# Appendix K

## Groundwater Density Distribution

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## Section 1.0 Introduction

This Appendix presents the development of the three-dimensional (3-D) model of the anthropogenic density plume (ADP) based on groundwater density.

## Section 2.0 Methodology

The CSI was designed to determine the current distribution of the anthropogenic density plume. The additional monitoring locations installed under the CSI were principally in the upland area. While the CSI groundwater monitoring provided a greater sample density on the peninsula, especially in the 130-foot and 160-foot zone grouping planes, limited new data was collected from below the Hylebos Waterway. Therefore, it was necessary to combine the 2004/2006 and CSI data sets to develop an understanding of the density distribution. The evaluation of the changes in the density distribution between 2006 and 2012 was limited to a comparison of monitoring locations where data were available for both monitoring periods.

The density values for groundwater samples collected at the Site were calculated based on specific gravity and temperature data using the following equation:

$$\rho_{gw} = \left(SG - 0.0002 \times \left(\mathrm{T°F} - 60°\mathrm{F}\right)\right) \times \rho_f$$

Where:

| | |
|---|---|
| $\rho_{gw}$ | density of groundwater sample (lbs/ft$^3$) |
| $SG$ | specific gravity measured of the groundwater sample (unitless) |
| $T$ | temperature measured in the field (degrees Fahrenheit) |
| $\rho_f$ | density of fresh water (62.336 lbs/ft$^3$) |

The temperature values were taken from the transducers within the wells instead of from the sampling records, because the temperature measurements collected during groundwater sampling were subject to error due to the exposure of the sampling line to warm ambient temperatures during the summer sampling event in 2012.

Specific gravity values were measured in all of the groundwater and surface water samples collected during the CSI. The data were reviewed along with the calculated TDS values and historical values at each of the locations sampled, where available. The data review revealed that some of the specific gravity values were inconsistent with the associated TDS values and/or historical data. The Agencies suggested some modifications to the specific gravity values to account for these errors, and these modifications were incorporated into the database.

Specific gravity values were collected in a small portion of the Hylebos Waterway in 2012, meaning that much of the area under the Hylebos Waterway has no CSI density measurement. Therefore for the areas where 2012 data were unavailable, 2004 data were used. The Agencies suggested modifications to the specific gravity values to account for errors in the reported values. The modifications also were incorporated into the database. The final density data set is presented in Attachment K-1.

Table K.1 presents the 2012 and 2004/2006 temperature-corrected density data for locations where samples for multiple dates were available, as well as the difference between the values measured in 2004 vs. 2012, and 2006 vs. 2012. Examination of Table K.1 shows that the 2012 values are generally similar to or slightly lower than the 2004/2006 values. The only location where the 2012 value was above both the 2004 and 2006 values was at T5-120, which is east of the Salt pad. The lack of a systematic change in density values between 2004/2006 and 2012 indicated that the anthropogenic density plume has not migrated significantly over that time period.

A 3-D visualization of the density data collected at the Site was using 3-D kriging implemented in the MVS/EVS software package. A 3-D visualization of the ADP in the 4DIM viewer format is included in Attachment K-2.

**TABLE K.1**

**COMPARISON OF PRE-CSI AND CSI DENSITY DATA**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| | | Density | | | | |
|---|---|---|---|---|---|---|
| *Location* | *Depth Zone* | *2004* | *2006* | *2012* | *2012/2004 Difference* | *2012/2006 Difference* |
| 11-25 | 25 | | 62.5404 | 62.3880 | | -0.2 |
| 12-25 | 25 | 62.5279 | 62.5041 | 62.3300 | -0.2 | -0.2 |
| 12A-25 | 25 | | 62.4882 | 62.3907 | | -0.1 |
| 14-25R | 25 | 62.9111 | 62.7100 | 62.4341 | -0.5 | -0.3 |
| 18-25 | 25 | | 62.8909 | 62.4618 | | -0.4 |
| 23-25R | 25 | | 63.4573 | 62.4604 | | -1.0 |
| 35-25 | 25 | 62.8425 | 62.5751 | 62.3211 | -0.5 | -0.3 |
| 36-25 | 25 | | 62.5010 | 62.3877 | | -0.1 |
| 40-25 | 25 | | 62.4408 | 62.3802 | | -0.1 |
| 42-25 | 25 | | 62.5279 | 62.3751 | | -0.2 |
| 44-25 | 25 | 63.1121 | 62.5324 | 62.4609 | -0.7 | -0.1 |
| 5-25 | 25 | | 62.8168 | 63.6151 | | 0.8 |
| 55-25 | 25 | | 62.4399 | 62.4053 | | 0.0 |
| 65-25 | 25 | | 62.6540 | 62.7375 | | 0.1 |
| 67-25 | 25 | 62.9640 | 62.6261 | 62.5114 | -0.5 | -0.1 |
| 69-25 | 25 | 63.4427 | 63.2022 | 62.9020 | -0.5 | -0.3 |
| 70-25 | 25 | 63.6752 | 63.4080 | 63.2162 | -0.5 | -0.2 |
| 709-MW20-25 | 25 | | 62.3826 | 62.4231 | | 0.0 |
| 71-25 | 25 | 63.6527 | 63.3010 | 63.1506 | -0.5 | -0.2 |
| 721-MW10-15 | 25 | 63.4013 | | 62.7153 | -0.7 | |
| 721-MW10-25 | 25 | 62.9023 | 63.5505 | 62.3982 | -0.5 | -1.2 |
| 721-MW5-15 | 25 | 63.2765 | | 62.3538 | -0.9 | |
| 721-MW5-25 | 25 | 62.9647 | 62.6239 | 62.5820 | -0.4 | 0.0 |
| 721-MW6-15 | 25 | 62.8400 | | 62.3919 | -0.4 | |
| 721-MW6-25 | 25 | 62.9023 | 66.3677 | 62.4963 | -0.4 | -3.9 |
| 721-MW7-15 | 25 | 63.0271 | | 62.3261 | -0.7 | |
| 721-MW9-15 | 25 | 62.9023 | | 62.5177 | -0.4 | |
| 721-MW9-25 | 25 | 62.9647 | 62.7572 | 62.5900 | -0.4 | -0.2 |
| 8-23 | 25 | 62.5885 | 62.6155 | 62.2685 | -0.3 | -0.3 |
| 9-25 | 25 | | 62.4092 | 62.3932 | | 0.0 |
| | | | | | | |
| 11-45 | 50 | 62.9976 | 62.9842 | 62.7748 | -0.2 | -0.2 |
| 12A-50 | 50 | | 63.7380 | 62.4317 | | -1.3 |
| 14-50R | 50 | 64.3787 | 64.0821 | 63.8597 | -0.5 | -0.2 |
| 15-50R | 50 | 64.0377 | 64.0012 | 63.7478 | -0.3 | -0.3 |
| 22-50 | 50 | 62.5212 | 62.7980 | 63.2478 | 0.7 | 0.4 |
| 32-50R | 50 | 62.5813 | 62.4763 | 62.3682 | -0.2 | -0.1 |
| 36-50 | 50 | 62.6437 | 64.0377 | 62.3690 | -0.3 | -1.7 |
| 40-50 | 50 | 63.8111 | 63.4589 | 63.4868 | -0.3 | 0.0 |
| 42-50 | 50 | 62.5997 | 62.4897 | 62.4458 | -0.2 | 0.0 |
| 43-50 | 50 | 62.9223 | 62.7572 | 62.7632 | -0.2 | 0.0 |
| 44-50 | 50 | 62.7065 | 62.4768 | 62.7320 | 0.0 | 0.3 |
| 45-50 | 50 | 62.6594 | 62.4835 | 62.4980 | -0.2 | 0.0 |
| 5-50 | 50 | | 63.6787 | 63.5311 | | -0.1 |
| 55-50 | 50 | | 62.6071 | 62.8518 | | 0.2 |
| 60-50 | 50 | | 62.4471 | 63.8084 | | 1.4 |

**TABLE K.1**

**COMPARISON OF PRE-CSI AND CSI DENSITY DATA**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| | | *Density* | | | | |
|---|---|---|---|---|---|---|
| *Location* | *Depth Zone* | *2004* | *2006* | *2012* | *2012/2004 Difference* | *2012/2006 Difference* |
| 65-50 | 50 | | 63.9515 | 63.9909 | | 0.0 |
| 67-50 | 50 | 63.6472 | 62.4747 | 63.4446 | -0.2 | 1.0 |
| 6A-50 | 50 | | 62.7257 | 62.8391 | | 0.1 |
| 709-MW20-50 | 50 | | 62.2842 | 62.3371 | | 0.1 |
| 71-50 | 50 | 63.8887 | 63.3032 | 63.6220 | -0.3 | 0.3 |
| 721-MW10-50 | 50 | 63.3389 | 62.9487 | 62.8931 | -0.4 | -0.1 |
| 721-MW5-50 | 50 | 63.0271 | 62.7650 | 62.7190 | -0.3 | 0.0 |
| 721-MW6-50 | 50 | 63.0894 | 62.5701 | 62.7599 | -0.3 | 0.2 |
| 721-MW9-50 | 50 | 63.4636 | 62.5189 | 62.8906 | -0.6 | 0.4 |
| 74-50 | 50 | | 62.8375 | 63.3354 | | 0.5 |
| 75-50 | 50 | | 63.9212 | 63.5853 | | -0.3 |
| 9-50 | 50 | | 62.4866 | 62.4727 | | 0.0 |
| | | | | | | |
| 74-75 | 75 | | 63.7218 | 63.4843 | | -0.2 |
| 75-75 | 75 | | 67.9870 | 67.2742 | | -0.7 |
| T6-60 | 75 | 64.4615 | 64.4615 | 63.9377 | -0.5 | -0.5 |
| | | | | | | |
| 11-100 | 100 | 66.5081 | 62.4808 | 65.5042 | -1.0 | 3.0 |
| 12-100 | 100 | | 63.2516 | 63.2043 | | 0.0 |
| 36-100R | 100 | 63.9089 | 63.8685 | 62.3613 | -1.5 | -1.5 |
| 40-100R | 100 | 64.4168 | 64.1315 | 63.7221 | -0.7 | -0.4 |
| 45-100 | 100 | 63.7376 | 63.7196 | 63.7879 | 0.1 | 0.1 |
| 5-100 | 100 | 63.4629 | 63.0415 | 63.4073 | -0.1 | 0.4 |
| 64-100 | 100 | | 62.5566 | 63.4784 | | 0.9 |
| 65-100 | 100 | | 66.1137 | 68.1161 | | 2.0 |
| 6A-100 | 100 | | 63.2888 | 63.4993 | | 0.2 |
| 7-100 | 100 | | 62.5373 | 63.3150 | | 0.8 |
| 74-100 | 100 | | 64.0527 | 63.5801 | | -0.5 |
| 75-100 | 100 | | 62.4038 | 62.6066 | | 0.2 |
| 9-100 | 100 | | 63.7755 | 63.4673 | | -0.3 |
| 15-120 | 130 | 65.1760 | 72.5459 | 71.4477 | 6.3 | -1.1 |
| 65-130 | 130 | | 63.3881 | 62.5082 | | -0.9 |
| 75-130 | 130 | | 62.4777 | 62.2767 | | -0.2 |
| T5-120 | 130 | 65.4594 | 62.8400 | 69.3147 | 3.9 | 6.5 |
| | | | | | | |
| 11-183 | 160 | | 62.7482 | 62.7218 | | 0.0 |
| 12-160 | 160 | 62.6661 | 62.5835 | 62.4518 | -0.2 | -0.1 |
| 64-170 | 160 | | 62.8716 | 62.8894 | | 0.0 |
| 7-181 | 160 | | 62.6964 | 62.4102 | | -0.3 |

# Attachment K-1

## Groundwater Density Dataset

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 3936.1641 | 5918.7494 | -9.4 | 62.8174 | 1-25 | 11.19 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3937.7905 | 5919.4374 | -28.82 | 64.6481 | 1-45 | 11.21 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3933.8135 | 5912.0263 | -90.4 | 68.0317 | 1-100R | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3970.0580 | 5403.9326 | -9.4 | 62.6244 | 2-25 | 11.39 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3970.9116 | 5410.9420 | -34.6 | 63.9006 | 2-50 | 11.36 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3970.9093 | 5413.9420 | -84.5 | 62.7069 | 2-100 | 11.33 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3955.9000 | 4708.5000 | -9.9 | 62.4573 | 3-25 | 12.63 | 2012 |
| 3951.9899 | 4704.0776 | -34.9 | 63.1851 | 3-50 | 12.61 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3962.7999 | 4712.0310 | -85 | 63.4789 | 3-100 | 12.54 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3953.1979 | 4711.9895 | -159.7 | 62.2776 | 3-175 | 12.8 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3725.0865 | 5946.1597 | -101.1 | 69.7387 | 4-115R | 12.05 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3716.1252 | 5946.2080 | -159.1 | 62.7556 | 4-175R | 12.15 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3748.4160 | 5945.8646 | -10.6 | 64.4445 | 4-25R | 12.15 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3742.1198 | 5945.8984 | -30.6 | 66.1595 | 4-45R | 12.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3733.2416 | 5946.5930 | -67.3 | 66.6559 | 4-83R | 12.05 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3586.7000 | 5292.2600 | -10.8 | 62.9198 | 5-25 | 11.65 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3584.0600 | 5302.4300 | -35.8 | 63.6121 | 5-50 | 11.66 | 2012 |
| 3606.4300 | 5301.9800 | -59.5 | 64.8028 | 5-75 | 11.71 | 2012 |
| 3590.2300 | 5302.4300 | -85.8 | 63.4567 | 5-100 | 11.69 | 2012 |
| 3230.6900 | 6042.6500 | -9.5 | 62.4699 | 7-25 | 12.95 | 2012 |
| 3241.6600 | 6048.2000 | -84.7 | 63.4849 | 7-100 | 12.83 | 2012 |
| 3247.2500 | 6051.4300 | -165.5 | 62.7051 | 7-181 | 12.98 | 2012 |
| 3172.6100 | 5274.3900 | -8.5 | 62.5576 | 8-23 | 11.81 | 2012 |
| 3167.5274 | 5274.2893 | -39.5 | 62.7678 | 8-54 | 11.97 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3173.7154 | 5288.0866 | -83 | 63.8683 | 8-99R | 11.86 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3196.1500 | 4687.6000 | -10.9 | 62.5002 | 9-25 | 11.95 | 2012 |
| 3196.3600 | 4691.9800 | -35.7 | 62.5778 | 9-50 | 12.15 | 2012 |
| 3195.3900 | 4697.3000 | -85.8 | 63.6025 | 9-100 | 12.11 | 2012 |
| 3724.5700 | 6088.2300 | -11.6 | 62.6092 | 10-24 | 9.9 | 2012 |
| 3719.0800 | 6087.3300 | -37.4 | 63.4990 | 10-50 | 10.1 | 2012 |
| 3713.3900 | 6087.4500 | -87.2 | 66.3049 | 10-100 | 10.3 | 2012 |
| 3622.5500 | 6282.1900 | -10.18 | 62.5094 | 11-25 | 12.32 | 2012 |
| 3614.0500 | 6284.5700 | -27.62 | 62.8631 | 11-45 | 12.24 | 2012 |
| 3609.4200 | 6282.6100 | -59.5 | 63.0300 | 11-75 | 12.25 | 2012 |
| 3620.8400 | 6279.3300 | -83.5 | 65.6890 | 11-100 | 12.32 | 2012 |
| 3623.2600 | 6285.6900 | -165.62 | 62.8670 | 11-183 | 12.35 | 2012 |
| 3141.1200 | 6380.4900 | -10.6 | 62.4268 | 12-25 | 10.45 | 2012 |
| 3136.6036 | 6358.4303 | -28.92 | 62.4674 | 12-45 | 10.43 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3117.8400 | 6367.3800 | -59.5 | 63.1068 | 12-75 | 10.52 | 2012 |
| 3144.0300 | 6377.5900 | -88.28 | 63.3455 | 12-100 | 9.22 | 2012 |
| 3139.6600 | 6361.2500 | -144.02 | 62.3102 | 12-160 | 10.64 | 2013 |
| 3871.4623 | 6069.7163 | -32.9 | 63.2957 | 13-49 | 11.48 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3978.5600 | 5774.2500 | -10.7 | 62.5056 | 14-25R | 11.29 | 2012 |
| 3983.3300 | 5782.4500 | -37.6 | 63.8945 | 14-50R | 11.43 | 2012 |
| 3982.1100 | 5657.7300 | -105.5 | 71.4867 | 15-120 | 11.25 | 2012 |
| 3987.6840 | 5654.3825 | -11.7 | 63.2740 | 15-25R | 10.85 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3992.5700 | 5668.4000 | -36.6 | 63.8283 | 15-50R | 10.91 | 2012 |
| 3944.9371 | 5255.6363 | -9.7 | 62.6801 | 16-25 | 11.75 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3944.8183 | 5250.8179 | -35.6 | 64.1063 | 16-50 | 11.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3983.6250 | 4876.2957 | -10.7 | 63.5063 | 17-24 | 11.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3974.3671 | 4847.7507 | -31.1 | 63.8033 | 17-50R | 11.36 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3597.8700 | 4830.5600 | -9 | 62.6067 | 18-25 | 11.94 | 2012 |
| 3655.3100 | 4832.5200 | -35.5 | 64.8306 | 18-50R | 11.93 | 2012 |
| 3664.2797 | 5490.9175 | -11.1 | 62.5364 | 19-25 | 11.26 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3662.1690 | 5488.6178 | -36.3 | 63.9011 | 19-50R | 11.09 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3846.8648 | 5886.2158 | -8.3 | 62.5665 | 20-25 | 11.49 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3846.8648 | 5886.2158 | -34.4 | 64.2456 | 20-50 | 11.57 | 2013 |
| 3553.5206 | 5793.0814 | -32.1 | 63.3578 | 21-48 | 12.81 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3553.4781 | 5802.9229 | -9.5 | 62.7598 | 21-25R | 13.03 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3601.4200 | 5605.8700 | -35.4 | 63.3159 | 22-50 | 12.11 | 2012 |
| 3621.9216 | 5604.2598 | -44 | 63.1629 | 22-70 | 11.37 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3606.4915 | 5596.6166 | -10.5 | 62.6226 | 22-25R | 11.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3360.5523 | 4983.8815 | -34.9 | 63.8236 | 23-50 | 13.06 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3375.3600 | 4994.3200 | -9.8 | 62.5986 | 23-25R | 12.23 | 2012 |
| 3095.8600 | 5953.0300 | 0.87 | 62.4139 | 24-15 | 11.87 | 2012 |
| 3097.0300 | 5948.7300 | -20.3 | 62.4249 | 24-35 | 12.18 | 2012 |
| 3097.4300 | 5943.6700 | -35.4 | 62.4592 | 24-50 | 12.09 | 2012 |
| 3098.9782 | 5656.3965 | -11.2 | 62.4939 | 25-25 | 11.31 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3099.1037 | 5660.7348 | -36.3 | 62.5466 | 25-50 | 11.67 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3087.4881 | 6055.5851 | -85.2 | 63.6416 | 32-100 | 12.3 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3087.4500 | 6051.1100 | -35.3 | 62.4762 | 32-50R | 12.24 | 2012 |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 2947.1125 | 6116.5477 | -11.7 | 62.7090 | 34-25 | 11.8 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2947.4705 | 6110.0792 | -35.7 | 62.5151 | 34-50 | 11.8 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2952.0100 | 6110.2700 | -59.5 | 63.1758 | 34-75 | 11.87 | 2012 |
| 2947.6470 | 6103.9499 | -85.5 | 62.9800 | 34-100 | 12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2953.5200 | 6099.6200 | -9.5 | 62.5319 | 34-25R | 11.82 | 2012 |
| 2948.6300 | 6104.0100 | -34.5 | 62.4868 | 34-50R | 11.83 | 2012 |
| 2778.1800 | 5945.6600 | -10.6 | 62.5845 | 35-25 | 11.89 | 2012 |
| 2788.5373 | 5938.8415 | -30.4 | 62.4112 | 35-50 | 11.84 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2788.5210 | 5942.8754 | -83.5 | 64.0553 | 35-100 | 11.93 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2792.5400 | 5951.9500 | -84.15 | 63.7798 | 35-100R | 11.98 | 2012 |
| 2944.2100 | 5720.5300 | -12.4 | 62.4795 | 36-25 | 11.02 | 2012 |
| 2945.5300 | 5714.7500 | -36.8 | 62.4657 | 36-50 | 11.08 | 2012 |
| 2947.9300 | 5706.1100 | -86.8 | 63.8121 | 36-100R | 11.07 | 2013 |
| 3603.4500 | 6675.7000 | -8.6 | 62.4853 | 40-25 | 12.4 | 2012 |
| 3613.3900 | 6678.0700 | -34.1 | 63.6508 | 40-50 | 12.46 | 2012 |
| 3610.2700 | 6697.0800 | -61.21 | 63.5453 | 40-75 | 12.49 | 2012 |
| 3617.0300 | 6691.6400 | -82.68 | 63.7461 | 40-100R | 12.62 | 2013 |
| 3940.9717 | 6931.8983 | -35 | 63.4999 | 41-50 | 10.84 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3936.2830 | 6932.2871 | -85.8 | 62.5054 | 41-100 | 10.84 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3928.9791 | 6931.7685 | -123 | 63.2641 | 41-138 | 10.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2744.4900 | 6112.6000 | -9.1 | 62.5751 | 42-25 | 11.9 | 2012 |
| 2743.3400 | 6120.3600 | -34.1 | 62.6270 | 42-50 | 11.9 | 2012 |
| 2922.5670 | 6230.8745 | -8.8 | 62.5350 | 43-25 | 12.2 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2962.7800 | 6313.5200 | -33.8 | 62.8764 | 43-50 | 11.54 | 2012 |
| 2634.4800 | 5938.6900 | -9.2 | 62.5528 | 44-25 | 11.76 | 2012 |
| 2639.2400 | 5938.8800 | -34.2 | 62.8266 | 44-50 | 11.76 | 2012 |
| 3057.9400 | 5156.0900 | -35.2 | 62.6107 | 45-50 | 11.05 | 2012 |
| 3057.8900 | 5166.5400 | -85.9 | 63.8587 | 45-100 | 11.17 | 2012 |
| 3212.1561 | 5166.1896 | -34.2 | 62.8515 | 46-50 | 11.8 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3213.7501 | 5159.7991 | -84.2 | 63.9837 | 46-100 | 13.3 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3703.4200 | 4612.7900 | 0.6 | 62.6323 | 48-15 | 11.5 | 2012 |
| 3941.8000 | 4590.8800 | 2.6 | 62.6508 | 49-15 | 12.6 | 2012 |
| 3785.9400 | 4612.1000 | 0.4 | 62.5014 | 50-15 | 11.2 | 2012 |
| 3338.0700 | 4598.6800 | 1.8 | 62.3960 | 52-15 | 11.9 | 2012 |
| 3408.7573 | 6042.4230 | -10.1 | 63.2873 | 53-25 | 11.89 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3398.1412 | 6041.5270 | -35.1 | 62.7001 | 53-50 | 11.96 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3389.6637 | 6040.9104 | -88.04 | 62.5171 | 53-100 | 11.96 | 2013 |
| 3290.1300 | 5356.9300 | -8.74 | 62.5037 | 55-25 | 12.31 | 2012 |
| 3291.5600 | 5356.7500 | -35.1 | 62.8774 | 55-50 | 11.89 | 2012 |
| 3292.1346 | 5364.4567 | -84.2 | 63.7292 | 55-100 | 11.77 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2847.8795 | 5695.5953 | -36.2 | 62.6621 | 57-50 | 11.63 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3949.6255 | 5826.1266 | -9.64 | 63.6663 | 59-25 | 11.36 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3948.7380 | 5818.0321 | -34.77 | 64.2476 | 59-50 | 11.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3963.0966 | 5672.1936 | -10.05 | 62.5553 | 60-25 | 10.95 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3963.4400 | 5677.7900 | -34.87 | 63.8432 | 60-50 | 11.13 | 2012 |
| 3879.2212 | 6652.7685 | -11.34 | 62.5899 | 64-25 | 10.91 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3881.4233 | 6653.3694 | -34.6 | 63.5624 | 64-50 | 11.1 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3877.9400 | 6643.3100 | -85.23 | 63.6659 | 64-100 | 10.77 | 2012 |
| 3871.3800 | 6653.1100 | -161.47 | 63.0252 | 64-170 | 11.03 | 2012 |
| 3987.2700 | 5106.2400 | -11.05 | 62.8937 | 65-25 | 11.45 | 2012 |
| 3988.2500 | 5102.7200 | -36.04 | 64.0761 | 65-50 | 11.46 | 2012 |
| 3983.5700 | 5118.3000 | -85.94 | 68.2495 | 65-100 | 11.56 | 2012 |
| 3984.2600 | 5125.9300 | -115.73 | 62.6561 | 65-130 | 11.77 | 2013 |
| 3979.5700 | 5363.9500 | -10.99 | 62.5881 | 67-25 | 11.34 | 2012 |
| 3974.4700 | 5363.9100 | -36.56 | 63.4464 | 67-50 | 11.44 | 2012 |
| 3975.2599 | 5446.6093 | -11.15 | 62.9743 | 68-25 | 11.35 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3975.3718 | 5449.9901 | -36.17 | 64.1556 | 68-50 | 11.33 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3951.7800 | 5603.1700 | -12.41 | 62.9413 | 69-25 | 10.39 | 2012 |
| 3957.2960 | 5602.8944 | -37.6 | 63.9730 | 69-50 | 10.4 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3976.1600 | 6723.8900 | -11.99 | 63.2507 | 70-25 | 10.51 | 2012 |
| 3975.7022 | 6719.1488 | -38 | 63.7546 | 70-50 | 10.5 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3939.8700 | 6513.2600 | -11.68 | 63.2310 | 71-25 | 10.82 | 2012 |
| 3944.1000 | 6513.1500 | -37.3 | 63.7154 | 71-50 | 10.7 | 2012 |
| 3941.7620 | 6321.8374 | -12.72 | 63.2632 | 72-25 | 10.28 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3946.8446 | 6321.5778 | -37.33 | 63.4893 | 72-50 | 10.17 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3965.4323 | 6089.8298 | -12.5 | 63.1647 | 73-25 | 10.5 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3969.7462 | 6090.0451 | -37.61 | 63.8511 | 73-50 | 10.39 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3716.5200 | 6505.2600 | -35.76 | 63.5044 | 74-50 | 11.74 | 2012 |
| 3716.2700 | 6511.8400 | -60.76 | 63.8123 | 74-75 | 11.74 | 2012 |
| 3716.0200 | 6518.0000 | -85.76 | 63.9077 | 74-100 | 11.74 | 2012 |
| 3714.9265 | 6525.0145 | -115.72 | 67.9368 | 74-130 | 11.78 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 3743.6300 | 5109.9400 | -35.36 | 63.6727 | 75-50 | 12.14 | 2012 |
| 3742.8400 | 5104.8600 | -60.27 | 67.4218 | 75-75 | 12.23 | 2012 |
| 3742.7200 | 5097.7900 | -85.29 | 62.7866 | 75-100 | 12.21 | 2012 |
| 3742.2900 | 5092.6400 | -115.2 | 62.4224 | 75-130 | 12.3 | 2013 |
| 3038.5155 | 6649.1615 | -86.31 | 62.6627 | 76-100 | 11.19 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3389.2413 | 7005.4415 | -88.99 | 63.4435 | 77-100 | 8.51 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3388.5707 | 6998.9461 | -128.72 | 66.4439 | 77-140 | 8.78 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3305.7157 | 6378.9392 | -12.21 | 62.8744 | 78-25 | 10.29 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3305.6337 | 6382.6180 | -37.21 | 62.6624 | 78-50 | 10.29 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3871.9700 | 5026.9500 | -10.15 | 62.9140 | 80-25 | 11.26 | 2012 |
| 3765.3100 | 5442.5000 | -35.9 | 65.8933 | 81-50 | 11.66 | 2012 |
| 3934.8200 | 5514.6700 | -82.4 | 68.2588 | 82-100 | 10.18 | 2012 |
| 4030.8200 | 4229.8200 | 1.5 | 62.3967 | 95-15 | 10.9 | 2012 |
| 3299.1400 | 4413.6200 | 1.1 | 62.4778 | 709-MW11-15 | 11.6 | 2012 |
| 3300.5700 | 4424.3400 | -11.28 | 62.5249 | 709-MW11-25 | 10.52 | 2012 |
| 3601.6700 | 4578.1200 | 1.53 | 62.4631 | 709-MW15-15 | 11.53 | 2012 |
| 3611.9300 | 4573.1100 | -37.06 | 62.9421 | 709-MW15A-50 | 11.44 | 2012 |
| 3456.5200 | 4576.1500 | 0.6 | 62.4812 | 709-MW16-15 | 11.6 | 2012 |
| 3452.2700 | 4569.7800 | -10.29 | 62.4772 | 709-MW16-25 | 11.21 | 2012 |
| 3457.5400 | 4568.8000 | -35.42 | 62.5862 | 709-MW16-50 | 11.08 | 2012 |
| 3463.4300 | 4568.2500 | -60.44 | 62.4932 | 709-MW16-75 | 11.06 | 2012 |
| 3316.0900 | 4576.7600 | 2.1 | 62.4357 | 709-MW17-15 | 11.6 | 2012 |
| 3185.4100 | 4547.6100 | 1.6 | 62.5338 | 709-MW18-15 | 11.6 | 2012 |
| 3196.3100 | 4547.2600 | -10.3 | 62.5330 | 709-MW18-25 | 11.4 | 2012 |
| 3192.0600 | 4547.4900 | -35.15 | 62.5224 | 709-MW18-50 | 11.55 | 2012 |
| 3734.1500 | 4482.6600 | 1.39 | 62.3780 | 709-MW19-15 | 11.39 | 2012 |
| 3848.6100 | 4502.0200 | 3.44 | 62.4716 | 709-MW2-15 | 12.44 | 2012 |
| 3952.2700 | 4490.6300 | 0.86 | 62.5632 | 709-MW20-15 | 13.36 | 2012 |
| 3947.5800 | 4495.4200 | -8.97 | 62.4641 | 709-MW20-25 | 13.53 | 2012 |
| 3946.0200 | 4491.9300 | -34.29 | 62.5089 | 709-MW20-50 | 13.21 | 2012 |
| 3955.3400 | 4497.1100 | -61.56 | 63.3929 | 709-MW20-75 | 13.32 | 2012 |
| 3181.4400 | 4394.5300 | 1.55 | 62.4701 | 709-MW21-15 | 11.75 | 2012 |
| 3176.3400 | 4394.1600 | -10.02 | 62.5072 | 709-MW21-25 | 11.68 | 2012 |
| 3171.5700 | 4394.1000 | -35.04 | 62.5369 | 709-MW21-50 | 11.66 | 2012 |
| 3946.9200 | 4534.3800 | 1.6 | 62.5141 | 709-MW4-15 | 11.6 | 2012 |
| 3957.3400 | 4444.5300 | 1.6 | 63.3829 | 709-MW5-15 | 11.6 | 2012 |
| 3823.2600 | 4572.1300 | 2.55 | 62.4657 | 709-MW6-15 | 11.6 | 2012 |
| 3814.2100 | 4571.1000 | -10.94 | 63.9424 | 709-MW6-25 | 11.86 | 2012 |
| 3832.2800 | 4573.5800 | -35.01 | 62.5729 | 709-MW6-50 | 11.79 | 2012 |
| 3921.8900 | 4407.0500 | 1.46 | 62.4108 | 709-MW7-15 | 11.55 | 2012 |
| 3802.8700 | 4410.3400 | 1.74 | 62.3686 | 709-MW8-15 | 11.6 | 2012 |
| 3578.2000 | 4413.8300 | 0.1 | 62.5141 | 709-MW9-15 | 11.6 | 2012 |
| 3574.4400 | 4409.1000 | -10.14 | 62.5411 | 709-MW9-25 | 11.76 | 2012 |
| 4059.3200 | 4198.6800 | -1.87 | 62.7706 | 721-MW10-15 | 10.63 | 2012 |
| 4057.1700 | 4194.3400 | -11.8 | 62.4887 | 721-MW10-25 | 10.7 | 2012 |
| 4061.8500 | 4194.6700 | -36.84 | 63.0619 | 721-MW10-50 | 10.66 | 2012 |
| 4053.8100 | 4199.3300 | -60.02 | 63.5131 | 721-MW10-75 | 10.78 | 2012 |
| 3832.6300 | 4203.3500 | 1.48 | 62.4605 | 721-MW11-15 | 11.38 | 2012 |
| 3837.7900 | 4203.2900 | -10.03 | 62.5289 | 721-MW11-25 | 11.37 | 2012 |
| 3844.2900 | 4203.7300 | -35.04 | 62.6282 | 721-MW11-50 | 11.36 | 2012 |
| 3848.9000 | 4204.1800 | -60.04 | 63.5337 | 721-MW11-75 | 11.36 | 2012 |
| 3404.2400 | 4324.3100 | 1.47 | 62.4417 | 721-MW12-15 | 11.07 | 2012 |
| 3404.1600 | 4318.3000 | -10.08 | 62.5099 | 721-MW12-25 | 11.02 | 2012 |
| 3403.7400 | 4312.6000 | -46 | 62.5504 | 721-MW12-50 | 11.02 | 2012 |
| 3410.4900 | 4175.1300 | 1.46 | 62.3916 | 721-MW13-15 | 11.06 | 2012 |
| 3410.4400 | 4168.7600 | -10.11 | 62.4831 | 721-MW13-25 | 10.99 | 2012 |
| 3410.3200 | 4163.4600 | -35.16 | 62.5687 | 721-MW13-50 | 10.94 | 2012 |
| 3208.1500 | 4356.1600 | 1.64 | 62.3984 | 721-MW14-15 | 11.34 | 2012 |
| 3208.1500 | 4351.6300 | -9.87 | 62.4474 | 721-MW14-25 | 11.33 | 2012 |
| 3208.3100 | 4346.4000 | -34.9 | 62.4787 | 721-MW14-50 | 11.3 | 2012 |
| 3215.0300 | 4231.9300 | 1.3 | 62.4735 | 721-MW15-15 | 11.2 | 2012 |
| 3214.9400 | 4225.7000 | -10.17 | 62.4689 | 721-MW15-25 | 11.23 | 2012 |
| 3214.8600 | 4219.4500 | -35.1 | 62.5382 | 721-MW15-50 | 11.3 | 2012 |
| 3720.2300 | 4367.1800 | -1.02 | 62.4300 | 721-MW5-15 | 11.48 | 2012 |
| 3725.5500 | 4366.5400 | -11.03 | 62.6649 | 721-MW5-25 | 11.47 | 2012 |
| 3723.0300 | 4362.2500 | -35.11 | 62.7975 | 721-MW5-50 | 11.39 | 2012 |
| 3728.0700 | 4360.6000 | -60.19 | 63.5259 | 721-MW5-75 | 11.41 | 2012 |
| 3704.5400 | 4195.4100 | -1.2 | 62.5048 | 721-MW6-15 | 11.3 | 2012 |
| 3709.8600 | 4193.8300 | -11.23 | 62.5670 | 721-MW6-25 | 11.27 | 2012 |
| 3705.8700 | 4190.4800 | -36.32 | 62.8494 | 721-MW6-50 | 11.18 | 2012 |
| 3875.1900 | 4329.4800 | -1.31 | 62.3600 | 721-MW7-15 | 11.19 | 2012 |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 3982.9500 | 4351.4100 | -1.13 | 62.5605 | 721-MW9-15 | 11.37 | 2012 |
| 3987.3600 | 4352.7100 | -11.1 | 62.6589 | 721-MW9-25 | 11.4 | 2012 |
| 3982.7100 | 4355.3600 | -36.4 | 62.9718 | 721-MW9-50 | 11.4 | 2012 |
| 3138.3300 | 6302.4500 | -8.3 | 62.5194 | 12A-25 | 12.58 | 2012 |
| 3139.5000 | 6289.8800 | -33.2 | 62.5793 | 12A-50 | 12.8 | 2012 |
| 3974.5500 | 4822.5500 | -13.5 | 63.3856 | 17C-25 | 11 | 2012 |
| 3974.5500 | 4822.5500 | -38.5 | 63.3456 | 17C-50 | 11 | 2012 |
| 3974.5500 | 4822.5500 | -63.5 | 63.8763 | 17C-75 | 11 | 2012 |
| 3974.5500 | 4822.5500 | -88.5 | 62.5320 | 17C-100 | 11 | 2012 |
| 3974.5500 | 4822.5500 | -108.5 | 62.5682 | 17C-130 | 11 | 2012 |
| 3974.5500 | 4822.5500 | -158.5 | 62.5460 | 17C-160 | 11 | 2012 |
| 3490.4000 | 5797.7800 | -7.71 | 62.5145 | 21C-25 | 12.93 | 2012 |
| 3490.4000 | 5797.7800 | -32.75 | 62.9995 | 21C-50 | 12.93 | 2012 |
| 3490.4000 | 5797.7800 | -57.73 | 63.9021 | 21C-75 | 12.93 | 2012 |
| 3490.4000 | 5797.7800 | -78.66 | 64.8114 | 21C-100 | 12.93 | 2012 |
| 3490.4000 | 5797.7800 | -104.71 | 62.5434 | 21C-130 | 12.93 | 2013 |
| 3490.4000 | 5797.7800 | -151.34 | 62.8506 | 21C-160 | 12.93 | 2012 |
| 3172.9077 | 5672.4688 | -8.1 | 62.3716 | 25A-25 | 12.9 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3172.6173 | 5666.0805 | -33.2 | 62.5123 | 25A-50 | 12.8 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2958.0500 | 6104.7400 | -82.3 | 63.2425 | 34C-100 | 11.8 | 2012 |
| 2958.0500 | 6104.7400 | -112.09 | 63.6792 | 34C-130 | 11.8 | 2013 |
| 2958.0500 | 6104.7400 | -151.52 | 62.6831 | 34C-160 | 11.8 | 2013 |
| 3617.6381 | 6762.0348 | -7.9 | 62.5471 | 40A-25 | 13.1 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3620.0641 | 6756.4853 | -32.8 | 62.7821 | 40A-50 | 13.2 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3629.5118 | 6766.5974 | -86.4 | 63.8907 | 40A-100 | 13.13 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3929.7400 | 7021.2900 | -10.15 | 62.9050 | 41C-25 | 10.29 | 2012 |
| 3929.7400 | 7021.2900 | -35.13 | 63.3396 | 41C-50 | 10.29 | 2012 |
| 3929.7400 | 7021.2900 | -60.07 | 63.1977 | 41C-75 | 10.29 | 2012 |
| 3929.7400 | 7021.2900 | -85 | 63.5537 | 41C-100 | 10.29 | 2012 |
| 3929.7400 | 7021.2900 | -96.71 | 63.6452 | 41C-130 | 10.29 | 2012 |
| 3929.7400 | 7021.2900 | -154.85 | 62.9322 | 41C-160 | 10.29 | 2012 |
| 3244.5100 | 5159.6600 | -13.5 | 62.4762 | 46C-25 | 12 | 2012 |
| 3244.5100 | 5159.6600 | -38.5 | 62.9306 | 46C-50 | 12 | 2012 |
| 3244.5100 | 5159.6600 | -63.5 | 63.1959 | 46C-75 | 12 | 2012 |
| 3244.5100 | 5159.6600 | -88.5 | 63.7340 | 46C-100 | 12 | 2012 |
| 3244.5100 | 5159.6600 | -117.5 | 63.3799 | 46C-130 | 12 | 2012 |
| 3244.5100 | 5159.6600 | -156.5 | 63.0829 | 46C-160 | 12 | 2012 |
| 3499.9100 | 6054.5400 | -9.76 | 62.4555 | 53C-25 | 12.16 | 2012 |
| 3499.9100 | 6054.5400 | -34.74 | 62.7961 | 53C-50 | 12.16 | 2012 |
| 3499.9100 | 6054.5400 | -59.57 | 63.4780 | 53C-75 | 12.16 | 2012 |
| 3499.9100 | 6054.5400 | -84.2 | 63.8637 | 53C-100 | 12.16 | 2012 |
| 3499.9100 | 6054.5400 | -116.65 | 69.3753 | 53C-130 | 12.16 | 2013 |
| 3499.9100 | 6054.5400 | -162.27 | 62.6237 | 53C-160 | 12.16 | 2012 |
| 3362.5300 | 6743.7300 | -9.61 | 62.5919 | 61C-25 | 10.87 | 2012 |
| 3362.5300 | 6743.7300 | -34.6 | 62.7258 | 61C-50 | 10.87 | 2012 |
| 3362.5300 | 6743.7300 | -59.6 | 62.5603 | 61C-75 | 10.87 | 2012 |
| 3362.5300 | 6743.7300 | -84.71 | 64.0379 | 61C-100 | 10.87 | 2012 |
| 3362.5300 | 6743.7300 | -114.56 | 66.7139 | 61C-130 | 10.87 | 2013 |
| 3362.5300 | 6743.7300 | -157.46 | 62.8423 | 61C-160 | 10.87 | 2013 |
| 3614.2266 | 4598.6750 | -10.4 | 62.5466 | 6A-24.5 | 11.99 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3620.6800 | 4599.6300 | -35.6 | 62.9194 | 6A-50 | 12.22 | 2012 |
| 3629.0700 | 4598.2900 | -85.3 | 63.5700 | 6A-100 | 12.11 | 2012 |
| 3377.6000 | 6957.6200 | -6.12 | 63.1862 | 77C-25 | 9.78 | 2012 |
| 3377.6000 | 6957.6200 | -41.72 | 62.6592 | 77C-50 | 9.78 | 2012 |
| 3377.6000 | 6957.6200 | -59.12 | 63.2901 | 77C-75 | 9.78 | 2012 |
| 3377.6000 | 6957.6200 | -84.25 | 63.0483 | 77C-100 | 9.78 | 2012 |
| 3377.6000 | 6957.6200 | -114.27 | 65.5427 | 77C-130 | 9.78 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3377.6000 | 6957.6200 | -154.02 | 64.6096 | 77C-160 | 9.78 | 2013 |
| 3278.1200 | 6377.0400 | -10.07 | 62.5308 | 78C-25 | 11.48 | 2012 |
| 3278.1200 | 6377.0400 | -35.04 | 62.5630 | 78C-50 | 11.48 | 2012 |
| 3278.1200 | 6377.0400 | -60.03 | 63.1001 | 78C-75 | 11.48 | 2012 |
| 3278.1200 | 6377.0400 | -85.93 | 65.2053 | 78C-100 | 11.48 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3278.1200 | 6377.0400 | -131.86 | 62.6803 | 78C-130 | 11.48 | 2013 |
| 3278.1200 | 6377.0400 | -154.3 | 62.7999 | 78C-160 | 11.48 | 2012 |
| 3944.7800 | 6070.0700 | -10.46 | 63.6014 | 83C-25 | 11.46 | 2012 |
| 3944.7800 | 6070.0700 | -35.47 | 63.4285 | 83C-50 | 11.46 | 2012 |
| 3944.7800 | 6070.0700 | -60.38 | 64.0848 | 83C-75 | 11.46 | 2012 |
| 3944.7800 | 6070.0700 | -85.34 | 65.9698 | 83C-100 | 11.46 | 2012 |
| 3944.7800 | 6070.0700 | -115.34 | 72.3808 | 83C-130 | 11.46 | 2012 |
| 3944.7800 | 6070.0700 | -154.98 | 62.9681 | 83C-160 | 11.46 | 2012 |
| 2814.1000 | 7027.8800 | -10.88 | 62.5794 | 84C-25 | 11.12 | 2012 |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 2814.1000 | 7027.8800 | -35.91 | 62.9896 | 84C-50 | 11.12 | 2012 |
| 2814.1000 | 7027.8800 | -60.8 | 62.8827 | 84C-75 | 11.12 | 2012 |
| 2814.1000 | 7027.8800 | -85.78 | 63.0143 | 84C-100 | 11.12 | 2012 |
| 2814.1000 | 7027.8800 | -115.66 | 62.9958 | 84C-130 | 11.12 | 2012 |
| 2814.1000 | 7027.8800 | -150.8 | 62.7151 | 84C-160 | 11.12 | 2013 |
| 2650.8700 | 6134.1700 | -9.63 | 62.5530 | 85C-25 | 12.01 | 2012 |
| 2650.8700 | 6134.1700 | -34.8 | 62.7852 | 85C-50 | 12.01 | 2012 |
| 2650.8700 | 6134.1700 | -59.82 | 63.6417 | 85C-75 | 12.01 | 2012 |
| 2650.8700 | 6134.1700 | -84.9 | 63.5204 | 85C-100 | 12.01 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 2650.8700 | 6134.1700 | -114.49 | 63.7772 | 85C-130 | 12.01 | 2012 |
| 2650.8700 | 6134.1700 | -145.19 | 63.7758 | 85C-160 | 12.01 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 2700.8200 | 5315.2200 | -8.65 | 62.5146 | 86C-25 | 10.8 | 2012 |
| 2700.8200 | 5315.2200 | -33.7 | 62.5261 | 86C-50 | 10.8 | 2012 |
| 2700.8200 | 5315.2200 | -58.71 | 63.5484 | 86C-75 | 10.8 | 2012 |
| 2700.8200 | 5315.2200 | -83.71 | 63.7142 | 86C-100 | 10.8 | 2012 |
| 2700.8200 | 5315.2200 | -113.76 | 63.7853 | 86C-130 | 10.8 | 2012 |
| 2700.8200 | 5315.2200 | -153.35 | 63.8188 | 86C-160 | 10.8 | 2012 |
| 2852.1800 | 5320.9000 | -9.38 | 62.4657 | 87C-25 | 12.31 | 2012 |
| 2852.1800 | 5320.9000 | -34.38 | 62.5166 | 87C-50 | 12.31 | 2012 |
| 2852.1800 | 5320.9000 | -59.36 | 63.5057 | 87C-75 | 12.31 | 2012 |
| 2852.1800 | 5320.9000 | -84.35 | 63.6231 | 87C-100 | 12.31 | 2012 |
| 2852.1800 | 5320.9000 | -114.41 | 63.7186 | 87C-130 | 12.31 | 2012 |
| 2852.1800 | 5320.9000 | -154.41 | 63.7772 | 87C-160 | 12.31 | 2012 |
| 2851.7600 | 4825.9800 | -10 | 62.4926 | 88C-25 | 10.81 | 2012 |
| 2851.7600 | 4825.9800 | -35 | 62.6765 | 88C-50 | 10.81 | 2012 |
| 2851.7600 | 4825.9800 | -60 | 63.5297 | 88C-75 | 10.81 | 2012 |
| 2851.7600 | 4825.9800 | -84.99 | 63.4354 | 88C-100 | 10.81 | 2012 |
| 2851.7600 | 4825.9800 | -114.98 | 63.5324 | 88C-130 | 10.81 | 2013 |
| 2851.7600 | 4825.9800 | -155.02 | 63.7639 | 88C-160 | 10.81 | 2013 |
| 3205.1700 | 5803.7000 | -10.43 | 62.4334 | 89C-25 | 12.81 | 2012 |
| 3205.7600 | 5808.8000 | -34.77 | 62.8138 | 89C-50 | 12.73 | 2012 |
| 3206.5100 | 5820.8100 | -60.02 | 63.3314 | 89C-75 | 12.6 | 2012 |
| 3212.1600 | 5809.4400 | -84.88 | 63.4264 | 89C-100 | 12.67 | 2012 |
| 3212.1600 | 5809.4400 | -114.86 | 63.6533 | 89C-130 | 12.67 | 2012 |
| 3799.7400 | 5967.8600 | -9.22 | 62.5927 | 90C-25 | 11.65 | 2012 |
| 3799.7400 | 5967.8600 | -34.26 | 63.5300 | 90C-50 | 11.65 | 2012 |
| 3799.7400 | 5967.8600 | -52.25 | 64.7318 | 90C-75 | 11.65 | 2013 |
| 3799.7400 | 5967.8600 | -84.25 | 65.3009 | 90C-100 | 11.65 | 2012 |
| 3799.7400 | 5967.8600 | -114.25 | 71.8534 | 90C-130 | 11.65 | 2012 |
| 3799.7400 | 5967.8600 | -154.22 | 62.7881 | 90C-160 | 11.65 | 2013 |
| 2884.7100 | 6618.2100 | -11.15 | 62.5497 | 91C-25 | 11.15 | 2012 |
| 2884.7100 | 6618.2100 | -36.16 | 62.8149 | 91C-50 | 11.15 | 2012 |
| 2884.7100 | 6618.2100 | -59.45 | 62.8172 | 91C-75 | 11.15 | 2012 |
| 2884.7100 | 6618.2100 | -86.66 | 62.6034 | 91C-100 | 11.15 | 2012 |
| 2884.7100 | 6618.2100 | -114.18 | 62.9200 | 91C-130 | 11.15 | 2012 |
| 2884.7100 | 6618.2100 | -155.59 | 62.8280 | 91C-160 | 11.15 | 2012 |
| 2699.5900 | 4831.3600 | -9.66 | 62.5379 | 92C-25 | 10.68 | 2012 |
| 2699.5900 | 4831.3600 | -34.5 | 62.8022 | 92C-50 | 10.68 | 2012 |
| 2699.5900 | 4831.3600 | -58.5 | 63.1198 | 92C-75 | 10.68 | 2012 |
| 2699.5900 | 4831.3600 | -84.73 | 62.9872 | 92C-100 | 10.68 | 2012 |
| 2699.5900 | 4831.3600 | -114.15 | 62.9018 | 92C-130 | 10.68 | 2012 |
| 2699.5900 | 4831.3600 | -154.29 | 63.1428 | 92C-160 | 10.68 | 2012 |
| 3414.2500 | 4036.2200 | -11.4 | 62.5529 | 93C-25 | 11.12 | 2012 |
| 3414.2500 | 4036.2200 | -36.45 | 63.3048 | 93C-50 | 11.12 | 2012 |
| 3414.2500 | 4036.2200 | -61.45 | 63.5099 | 93C-75 | 11.12 | 2012 |
| 3414.2500 | 4036.2200 | -85.62 | 63.4799 | 93C-100 | 11.12 | 2012 |
| 3414.2500 | 4036.2200 | -116.39 | 63.4961 | 93C-130 | 11.12 | 2013 |
| 3414.2500 | 4036.2200 | -156.45 | 63.6595 | 93C-160 | 11.12 | 2013 |
| 3909.7000 | 6402.7000 | -9.96 | 63.5211 | 94C-25 | 11.29 | 2012 |
| 3909.7000 | 6402.7000 | -34.94 | 63.7621 | 94C-50 | 11.29 | 2012 |
| 3909.7000 | 6402.7000 | -59.82 | 63.8374 | 94C-75 | 11.29 | 2013 |
| 3909.7000 | 6402.7000 | -84.87 | 64.1953 | 94C-100 | 11.29 | 2013 |
| 3909.7000 | 6402.7000 | -114.51 | 68.5013 | 94C-130 | 11.29 | 2013 |
| 3909.7000 | 6402.7000 | -154.83 | 62.9384 | 94C-160 | 11.29 | 2012 |
| 4029.0300 | 4235.8100 | -10.2 | 62.5107 | 95C-25 | 10.9 | 2012 |
| 4029.0300 | 4235.8100 | -35.22 | 62.5839 | 95C-50 | 10.9 | 2012 |
| 4029.0300 | 4235.8100 | -60.2 | 63.6381 | 95C-75 | 10.9 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 4029.0300 | 4235.8100 | -85.22 | 63.0396 | 95C-100 | 10.9 | 2012 |
| 4029.0300 | 4235.8100 | -115.21 | 63.1171 | 95C-130 | 10.9 | 2012 |
| 4029.0300 | 4235.8100 | -146.17 | 63.7100 | 95C-160 | 10.9 | 2012 |
| 3887.6672 | 5362.3787 | -112.9 | 62.5363 | CH1 (123' to 126') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 3887.6672 | 5362.3787 | -138.4 | 62.7410 | CH1 (148' to 152') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3887.6672 | 5362.3787 | -13.4 | 63.3210 | CH1 (23' to 27') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3887.6672 | 5362.3787 | -38.4 | 64.3746 | CH1 (48' to 52') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3887.6672 | 5362.3787 | 3.1 | 62.8125 | CH1 (7 'to 10') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3887.6672 | 5362.3787 | -63.4 | 66.0746 | CH1 (73' to 77') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3887.6672 | 5362.3787 | -88.4 | 67.7127 | CH1 (98' to 102') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3792.5350 | 5299.1640 | -113.4 | 62.6253 | CH2 (123' to 127') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3792.5350 | 5299.1640 | -13.4 | 62.4007 | CH2 (23' to 27') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3792.5350 | 5299.1640 | -38.4 | 66.9900 | CH2 (48' to 52') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3792.5350 | 5299.1640 | -63.4 | 65.1073 | CH2 (73' to 77') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3792.5350 | 5299.1640 | -88.4 | 62.5275 | CH2 (98' to 102') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3700.8493 | 5386.1154 | -0.4 | 62.5008 | CH3 (10' to 14') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3700.8493 | 5386.1154 | -113.4 | 62.4744 | CH3 (123' to 127') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3700.8493 | 5386.1154 | -10.9 | 62.5543 | CH3 (21' to 24') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3700.8493 | 5386.1154 | -38.4 | 63.2581 | CH3 (48' to 52') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3700.8493 | 5386.1154 | -63.4 | 64.7997 | CH3 (73' to 77') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3700.8493 | 5386.1154 | -88.4 | 62.6331 | CH3 (98' to 102') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | -113.4 | 62.3764 | CH4 (123' to 127') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | -138.4 | 62.6870 | CH4 (148' to 152') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | -13.4 | 63.4139 | CH4 (23' to 27') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | -38.4 | 64.0289 | CH4 (48' to 52') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | -63.4 | 65.9920 | CH4 (73' to 77') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | 0.6 | 62.5978 | CH4 (9' to 13') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3776.4261 | 5433.8316 | -88.4 | 66.7116 | CH4 (98' to 102') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3785.7906 | 5367.8754 | 1.1 | 65.6668 | CH5 (9' to 12') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 2944.4500 | 4349.0800 | 2.68 | 62.3429 | HC-N11-5 | 11.29 | 2012 |
| 3003.3600 | 4283.4800 | 1.18 | 62.3577 | HC-N11-6 | 11.07 | 2012 |
| 3006.6700 | 4420.9800 | 2.18 | 62.4013 | HC-N11-8 | 11.66 | 2012 |
| 3606.6500 | 6586.7600 | -186.92 | 62.9640 | MW-EXT-9-Deep | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -90.42 | 64.3931 | MW-EXT-9-Deep (102-104) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -100.42 | 66.2170 | MW-EXT-9-Deep (112-114) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -110.42 | 66.4592 | MW-EXT-9-Deep (122-124) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -120.42 | 67.2326 | MW-EXT-9-Deep (132-134) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -130.42 | 66.4304 | MW-EXT-9-Deep (142-144) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -140.42 | 68.1343 | MW-EXT-9-Deep (152-154) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -150.42 | 68.4835 | MW-EXT-9-Deep (162-164) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -160.42 | 62.8108 | MW-EXT-9-Deep (172-174) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -170.42 | 62.5706 | MW-EXT-9-Deep (182-184) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -180.42 | 62.5458 | MW-EXT-9-Deep (192-194) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -190.42 | 62.7217 | MW-EXT-9-Deep (202-204) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -60.42 | 63.6510 | MW-EXT-9-Deep (72-74) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -70.42 | 63.6467 | MW-EXT-9-Deep (82-84) | 12.58 | 2013 |
| 3606.6500 | 6586.7600 | -80.42 | 63.8354 | MW-EXT-9-Deep (92-94) | 12.58 | 2013 |
| 3603.0200 | 6586.6200 | -139.94 | 74.8846 | MW-EXT-9-Int | 12.56 | 2013 |
| 3606.8000 | 6581.0900 | -107.91 | 66.6387 | MW-EXT-9-Shallow | 12.59 | 2013 |
| 3764.6700 | 7098.9000 | -162.33 | 62.9811 | MW-F-DEEP | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -96.83 | 62.2390 | MW-F-DEEP (107-109) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -106.83 | 62.3187 | MW-F-DEEP (117-119) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -116.83 | 62.5173 | MW-F-DEEP (127-129) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -126.83 | 62.2836 | MW-F-DEEP (137-139) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -136.83 | 62.7307 | MW-F-DEEP (147-149) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -146.83 | 62.7187 | MW-F-DEEP (157-159) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -156.83 | 62.6175 | MW-F-DEEP (167-169) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -166.83 | 62.7443 | MW-F-DEEP (177-179) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -46.83 | 62.1523 | MW-F-DEEP (57-59) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -56.83 | 62.4451 | MW-F-DEEP (67-69) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -66.83 | 62.2409 | MW-F-DEEP (77-79) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -76.83 | 62.0927 | MW-F-DEEP (87-89) | 11.17 | 2013 |
| 3764.6700 | 7098.9000 | -86.83 | 62.3907 | MW-F-DEEP (97-99) | 11.17 | 2013 |
| 3764.6400 | 7104.3300 | -126.35 | 64.7088 | MW-F-Int | 11.15 | 2013 |
| 3769.2600 | 7104.0200 | -84.3 | 62.8564 | MW-F-Shallow-New | 11.2 | 2013 |
| 3146.8900 | 7018.3300 | -209.52 | 62.8575 | MW-G-DEEP | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -92.62 | 63.6171 | MW-G-DEEP (102-104) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -102.62 | 63.4204 | MW-G-DEEP (112-114) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -112.62 | 62.8923 | MW-G-DEEP (122-124) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -122.62 | 64.1439 | MW-G-DEEP (132-134) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -132.62 | 65.6436 | MW-G-DEEP (142-144) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -142.62 | 63.9029 | MW-G-DEEP (152-154) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -152.62 | 62.5846 | MW-G-DEEP (162-164) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -162.62 | 63.3376 | MW-G-DEEP (172-174) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -172.62 | 62.8841 | MW-G-DEEP (182-184) | 10.38 | 2013 |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft³* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 3146.8900 | 7018.3300 | -182.62 | 62.6794 | MW-G-DEEP (192-194) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -192.62 | 62.8398 | MW-G-DEEP (202-204) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -202.62 | 62.9849 | MW-G-DEEP (212-214) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -212.62 | 62.6742 | MW-G-DEEP (222-224) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -42.62 | 62.8044 | MW-G-DEEP (52-54) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -52.62 | 62.9785 | MW-G-DEEP (62-64) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -62.62 | 63.2952 | MW-G-DEEP (72-74) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -72.62 | 63.3055 | MW-G-DEEP (82-84) | 10.38 | 2013 |
| 3146.8900 | 7018.3300 | -82.62 | 63.3145 | MW-G-DEEP (92-94) | 10.38 | 2013 |
| 3153.4300 | 7018.6600 | -158.11 | 62.74836672 | MW-G-Int | 10.39 | 2013 |
| 3138.6000 | 7018.6200 | -132.13 | 65.9133 | MW-G-Shallow | 10.37 | 2013 |
| 3736.8200 | 6790.4800 | -153.34 | 62.4680 | MW-H-01 | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -91.59 | 63.7927 | MW-H-01 (102-104) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -101.59 | 64.5752 | MW-H-01 (112-114) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -111.59 | 66.8774 | MW-H-01 (122-124) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -121.59 | 67.2704 | MW-H-01 (132-134) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -131.59 | 65.1343 | MW-H-01 (142-144) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -141.59 | 68.5956 | MW-H-01 (152-154) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -151.59 | 63.0918 | MW-H-01 (162-164) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -161.59 | 62.8047 | MW-H-01 (172-174) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -171.59 | 62.3586 | MW-H-01 (182-184) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -61.59 | 63.5676 | MW-H-01 (72-74) | 11.41 | 2013 |
| 3736.8200 | 6790.4800 | -71.59 | 63.6867 | MW-H-01 (82-84) | 11.41 | 2013 - No Temperature value in dbase - Temperature is an average fror |
| 3736.8200 | 6790.4800 | -81.59 | 63.4969 | MW-H-01 (92-94) | 11.41 | 2013 |
| 4035.5409 | 6536.3141 | -20.89 | 63.7571 | PZ-SHI-001-033 | -18.14 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4037.3995 | 6528.7878 | -61.62 | 63.5904 | PZ-SHI-001-075 | -18.12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4036.9559 | 6531.9774 | -86.61 | 64.2171 | PZ-SHI-001-100 | -18.11 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4035.5899 | 6534.9697 | -114.64 | 66.8859 | PZ-SHI-001-126 | -16.14 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4023.8460 | 5820.9591 | -12.82 | 63.2107 | PZ-SHI-002-025 | -8.57 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4044.6672 | 5113.4238 | -28.78 | 63.6096 | PZ-SHI-003-042 | -13.78 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4044.5760 | 5116.5369 | -85.82 | 64.7803 | PZ-SHI-003-100 | -13.28 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4020.8300 | 5822.6300 | -86.14 | 67.0582 | PZ-SHI-2-100 | -5.94 | 2012 |
| 4017.1000 | 5823.6100 | -61.18 | 64.7069 | PZ-SHI-2-75 | -4.18 | 2012 |
| 4045.2100 | 5120.7700 | -60.28 | 64.6179 | PZ-SHI-3-75 | -13.28 | 2012 |
| 3799.9300 | 6470.1800 | -92.45 | 64.5047 | SB-B-DEEP (102-104) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -102.45 | 65.8248 | SB-B-DEEP (112-114) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -112.45 | 66.7624 | SB-B-DEEP (122-124) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -122.45 | 66.9622 | SB-B-DEEP (132-134) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -132.45 | 66.7052 | SB-B-DEEP (142-144) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -142.45 | 69.8098 | SB-B-DEEP (152-154) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -152.45 | 63.2482 | SB-B-DEEP (162-164) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -162.45 | 63.9550 | SB-B-DEEP (172-174) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -172.45 | 64.0548 | SB-B-DEEP (182-184) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -182.45 | 62.7598 | SB-B-DEEP (192-194) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -62.45 | 63.6012 | SB-B-DEEP (72-74) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -72.45 | 63.4984 | SB-B-DEEP (82-84) | 10.55 | 2013 |
| 3799.9300 | 6470.1800 | -82.45 | 63.8673 | SB-B-DEEP (92-94) | 10.55 | 2013 |
| 3846.6479 | 5845.2462 | -118.4 | 70.8259 | SP1 (128' to 132') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3851.7825 | 5669.0205 | -128.4 | 63.0651 | SP2 (138' to 142') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3851.7825 | 5669.0205 | -7.9 | 64.3073 | SP2 (18' to 21') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3851.7825 | 5669.0205 | -37.9 | 63.9434 | SP2 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3851.7825 | 5669.0205 | 2.1 | 62.7850 | SP2 (8' to 11') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3851.7825 | 5669.0205 | -87.9 | 73.4738 | SP2 (98' to 101') | 11.6 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3766.3167 | 5794.4704 | -118.4 | 66.1442 | SP3 (128' to 132') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3766.3167 | 5794.4704 | -7.9 | 65.0096 | SP3 (18' to 21') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3766.3167 | 5794.4704 | -37.9 | 64.0337 | SP3 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3766.3167 | 5794.4704 | 3.1 | 62.9721 | SP3 (7' to 10') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3766.3167 | 5794.4704 | -88.4 | 70.4096 | SP3 (99' to 101') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3623.1484 | 5675.7088 | -7.9 | 62.9064 | SP4 (18' to 21') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3623.1484 | 5675.7088 | -37.9 | 63.1429 | SP4 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3623.1484 | 5675.7088 | 1.1 | 62.6222 | SP4 (9' to 12') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3620.8054 | 5840.6152 | -118.4 | 62.6397 | SP5 (128' to 132') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3620.8054 | 5840.6152 | -7.9 | 64.0968 | SP5 (18' to 21') | 11.6 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3620.8054 | 5840.6152 | -37.9 | 63.9697 | SP5 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3620.8054 | 5840.6152 | -77.9 | 65.9840 | SP5 (88' to 91') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3620.8054 | 5840.6152 | 1.1 | 63.3145 | SP5 (9' to 12') | 11.6 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3620.8054 | 5840.6152 | -87.9 | 66.8082 | SP5 (98' to 101') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3737.4861 | 5840.3877 | -127.4 | 62.7145 | SP6 (137' to 141') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3737.4861 | 5840.3877 | -7.9 | 65.5944 | SP6 (18' to 21') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3737.4861 | 5840.3877 | -37.9 | 64.7048 | SP6 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3737.4861 | 5840.3877 | 3.1 | 63.7404 | SP6 (7' to 10') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 3737.4861 | 5840.3877 | -87.9 | 67.3541 | SP6 (98' to 101') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3879.4443 | 5800.0604 | -117.4 | 64.3212 | SP7 (127' to 131') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3879.4443 | 5800.0604 | -7.9 | 66.2817 | SP7 (18' to 21') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3879.4443 | 5800.0604 | -37.9 | 65.0803 | SP7 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3879.4443 | 5800.0604 | 2.1 | 62.5418 | SP7 (8' to 11') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3891.3054 | 5942.8956 | 0.1 | 62.9505 | SP8 (10' to 13') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3891.3054 | 5942.8956 | -114.4 | 66.5434 | SP8 (124' to 128') | 11.6 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3891.3054 | 5942.8956 | -7.9 | 63.9309 | SP8 (18' to 21') | 11.6 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 3891.3054 | 5942.8956 | -37.9 | 65.0148 | SP8 (48' to 51') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3891.3054 | 5942.8956 | -87.9 | 68.0567 | SP8 (98' to 101') | 11.6 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3844.5787 | 5985.9317 | -10.28 | 62.9320 | T1-25 | 10.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3844.0315 | 5979.7143 | -35.35 | 64.9651 | T1-50 | 10.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3844.2084 | 5973.7140 | -85.43 | 66.6505 | T1-100 | 10.57 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3835.2000 | 5981.3500 | -35.33 | 63.7232 | T3-50 | 10.67 | 2012 |
| 3956.7488 | 5699.1683 | -9.6 | 63.5085 | T5-25 | 11.7 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3957.4500 | 5688.3100 | -104.3 | 69.4569 | T5-120 | 11.59 | 2013 |
| 3922.7720 | 5696.5347 | -10 | 62.9184 | T6-25 | 10.85 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 3923.8400 | 5689.6600 | -44.9 | 63.9726 | T6-60 | 10.77 | 2012 |
| 3926.4953 | 5684.1161 | -105 | 62.4791 | T6-120 | 10.75 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4154.6279 | 6514.0942 | -88.82 | 65.3040 | WW-A1-100 | -42.12 | **revised 2012 - transcription error per IKR** |
| 4154.6279 | 6514.0942 | -118.32 | 63.6963 | WW-A1-130 | -42.12 | **revised 2012 - transcription error per IKR** |
| 4154.6279 | 6514.0942 | -148.82 | 62.8145 | WW-A1-160 | -42.12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4154.6279 | 6514.0942 | -45.62 | 63.6840 | WW-A1-2 | -42.12 | **revised 2012 - transcription error per IKR** |
| 4154.6279 | 6514.0942 | -49.12 | 63.7975 | WW-A1-7 | -42.12 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 4380.7400 | 6858.8300 | -109.4 | 62.5575 | WW-A1D (-109.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -119.4 | 62.7175 | WW-A1D (-119.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -129.4 | 62.5966 | WW-A1D (-129.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -139.4 | 63.4893 | WW-A1D (-139.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -152.4 | 63.6667 | WW-A1D (-152.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -44.4 | 63.7892 | WW-A1D (-44.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -48.4 | 63.7294 | WW-A1D (-48.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -53.4 | 63.4881 | WW-A1D (-53.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -64.4 | 62.4116 | WW-A1D (-64.4) | -42.4 | 2012 |
| 4380.7400 | 6858.8300 | -89.4 | 62.5143 | WW-A1D (-89.4) | -42.4 | 2012 |
| 4171.0300 | 6502.0100 | -105.5 | 66.1832 | WW-A1R (-105.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -115.5 | 66.4884 | WW-A1R (-115.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -125.5 | 64.2071 | WW-A1R (-125.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -135.5 | 63.3533 | WW-A1R (-135.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -146.5 | 63.2901 | WW-A1R (-146.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -42.5 | 63.7765 | WW-A1R (-42.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -46.5 | 63.7878 | WW-A1R (-46.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -51.5 | 63.7853 | WW-A1R (-51.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -60.5 | 63.8092 | WW-A1R (-60.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -70.5 | 63.8174 | WW-A1R (-70.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -85.5 | 65.0743 | WW-A1R (-85.5) | -40.5 | 2012 |
| 4171.0300 | 6502.0100 | -95.5 | 65.8477 | WW-A1R (-95.5) | -40.5 | 2012 |
| 4395.9473 | 6480.4944 | -88.32 | 64.1430 | WW-A2-100 | -42.92 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4395.9473 | 6480.4944 | -54.92 | 63.8049 | WW-A2-12 | -42.92 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4395.9473 | 6480.4944 | -118.32 | 62.5188 | WW-A2-130 | -42.92 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4395.9473 | 6480.4944 | -148.52 | 62.6248 | WW-A2-160 | -42.92 | **revised 2012 - transcription error per IKR** |
| 4395.9473 | 6480.4944 | -45.92 | 63.9510 | WW-A2-2 | -42.92 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4395.9473 | 6480.4944 | -49.92 | 64.0432 | WW-A2-7 | -42.92 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4395.9473 | 6480.4944 | -63.32 | 63.9571 | WW-A2-75 | -42.92 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4688.0366 | 6525.2809 | -91.82 | 62.6282 | WW-A3-100 | 8.68 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4688.0366 | 6525.2809 | -120.82 | 62.6687 | WW-A3-130 | 8.68 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4688.0366 | 6525.2809 | -16.82 | 62.5618 | WW-A3-25 | 8.68 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4688.0366 | 6525.2809 | -41.82 | 62.5666 | WW-A3-50 | 8.68 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 4688.0366 | 6525.2809 | -66.82 | 63.8839 | WW-A3-75 | 8.68 | **revised 2012 - transcription error per IKR** |
| 4823.3952 | 6499.0500 | -87.43 | 62.4568 | WW-A4-100 | 11.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4823.3952 | 6499.0500 | -117.43 | 62.4522 | WW-A4-130 | 11.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4823.3952 | 6499.0500 | -147.43 | 62.5757 | WW-A4-160 | 11.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4823.3952 | 6499.0500 | -13.43 | 62.8308 | WW-A4-25 | 11.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4823.3952 | 6499.0500 | -37.43 | 62.4370 | WW-A4-50 | 11.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4823.3952 | 6499.0500 | -62.43 | 62.6382 | WW-A4-75 | 11.07 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4147.2353 | 5837.4241 | -88.15 | 66.6019 | WW-B1-100 | -48.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4147.2353 | 5837.4241 | -60.65 | 65.0657 | WW-B1-12 | -48.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4147.2353 | 5837.4241 | -118.15 | 63.6536 | WW-B1-130 | -48.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4147.2353 | 5837.4241 | -148.15 | 63.6063 | WW-B1-160 | -48.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4147.2353 | 5837.4241 | -51.65 | 63.7598 | WW-B1-2 | -48.65 | **revised 2012 - transcription error per IKR** |
| 4147.2353 | 5837.4241 | -55.65 | 64.8026 | WW-B1-7 | -48.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4147.2353 | 5837.4241 | -63.15 | 65.1380 | WW-B1-75 | -48.65 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |

**ATTACHMENT K-1**

**GROUNDWATER DENSITY DATASET**
**OCCIDENTAL CHEMICAL CORPORATION**
**TACOMA, WASHINGTON**

| *E_Model* | *N_Model* | *Mid-Elevation* | *Density at Field Measured Temperature (Assume fresh = 62.4) lb/ft $^3$* | *LocName* | *Ground* | *Data source* |
|---|---|---|---|---|---|---|
| 4388.2930 | 5831.4093 | -88.82 | 63.8105 | WW-B2-100 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4388.2930 | 5831.4093 | -54.82 | 64.0605 | WW-B2-13 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4388.2930 | 5831.4093 | -118.82 | 62.5589 | WW-B2-130 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4388.2930 | 5831.4093 | -148.82 | 62.5078 | WW-B2-160 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4388.2930 | 5831.4093 | -44.82 | 63.8631 | WW-B2-2 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4388.2930 | 5831.4093 | -62.82 | 64.3428 | WW-B2-75 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4388.2930 | 5831.4093 | -49.82 | 64.4726 | WW-B2-8 | -41.82 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -88.42 | 63.2969 | WW-B3-100 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -118.42 | 62.5565 | WW-B3-130 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -148.42 | 62.6269 | WW-B3-160 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -7.42 | 62.7496 | WW-B3-2 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -16.42 | 62.5155 | WW-B3-25 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -39.42 | 63.7648 | WW-B3-50 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -11.42 | 62.6715 | WW-B3-7 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4679.8342 | 5842.2591 | -64.42 | 63.7709 | WW-B3-75 | -4.42 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4856.8181 | 5941.2374 | -88.12 | 62.9000 | WW-B4-100 | -2.12 | **revised 2012 - transcription error per IKR** |
| 4856.8181 | 5941.2374 | -118.12 | 63.4329 | WW-B4-130 | -2.12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4856.8181 | 5941.2374 | -148.12 | 62.8055 | WW-B4-160 | -2.12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4856.8181 | 5941.2374 | -14.12 | 62.8947 | WW-B4-25 | -2.12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4856.8181 | 5941.2374 | -39.12 | 63.3622 | WW-B4-50 | -2.12 | **Updated as per USEPA recommendation on Dec 31 2012** |
| 4856.8181 | 5941.2374 | -63.12 | 62.6869 | WW-B4-75 | -2.12 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4155.4303 | 5118.7776 | -86.89 | 64.9198 | WW-C1-100 | -46.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4155.4303 | 5118.7776 | -58.79 | 63.9268 | WW-C1-12 | -46.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4155.4303 | 5118.7776 | -49.29 | 63.8918 | WW-C1-2 | -46.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4155.4303 | 5118.7776 | -53.79 | 63.9892 | WW-C1-7 | -46.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4155.4303 | 5118.7776 | -61.89 | 63.6983 | WW-C1-75 | -46.79 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4407.9601 | 5122.4783 | -88.84 | 62.8157 | WW-C2-100 | -38.44 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4407.9601 | 5122.4783 | -51.94 | 63.8348 | WW-C2-13.5 | -38.44 | **Modified as per Agency request** |
| 4407.9601 | 5122.4783 | -118.84 | 62.8128 | WW-C2-130 | -38.44 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4407.9601 | 5122.4783 | -148.84 | 63.6217 | WW-C2-160 | -38.44 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4407.9601 | 5122.4783 | -41.94 | 63.7639 | WW-C2-2 | -38.44 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4407.9601 | 5122.4783 | -63.84 | 62.6299 | WW-C2-75 | -38.44 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4407.9601 | 5122.4783 | -46.94 | 64.2096 | WW-C2-8.5 | -38.44 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 5000.0168 | 5130.5962 | -89.27 | 62.5207 | WW-C3-100 | 10.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 5000.0168 | 5130.5962 | -119.27 | 62.5202 | WW-C3-130 | 10.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 5000.0168 | 5130.5962 | -147.27 | 62.5184 | WW-C3-160 | 10.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 5000.0168 | 5130.5962 | -14.27 | 62.5189 | WW-C3-25 | 10.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 5000.0168 | 5130.5962 | -39.27 | 62.5189 | WW-C3-50 | 10.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 5000.0168 | 5130.5962 | -64.27 | 62.5191 | WW-C3-75 | 10.23 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4698.9532 | 5099.3914 | -88.32 | 63.0359 | WW-C4-100 | -24.72 | **revised 2012 - transcription error per IKR** |
| 4698.9532 | 5099.3914 | -118.32 | 62.5652 | WW-C4-130 | -24.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4698.9532 | 5099.3914 | -149.32 | 62.6477 | WW-C4-160 | -24.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4698.9532 | 5099.3914 | -27.72 | 62.6367 | WW-C4-2 | -24.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4698.9532 | 5099.3914 | -36.72 | 62.6318 | WW-C4-50 | -24.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4698.9532 | 5099.3914 | -31.72 | 62.8704 | WW-C4-7 | -24.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4698.9532 | 5099.3914 | -63.32 | 62.3826 | WW-C4-75 | -24.72 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4262.9506 | 6039.9358 | -88.32 | 66.3161 | WW-D1-100 | -42.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4262.9506 | 6039.9358 | -54.32 | 64.2069 | WW-D1-12 | -42.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4262.9506 | 6039.9358 | -118.32 | 66.1243 | WW-D1-130 | -42.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4262.9506 | 6039.9358 | -45.32 | 63.8073 | WW-D1-2 | -42.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4262.9506 | 6039.9358 | -49.32 | 63.9178 | WW-D1-7 | -42.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |
| 4262.9506 | 6039.9358 | -63.32 | 64.4542 | WW-D1-75 | -42.32 | SG_Mudline_KrigingFile_Jul6-11-Post.xls |

# Attachment K-2

## MVS/EVS 4DIM for 3-D Model of Groundwater Density