angular to subangular; decrease silt, no cementation, trace mottling | | |
| 114 | | | | | | | | | |
| 115 | | | | | | | | | |
| 116 | | | | | | | (116'); decrease silt, increase granules and pebbles | (115.0 - 122.0') Soft drilling | |
| 117 | | | | | | | | | |
| 118 | 60 | | MW-R-VAS-117-122 (5.8 ppb) 5/14/2019 10:14 | Topock - Alluvium Deposits | GM | | (117.0 - 128.5') Topock - Alluvium Deposits; Silty gravel with sand (GM); brown (10YR 5/3) little reddish brown (2.5YR 5/4); granules to small cobbles, angular to subangular; some very fine to very coarse grained sand, angular to subround; little silt; trace mica; coarser clasts composed of metadiorite; wet; silt nodules | | |
| 119 | | | | | | | | | |
| 120 | | | | | | | | | |

Final 11/23/20

SOIL BORING LOG: PG&E-TOPOCK-C:\USERS\SMC\GRAND\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|--|----------------------------|-----------|------------|--|----------------|----------------|
| 121 | 60 | | MW-R-VAS-117-122 (5.8 ppb) 5/14/2019 10:14 | | | | | | |
| 122 | | | | | | | | | |
| 123 | | | | | | | | | |
| 124 | 60 | | | Topock - Alluvium Deposits | GM | | (125'); and very fine to very coarse grained sand, angular to subangular; decrease in granules to cobbles | | |
| 125 | | | | | | | | | |
| 126 | | | | | | | | | |
| 127 | | | | | | | | | |
| 128 | | | | | | | | | |
| 129 | | | | Topock - Alluvium Deposits | SM | | (128.5 - 130.5') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3) trace reddish brown (2.5YR 5/4); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; some silt; trace mica; coarser clasts composed of metadiorite; wet | | |
| 130 | | No Sieve Samples Collected | | | | | | | |
| 131 | | | | | | | | | |
| 132 | 120 | | | Topock - Alluvium Deposits | GM | | (130.5 - 137.5') Topock - Alluvium Deposits; Silty gravel with sand (GM); brown (10YR 5/3) trace reddish brown (2.5YR 5/4); granules to small cobbles, angular to subangular; and very fine to very coarse grained sand, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; wet; silt nodules | | |
| 133 | | | | | | | | | |
| 134 | | | | | | | | | |
| 135 | | | | | | | | | |
| 136 | | | | | | | | | |
| 137 | | | | | | | | | |
| 138 | 120 | | | Topock - Alluvium Deposits | ML | | (137.5 - 138.5') Topock - Alluvium Deposits; Sandy silt with gravel (ML); brown (10YR 5/3); medium plasticity; some granules to very large pebbles, angular to subangular; some very fine to very coarse grained sand, angular to subangular; trace mica; coarser clasts composed of metadiorite; wet; soft to medium stiff | | |
| 139 | | | | Topock - Alluvium Deposits | SM | | (138.5 - 153.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 5/3) trace reddish brown (2.5YR 5/4); very fine grained to very coarse grained, angular to subangular; some | | |
| 140 | | | | | | | | | |

SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

| | | | | | |
|------------------|-------------------------|-----------------------|---|---------------------------|-------------------------------------|
| Date Started: | 05/11/2019 | Surface Elevation: | 547.35 ft amsl | Boring No.: MW-87d | |
| Date Completed: | 06/04/2019 | Northing (NAD83): | 2102445.86 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614401.93 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 287 ft bgs | Project: | Final GW Remedy Phase 1 |
| Drill Rig Type: | Prosonic Truck Mount | Borehole Diameter: | 4-12 inches | Location: | PG&E Topock, Needles, California |
| Driller Name: | E. Ramos / D. O'Mara | Depth to First Water: | 91.1 ft bgs | Project Number: | RC000753.0051 |
| Drilling Asst: | L. Amaya/ O. Flores | Sampling Method: | 4 inch x 10 ft Core Barrel | | |
| Logger: | G. Jeffers / C. Stewart | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|----------------------------|---|-----------------------|----------------------------|-----------|------------|--|--|----------------|
| 141 | 120 | | | Topock - Alluvium Deposits | SM | | granules to very large pebbles, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; wet; interbedded silt and granule to pebble lenses | | |
| 142 | | | | | | | (141'); some silt; decrease in sand, increase in granules and pebbles | | |
| 143 | | | | | | | (142.5'); little silt; increase in sand, increase in granules and pebbles | | |
| 144 | | | | | | | | | |
| 145 | | | | | | | | | |
| 146 | No Sieve Samples Collected | | | Topock - Alluvium Deposits | SM | | (149'); some silt; decrease in sand | | |
| 147 | | | | | | | | | |
| 148 | | | | | | | | | |
| 149 | | | | | | | | | |
| 150 | | | | | | | | | |
| 151 | 120 | MW-R-VAS-151-156 (<0.033 U ppb) 5/15/2019 10:20 | | Topock - Alluvium Deposits | GM | | (153.0 - 157.0') Topock - Alluvium Deposits; Silty gravel with sand (GM); brown (10YR 5/3) little reddish brown (5YR 5/4); granules to very large pebbles, angular to subangular; some very fine to very coarse grained sand, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; wet; interbedded silt and sand lenses, trace reddish brown (2.5YR 5/4) | (151.0 - 156.0') Cave in prevented sampler from being set at 152 to 157 ft. bgs. | |
| 152 | | | | | | | | | |
| 153 | | | | | | | | | |
| 154 | | | | | | | | | |
| 155 | | | | | | | | | |
| 156 | 120 | | | Topock - Alluvium Deposits | GW | | (157.0 - 168.5') Topock - Alluvium Deposits; Well graded gravel with sand (GW); brown (10YR 4/3); granules to very large pebbles, angular to subangular; and very fine to very coarse grained sand, angular to subangular; trace silt; trace mica; coarser clasts composed of metadiorite; wet; silt nodules | (157.0 - 167.0') Soft drilling | |
| 157 | | | | | | | | | |
| 158 | | | | | | | | | |
| 159 | | | | | | | | | |
| 160 | | | | | | | | | |

SOIL BORING LOG: PG&E-TOPOCK-C:\USERS\SMC\GRANEDOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|-----------------------|----------------------------|-----------|------------|--|----------------|----------------|
| 161 | 120 | | | Topock - Alluvium Deposits | GW | | | | |
| 162 | | | | | | | | | |
| 163 | | | | | | | | | |
| 164 | | | | | | | | | |
| 165 | | | | | | | | | |
| 166 | | | | | | | | | |
| 167 | | | | | | | | | |
| 168 | 120 | No Sieve Samples Collected | | Topock - Alluvium Deposits | SM | | (168.5 - 179.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (7.5YR 4/4); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; wet; interbedded silt and granule to pebble lenses (170'); some silt; trace angular to subangular; increase in granules and pebbles, decrease in sand | | |
| 169 | | | | | | | | | |
| 170 | | | | | | | | | |
| 171 | | | | | | | | | |
| 172 | | | | | | | | | |
| 173 | | | | | | | | | |
| 174 | | | | | | | | | |
| 175 | | | | | | | | | |
| 176 | | | | | | | | | |
| 177 | | | | | | | | | |
| 178 | | | | | | | | | |
| 179 | 120 | | | Topock - Alluvium Deposits | SW-SM | | (179.0 - 180.0') Topock - Alluvium Deposits; Well graded sand with silt and gravel (SW-SM); dark yellowish brown (10YR 4/4) some brown (7.5YR 4/3); very fine grained to very coarse grained, | | |
| 180 | | | | | | | | | |

SOIL BORING LOG: PG&E TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

11123120

FIN

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

| | | | | | |
|------------------|-------------------------|-----------------------|---|---------------------------|-------------------------------------|
| Date Started: | 05/11/2019 | Surface Elevation: | 547.35 ft amsl | Boring No.: MW-87d | |
| Date Completed: | 06/04/2019 | Northing (NAD83): | 2102445.86 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614401.93 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 287 ft bgs | Project: | Final GW Remedy Phase 1 |
| Drill Rig Type: | Prosonic Truck Mount | Borehole Diameter: | 4-12 inches | Location: | PG&E Topock, Needles, California |
| Driller Name: | E. Ramos / D. O'Mara | Depth to First Water: | 91.1 ft bgs | Project Number: | RC000753.0051 |
| Drilling Asst: | L. Amaya / O. Flores | Sampling Method: | 4 inch x 10 ft Core Barrel | | |
| Logger: | G. Jeffers / C. Stewart | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|-----------------------|----------------------------|-----------|------------|--|----------------|----------------|
| 181 | 120 | | | Topock - Alluvium Deposits | SM | | angular to subangular; some granules to very large pebbles, angular to subangular; little silt; trace angular to subangular; trace mica; coarser clasts composed of metadiorite; wet; mottled | | |
| 182 | | | | Topock - Alluvium Deposits | ML | | (180.0 - 181.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (10YR 4/3) little brown (7.5YR 4/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; wet; mottled; interbedded silt and granule to pebble lenses | | |
| 183 | | | | | | | (181.0 - 182.0'); some silt; trace clay; iron oxide staining; decrease in sand | | |
| 184 | 60 | No Sieve Samples Collected | | Topock - Alluvium Deposits | SM | | (182.0 - 183.0') Topock - Alluvium Deposits; Sandy silt with gravel (ML); brown (7.5YR 4/3); low plasticity; some granules to very large pebbles, angular to subangular; some very fine to very coarse grained sand, angular to subround; trace subangular; coarser clasts composed of metadiorite; wet; stiff to very stiff; weak cementation; iron oxide staining; trace weathered granules and pebbles | | |
| 185 | | | | | | | (183.0 - 247.0') Topock - Alluvium Deposits; Silty sand with gravel (SM); brown (7.5YR 4/3) some brown (10YR 5/3); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; some silt; trace angular to subangular; trace mica; coarser clasts composed of metadiorite; wet; laminated; weak cementation; little weathered granules and pebbles, interbedded silt and granule to cobble lenses, mottled. | | |
| 186 | | | | | | | (186'); dry; for 0.5 ft. | | |
| 187 | | | | | | | (187'); decrease in silt, increase in granules and pebbles | | |
| 188 | | | | | | | (188.0 - 207.0') Drill rod broke off during reaming, was retrieved to continue drilling. | | |
| 189 | 60 | | | Topock - Alluvium Deposits | SM | | (193'); increase in sand, decrease in silt, no cementation, no lamination | | |
| 190 | | | | | | | | | |
| 191 | | | | | | | | | |
| 192 | 120 | | | Topock - Alluvium Deposits | SM | | (198'); increase in silt, decrease in granules and pebbles | | |
| 193 | | | | | | | | | |
| 194 | | | | | | | | | |
| 195 | | | | | | | | | |
| 196 | | | | | | | | | |
| 197 | | | | | | | | | |
| 198 | | | | | | | | | |
| 199 | | | | | | | | | |
| 200 | | | | | | | | | |

MW-R-VAS-192-197 (<0.033 U ppb) 5/16/2019 09:55

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E-TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\1.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya/ O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|-----------------------|----------------------------|-----------|------------|---|--|----------------|
| 201 | 120 | | | | | | (200'); and silt; decrease in granules to pebbles | | |
| 202 | | | | | | | | | |
| 203 | | | | | | | | | |
| 204 | | | | | | | | | |
| 205 | 120 | | | | | | (205'); some silt; increase in granules and pebbles | | |
| 206 | | | | | | | | | |
| 207 | | | | | | | | | |
| 208 | | | | | | | | | |
| 209 | 120 | No Sieve Samples Collected | | Topock - Alluvium Deposits | SM | | (207'); trace clay; decrease in sand | (207.0 - 227.0') Soft drilling (10" casing) | |
| 210 | | | | | | | | | |
| 211 | | | | | | | | | |
| 212 | | | | | | | | | |
| 213 | 120 | | | | | | (215'); some silt; increase in silt, decrease in sand | | |
| 214 | | | | | | | | | |
| 215 | | | | | | | | | |
| 216 | | | | | | | | | |
| 217 | 120 | | | | | | (217'); decrease in silt, increase in sand, increase in granules and pebbles, no clay, silt nodules | | |
| 218 | | | | | | | | | |
| 219 | | | | | | | | | |
| 220 | | | | | | | | | |

Final 1123120

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E-TOPOCK C:\USERS\SMC\GRAND\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|---|----------------------------|-----------|------------|--|--|----------------|
| 221 | 120 | | | | | | (225'); little silt; increase in granules and pebbles | | |
| 222 | | | | | | | | | |
| 223 | | | | | | | | | |
| 224 | | | | | | | | | |
| 225 | | | | | | | | | |
| 226 | 60 | No Sieve Samples Collected | MW-R-VAS-227-232 (<0.033 U ppb) 5/17/2019 10:05 | Topock - Alluvium Deposits | SM | | (232') brown (7.5YR 4/4) and reddish brown / moderate brown (5YR 4/4); and granules to very large pebbles, angular to subangular; trace angular to subangular; decrease in silt, mottled | (227.0 - 232.0') Picked sample location based on lithology. (227.0 - 267.0') Soft drilling (10" casing) | |
| 227 | | | | | | | | | |
| 228 | | | | | | | | | |
| 229 | | | | | | | | | |
| 230 | | | | | | | | | |
| 231 | | | | | | | | | |
| 232 | | | | | | | | | |
| 233 | 180 | | | | | | (233.5'); pulverized boulder fragments within silt matrix, 1 foot thick | | |
| 234 | | | | | | | | | |
| 235 | | | | | | | | | |
| 236 | | | | | | | | | |
| 237 | | | | | | | | | |
| 238 | | | | | | | | | |
| 239 | | | | | | | | | |
| 240 | | | | | | | | | |
| 240 | | | | | | | (239.5'); some granules to very large pebbles, angular to | | |

SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMC\GRAND\DOCUMENTS\PG&E TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

| | | | | | |
|------------------|-------------------------|-----------------------|---|---------------------------|-------------------------------------|
| Date Started: | 05/11/2019 | Surface Elevation: | 547.35 ft amsl | Boring No.: MW-87d | |
| Date Completed: | 06/04/2019 | Northing (NAD83): | 2102445.86 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614401.93 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 287 ft bgs | Project: | Final GW Remedy Phase 1 |
| Drill Rig Type: | Prosonic Truck Mount | Borehole Diameter: | 4-12 inches | Location: | PG&E Topock, Needles, California |
| Driller Name: | E. Ramos / D. O'Mara | Depth to First Water: | 91.1 ft bgs | Project Number: | RC000753.0051 |
| Drilling Asst: | L. Amaya/ O. Flores | Sampling Method: | 4 inch x 10 ft Core Barrel | | |
| Logger: | G. Jeffers / C. Stewart | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|--|----------------------------|-----------|------------|--|--|----------------|
| 241 | 180 | | | Topock - Alluvium Deposits | SM | | subangular; trace angular to subangular; increase in silt | | |
| 242 | | | | | | | (241'); and granules to very large pebbles, angular to subangular; trace angular to subangular; decrease in silt | | |
| 243 | | | | | | | | | |
| 244 | | | | | | | | | |
| 245 | | | | | | | | | |
| 246 | 120 | No Sieve Samples Collected | | Topock - Alluvium Deposits | GM | | (247.0 - 258.0') Topock - Alluvium Deposits; Silty gravel with sand (GM); brown (7.5YR 4/4) and reddish brown / moderate brown (5YR 4/4); granules to small cobbles, angular to subangular; and very fine to very coarse grained sand, angular to subangular; little silt; trace mica; coarser clasts composed of metadiorite; wet; mottled; trace weathered granules to cobbles, silt nodules, interbedded silt and sand lenses | (247.0 - 274.0') Smooth drilling (10" casing) | |
| 248 | | | | | | | | | |
| 249 | | | | | | | | | |
| 250 | | | | | | | | | |
| 251 | | | | | | | | | |
| 252 | | | | | | | | | |
| 253 | | | | | | | | | |
| 254 | | | | | | | | | |
| 255 | | | | | | | | | |
| 256 | | | | | | | | | |
| 257 | 120 | | MW-R-VAS-255-260 (<0.17 U ppb) 5/29/2019 12:00 | Topock - Alluvium Deposits | SM | | (256'); 1 foot thick very saturated zone | | |
| 258 | | | | | | | | | |
| 259 | | | | | | | | | |
| 260 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E-TOPOCK C:\USERS\MCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid | | | |
|------------|---------------|----------------------------|--|---|-----------|------------|--|--|--|--|-----------------|--|
| 261 | | | | Topock - Alluvium Deposits | SM | | (261'); pulverized boulder fragments | | | | | |
| 262 | | | | Topock - Weathered Bedrock - conglomerate | SM | | (261.5 - 274.5') Topock - Weathered Bedrock - conglomerate; Silty sand with gravel (SM); reddish brown / moderate brown (5YR 4/4) trace red / moderate reddish brown (10R 4/6); very fine grained to very coarse grained, angular to subangular; some granules to very large pebbles, angular to subangular; some silt; trace clay; trace mica; coarser clasts composed of metadiorite; wet; weak cementation; interbedded silt and granule to pebble lenses | (265.0 - 267.0') | | | | |
| 263 | 120 | | | | | | | | | | Tight formation | |
| 264 | | | | | | | | | | | | |
| 265 | | | | | | | | | | | | |
| 266 | | | | | | | | | | | | |
| 267 | | | | | | | (267'); increase in silt, no clay | (267.0 - 279.0') | | | | |
| 268 | | | | | | | | Tight and rough drilling (10" casing) | | | | |
| 269 | | | | | | | (268.5'); little silt; trace angular to subangular; increase in sand, increase in granules to cobbles | | | | | |
| 270 | | No Sieve Samples Collected | | | | | (270'); weathered metadiorite | (270.0 - 279.0') | (270.0 - 279.0') | | | |
| 271 | | | MW-R-VAS-269-274 (<0.17 U ppb) 5/30/2019 14:30 | | | | (271'); increase in sand, increase silt, decrease in granules and pebbles, weathered fractured boulder of metadiorite | Formation collapse after pulling 10" casing up 10 ft | 800 gallons of water used; 0 gallons of water recovered; 800 gallons of water lost | | | |
| 272 | 120 | | | | | | | | | | | |
| 273 | | | | | | | | | | | | |
| 274 | | | | | | | | | | | | |
| 275 | | | | | | | (274.5 - 283.5') Topock - Competent Bedrock - conglomerate; reddish brown / moderate brown (5YR 4/4); moist to dry; friable | (274.0 - 279.0') | | | | |
| 276 | | | | | | | | Tight and rough drilling (10" casing) | | | | |
| 277 | | | | Topock - Competent Bedrock - conglomerate | | | (277'); dry | | | | | |
| 278 | | | | | | | | | | | | |
| 279 | 60 | | | | | | | (277.0 - 282.0') | | | | |
| 280 | | | | | | | | Tight formation | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole

SOIL BORING LOG: PG&E-TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E-TOPOCK\DRIFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

| | | |
|--------------------------------------|--|--|
| Date Started: 05/11/2019 | Surface Elevation: 547.35 ft amsl | Boring No.: MW-87d |
| Date Completed: 06/04/2019 | Northing (NAD83): 2102445.86 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614401.93 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 287 ft bgs | Project: Final GW Remedy Phase 1 |
| Drill Rig Type: Prosonic Truck Mount | Borehole Diameter: 4-12 inches | Location: PG&E Topock, Needles, California |
| Driller Name: E. Ramos / D. O'Mara | Depth to First Water: 91.1 ft bgs | Project Number: RC000753.0051 |
| Drilling Asst: L. Amaya / O. Flores | Sampling Method: 4 inch x 10 ft Core Barrel | |
| Logger: G. Jeffers / C. Stewart | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (in) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|-----------------------|---|-----------|------------|---|----------------|---|
| 281 | 60 | | | Topock - Competent Bedrock - conglomerate | | | | | |
| 282 | | | | | | | | | (282.0 - 287.0') Rough drilling, core fell out of core barrel downhole. |
| 283 | | No Sieve Samples Collected | | | | | | | |
| 284 | 18 | | | | | | (283.5 - 287.0') No recovery (NR); see drilling notes | | |
| 285 | | | | | NR | | | | |
| 286 | | | | | | | | | |
| 287 | | | | | | | | | |

End of Boring at 287.0 ft bgs.

SOIL BORING LOG: PG&E TOPOCK C:\USERS\SMCGRANE\DOCUMENTS\PG&E TOPOCK\DRAFT BORING LOGS\GINT FILES\11.23.20\TOPOCK DATABASE FOR PLOG.GPJ TOPOCK DATA TEMPLATE FOR PLOG.GDT 11/23/20 15:24

Final 11123120

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, ppb = parts per billion, U = not detected above the laboratory reporting limit, NR = no recovery; Notes: blue water table symbol represents depth to water measured during the first VAS interval; apparent partial recoveries can be the result of potential compaction of sediments in the core bag; wells MW-87-192, MW-87-275 installed in borehole