

CTMRD Program 2023 Q2 Groundwater Monitoring Report

October 2023

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1. REPORT ORGANIZATION

This quarterly report includes the following five sections that summarize the Washoe County Community Services Department (WCCSD) Central Truckee Meadows Remediation District (CTMRD) Groundwater Monitoring Program (GMP) activities performed each quarter:

- Section 2: Describes the field activities, data quality, and records management activities conducted during the current quarter;
- Section 3: Describes the laboratory analytical program for the current quarter and presents the results of the Quality Assurance/Quality Control (QA/QC) data review and validation activities.
- Section 4: Presents results of the preliminary data evaluation of regional-scale groundwater elevation and tetrachloroethylene (PCE) and trichloroethylene (TCE) concentration contour maps, and the observed vertical groundwater gradients map between the shallow and deep zones.
- Section 5: Presents results and potentially significant findings from the statistical analysis of well-specific groundwater elevation, PCE concentration, and TCE concentration data.
- Section 6: Identifies planned and unplanned changes to the groundwater monitoring program for the quarter, and presents a summary of the action and noted items from the current and previous quarters with recommendations for follow-up.

Throughout this report, and all quarterly GMP reports, the terms “this quarter” and “this quarterly” refer to the calendar quarter identified by the report title.

GMP data are maintained in the CTMRD GMP electronic database in Microsoft Access on the WCCSD network, referred to as the “electronic database” in this report.



2. FIELD METHODS AND DATA COLLECTION ACTIVITIES

Quarterly field data collection consists of the following:

- Monthly field measurement of static groundwater elevation below monitoring well measuring point top of casing (TOC);
- Quarterly field measurement of physical parameters: pH, specific conductance, dissolved oxygen, temperature, oxidation-reduction potential, and turbidity; and
- Quarterly and opportunistic groundwater quality sample collection and laboratory analysis for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260B for target analytes listed in the GMP Quality Assurance Project Plan (QAPP) (WCCSD, 2023).

Monthly groundwater elevation monitoring is generally performed during the first or second week of each month and quarterly groundwater quality sampling is generally performed during the last month of the quarter but may begin during the second month of the quarter. Groundwater elevation and water quality monitoring at each well is conducted either as a scheduled occurrence, an opportunistic occurrence (for wells that are periodically inaccessible), or “not sampled” because of inaccessibility or other unanticipated circumstances. Opportunistic samples can be collected from monitoring wells or municipal water supply wells at any time during the quarter as deemed appropriate by WCCSD.

Electronic copies of quarterly laboratory and field forms/logs are maintained in the WCCSD GMP network hard drive.

2.1 Groundwater Elevation Monitoring

Monthly groundwater elevation data are collected by WCCSD from monitoring wells in the Central Truckee Meadows (CTM) and by Truckee Meadows Water Authority (TMWA) from their municipal water supply and monitoring wells; the TMWA data are typically provided to WCCSD on a bi-annual or annual basis. The data sets are uploaded to the electronic database typically within days of being submitted to the WCCSD.

2.2 Water Quality Monitoring

Quarterly groundwater monitoring activities include collection of water quality samples and field measurement of the sample physical parameters.

3. DATA QUALITY ASSURANCE / QUALITY CONTROL

Laboratory analyses of groundwater samples are performed by Alpha Analytical, Inc., located in Sparks, Nevada (Nevada Division of Environmental Protection [NDEP] certification NV16). Quarterly laboratory analysis results and field-measured static groundwater elevations undergo QA and statistical data review and validation by a third party consulting firm (Broadbent), who provides WCCSD CTMRD Program staff with results from the reviews. WCCSD then amends or revises the data as necessary, and uploads the final data to the electronic database. Data review and validation are conducted in accordance with the GMP QAPP (WCCSD, 2023).

The purpose of the third party QA review and validation of laboratory data is to identify potential QA/QC issues that compromise data quality or reliability, including, though not limited to:

- Detection of a target analyte in a method blank sample;
- A recovery percentage or relative percent difference outside acceptable QC limits in laboratory quality control samples;
- Elevated reporting limits that exceed the specified concentrations; and
- Exceedance of holding times.

The purpose of the third party statistical analysis is to identify significant changes in water elevations and PCE and TCE concentrations, including:

- Detections of PCE and TCE in previously uncontaminated wells, identified as first detections;
- Well-specific new maximum and new minimum PCE and TCE concentrations;
- Well-specific new maximum and minimum groundwater elevations; and
- Changes in PCE or TCE concentration, or groundwater elevation by more than two standard deviations compared to the most recent measurement.

Laboratory *data quality assurance* review is performed for each work order (100% of all sample sets) by evaluating QC Level II data provided by the laboratory. Laboratory *data validation* is performed on approximately 10% of the total samples analyzed by evaluating QC Level IV data provided by the laboratory. A summary of work orders, QC data package type, and number of samples analyzed for VOCs in each laboratory work order for this quarter are maintained in the GMP folder on the network hard drive. **Table 3.1** summarizes the results from the data review and data validation, identifies QC Level IV data, and documents whether QAPP frequency and acceptance criteria were met. Detailed descriptions of laboratory data QA/QC are included in **Appendix 2** of this quarterly report.

4. MONITORING DATA RESULTS

Groundwater elevation and PCE concentration data for the shallow zone and the deep zone are depicted on **Figure 4.1** and **Figure 4.2**, respectively. Vertical groundwater elevation differences that represent inferred vertical hydraulic gradients between the shallow zone and deep zone are provided on **Figure 4.3**. Groundwater elevation and TCE concentration data for the shallow zone and deep zone are shown on **Figure 4.4** and **Figure 4.5**, respectively. Figures 4.1, 4.2, 4.4, and 4.5 are also printed as large-scale hardcopy maps and stored in flat files external to this report.

Each data set from this quarterly reporting period is compared to the previous quarter's results. Detailed data analysis and interpretation are incorporated into conceptual site models, external to quarterly reports.

4.1 Groundwater Elevation Data

Groundwater elevations for wells measured monthly during this quarterly reporting period (along with summary data for each well, including subregion location, and deep/shallow zone designation) are provided in the electronic database.

4.1.1 Shallow Zone Groundwater Elevations

Figure 4.1 presents shallow zone groundwater elevation contours developed using groundwater elevation measurements from this quarter.

Shallow zone groundwater elevation contours are developed at 5 foot intervals over the CTM. Shallow zone groundwater elevations, including gradients and flow direction trends are assessed and discussed in the conceptual site models for each subregion.

4.1.2 Deep Zone Groundwater Elevations

Figure 4.2 presents deep zone groundwater elevation contours developed using groundwater elevation measurements from this quarter.

Deep zone groundwater elevation contours are developed at 5 foot intervals over the CTM. Deep zone groundwater elevations, including gradients and flow direction trends are assessed and discussed in the conceptual site models for each subregion.

4.1.3 Vertical Groundwater Gradients

Figure 4.3 presents vertical groundwater elevation differences as a color-flood map that depicts vertical direction, relative magnitude, and distribution of vertical hydraulic gradients for this quarter using the most recent groundwater elevation measurements for this quarterly reporting period. Vertical groundwater elevation differences in the CTM aquifer system are calculated by subtracting a grid developed from the contoured shallow zone groundwater elevation data from a grid developed from the contoured deep zone groundwater elevation data. Vertical gradients and distribution are assessed and discussed in the conceptual site models for each subregion.

4.2 PCE and TCE Concentration Data

PCE concentration data for wells sampled during this quarter (along with summary data for each sampled well, including subregion location, deep/shallow zone designation, and additional information that characterize the GMP PCE concentration records for each well) are provided in the CTMRD GMP electronic database. TCE data are also compiled, reviewed, and managed in the same manner as PCE data.

Field parameter data collected during this quarterly reporting period are also provided in the electronic database. Electronic versions of field sampling information for individual samples are stored in the GMP folder on the network hard drive.

4.2.1 Shallow Zone PCE and TCE Distribution

Figure 4.1 presents the shallow zone PCE concentration contours for this quarter. **Figure 4.4** presents the shallow zone TCE concentration contours for this quarter.

4.2.2 Deep Zone PCE and TCE Distribution

Figure 4.2 presents the deep zone PCE concentration contours for this quarter. **Figure 4.5** presents the deep zone TCE concentration contours for this quarter.

5. WELL-SPECIFIC SIGNIFICANT CHANGES

This section compares the groundwater elevation, PCE, and TCE concentration results for this quarter to previous GMP results, using cumulative statistics for each well. The objective of these comparisons is to identify potentially significant temporal changes at each well that could result from:

- A data quality or procedural problem (such as a laboratory error, data entry error, or sample ID transposition) that may require corrective action; or
- A physical water quality change that may indicate potentially significant PCE or TCE concentration dynamics and/or groundwater flow dynamics.

‘Potentially significant changes’ include new groundwater elevation maxima and minima, new PCE or TCE concentration maxima and minima, statistically significant concentration changes, or first detections.

5.1 Well-Specific Groundwater Elevations

Table 5.1 lists those wells with at least one year of monthly groundwater elevation measurements that exhibited, for this quarter, a new maximum or minimum groundwater elevation, and a determination whether the elevation change is considered statistically significant. Table 5.1 is a subset of Table A1.1 (Appendix A), which provides statistics results for all of the GMP wells that were monitored this quarter. Spreadsheets in the GMP folder on the network hard drive were used to perform the statistics analysis for groundwater elevations.

5.2 Well-Specific PCE Concentration Results

Table 5.2 lists those wells where PCE concentrations from this quarter represent a new maximum or minimum concentration, and a determination whether any concentration change is considered statistically significant. Table 5.2 is a subset of Table A1.2 (Appendix A), which provides statistics results for all of the GMP wells that were monitored this quarter. Spreadsheets in the GMP folder on the network hard drive were used to perform the statistics analysis for PCE concentrations.

5.3 Well-Specific TCE Concentration Results

Table 5.3 lists those wells where TCE concentrations from this quarter represent a new maximum or minimum concentration, and a determination whether any concentration change is considered statistically significant. Table 5.3 is a subset of Table A1.3 (Appendix A), which provides statistics results for all of the GMP wells that were monitored this quarter. Spreadsheets in the GMP folder on the network hard drive were used to perform the statistics analysis for TCE concentrations.



6. GMP CHANGES, NOTED ITEMS, AND ACTION ITEMS

Table 6.1 provides a summary of noted items and action items identified during this quarter and previous quarters.

Changes to the GMP from the previous quarter are summarized in **Table 6.2**, and may include, but are not limited to:

- Sampling frequency;
- Sampling methods;
- Field procedures;
- Construction of new wells;
- Modification or removal of existing wells; and
- Data management.

For example, the sampling frequency might be adjusted at wells (as deemed appropriate by WCCSD) to cost-effectively obtain the necessary data. An example of well removal might be to remove well(s) from the program when the wells are determined to be unnecessary, redundant, or when (if not owned by WCCSD) they become unavailable for sampling.

Table 6.3 provides a summary of routine quarterly data quality-assurance measures that were conducted, including issues encountered, actions taken to resolve issues, and who conducted the actions.



7. REFERENCES

WCCSD, 2018, *Groundwater Monitoring Plan for the Central Truckee Meadows Remediation District Program, APPENDIX A - Quality Assurance Project Plan*. 2018 Revision.



Tables

Table 3.1

2023 Q2 Summary of QA/QC Review

| Review Item | QAPP Frequency Achieved | QAPP Acceptance Criteria Met | Comments | Associated Samples | Qualified Analysis |
|---|-------------------------|------------------------------|----------|--------------------|--------------------|
| Level II | | | | | |
| Analytical Reports and Chain-of-Custody Documentation | Yes | Yes | -- | -- | None |
| Preservation and Hold Times | Yes | Yes | -- | -- | None |
| Field Duplicate Samples | Yes | Yes | -- | -- | None |
| Equipment Rinsate Blank Samples | Yes | Yes | -- | -- | None |
| Trip Blank Samples | Yes | Yes | -- | -- | None |
| Laboratory Method Blank Samples | Yes | Yes | -- | -- | None |
| Laboratory Control Samples (LCS) | Yes | Yes | -- | -- | None |
| Laboratory Duplicate Samples | Yes | Yes | -- | -- | None |
| Field QA/QC | Yes | Yes | -- | -- | None |
| Completeness | Yes | Yes | -- | -- | None |

Table 3.1

2023 Q2 Summary of QA/QC Review

| Review Item | QAPP Frequency Achieved | QAPP Acceptance Criteria Met | Comments | Associated Samples | Qualified Analysis |
|---|-------------------------|------------------------------|----------|---|--------------------|
| Level IV | | | | | |
| Initial Calibration | Yes | Yes | -- | TB-1A-Q1-061223 GW-CTM39S-L-061223 GW-CTM38D-L-061223 GW-CTM107-L-061223 GW-ARCO6018MW16-L-061223 GW-ARCO6018MW12-L-061223 GW-CTM18S-L-061223 GW-CTM106-L-061223 | None |
| Initial Calibration Verification Analysis | Yes | Yes | -- | TB-1A-Q1-061223 GW-CTM39S-L-061223 GW-CTM38D-L-061223 GW-CTM107-L-061223 GW-ARCO6018MW16-L-061223 GW-ARCO6018MW12-L-061223 GW-CTM18S-L-061223 GW-CTM106-L-061223 | None |
| Continuing Calibration Standard Analysis | Yes | Yes | -- | TB-1A-Q1-061223 GW-CTM39S-L-061223 GW-CTM38D-L-061223 GW-CTM107-L-061223 GW-ARCO6018MW16-L-061223 GW-ARCO6018MW12-L-061223 GW-CTM18S-L-061223 GW-CTM106-L-061223 | None |
| Instrument Tune | Yes | Yes | -- | TB-1A-Q1-061223 GW-CTM39S-L-061223 GW-CTM38D-L-061223 GW-CTM107-L-061223 GW-ARCO6018MW16-L-061223 GW-ARCO6018MW12-L-061223 GW-CTM18S-L-061223 GW-CTM106-L-061223 | None |

Table 3.1

2023 Q2 Summary of QA/QC Review

| Review Item | QAPP Frequency Achieved | QAPP Acceptance Criteria Met | Comments | Associated Samples | Qualified Analysis |
|--------------------|-------------------------|------------------------------|----------|---|--------------------|
| Internal Standards | Yes | Yes | -- | TB-1A-Q1-061223 GW-CTM39S-L-061223 GW-CTM38D-L-061223 GW-CTM107-L-061223 GW-ARCO6018MW16-L-061223 GW-ARCO6018MW12-L-061223 GW-CTM18S-L-061223 GW-CTM106-L-061223 | None |

Notes:

-- Not applicable

DNQ - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

ICAL - Initial Calibration

LCS - Laboratory Control Sample

MS/MSD - Matrix Spike/Matrix Spike Duplicate

ND - Non-Detect

QA/QC - Quality Assurance/Quality Control

QAPP - Quality Assurance Project Plan, 2018

%D - Percent Difference

%R - Percent Recovery

RB - Equipment Rinsate Blank

RF - Response Factor

RL - Reporting Limit

RPD - Relative Percent Difference

RSD - Relative Standard Deviation

WO - Work Order

(J) The associated detected value is an estimated quantity.

(J-) The associated detected value is an estimated quantity with a low bias.

(J+) The associated detected value is an estimated quantity with a high bias.

(U) The analyte was not detected above the associated limitation value. The associated limitation value is either the sample reporting limit or sample detection limit.

(UJ) The analyte was not detected above the associated limitation value. The associated limitation value is an estimate.

(R) The data are unusable (Analyte may or may not be present).

Table 5.1: Groundwater Elevation Statistics for CTMRD GMP Wells with Potentially Significant Elevation Changes During 2023 Q2

| Well ID ⁽¹⁾ | Subregion ⁽²⁾ | Screen Position | Current Results | Previous Results and Comparisons | | | Statistically Significant Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | |
|------------------------|--------------------------|---|--|----------------------------------|---|---------------------------------------|---|------------------------|--|-------------------|-------------------|------------------------------|--|
| | | Deep Zone/ Shallow Zone ⁽³⁾ | Water Level Elevation ⁽⁴⁾ 2023 Q2 | Water Level Elevation 2023 Q1 | Water Level Change ⁽⁵⁾ Prior Quarter to Current Quarter (ft) | New Maximum/Minimum ⁽⁶⁾⁽⁸⁾ | Statistical Significance of Elevation Change from Previous Quarter ⁽⁷⁾ | No. of Months Measured | First Month Measured (YYYY/MM) | Elevation Minimum | Elevation Maximum | Elevation Standard Deviation | |
| ARCO6018MW12 | MK | S | 4,414.1 | 4,413.8 | 0.3 | Max 4416.7 (6) | 0.05 | 40 | 2013/04 | 4,399.6 | 4,416.2 | 3.30 | |
| ARCO6018MW16 | MK | S | 4,413.2 | 4,412.9 | 0.3 | Max 4415.6 (6) | 0.05 | 40 | 2013/04 | 4,399.0 | 4,414.9 | 3.03 | |
| ARCO6018MW8 | MK | S | 4,414.1 | 4,413.8 | 0.3 | Max 4416.0 (6) | 0.05 | 38 | 2013/04 | 4,401.9 | 4,414.6 | 2.80 | |
| C03 | SR | S | 4,406.3 | 4,406.1 | 0.2 | Max 4406.7 (6) | 0.08 | 38 | 2013/06 | 4,401.4 | 4,406.3 | 1.21 | |
| COR8A | DR | S | 4,468.2 | 4,468.0 | 0.2 | Max 4469.0 (6) | 0.11 | 40 | 2013/04 | 4,464.8 | 4,468.9 | 0.89 | |
| CTM100 | DR | D | 4,451.5 | 4,451.0 | 0.5 | Max 4452.5 (6) | 0.03 | 40 | 2013/04 | 4,423.8 | 4,451.0 | 7.55 | |
| CTM101 | DR | D | 4,442.9 | 4,442.5 | 0.4 | Max 4444.3 (6) | 0.05 | 40 | 2013/04 | 4,426.0 | 4,444.0 | 4.07 | |
| CTM102 | DR | S | 4,442.6 | 4,442.3 | 0.3 | Max 4444.0 (6) | 0.04 | 41 | 2013/04 | 4,426.0 | 4,443.8 | 4.00 | |
| CTM103 | DR | D | 4,418.7 | 4,418.3 | 0.4 | Max 4421.8 (6) | 0.02 | 41 | 2013/04 | 4,378.6 | 4,418.3 | 9.16 | |
| CTM104 | MK | S | 4,418.7 | 4,418.1 | 0.6 | Max 4421.3 (6) | 0.05 | 41 | 2013/04 | 4,389.0 | 4,418.1 | 6.64 | |
| CTM105 | MK-SR | S | 4,413.4 | 4,413.0 | 0.4 | Max 4415.8 (6) | 0.05 | 41 | 2013/04 | 4,394.3 | 4,414.5 | 4.11 | |
| CTM106 | SR | D | 4,410.4 | 4,410.4 | 0.0 | Max 4412.1 (6) | 0.00 | 41 | 2013/04 | 4,390.5 | 4,411.1 | 4.65 | |
| CTM107 | DR-SR | D | 4,413.1 | 4,412.6 | 0.5 | Max 4415.4 (6) | 0.03 | 41 | 2013/04 | 4,377.7 | 4,413.2 | 8.39 | |
| CTM10D | DR | D | 4,425.2 | 4,424.2 | 1.0 | Max 4428.1 (6) | 0.02 | 41 | 2013/04 | 4,327.7 | 4,424.2 | 28.70 | |
| CTM112 | ER | S | 4,424.5 | 4,423.9 | 0.6 | Max 4426.4 (5) | 0.03 | 40 | 2013/04 | 4,384.6 | 4,424.3 | 10.34 | |
| CTM11S | MK-SR | S | 4,413.2 | 4,412.9 | 0.3 | Max 4416.6 (6) | 0.05 | 41 | 2013/04 | 4,397.0 | 4,414.6 | 3.10 | |
| CTM130B | MK | S | 4,415.5 | 4,414.5 | 1.0 | Max 4416.6 (5) | 0.09 | 39 | 2013/10 | 4,389.9 | 4,415.1 | 5.47 | |
| CTM132B | MK | S | 4,417.4 | 4,416.3 | 1.1 | Max 4418.7 (5) | 0.09 | 37 | 2014/04 | 4,390.8 | 4,416.3 | 6.12 | |
| CTM133A | MK | S | 4,415.1 | 4,414.4 | 0.7 | Max 4416.1 (5) | 0.19 | 31 | 2014/05 | 4,409.7 | 4,415.9 | 1.82 | |
| CTM133B | MK | S | 4,416.2 | 4,415.2 | 1.0 | Max 4417.5 (5) | 0.09 | 37 | 2014/04 | 4,392.1 | 4,416.0 | 5.30 | |
| CTM134A | MK | S | 4,414.9 | 4,414.0 | 0.9 | Max 4416.3 (5) | 0.24 | 32 | 2014/04 | 4,409.0 | 4,415.9 | 1.87 | |
| CTM134B | MK | S | 4,415.0 | 4,414.2 | 0.8 | Max 4416.4 (5) | 0.08 | 37 | 2014/04 | 4,393.4 | 4,415.5 | 4.99 | |
| CTM13S | MK | S | 4,416.0 | 4,415.6 | 0.4 | Max 4420.2 (6) | 0.05 | 40 | 2013/04 | 4,398.9 | 4,419.9 | 4.33 | |
| CTM145A | MK | S | 4,414.7 | 4,414.0 | 0.7 | Max 4416.1 (5) | 0.18 | 18 | 2019/02 | 4,407.3 | 4,414.5 | 1.97 | |
| CTM145B | MK | S | 4,414.8 | 4,414.1 | 0.7 | Max 4416.2 (5) | 0.16 | 18 | 2019/02 | 4,404.7 | 4,414.3 | 2.17 | |
| CTM146 | DR | S | 4,433.5 | 4,433.2 | 0.3 | Max 4433.5 (4) | 0.21 | 16 | 2019/07 | 4,430.3 | 4,433.2 | 0.71 | |
| CTM147 | DR | S | 4,469.1 | 4,469.0 | 0.1 | Max 4469.8 (5) | 0.07 | 16 | 2019/07 | 4,466.3 | 4,469.4 | 0.71 | |
| CTM148 | DR | S | 4,499.8 | 4,498.3 | 1.5 | Max 4500.4 (5) | 1.25 | 16 | 2019/07 | 4,497.0 | 4,499.7 | 0.60 | |
| CTM15S | SR | S | 4,439.0 | 4,438.6 | 0.4 | Max 4439.8 (6) | 0.07 | 40 | 2013/04 | 4,425.4 | 4,439.3 | 3.07 | |
| CTM16S | SR | S | 4,419.6 | 4,419.4 | 0.2 | Max 4419.9 (6) | 0.09 | 40 | 2013/04 | 4,414.1 | 4,419.4 | 1.17 | |
| CTM17D | SR | D | 4,409.6 | 4,409.5 | 0.1 | Max 4411.5 (6) | 0.00 | 41 | 2013/04 | 4,372.6 | 4,409.5 | 10.87 | |
| CTM22D | DR | D | 4,428.3 | 4,427.2 | 1.1 | Max 4431.2 (6) | 0.02 | 41 | 2013/04 | 4,339.7 | 4,427.2 | 25.95 | |
| CTM29S | DR | S | 4,502.2 | 4,500.3 | 1.9 | Max 4503.3 (6) | 0.43 | 39 | 2013/04 | 4,489.9 | 4,503.1 | 2.23 | |
| CTM30D | DR | D | 4,470.7 | 4,470.6 | 0.1 | Max 4471.7 (6) | 0.02 | 40 | 2013/04 | 4,458.7 | 4,471.2 | 3.00 | |
| CTM37D | MK | S | 4,415.2 | 4,414.7 | 0.5 | Max 4417.8 (6) | 0.04 | 41 | 2013/04 | 4,389.6 | 4,416.2 | 5.65 | |
| CTM37S | DR | S | 4,459.6 | 4,459.6 | 0.0 | Max 4460.7 (6) | 0.00 | 39 | 2013/04 | 4,453.7 | 4,459.6 | 1.48 | |
| CTM38D | MK-SR | S | 4,411.1 | 4,410.9 | 0.2 | Max 4413.0 (6) | 0.03 | 41 | 2013/04 | 4,396.4 | 4,412.2 | 3.20 | |
| CTM39S | MK-SR | S | 4,411.0 | 4,410.9 | 0.1 | Max 4412.8 (6) | 0.02 | 41 | 2013/04 | 4,398.4 | 4,412.1 | 2.87 | |
| CTM41S | SR | S | 4,444.3 | 4,443.5 | 0.8 | Max 4444.3 (4) | 0.23 | 39 | 2013/04 | 4,436.4 | 4,443.9 | 1.73 | |
| CTM42 | MK | S | 4,415.5 | 4,415.1 | 0.4 | Max 4419.1 (6) | 0.05 | 39 | 2013/04 | 4,399.7 | 4,417.2 | 3.95 | |
| CTM51 | SR | S | 4,425.7 | 4,425.7 | 0.0 | Max 4425.9 (6) | 0.00 | 40 | 2013/04 | 4,420.7 | 4,425.7 | 1.10 | |
| CTM52 | SR | S | 4,425.1 | 4,425.1 | 0.0 | Max 4425.3 (6) | 0.00 | 40 | 2013/04 | 4,420.7 | 4,425.1 | 0.91 | |
| CTM53 | SR | S | 4,424.5 | 4,424.5 | 0.0 | Max 4424.7 (6) | 0.00 | 40 | 2013/04 | 4,419.3 | 4,424.5 | 0.96 | |
| CTM63 | MK | S | 4,415.2 | 4,414.7 | 0.5 | Max 4418.3 (6) | 0.07 | 40 | 2013/04 | 4,400.5 | 4,418.0 | 3.67 | |
| CTM64 | MK | S | 4,416.8 | 4,416.4 | 0.4 | Max 4420.7 (6) | 0.04 | 41 | 2013/04 | 4,392.1 | 4,417.6 | 5.66 | |
| CTM65 | DS | S | 4,407.9 | 4,407.7 | 0.2 | Max 4408.8 (6) | 0.04 | 40 | 2013/04 | 4,396.8 | 4,408.6 | 2.33 | |
| CTM68 | DS | D | 4,412.0 | 4,411.2 | 0.8 | Max 4413.6 (6) | 0.02 | 40 | 2013/04 | 4,326.7 | 4,412.5 | 19.52 | |
| CTM6S | DR | S | 4,468.9 | 4,468.8 | 0.1 | Max 4469.8 (6) | 0.02 | 37 | 2013/04 | 4,455.9 | 4,469.3 | 2.82 | |
| CTM73 | DS | S | 4,408.1 | 4,407.8 | 0.3 | Max 4409.5 (6) | 0.06 | 40 | 2013/04 | 4,394.8 | 4,409.3 | 2.60 | |
| CTM74 | DS | S | 4,407.9 | 4,407.6 | 0.3 | Max 4409.2 (6) | 0.05 | 40 | 2013/04 | 4,393.9 | 4,409.0 | 2.98 | |
| CTM79 | DR | D | 4,472.8 | 4,472.7 | 0.1 | Max 4473.8 (6) | 0.01 | 40 | 2013/04 | 4,456.1 | 4,472.9 | 4.09 | |
| CTM7S | DR | S | 4,466.3 | 4,465.5 | 0.8 | Max 4469.1 (6) | 0.14 | 40 | 2013/04 | 4,455.4 | 4,469.0 | 2.93 | |
| CTM80 | DR | D | 4,466.6 | 4,466.5 | 0.1 | Max 4467.6 (6) | 0.01 | 41 | 2013/04 | 4,424.7 | 4,466.5 | 7.29 | |
| CTM81 | DR | D | 4,431.8 | 4,430.7 | 1.1 | Max 4434.7 (6) | 0.03 | 41 | 2013/04 | 4,359.0 | 4,430.7 | 18.30 | |
| CTM82 | DR | D | 4,420.8 | 4,416.7 | 4.1 | Max 4422.8 (6) | 0.09 | 41 | 2013/04 | 4,336.1 | 4,417.6 | 21.86 | |
| CTM83 | DR | D | 4,418.2 | 4,414.3 | 3.9 | Max 4420.6 (6) | 0.14 | 41 | 2013/04 | 4,359.2 | 4,414.9 | 13.49 | |
| CTM84 | DR | D | 4,416.4 | 4,413.4 | 3.0 | Max 4419.0 (6) | 0.16 | 41 | 2013/04 | 4,371.5 | 4,413.7 | 9.48 | |
| CTM89 | (Other) | D | 4,410.0 | 4,408.6 | 1.4 | Max 4410.0 (4) | 0.11 | 39 | 2013/04 | 4,383.1 | 4,408.6 | 6.19 | |

Table 5.1: Groundwater Elevation Statistics for CTMRD GMP Wells with Potentially Significant Elevation Changes During 2023 Q2

| Well ID ⁽¹⁾ | Subregion ⁽²⁾ | Screen Position | Current Results | Previous Results and Comparisons | | Statistically Significant Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | |
|------------------------|--------------------------|---|--|----------------------------------|---|---------------------------------------|---|--|--------------------------------|-------------------|-------------------|------------------------------|
| | | Deep Zone/ Shallow Zone ⁽³⁾ | Water Level Elevation ⁽⁴⁾ 2023 Q2 | Water Level Elevation 2023 Q1 | Water Level Change ⁽⁵⁾ Prior Quarter to Current Quarter (ft) | New Maximum/Minimum ⁽⁶⁾⁽⁸⁾ | Statistical Significance of Elevation Change from Previous Quarter ⁽⁷⁾ | No. of Months Measured | First Month Measured (YYYY/MM) | Elevation Minimum | Elevation Maximum | Elevation Standard Deviation |
| CTM90 | (Other) | D | 4,403.3 | 4,403.1 | 0.2 | Max 4403.4 (6) | 0.04 | 40 | 2013/04 | 4,383.1 | 4,403.1 | 2.66 |
| CTM91 | (Other) | S | 4,403.0 | 4,402.9 | 0.1 | Max 4403.1 (6) | 0.03 | 40 | 2013/04 | 4,396.3 | 4,402.9 | 1.75 |
| CTM93 | SR | S | 4,413.4 | 4,413.4 | 0.0 | Max 4414.4 (6) | 0.00 | 40 | 2013/04 | 4,403.2 | 4,413.4 | 2.21 |
| CTM95 | SR | D | 4,430.1 | 4,430.0 | 0.1 | Max 4430.7 (6) | 0.02 | 40 | 2013/04 | 4,420.6 | 4,430.0 | 2.09 |
| CTM96 | SR | S | 4,416.3 | 4,416.1 | 0.2 | Max 4417.3 (6) | 0.05 | 40 | 2013/04 | 4,404.7 | 4,416.4 | 1.96 |
| CTM97 | SR | D | 4,411.6 | 4,411.5 | 0.1 | Max 4414.2 (6) | 0.00 | 41 | 2013/04 | 4,351.5 | 4,411.5 | 15.71 |
| CTM98 | SR | D | 4,409.7 | 4,408.3 | 1.4 | Max 4411.3 (6) | 0.08 | 41 | 2013/04 | 4,376.7 | 4,409.9 | 8.30 |
| CTM99 | SR | S | 4,408.0 | 4,407.7 | 0.3 | Max 4408.8 (6) | 0.07 | 41 | 2013/04 | 4,397.9 | 4,408.3 | 2.22 |
| CTM95 | MK | S | 4,418.9 | 4,418.3 | 0.6 | Max 4420.7 (6) | 0.05 | 39 | 2013/04 | 4,397.9 | 4,418.3 | 5.47 |
| GLOBALMW1 | J | S | 4,399.6 | NM | -- | Max 4401.0 (6) | -- | 39 | 2013/04 | 4,390.0 | 4,400.6 | 2.47 |
| HV5M | J | D | 4,399.8 | 4,399.4 | 0.4 | Max 4400.7 (6) | 0.03 | 40 | 2013/04 | 4,370.9 | 4,399.8 | 6.92 |
| LEGENDS | DS | S | 4,409.9 | 4,409.5 | 0.4 | Max 4411.5 (6) | 0.06 | 40 | 2013/04 | 4,393.0 | 4,411.1 | 3.24 |
| LINCOLNWAYMW | ES | S | 4,390.9 | 4,390.8 | 0.1 | Max 4392.4 (5) | 0.05 | 27 | 2013/04 | 4,386.5 | 4,392.0 | 0.92 |
| MENTALHEALTH | DS | D | 4,415.0 | 4,414.5 | 0.5 | Max 4416.9 (6) | 0.02 | 40 | 2013/04 | 4,360.8 | 4,415.6 | 12.30 |
| MW2NS | DR | S | 4,493.1 | 4,491.0 | 2.1 | Max 4494.5 (6) | 0.32 | 39 | 2013/04 | 4,477.6 | 4,493.6 | 3.25 |
| MW6ND | DR | D | 4,480.2 | 4,479.1 | 1.1 | Max 4480.5 (6) | 0.27 | 40 | 2013/04 | 4,471.4 | 4,480.4 | 2.01 |
| NVAIRGRDMW17 | SR | S | 4,402.1 | 4,401.9 | 0.2 | Max 4402.2 (6) | 0.10 | 28 | 2016/04 | 4,397.7 | 4,401.9 | 1.03 |
| RETRACB13 | DR | S | 4,502.6 | 4,500.4 | 2.2 | Max 4503.7 (6) | 0.36 | 40 | 2013/04 | 4,487.1 | 4,503.2 | 3.04 |
| RETRACMWE1 | DR | S | 4,487.4 | 4,487.0 | 0.4 | Max 4488.4 (6) | 0.10 | 39 | 2013/04 | 4,478.2 | 4,488.3 | 2.05 |
| USGSWOOSTER | SR | S | 4,409.4 | 4,409.3 | 0.1 | Max 4410.0 (6) | 0.03 | 41 | 2013/04 | 4,401.0 | 4,409.3 | 1.89 |
| VICTORIANMW | ES | S | 4,384.0 | 4,384.0 | 0.0 | Max 4384.7 (5) | 0.00 | 36 | 2013/04 | 4,380.5 | 4,384.6 | 0.88 |
| VP37B | SR | S | 4,434.5 | 4,434.3 | 0.2 | Max 4434.5 (4) | 0.12 | 16 | 2019/07 | 4,431.1 | 4,434.3 | 0.82 |
| WMMW3 | DR | S | 4,428.0 | 4,426.6 | 1.4 | Max 4431.9 (6) | 0.12 | 38 | 2013/04 | 4,404.3 | 4,426.6 | 5.76 |

Notes:

- (1) Only wells with at least 12 monthly measurements are included in table
 - (2) Subregion designations as follows:
 - DR = Downtown Reno
 - DR-DS = Downtown Reno-Downtown Sparks overlap area
 - DR-SR = Downtown Reno-South Reno overlap area
 - DS = Downtown Sparks
 - SR = South Reno
 - UNK = Unknown
 - ER = El Rancho
 - J = Joule
 - MK = Mill/Kietzke
 - MK-SR = Mill/Kietzke-South Reno overlap area
 - DR-ER = Downtown Reno-El Rancho overlap area
 - Other = Located outside of currently defined subregions
 - (3) Wells completed in the shallow zone are designated with an S and wells completed in the deep zone with a D.
 - (4) Feet above mean sea level (msl)
 - (5) Difference in feet between current elevation value and previous period's elevation value.
 - (6) New Max exceeds the GMP period of record maximum elevation for the prior 10 years. New Min is below the GMP period of record minimum elevation for the prior 10 years.
 - (7) Absolute values greater than 1 indicates that the water level elevation measurement from current quarter minus the elevation from the previous quarter is more than two times the standard deviation for the GMP period of record starting 10 years prior to the beginning of the current quarter. A positive value indicates that the current quarter increased relative to the previous period. A negative value indicates a decrease relative to the previous period. For the purposes of the quarterly report, absolute values that are > 1 indicate a statistically significant change in the current water level elevation results compared to the previous quarter.
 - (8) The number in parenthesis shows which month in the quarter had the new minimum or maximum elevation measurement (e.g., "New Min (7)" means the new minimum occurred in July).
- NM = Not Measured.
 -- = No data available.

Table 5.2: PCE Statistics for CTMRD GMP Wells with Potentially Significant PCE Concentration Changes During 2023 Q2

| Well ID | Subregion ⁽¹⁾ | Screen Position | Current Results | Previous Results | | Criteria for Identifying Potentially Significant Changes in PCE Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | | | | |
|---------------|--------------------------|-----------------|-----------------|--|---|---|------------------------------------|--|-------------------------------|---------------|---------------|---------------|------------|--------------------------|--------------------------------|
| | | | | [PCE] ⁽³⁾ Current Quarter (2023 Q2) | [PCE] ⁽³⁾ Most Recent Previous Sampled Quarter | Date of Most Recent Previous Sample | New ⁽⁴⁾ Maximum/Minimum | Statistical ⁽⁵⁾ Significance Compared to Most Recent Previous Sampled Quarter | No. of Prior Quarters Sampled | First Quarter | [PCE] Minimum | [PCE] Maximum | [PCE] Mean | [PCE] Standard Deviation | [PCE] Coefficient of Variation |
| ARCO6018MMW16 | MK | S | 4.60 | 19.00 | 03/14/2023 | -- | -1.75 | 36 | 2013 Q2 | <0.5 | 19.00 | 2.63 | 4.12 | 1.57 | |
| CTM11S | MK-SR | S | 6.80 | 0.78 | 03/14/2023 | New Max | 2.16 | 37 | 2013 Q2 | 0.51 | 6.70 | 2.13 | 1.39 | 0.66 | |
| CTM143A | MK | S | 27.00 | 42.00 | 02/08/2023 | New Min | -15.00 | 2 | 2022 Q4 | 41.00 | 42.00 | 41.50 | 0.50 | 0.01 | |
| CTM144A | MK | S | 5.90 | 11.00 | 02/08/2023 | New Min | -5.10 | 2 | 2022 Q4 | 10.00 | 11.00 | 10.50 | 0.50 | 0.05 | |
| CTM145A | MK | S | 16.00 | 1.20 | 02/09/2023 | New Max | 17.26 | 13 | 2019 Q1 | <0.5 | 2.00 | 0.80 | 0.43 | 0.54 | |
| CTM145B | MK | S | <0.5 | 0.56 | 02/09/2023 | New Min | -0.01 | 17 | 2019 Q1 | 0.56 | 59.00 | 10.50 | 17.76 | 1.69 | |
| CTM1S | DR | S | <0.5 | 2.60 | 03/21/2023 | -- | -2.58 | 36 | 2013 Q2 | <0.5 | 2.60 | 0.55 | 0.45 | 0.83 | |
| CTM48 | SR | S | 0.98 | 1.70 | 03/27/2023 | New Min | -0.29 | 38 | 2013 Q2 | 1.10 | 6.90 | 2.72 | 1.25 | 0.46 | |
| CTM5 | DR | S | 2.90 | 3.40 | 03/22/2023 | New Min | -0.06 | 39 | 2013 Q2 | 3.40 | 20.00 | 8.86 | 4.06 | 0.46 | |
| CTM62 | SR | S | 13.00 | 15.00 | 03/27/2023 | New Min | -0.05 | 37 | 2013 Q2 | 14.00 | 95.00 | 35.53 | 18.73 | 0.53 | |
| USGSLISTON | SR | S | 3.20 | 3.70 | 03/22/2023 | New Min | -0.26 | 37 | 2013 Q2 | 3.60 | 7.20 | 5.14 | 0.96 | 0.19 | |
| VP27B | SR | S | 9.80 | 15.00 | 02/17/2023 | New Min | -0.03 | 33 | 2014 Q1 | 14.00 | 495.00 | 67.00 | 85.24 | 1.27 | |

Notes:

(1) Subregion designations as follows:

- | | |
|--|---|
| DR = Downtown Reno | ER = El Rancho |
| DR-DS = Downtown Reno-Downtown Sparks overlap area | J = Joule |
| DR-SR = Downtown Reno-South Reno overlap area | MK = Mill/Kietzke |
| DS = Downtown Sparks | MK-SR = Mill/Kietzke-South Reno overlap area |
| SR = South Reno | DR-ER = Downtown Reno-El Rancho overlap area |
| UNK = Unknown | Other = Located outside of currently defined subregions |

(2) Wells completed in the shallow zone are designated with an S and wells completed in the deep zone with a D.

(3) All Tetrachloroethene (PCE) values are reported in µg/L. A value of <1.0 or <0.50 = PCE not detected at noted reporting limit. When there are more than one analytical result in a quarter, the highest current quarter's result and lowest previous quarter's results are used.

(4) New Max exceeds the previous GMP period of record maximum for the prior 10 years. New Min is below the previous GMP period of record minimum for the prior 10 years.

(5) Absolute values greater than 1 indicates that the PCE result from current quarter minus the most recently sampled previous quarter is more than two times the standard deviation for the GMP period of record starting 10 years prior to the beginning of the current quarter. A positive value indicates that the current quarter increased relative to the previous period. A negative value indicates a decrease relative to the previous period. For the purposes of the quarterly report, absolute values that are > 1 indicate a statistically significant change in the current PCE results compared to the most recent previously sampled quarter.

-- = No Data Available

NA = Not Applicable

NS = Not Sampled

Table 5.3: TCE Statistics for CTMRD GMP Wells with Potentially Significant TCE Concentration Changes During 2023 Q2

| Well ID | Subregion ⁽¹⁾ | Screen Position | Current Results | Previous Results | | | Criteria for Identifying Potentially Significant Changes in TCE Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | | | | |
|---------|--------------------------|-----------------|-----------------|---|---|---|---|--|--|--|-----------------------------|------------------|------------------|---------------|--------------------------------|--------------------------------------|
| | | | | Deep Zone/ Shallow Zone ⁽²⁾ | [TCE] ⁽³⁾ Current Quarter (2023 Q2) | [TCE] ⁽³⁾ Most Recent Sampled | Date of Most Recent Sample | New/ ⁽⁴⁾ Maximum/ Minimum | Statistical ⁽⁵⁾ Significance Compared to Most Recent Previous Sampled Quarter | No. of Prior Quarters Sampled | First Quarter Sampled | [TCE] Minimum | [TCE] Maximum | [TCE] Mean | [TCE] Standard Deviation | [TCE] Coefficient of Variation |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

Notes:

(1) Subregion designations as follows:

- | | |
|--|---|
| DR = Downtown Reno | ER = El Rancho |
| DR-DS = Downtown Reno-Downtown Sparks overlap area | J = Joule |
| DR-SR = Downtown Reno-South Reno overlap area | MK = Mill/Kietzke |
| DS = Downtown Sparks | MK-SR = Mill/Kietzke-South Reno overlap area |
| SR = South Reno | DR-ER = Downtown Reno-El Rancho overlap area |
| UNK = Unknown | Other = Located outside of currently defined subregions |

(2) Wells completed in the shallow zone are designated with an S and wells completed in the deep zone with a D.

(3) All Trichloroethene (TCE) values are reported in µg/L. A value of <1.0 or <0.50 = TCE not detected at noted reporting limit. When there are more than one analytical result in a quarter, the highest current quarter's result and lowest previous quarter's results are used.

(4) New Max exceeds the previous GMP period of record maximum for the prior 10 years. New Min is below the previous GMP period of record minimum for the prior 10 years.

(5) Absolute values greater than 1 indicates that the TCE result from current quarter minus the most recently sampled previous quarter is more than two times the standard deviation for the GMP period of record starting 10 years prior to the beginning of the current quarter. A positive value indicates that the current quarter increased relative to the previous period. A negative value indicates a decrease relative to the previous period. For the purposes of the quarterly report, absolute values that are > 1 indicate a statistically significant change in the current TCE results compared to the most recent previously sampled quarter.

-- = No Data Available

NA = Not Applicable

NS = Not Sampled

| TABLE 6.1: Well-specific Noted Items for Current Quarter | | | | | | | | |
|--|--------------|------------------|--------------------------------------|------------------|-----------------------------------|---|--------------|---|
| Subregion | Well ID | Sample Frequency | Key Statistic | PCE / TCE (µg/L) | Mann-Kendall Trend | Observations | Threat Level | Followup? Comments |
| Mill Kietzke | CTM134A | Quarterly | PCE max. of 45 ug/L in 2022Q3. | 7.9 | None. Insufficient temporal data. | Nearest supply well, MILL, is about 1400 ft downgradient. | LOW | Yes. Continue to monitor on quarterly basis. |
| | | | Not sampled 2020Q4 thru 2022Q1 | NA | Same as above | Insufficient water to sample during these quarters, screen bottom at 44 ft bgs. | LOW | Yes. Continue to monitor quarterly. |
| Mill Kietzke | ARCO6018MW12 | Quarterly | New max. (most recent 10 yr history) | 97 | Non stable | Significant PCE increase from 2021 to 2023. PCE was often <5 ug/L from 2017 to 2020. | INTERMED. | Yes. Continue to monitor on quarterly basis. |
| South Reno | CTM98 | Quarterly | PCE max of 31 ug/L in 2022Q4. | 25 | Stable | Increasing PCE concentration since 2016. CTM98 well screen 239 - 254 ft. Nearest supply well: TERMINAL , 340' east, screened 330 - 665 ft. PCE measured from Terminal well at 0.73 ug/L on 8/31/21. | INTERMED. | Yes. Continue to monitor on quarterly basis. TMWA informed. |
| South Reno | VP34B | Quarterly | PCE max. 100 ug/L in 2022Q1. | 43 | None. Insufficient temporal data. | Threat to nearest supply wells: CORBETT and MILL; each ~5,800 ft east and northeast, respectively. Nearest non-treatment supply well: TERMINAL, ~7,200 ft east. Trend: Insufficient sampling events for a MK trend assessment, though limited data indicates an increasing trend. Nearby VP39B is on this list. | LOW | Yes. Continue to monitor on quarterly basis. |
| South Reno | VP39B | Quarterly | PCE max. 9 ug/L in 2022Q2. | 5.6 | None. Insufficient temporal data. | See above for VP34B. Increasing trend since 2019 install. | LOW | Yes. Continue to monitor on quarterly basis. |

Notes:

| | |
|-------------------------------|---|
| NO THREAT AT THIS TIME | No action required at this time. May or may not require continued monitoring. |
| LOW | At minimum, requires continued monitoring. |
| INTERMEDIATE | May require immediate Plan of Action to address the threat. |
| HIGH | Requires immediate Plan of Action and action implementation to address the threat. |

Ref. Source: CTMRD PCE Plume Threat Assessment

Active template: PCE-ThreatAssessment-TEMPLATE~140917, R:\GMP\GMP-DataAnalysis\GMP-DataAnalysis-ThreatAssessment

| Table 6.2: Summary of GMP Changes for Current and Future Quarters | |
|--|--|
| <i>Groundwater Monitoring, Sampling or Data Changes</i> | |
| | RATIONALE FOR CHANGE |
| Data change for mapping: the Groundwater Vertical Potentiometric Difference map (Fig. 4.3) has been modified. In previous reports, the outer boundaries of the map created a larger area that was not required for the task. Starting in 2023, the size of the maps will be slightly smaller (5-10%), notably for the outer extents of the mapped groundwater basin (i.e., western end). | Based on GIS software settings, the outer extents of the map used spacial assumptions that produced inaccuracies for the potentiometric difference. Future maps will use new or more adjustable GIS settings in order to eliminate the spatial assumptions, thus, also eliminating inaccurate differences in groundwater levels. |

Table 6.3: Summary of GMP Quarterly QA

| A. WATER QUALITY DATA MANAGEMENT AND QA | | | | | | | | | | |
|---|---|-----------------------------------|--|--|---|---------------------|----------------------------|-----------------------|--|--|
| Data Mng Process Flow Chart Cross-Ref | Data Mng QA Step | Frequency | Responsible | QA Criteria | Results / Issues | Actions | Completed (initial & date) | Followup? (yes or no) | | |
| 1A | RO Water QA check. Review lab water quality report for sampled RO water. | Quarterly | Rick | Lab results of tested RO water are non-detect for all analytes, at the QAPP-prescribed reporting limits. | The same sampled RO water for Q1 was used for Q2. | No actions Required | SB 7/28/2023 | No | | |
| 5A | External Data QA of lab reports. Consultant 24-hour QA review and report on lab report and weekly data statistics report. | Ongoing during quarterly sampling | Scott: Consultant Data QA Reporting | Consultant's 24-hour Lab Report QA: | | | | | | |
| | | | | 1. Consultant's QA criteria were met; all data were "acceptable" for use. | Yes; all data were acceptable for use. | No actions Required | SB 8/10/2023 | No | | |
| | | | | 2. Addition of qualifier(s) (if necessary) was conducted. | No qualifiers applied for lab workorders. | No actions Required | SB 8/10/2023 | No | | |
| | | | | 3. Re-analysis (if necessary) was conducted. | No re-analysis was necessary, no impact to data. | No actions Required | SB 8/10/2023 | No | | |
| | | | | 4. Re-sampling (if necessary) was conducted. | No re-sampling was necessary. | No actions Required | SB 8/10/2023 | No | | |
| | | | | Consultant's Weekly Data Statistics Report: | | | | | | |
| 5. Re-analysis (if necessary) was conducted to verify significant change. | No re-analysis was necessary. | No actions Required | SB 8/10/2023 | No | | | | | | |
| 6. Re-sampling (if necessary) was conducted to verify significant change. | No re-sampling was necessary. | No actions Required | SB 8/10/2023 | No | | | | | | |
| 7A | Internal Data QA | Quarterly | Scott or Brian | 1. Are all scheduled samples on the Sample Schedule accounted for in GuMP (SQL Field Parameters table) and on the EDDs received list? If no, state reason(s) such as "dry well - no sample" etc. | No; seven (7) not sampled due to insufficient water or dry. One (1) not sampled due to inaccessible well head. | No actions Required | SB 9/12/2023 | No | | |
| 9A | QA comparison of SQL Sample Results with Sample Events. Compare Results and Events temp tables to ensure corresponding fields have matching data. | Quarterly | Bonnie | 1. Does each "Sys_Sample_Code" from Sample Events table match the respective "Sys_Sample_Code" in the Sample Results table. All cells have information (not blank) | Each "Sys_Sample_Code" from Sample Events table match the respective "Sys_Sample_Code" in the Sample Results table. | No actions Required | BW 8/11/2023 | No | | |
| B. FIELD PARAMETERS DATA MANAGEMENT AND QA | | | | | | | | | | |
| 4B | QA review of updated SQL Field Parameters table. Review data for each sample to ensure validity of data. | Quarterly | Scott or Brian | 1. For "Stability_Attained" samples (value=1), do the three "key" parameters (pH, DO, SC) have values? | Yes | No actions Required | SB 7/28/2023 | No | | |
| | | | | 2. For non-stable samples (key parameter(s) missing values), is the "Stability_Attained" value=0? | No non-stable samples. | No actions Required | SB 7/28/2023 | No | | |
| | | | | 3. Are "Field_Qualifier"s explained in the "Remarks"? | No field qualifiers. | No actions Required | SB 7/28/2023 | No | | |
| | | | | 4. For monitoring well samples with "Dry_Indicator" value=0 and "Inaccessible" value=0, is a "DTW" value provided? | Yes | No actions Required | SB 7/28/2023 | No | | |
| | | | | 5. For monitoring well samples with "Dry_Indicator" value=1, is DTW= -999? ...With "Inaccessible" value=1, is "DTW"= -111? | Yes | No actions Required | SB 7/28/2023 | No | | |
| | | | | 6. Does the "Sampling_device" correspond correctly with the "Sampling_method"? | Yes | No actions Required | SB 7/28/2023 | No | | |
| C. SAMPLE EVENTS DATA MANAGEMENT AND QA | | | | | | | | | | |
| 4C | QA review of updated SQL Sample Events table. Review data for each sample to ensure validity of data. | Quarterly | Bonnie | 1. Do all cells have information (not blank)? | Yes. | No actions Required | BW 8/11/2023 | No | | |
| | | | | 2. Are the sample type codes and sample matrix codes correct for each sample? | Yes. | No actions Required | BW 8/11/2023 | No | | |
| | | | | 3. Are the sampling methods and sampling device correct for each sample? | Yes | No actions Required | BW 8/11/2023 | No | | |



Figures

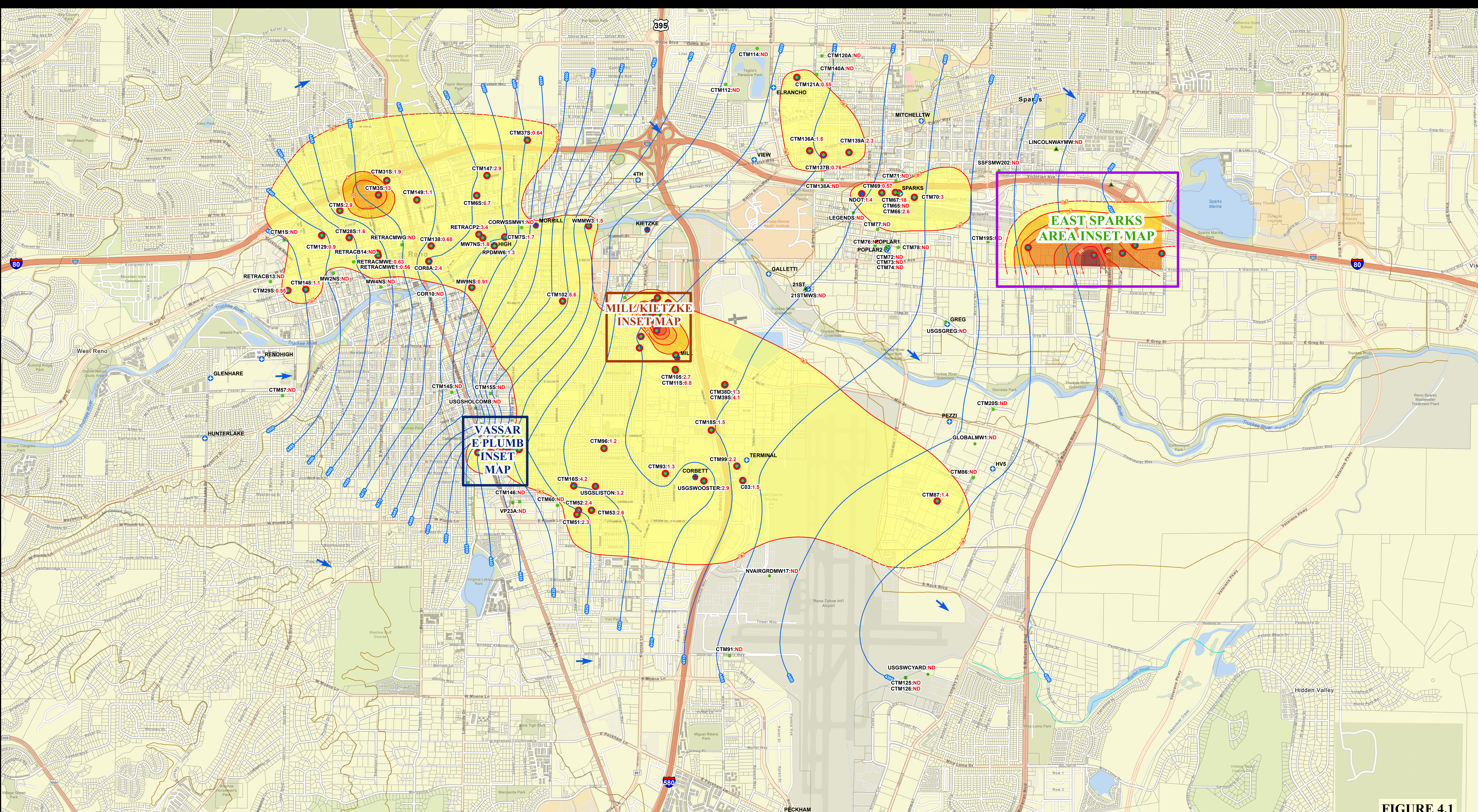
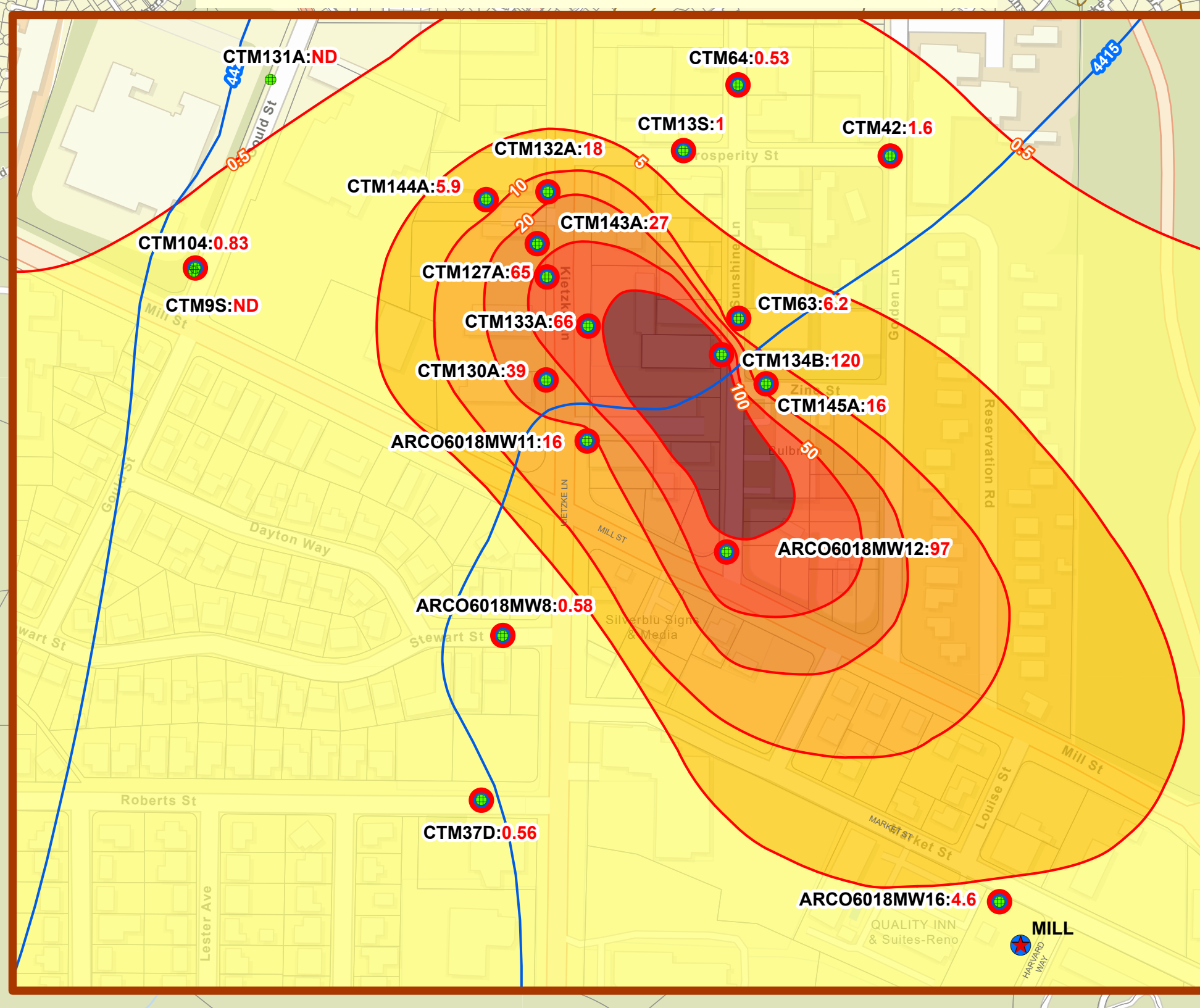
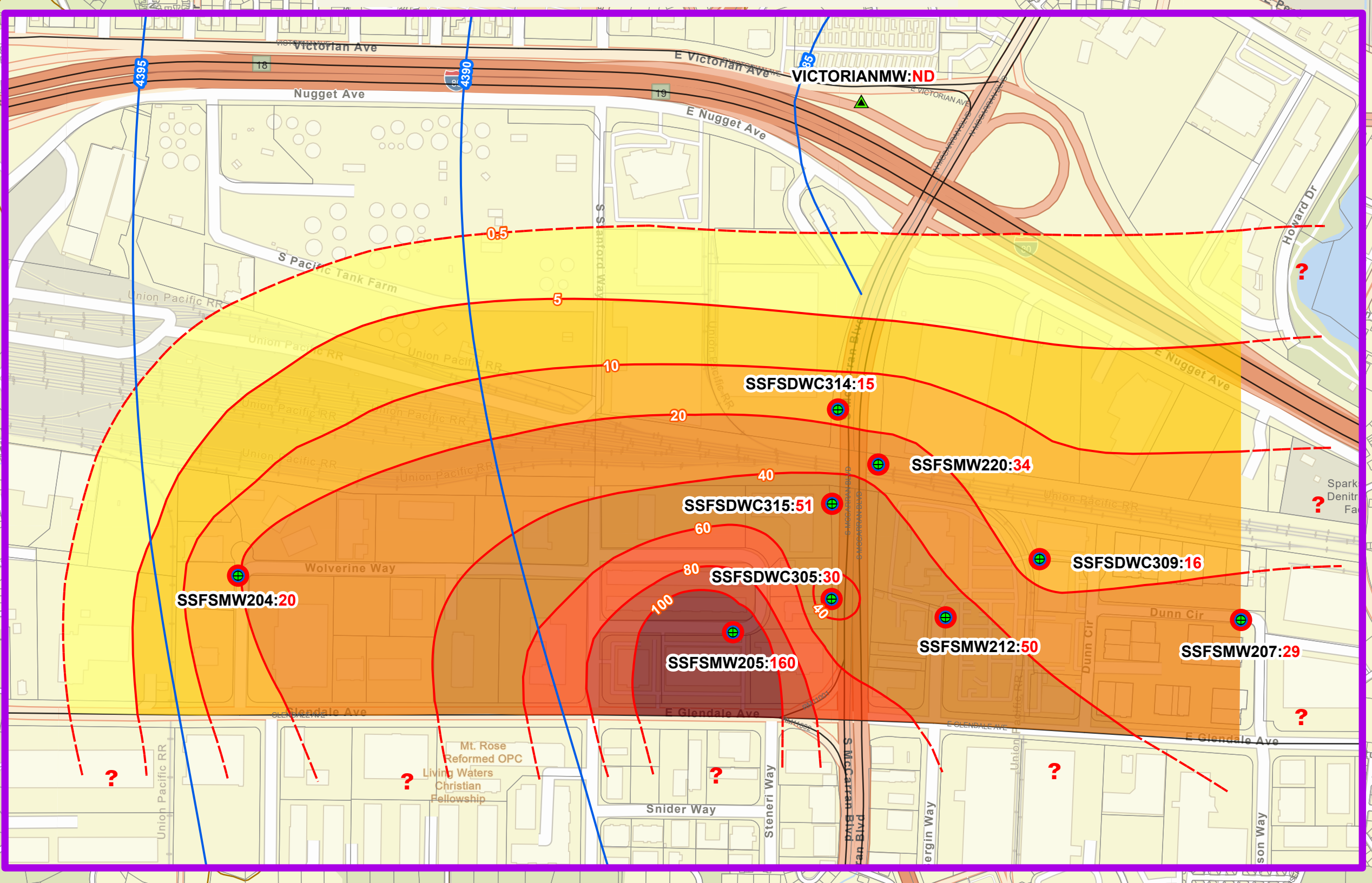


FIGURE 4.1

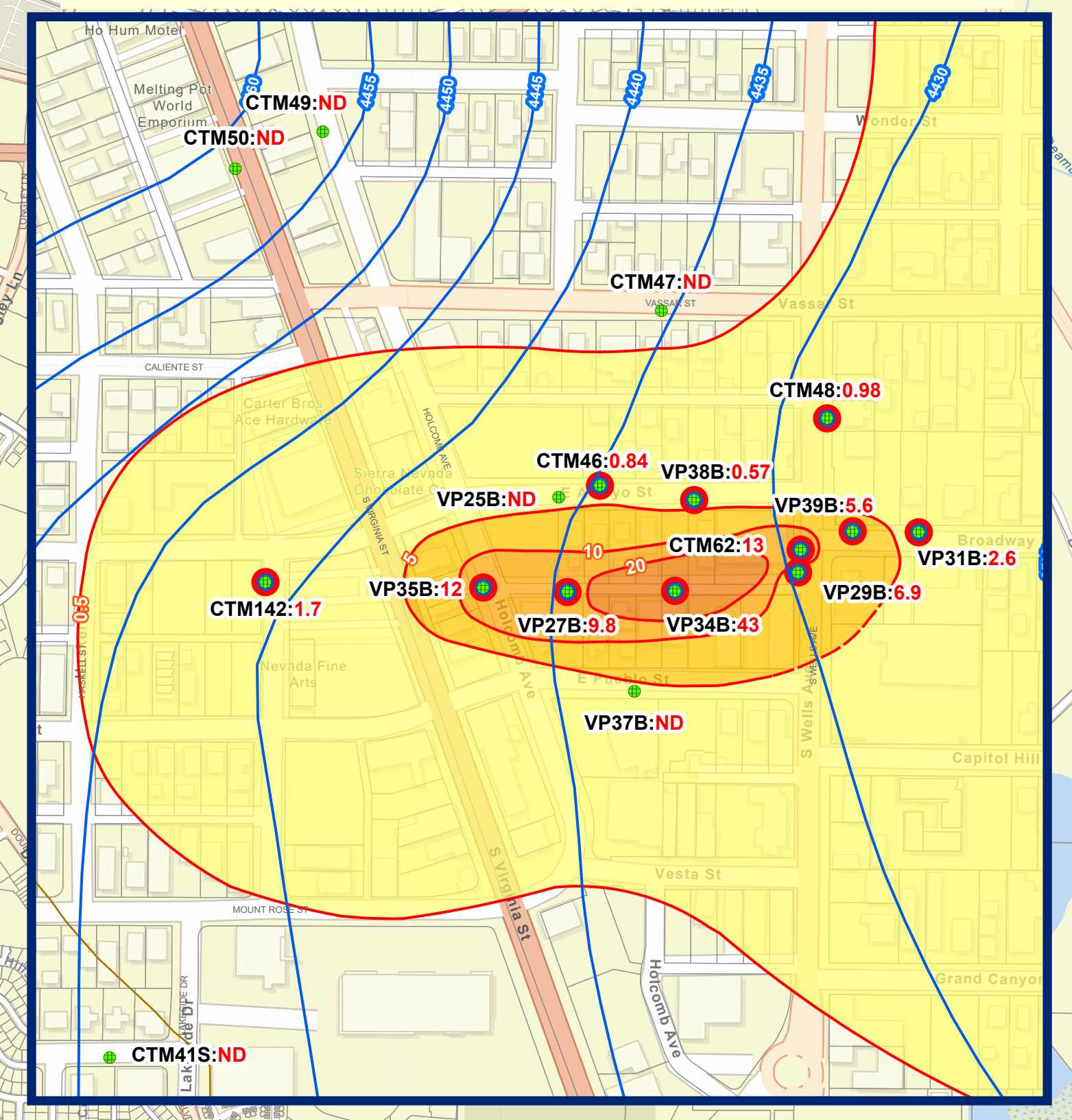
MILL / KIETZKE AREA INSET MAP



EAST SPARKS AREA INSET MAP



VASSAR / E PLUMB AREA INSET MAP



Water Level and PCE Concentration in Shallow Zone Wells January - June 2023

| WELL TYPE | | SAMPLE RESULTS | |
|-----------|--------------------------------------|----------------|---|
| ● | PRODUCTION WELL (PCE TREATED) - TMWA | ● | DETECTED AT GREATER THAN THE 0.50 µg/L PCE REPORTING LIMIT |
| ○ | PRODUCTION WELL | ○ | Values plotted only for wells that were sampled. Data from production wells are from samples collected under pumping conditions unless otherwise stated. Values plotted that are less than 0.50 µg/L are either noted as non-detect (ND) or indicate a value provided by the lab. |
| ● | DOMESTIC WELL | ● | ND |
| ○ | MONITORING WELL - OTHER | ○ | BELOW ANALYTICAL REPORTING LIMIT |
| ▲ | MONITORING WELL - TMWA | ? | INSUFFICIENT DATA FOR ESTIMATING LATERAL EXTENT OF CONTAMINATION |
| ● | MONITORING WELL - WCCSD | ○ | PCE CONCENTRATION AREAS |
| — | WATER LEVEL ELEVATION CONTOURS | — | PCE CONCENTRATION CONTOURS |
| → | GROUNDWATER FLOW DIRECTION | --- | PCE CONCENTRATION CONTOURS - INFERRED |
| — | CREEK | | Actual lateral extent of contamination uncertain. |
| — | DITCH | | > 0.05 ug/L > 20 ug/L |
| | | | > 5 ug/L > 40 ug/L |
| | | | > 10 ug/L > 80 ug/L |

NOTES:
 The scale and configuration of all information shown herein are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Community Services Department.
 PCE/TCE contours reflect data from the time range noted. Where such data were not collected, the monitoring data for these locations were plotted. Contours may not represent the exact lateral extent of contamination in recharge wells are dynamic and may not reflect actual piezometric surface over the entire time range noted.

SCALE:
 1" = 100' Feet

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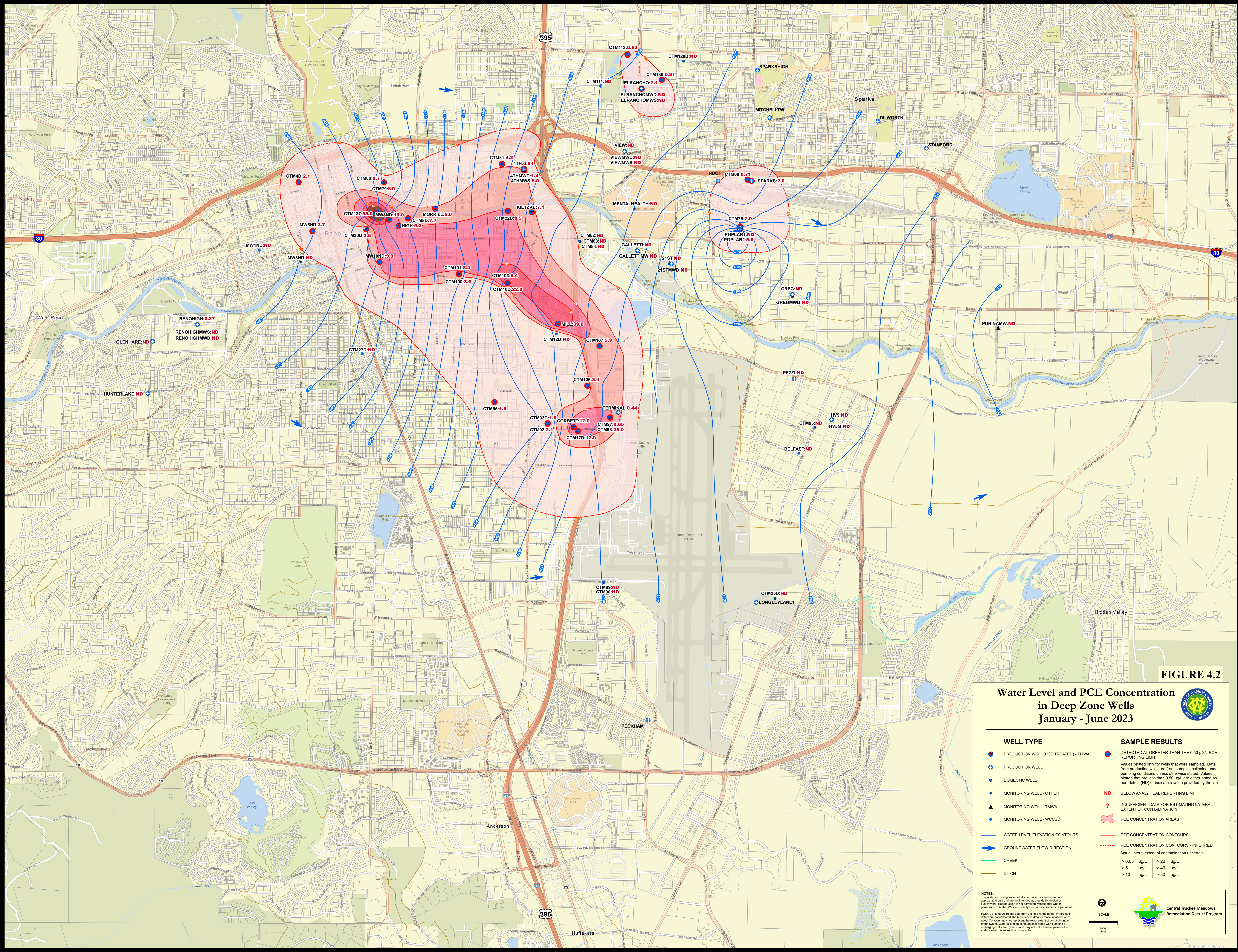


FIGURE 4.2

Water Level and PCE Concentration in Deep Zone Wells January - June 2023



| WELL TYPE | SAMPLE RESULTS |
|--------------------------------------|---|
| PRODUCTION WELL (PCE TREATED) - TMWA | DETECTED AT GREATER THAN THE 0.50 µg/L PCE REPORTING LIMIT |
| PRODUCTION WELL | Values plotted only for wells that were sampled. Data from production wells are from samples collected under pumping conditions unless otherwise stated. Values plotted that are less than 0.50 µg/L are either noted as non-detected (ND) or indicate a value provided by the lab. |
| DOMESTIC WELL | ND |
| MONITORING WELL - OTHER | BELOW ANALYTICAL REPORTING LIMIT |
| MONITORING WELL - TMWA | INSUFFICIENT DATA FOR ESTIMATING LATERAL EXTENT OF CONTAMINATION |
| MONITORING WELL - WCCSD | PCE CONCENTRATION AREAS |
| WATER LEVEL ELEVATION CONTOURS | PCE CONCENTRATION CONTOURS |
| GROUNDWATER FLOW DIRECTION | PCE CONCENTRATION CONTOURS - INFERRED |
| CREEK | Actual lateral extent of contamination uncertain. |
| DITCH | > 0.05 ug/L > 20 ug/L |
| | > 5 ug/L > 40 ug/L |
| | > 10 ug/L > 80 ug/L |

NOTES:
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PCE/TCE contours reflect data from the time range noted. Where such data were not collected, the maximum data for those locations were used. Contours may not represent the exact extent of contamination in production wells. Water elevation contours associated with pumping or recharging wells are dynamic and may not reflect actual potentiometric surface over the entire time range noted.

SCALE:
1,000 Feet

Central Truckee Meadows Remediation District Program

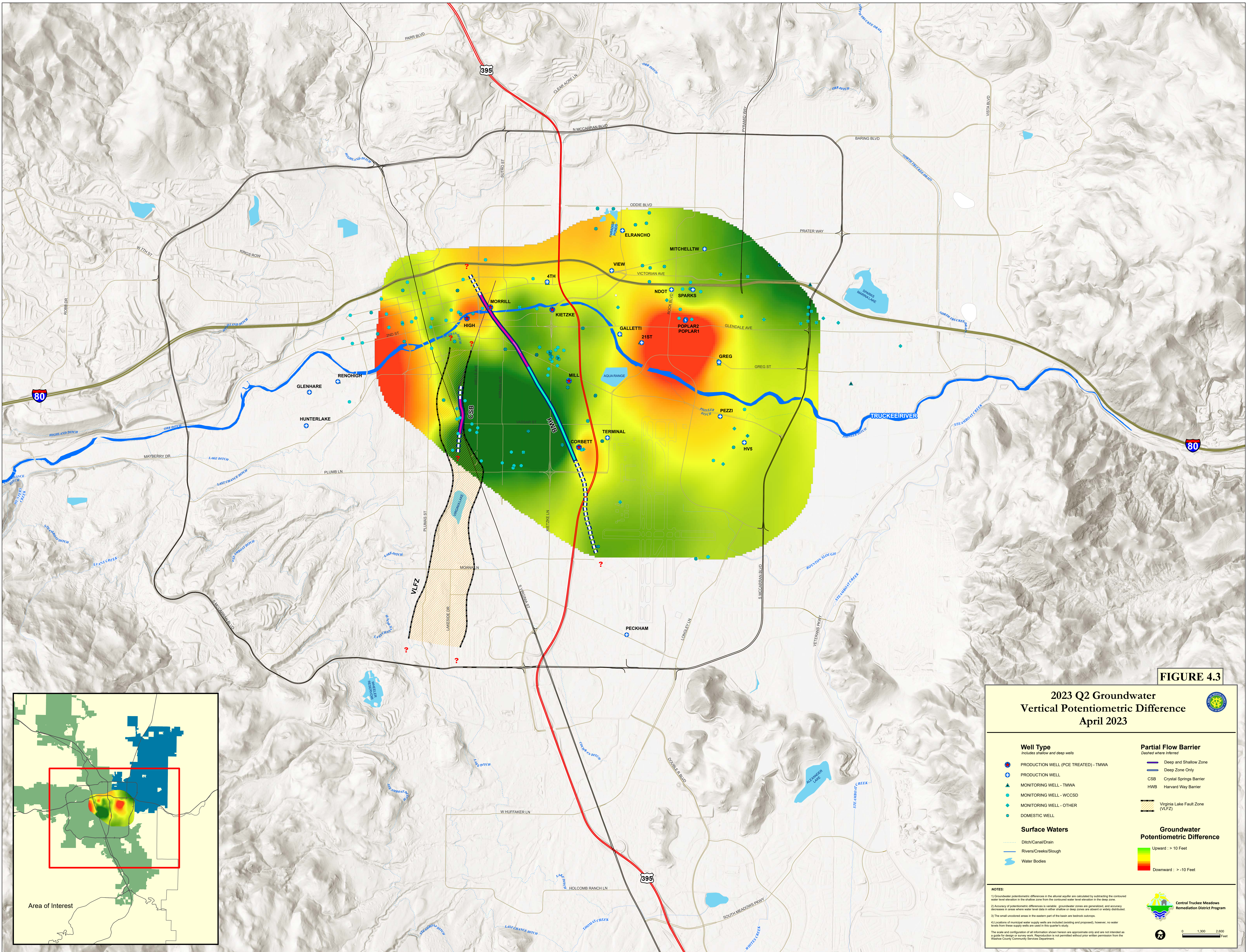


FIGURE 4.3

**2023 Q2 Groundwater Vertical Potentiometric Difference
April 2023**

| Well Type | Partial Flow Barrier |
|--|--|
| <ul style="list-style-type: none"> PRODUCTION WELL (PCE TREATED) - TMWA PRODUCTION WELL MONITORING WELL - TMWA MONITORING WELL - WCCSD MONITORING WELL - OTHER DOMESTIC WELL | <ul style="list-style-type: none"> Deep and Shallow Zone Deep Zone Only Crystal Springs Barrier Harvard Way Barrier Virginia Lake Fault Zone (VLFZ) |
| Surface Waters | Groundwater Potentiometric Difference |
| <ul style="list-style-type: none"> Ditch/Canal/Drain Rivers/Creeks/Slough Water Bodies | <ul style="list-style-type: none"> Upward : > 10 Feet Downward : > -10 Feet |

NOTES:

- 1) Groundwater potentiometric differences in the alluvial aquifer are calculated by subtracting the contoured water level elevation in the shallow zone from the contoured water level elevation in the deep zone.
- 2) Accuracy of potentiometric differences is variable; groundwater zones are generalized, and accuracy increases in areas where water level data is either shallow or deep zones are absent or widely distributed.
- 3) The small uncolored areas in the eastern part of the basin are bedrock outcrops.
- 4) Locations of municipal water supply wells are included (existing and proposed), however, no water levels from these supply wells are used in this quarter's study.

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0 1,300 2,600 Feet

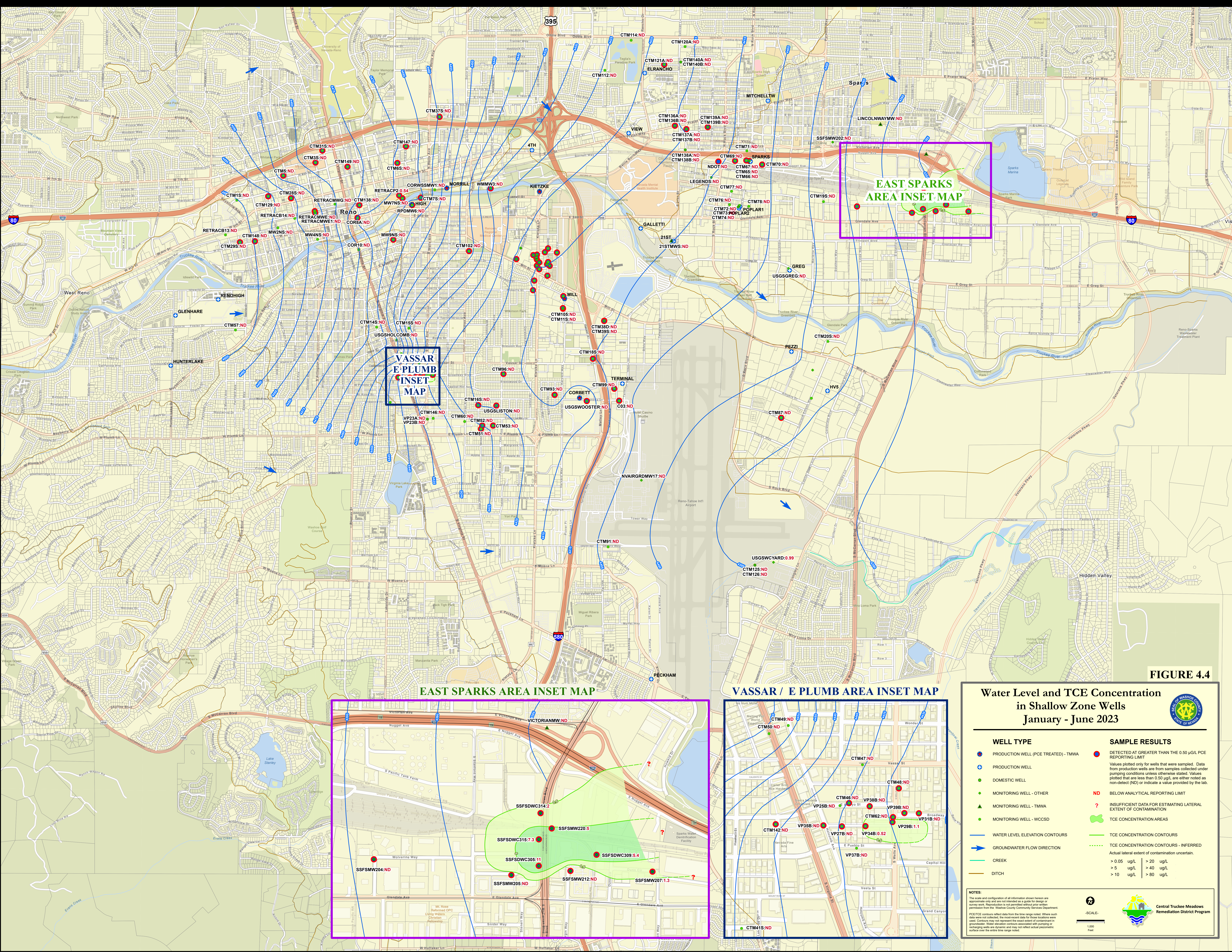


FIGURE 4.4

Water Level and TCE Concentration in Shallow Zone Wells January - June 2023

| WELL TYPE | SAMPLE RESULTS |
|--|---|
| ● PRODUCTION WELL (PCE TREATED) - TMWA | ● DETECTED AT GREATER THAN THE 0.50 µg/L PCE REPORTING LIMIT |
| ○ PRODUCTION WELL | ○ VALUES PLOTTED ONLY FOR WELLS THAT WERE SAMPLED. DATA FROM PRODUCTION WELLS ARE FROM SAMPLES COLLECTED UNDER PUMPING CONDITIONS UNLESS OTHERWISE STATED. VALUES PLOTTED THAT ARE LESS THAN 0.50 µg/L ARE EITHER NOTED AS NON-DETECT (ND) OR INDICATE A VALUE PROVIDED BY THE LAB. |
| ● DOMESTIC WELL | ● ND BELOW ANALYTICAL REPORTING LIMIT |
| ● MONITORING WELL - OTHER | ● ? INSUFFICIENT DATA FOR ESTIMATING LATERAL EXTENT OF CONTAMINATION |
| ▲ MONITORING WELL - TMWA | ▲ TCE CONCENTRATION AREAS |
| ● MONITORING WELL - WCCSD | ● TCE CONCENTRATION CONTOURS |
| — WATER LEVEL ELEVATION CONTOURS | — TCE CONCENTRATION CONTOURS - INFERRED |
| → GROUNDWATER FLOW DIRECTION | Actual lateral extent of contamination uncertain. |
| — CREEK | > 0.05 ug/L > 20 ug/L |
| — DITCH | > 5 ug/L > 40 ug/L |
| | > 10 ug/L > 80 ug/L |

NOTES:
 The scale and configuration of all information shown herein are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Community Services Department.
 PCE/TCE contours reflect data from the time range noted. Where such data were not collected, the maximum data for these locations were used. Contours may not represent the exact extent of contamination in recharge wells as dynamic and may not reflect actual piezometric surface over the entire time range noted.

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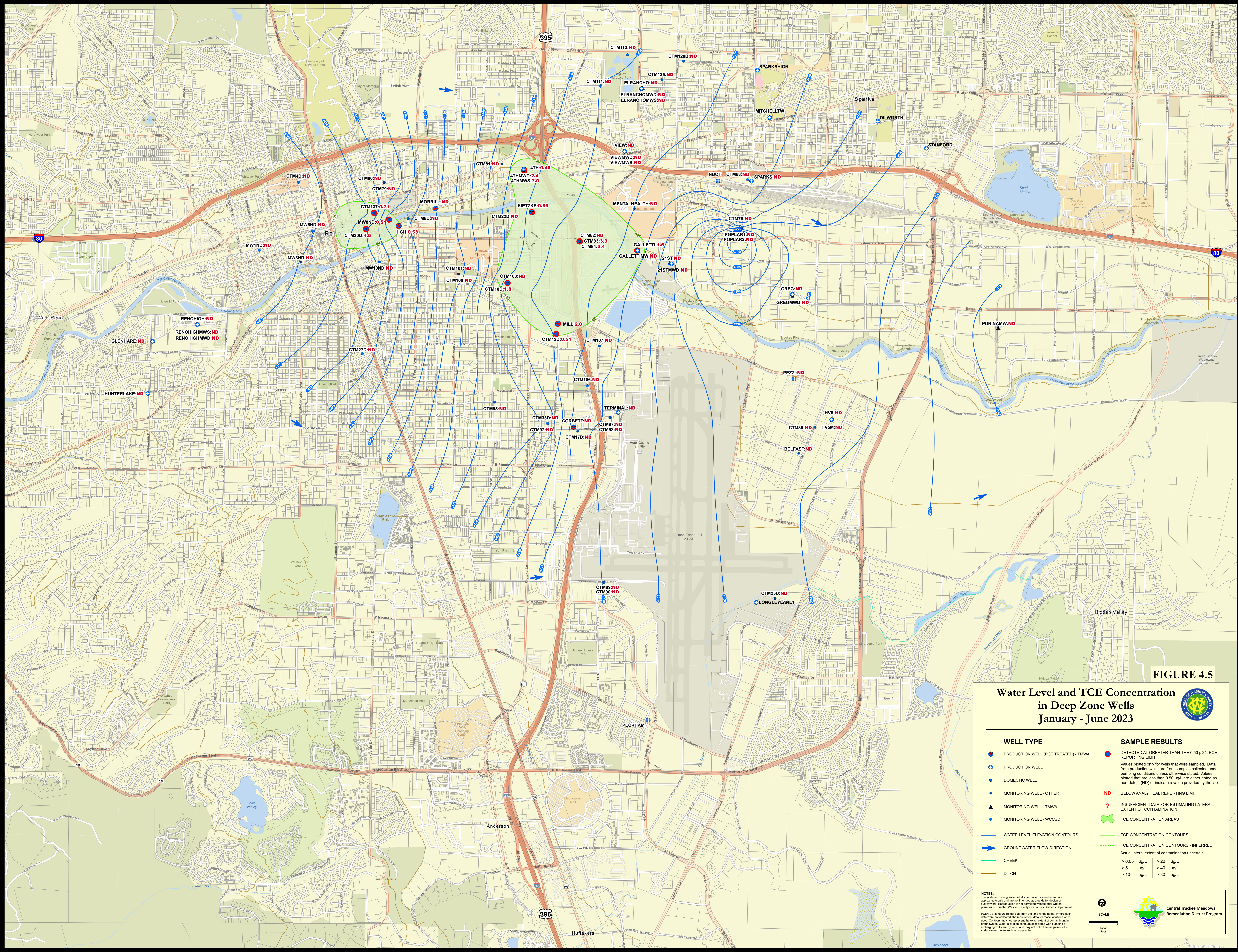


FIGURE 4.5

**Water Level and TCE Concentration
in Deep Zone Wells
January - June 2023**



| WELL TYPE | SAMPLE RESULTS |
|--------------------------------------|---|
| PRODUCTION WELL (PCE TREATED) - TMWA | DETECTED AT GREATER THAN THE 0.50 µg/L PCE REPORTING LIMIT |
| PRODUCTION WELL | Values plotted only for wells that were sampled. Data from production wells are from samples collected under pumping conditions unless otherwise stated. Values plotted that are less than 0.50 µg/L are either noted as non-detected (ND) or indicate a value provided by the lab. |
| DOMESTIC WELL | ND BELOW ANALYTICAL REPORTING LIMIT |
| MONITORING WELL - OTHER | INSUFFICIENT DATA FOR ESTIMATING LATERAL EXTENT OF CONTAMINATION |
| MONITORING WELL - TMWA | TCE CONCENTRATION AREAS |
| MONITORING WELL - WCCSD | TCE CONCENTRATION CONTOURS |
| WATER LEVEL ELEVATION CONTOURS | TCE CONCENTRATION CONTOURS - INFERRED |
| GROUNDWATER FLOW DIRECTION | Actual lateral extent of contamination uncertain. |
| CREEK | > 0.05 ug/L > 20 ug/L |
| DITCH | > 5 ug/L > 40 ug/L |
| | > 10 ug/L > 80 ug/L |

NOTES:
The scale and configuration of all information shown herein are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Community Services Department.

PCE/TCE contours reflect data from the time range noted. Where such data were not collected, the maximum data for those locations were used. Contours may not represent the exact extent of contamination in groundwater. Water elevation contours associated with pumping or recharging wells are dynamic and may not reflect actual potentiometric surface over the entire time range noted.

SCALE:
1,000 Feet

Central Truckee Meadows Remediation District Program



Appendix 1 Well-Specific Statistical Summaries

Table A1.1: Groundwater Elevation Statistics for GMP Wells This Quarter

Table A1.2: PCE Statistics for GMP Wells This Quarter

Table A1.3: TCE Statistics for GMP Wells This Quarter

Table A1.1: Water Level Statistics for All CTMRD GMP and TMWA Wells Monitored During 2023 Q2

| Well ID ⁽¹⁾ | Subregion ⁽²⁾ | Screen Position | Current Results | Previous Results and Comparisons | | | Statistically Significant Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | |
|------------------------|--------------------------|---|---|----------------------------------|--|---|---|------------------------|--|-------------------|-------------------|------------------------------|--|
| | | Deep Zone/ Shallow Zone ⁽³⁾ | Water Level Elevation ⁽⁴⁾ 2023 Q2 | Water Level Elevation 2023 Q1 | Water Level Change ⁽⁵⁾ Prior Quarter to Current Quarter (ft) | New Maximum/ Minimum ⁽⁶⁾⁽⁸⁾ | Statistical Significance of Elevation Change from Previous Quarter ⁽⁷⁾ | No. of Months Measured | First Month Measured (YYYY/MM) | Elevation Minimum | Elevation Maximum | Elevation Standard Deviation | |
| ARCO6018MW11 | MK | S | 4,415.5 | 4,415.2 | 0.3 | -- | 0.04 | 39 | 2013/04 | 4,401.4 | 4,417.6 | 3.53 | |
| ARCO6018MW12 | MK | S | 4,414.1 | 4,413.8 | 0.3 | Max 4416.7 (6) | 0.05 | 40 | 2013/04 | 4,399.6 | 4,416.2 | 3.30 | |
| ARCO6018MW16 | MK | S | 4,413.2 | 4,412.9 | 0.3 | Max 4415.6 (6) | 0.05 | 40 | 2013/04 | 4,399.0 | 4,414.9 | 3.03 | |
| ARCO6018MW8 | MK | S | 4,414.1 | 4,413.8 | 0.3 | Max 4416.0 (6) | 0.05 | 38 | 2013/04 | 4,401.9 | 4,414.6 | 2.80 | |
| BELFAST | J | D | 4,395.0 | 4,394.9 | 0.1 | -- | 0.04 | 40 | 2013/04 | 4,389.8 | 4,395.5 | 1.30 | |
| C03 | SR | S | 4,406.3 | 4,406.1 | 0.2 | Max 4406.7 (6) | 0.08 | 38 | 2013/06 | 4,401.4 | 4,406.3 | 1.21 | |
| COR10 | DR | S | 4,475.4 | 4,474.9 | 0.5 | -- | 0.23 | 39 | 2013/04 | 4,472.3 | 4,476.9 | 1.08 | |
| COR8A | DR | S | 4,468.2 | 4,468.0 | 0.2 | Max 4469.0 (6) | 0.11 | 40 | 2013/04 | 4,464.8 | 4,468.9 | 0.89 | |
| CORWSSMW1 | DR | S | 4,458.6 | 4,458.1 | 0.5 | -- | 0.09 | 40 | 2013/04 | 4,449.6 | 4,461.3 | 2.73 | |
| CTM100 | DR | D | 4,451.5 | 4,451.0 | 0.5 | Max 4452.5 (6) | 0.03 | 40 | 2013/04 | 4,423.8 | 4,451.0 | 7.55 | |
| CTM101 | DR | D | 4,442.9 | 4,442.5 | 0.4 | Max 4444.3 (6) | 0.05 | 40 | 2013/04 | 4,426.0 | 4,444.0 | 4.07 | |
| CTM102 | DR | S | 4,442.6 | 4,442.3 | 0.3 | Max 4444.0 (6) | 0.04 | 41 | 2013/04 | 4,426.0 | 4,443.8 | 4.00 | |
| CTM103 | DR | D | 4,418.7 | 4,418.3 | 0.4 | Max 4421.8 (6) | 0.02 | 41 | 2013/04 | 4,378.6 | 4,418.3 | 9.16 | |
| CTM104 | MK | S | 4,418.7 | 4,418.1 | 0.6 | Max 4421.3 (6) | 0.05 | 41 | 2013/04 | 4,389.0 | 4,418.1 | 6.64 | |
| CTM105 | MK-SR | S | 4,413.4 | 4,413.0 | 0.4 | Max 4415.8 (6) | 0.05 | 41 | 2013/04 | 4,394.3 | 4,414.5 | 4.11 | |
| CTM106 | SR | D | 4,410.4 | 4,410.4 | 0.0 | Max 4412.1 (6) | 0.00 | 41 | 2013/04 | 4,390.5 | 4,411.1 | 4.65 | |
| CTM107 | DR-SR | D | 4,413.1 | 4,412.6 | 0.5 | Max 4415.4 (6) | 0.03 | 41 | 2013/04 | 4,377.7 | 4,413.2 | 8.39 | |
| CTM10D | DR | D | 4,425.2 | 4,424.2 | 1.0 | Max 4428.1 (6) | 0.02 | 41 | 2013/04 | 4,327.7 | 4,424.2 | 28.70 | |
| CTM111 | ER | D | 4,419.9 | 4,420.3 | -0.4 | -- | -0.01 | 40 | 2013/04 | 4,336.7 | 4,426.5 | 20.39 | |
| CTM112 | ER | S | 4,424.5 | 4,423.9 | 0.6 | Max 4426.4 (5) | 0.03 | 40 | 2013/04 | 4,384.6 | 4,424.3 | 10.34 | |
| CTM113 | ER | D | 4,421.0 | 4,421.4 | -0.4 | -- | -0.01 | 40 | 2013/04 | 4,353.3 | 4,425.1 | 17.99 | |
| CTM114 | ER | S | 4,422.1 | 4,421.4 | 0.7 | -- | 0.03 | 40 | 2013/04 | 4,380.3 | 4,424.1 | 10.00 | |
| CTM11S | MK-SR | S | 4,413.2 | 4,412.9 | 0.3 | Max 4415.6 (6) | 0.05 | 41 | 2013/04 | 4,397.0 | 4,414.6 | 3.10 | |
| CTM120A | ER | S | 4,415.9 | 4,415.6 | 0.3 | -- | 0.04 | 40 | 2013/08 | 4,399.4 | 4,417.0 | 3.58 | |
| CTM120B | ER | D | 4,417.1 | 4,416.6 | 0.5 | -- | 0.03 | 40 | 2013/08 | 4,378.4 | 4,418.7 | 9.35 | |
| CTM121A | ER | S | 4,418.0 | 4,416.7 | 1.3 | -- | 0.05 | 40 | 2013/08 | 4,364.2 | 4,420.6 | 13.52 | |
| CTM125 | (Other) | S | 4,398.6 | 4,398.5 | 0.1 | -- | 0.03 | 40 | 2013/07 | 4,390.2 | 4,398.7 | 1.72 | |
| CTM126 | (Other) | S | 4,392.3 | 4,392.2 | 0.1 | -- | 0.07 | 40 | 2013/07 | 4,388.8 | 4,395.6 | 0.72 | |
| CTM127A | MK | S | 4,415.7 | 4,414.9 | 0.8 | -- | 0.23 | 21 | 2014/06 | 4,410.4 | 4,416.9 | 1.76 | |
| CTM127B | MK | S | 4,416.2 | 4,415.3 | 0.9 | -- | 0.09 | 41 | 2013/04 | 4,395.2 | 4,418.1 | 4.85 | |
| CTM128 | DR | S | 4,496.6 | NM | -- | -- | -- | 39 | 2013/04 | 4,495.9 | 4,498.5 | 0.73 | |
| CTM129 | DR | S | 4,496.5 | 4,495.8 | 0.7 | -- | 0.14 | 39 | 2013/04 | 4,485.2 | 4,498.7 | 2.46 | |
| CTM12D | DR-SR | D | 4,419.7 | 4,418.7 | 1.0 | -- | 0.02 | 41 | 2013/04 | 4,323.8 | 4,436.9 | 30.11 | |
| CTM130A | MK | S | 4,414.6 | 4,413.8 | 0.8 | -- | 0.32 | 29 | 2014/02 | 4,410.5 | 4,415.5 | 1.25 | |
| CTM130B | MK | S | 4,415.5 | 4,414.5 | 1.0 | Max 4416.6 (5) | 0.09 | 39 | 2013/10 | 4,389.9 | 4,415.1 | 5.47 | |
| CTM131B | MK | S | 4,420.1 | 4,419.2 | 0.9 | -- | 0.06 | 37 | 2013/12 | 4,398.2 | 4,455.8 | 7.95 | |
| CTM132A | MK | S | 4,416.5 | 4,415.7 | 0.8 | -- | 0.24 | 24 | 2016/11 | 4,411.5 | 4,417.9 | 1.68 | |
| CTM132B | MK | S | 4,417.4 | 4,416.3 | 1.1 | Max 4418.7 (5) | 0.09 | 37 | 2014/04 | 4,390.8 | 4,416.3 | 6.12 | |
| CTM133A | MK | S | 4,415.1 | 4,414.4 | 0.7 | Max 4416.1 (5) | 0.19 | 31 | 2014/05 | 4,409.7 | 4,415.9 | 1.82 | |
| CTM133B | MK | S | 4,416.2 | 4,415.2 | 1.0 | Max 4417.5 (5) | 0.09 | 37 | 2014/04 | 4,392.1 | 4,416.0 | 5.30 | |
| CTM134A | MK | S | 4,414.9 | 4,414.0 | 0.9 | Max 4416.3 (5) | 0.24 | 32 | 2014/04 | 4,409.0 | 4,415.9 | 1.87 | |
| CTM134B | MK | S | 4,415.0 | 4,414.2 | 0.8 | Max 4416.4 (5) | 0.08 | 37 | 2014/04 | 4,393.4 | 4,415.5 | 4.99 | |
| CTM135 | ER | D | 4,418.2 | 4,416.8 | 1.4 | -- | 0.05 | 37 | 2014/04 | 4,360.4 | 4,421.2 | 13.89 | |
| CTM136A | DS | S | 4,417.0 | 4,416.4 | 0.6 | -- | 0.16 | 31 | 2015/01 | 4,408.0 | 4,418.1 | 1.85 | |
| CTM136B | DS | S | 4,415.1 | 4,415.0 | 0.1 | -- | 0.01 | 35 | 2014/09 | 4,399.5 | 4,417.6 | 3.66 | |
| CTM137 | DR | D | 4,474.4 | 4,474.5 | -0.1 | -- | -0.04 | 41 | 2013/04 | 4,469.2 | 4,475.3 | 1.37 | |
| CTM137A | DS | S | 4,415.6 | 4,415.0 | 0.6 | -- | 0.16 | 29 | 2015/05 | 4,409.0 | 4,416.5 | 1.87 | |
| CTM137B | DS | S | 4,412.0 | 4,413.5 | -1.5 | -- | -0.23 | 36 | 2014/09 | 4,398.8 | 4,415.3 | 3.25 | |
| CTM138 | DR | S | 4,474.4 | 4,474.3 | 0.1 | -- | 0.08 | 39 | 2013/04 | 4,471.8 | 4,475.1 | 0.60 | |
| CTM138A | DS | S | 4,414.3 | 4,413.4 | 0.9 | -- | 0.19 | 32 | 2015/01 | 4,407.6 | 4,417.5 | 2.32 | |
| CTM138B | DS | S | 4,413.2 | 4,412.5 | 0.7 | -- | 0.10 | 36 | 2014/09 | 4,397.4 | 4,414.8 | 3.41 | |
| CTM139A | DS | S | 4,413.2 | 4,412.8 | 0.4 | -- | 0.16 | 30 | 2015/05 | 4,408.6 | 4,413.8 | 1.22 | |
| CTM139B | DS | S | 4,412.7 | 4,412.1 | 0.6 | -- | 0.09 | 35 | 2014/09 | 4,397.5 | 4,413.7 | 3.23 | |
| CTM13S | MK | S | 4,416.0 | 4,415.6 | 0.4 | Max 4420.2 (6) | 0.05 | 40 | 2013/04 | 4,398.9 | 4,419.9 | 4.33 | |
| CTM140A | ER | S | 4,418.1 | 4,417.0 | 1.1 | -- | 0.28 | 28 | 2016/05 | 4,411.2 | 4,419.1 | 1.99 | |
| CTM140B | ER | S | 4,416.9 | 4,416.7 | 0.2 | -- | 0.03 | 30 | 2015/12 | 4,400.4 | 4,418.9 | 3.18 | |
| CTM142 | SR | S | 4,439.2 | 4,439.3 | -0.1 | -- | -0.04 | 19 | 2018/10 | 4,433.6 | 4,439.3 | 1.41 | |
| CTM145A | MK | S | 4,414.7 | 4,414.0 | 0.7 | Max 4416.1 (5) | 0.18 | 18 | 2019/02 | 4,407.3 | 4,414.5 | 1.97 | |

Table A1.1: Water Level Statistics for All CTMRD GMP and TMWA Wells Monitored During 2023 Q2

| Well ID ⁽¹⁾ | Subregion ⁽²⁾ | Screen Position | Current Results | Previous Results and Comparisons | | Statistically Significant Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | |
|------------------------|--------------------------|---|---|----------------------------------|--|---------------------------------------|---|--|--------------------------------|-------------------|-------------------|------------------------------|
| | | Deep Zone/ Shallow Zone ⁽³⁾ | Water Level Elevation ⁽⁴⁾ 2023 Q2 | Water Level Elevation 2023 Q1 | Water Level Change ⁽⁵⁾ Prior Quarter to Current Quarter (ft) | New Maximum/Minimum ⁽⁶⁾⁽⁸⁾ | Statistical Significance of Elevation Change from Previous Quarter ⁽⁷⁾ | No. of Months Measured | First Month Measured (YYYY/MM) | Elevation Minimum | Elevation Maximum | Elevation Standard Deviation |
| CTM145B | MK | S | 4,414.8 | 4,414.1 | 0.7 | Max 4416.2 (5) | 0.16 | 18 | 2019/02 | 4,404.7 | 4,414.3 | 2.17 |
| CTM146 | DR | S | 4,433.5 | 4,433.2 | 0.3 | Max 4433.5 (4) | 0.21 | 16 | 2019/07 | 4,430.3 | 4,433.2 | 0.71 |
| CTM147 | DR | S | 4,469.1 | 4,469.0 | 0.1 | Max 4469.8 (5) | 0.07 | 16 | 2019/07 | 4,466.3 | 4,469.4 | 0.71 |
| CTM148 | DR | S | 4,499.8 | 4,498.3 | 1.5 | Max 4500.4 (5) | 1.25 | 16 | 2019/07 | 4,497.0 | 4,499.7 | 0.60 |
| CTM149 | DR | S | 4,477.3 | 4,477.0 | 0.3 | -- | 0.05 | 16 | 2019/07 | 4,475.5 | 4,493.4 | 3.20 |
| CTM14S | SR | S | 4,467.4 | 4,467.5 | -0.1 | -- | -0.08 | 40 | 2013/04 | 4,464.6 | 4,468.4 | 0.67 |
| CTM15S | SR | S | 4,439.0 | 4,438.6 | 0.4 | Max 4439.8 (6) | 0.07 | 40 | 2013/04 | 4,425.4 | 4,439.3 | 3.07 |
| CTM16S | SR | S | 4,419.6 | 4,419.4 | 0.2 | Max 4419.9 (6) | 0.09 | 40 | 2013/04 | 4,414.1 | 4,419.4 | 1.17 |
| CTM17D | SR | D | 4,409.6 | 4,409.5 | 0.1 | Max 4411.5 (6) | 0.00 | 41 | 2013/04 | 4,372.6 | 4,409.5 | 10.87 |
| CTM18S | SR | S | 4,410.2 | 4,410.1 | 0.1 | -- | 0.02 | 41 | 2013/04 | 4,398.2 | 4,410.7 | 2.59 |
| CTM19S | ES | S | 4,398.0 | 4,397.7 | 0.3 | -- | 0.08 | 38 | 2013/04 | 4,388.4 | 4,399.8 | 1.91 |
| CTM1S | DR | S | 4,500.3 | 4,503.5 | -3.2 | -- | -0.76 | 39 | 2013/04 | 4,489.6 | 4,503.5 | 2.10 |
| CTM20S | J | S | 4,397.6 | 4,397.3 | 0.3 | -- | 0.09 | 40 | 2013/04 | 4,392.2 | 4,400.8 | 1.70 |
| CTM22D | DR | D | 4,428.3 | 4,427.2 | 1.1 | Max 4431.2 (6) | 0.02 | 41 | 2013/04 | 4,339.7 | 4,427.2 | 25.95 |
| CTM25D | (Other) | D | 4,396.7 | 4,396.4 | 0.3 | -- | 0.07 | 39 | 2013/04 | 4,386.2 | 4,396.7 | 2.07 |
| CTM27D | SR | D | 4,468.3 | 4,468.2 | 0.1 | -- | 0.05 | 40 | 2013/04 | 4,463.9 | 4,469.5 | 1.02 |
| CTM28S | DR | S | 4,491.9 | 4,491.1 | 0.8 | -- | 0.19 | 39 | 2013/04 | 4,482.5 | 4,494.0 | 2.12 |
| CTM29S | DR | S | 4,502.2 | 4,500.3 | 1.9 | Max 4503.3 (6) | 0.43 | 39 | 2013/04 | 4,489.9 | 4,503.1 | 2.23 |
| CTM30D | DR | D | 4,470.7 | 4,470.6 | 0.1 | Max 4471.7 (6) | 0.02 | 40 | 2013/04 | 4,458.7 | 4,471.2 | 3.00 |
| CTM31S | DR | S | 4,477.3 | 4,477.0 | 0.3 | -- | 0.09 | 41 | 2013/04 | 4,471.8 | 4,478.8 | 1.64 |
| CTM33D | SR | D | 4,429.6 | 4,429.6 | 0.0 | -- | 0.00 | 37 | 2013/04 | 4,421.0 | 4,429.9 | 2.00 |
| CTM37D | MK | S | 4,415.2 | 4,414.7 | 0.5 | Max 4417.8 (6) | 0.04 | 41 | 2013/04 | 4,389.6 | 4,416.2 | 5.65 |
| CTM37S | DR | S | 4,459.6 | 4,459.6 | 0.0 | Max 4460.7 (6) | 0.00 | 39 | 2013/04 | 4,453.7 | 4,459.6 | 1.48 |
| CTM38D | MK-SR | S | 4,411.1 | 4,410.9 | 0.2 | Max 4413.0 (6) | 0.03 | 41 | 2013/04 | 4,396.4 | 4,412.2 | 3.20 |
| CTM39S | MK-SR | S | 4,411.0 | 4,410.9 | 0.1 | Max 4412.8 (6) | 0.02 | 41 | 2013/04 | 4,398.4 | 4,412.1 | 2.87 |
| CTM3S | DR | S | 4,477.8 | 4,477.5 | 0.3 | -- | 0.10 | 39 | 2013/04 | 4,472.8 | 4,479.5 | 1.44 |
| CTM41S | SR | S | 4,444.3 | 4,443.5 | 0.8 | Max 4444.3 (4) | 0.23 | 39 | 2013/04 | 4,436.4 | 4,443.9 | 1.75 |
| CTM42 | MK | S | 4,415.5 | 4,415.1 | 0.4 | Max 4419.1 (6) | 0.05 | 39 | 2013/04 | 4,399.7 | 4,417.2 | 3.95 |
| CTM46 | SR | S | 4,434.9 | 4,435.0 | -0.1 | -- | -0.03 | 41 | 2013/04 | 4,427.4 | 4,435.2 | 1.70 |
| CTM47 | SR | S | 4,431.8 | 4,430.7 | 1.1 | -- | 0.35 | 41 | 2013/04 | 4,424.4 | 4,432.1 | 1.58 |
| CTM48 | SR | S | 4,427.9 | 4,427.9 | 0.0 | -- | 0.00 | 41 | 2013/04 | 4,421.9 | 4,428.5 | 1.34 |
| CTM49 | SR | S | 4,457.6 | 4,457.6 | 0.0 | -- | 0.00 | 41 | 2013/04 | 4,457.1 | 4,457.6 | 0.11 |
| CTM4D | DR | D | 4,482.3 | 4,482.0 | 0.3 | -- | 0.06 | 40 | 2013/04 | 4,474.5 | 4,484.3 | 2.31 |
| CTM5 | DR | S | 4,482.1 | 4,481.7 | 0.4 | -- | 0.09 | 41 | 2013/04 | 4,474.2 | 4,483.8 | 2.27 |
| CTM50 | SR | S | 4,460.1 | 4,460.3 | -0.2 | -- | -0.46 | 39 | 2013/04 | 4,459.2 | 4,460.6 | 0.22 |
| CTM51 | SR | S | 4,425.7 | 4,425.7 | 0.0 | Max 4425.9 (6) | 0.00 | 40 | 2013/04 | 4,420.7 | 4,425.7 | 1.10 |
| CTM52 | SR | S | 4,425.1 | 4,425.1 | 0.0 | Max 4425.3 (6) | 0.00 | 40 | 2013/04 | 4,420.7 | 4,425.1 | 0.91 |
| CTM53 | SR | S | 4,424.5 | 4,424.5 | 0.0 | Max 4424.7 (6) | 0.00 | 40 | 2013/04 | 4,419.3 | 4,424.5 | 0.96 |
| CTM57 | DR | S | 4,504.1 | 4,503.0 | 1.1 | -- | 0.43 | 37 | 2013/04 | 4,499.9 | 4,507.4 | 1.27 |
| CTM60 | SR | S | 4,426.6 | 4,426.3 | 0.3 | -- | 0.07 | 39 | 2013/04 | 4,422.5 | 4,440.6 | 2.09 |
| CTM62 | SR | S | 4,429.9 | 4,429.9 | 0.0 | -- | 0.00 | 41 | 2013/04 | 4,422.6 | 4,430.1 | 1.78 |
| CTM63 | MK | S | 4,415.2 | 4,414.7 | 0.5 | Max 4418.3 (6) | 0.07 | 40 | 2013/04 | 4,400.5 | 4,418.0 | 3.67 |
| CTM64 | MK | S | 4,416.8 | 4,416.4 | 0.4 | Max 4420.7 (6) | 0.04 | 41 | 2013/04 | 4,392.1 | 4,417.6 | 5.66 |
| CTM65 | DS | S | 4,407.9 | 4,407.7 | 0.2 | Max 4408.8 (6) | 0.04 | 40 | 2013/04 | 4,396.8 | 4,408.6 | 2.33 |
| CTM66 | DS | S | 4,408.1 | 4,407.7 | 0.4 | -- | 0.08 | 40 | 2013/04 | 4,395.2 | 4,409.4 | 2.49 |
| CTM67 | DS | S | 4,408.2 | 4,407.8 | 0.4 | -- | 0.08 | 40 | 2013/04 | 4,395.0 | 4,409.5 | 2.59 |
| CTM68 | DS | D | 4,412.0 | 4,411.2 | 0.8 | Max 4413.6 (6) | 0.02 | 40 | 2013/04 | 4,326.7 | 4,412.5 | 19.52 |
| CTM69 | DS | S | 4,409.2 | 4,408.9 | 0.3 | -- | 0.06 | 40 | 2013/04 | 4,395.4 | 4,410.3 | 2.58 |
| CTM6S | DR | S | 4,468.9 | 4,468.8 | 0.1 | Max 4469.8 (6) | 0.02 | 37 | 2013/04 | 4,455.9 | 4,469.3 | 2.82 |
| CTM70 | DS | S | 4,406.1 | 4,405.9 | 0.2 | -- | 0.05 | 40 | 2013/04 | 4,396.3 | 4,406.8 | 1.96 |
| CTM71 | DS | S | 4,408.4 | 4,408.1 | 0.3 | -- | 0.06 | 38 | 2013/04 | 4,396.4 | 4,409.7 | 2.52 |
| CTM72 | DS | S | 4,408.1 | 4,407.8 | 0.3 | -- | 0.03 | 41 | 2013/04 | 4,369.2 | 4,410.0 | 4.64 |
| CTM73 | DS | S | 4,408.1 | 4,407.8 | 0.3 | Max 4409.5 (6) | 0.06 | 40 | 2013/04 | 4,394.8 | 4,409.3 | 2.60 |
| CTM74 | DS | S | 4,407.9 | 4,407.6 | 0.3 | Max 4409.2 (6) | 0.05 | 40 | 2013/04 | 4,393.9 | 4,409.0 | 2.98 |
| CTM75 | DS | D | 4,410.2 | 4,405.7 | 4.5 | -- | 0.15 | 41 | 2013/04 | 4,348.4 | 4,412.2 | 14.52 |
| CTM76 | DS | S | 4,408.5 | 4,408.3 | 0.2 | -- | 0.04 | 40 | 2013/04 | 4,398.4 | 4,410.8 | 2.36 |
| CTM77 | DS | S | 4,408.8 | 4,407.7 | 1.1 | -- | 0.25 | 40 | 2013/04 | 4,398.9 | 4,409.9 | 2.23 |
| CTM78 | DS | S | 4,407.5 | 4,407.4 | 0.1 | -- | 0.02 | 41 | 2013/04 | 4,397.9 | 4,409.2 | 2.28 |

Table A1.1: Water Level Statistics for All CTMRD GMP and TMWA Wells Monitored During 2023 Q2

| Well ID ⁽¹⁾ | Subregion ⁽²⁾ | Screen Position | Current Results | Previous Results and Comparisons | | Statistically Significant Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | |
|------------------------|--------------------------|---|---|----------------------------------|--|---|--|--|--------------------------------|-------------------|-------------------|------------------------------|
| | | Deep Zone/ Shallow Zone ⁽³⁾ | Water Level Elevation ⁽⁴⁾ 2023 Q2 | Water Level Elevation 2023 Q1 | Water Level Change ⁽⁵⁾ Prior Quarter to Current Quarter (ft) | New Maximum/ Minimum ⁽⁶⁾⁽⁸⁾ | Statistical Significance of Elevation Change from Previous Quarter ⁽⁷⁾ | No. of Months Measured | First Month Measured (YYYY/MM) | Elevation Minimum | Elevation Maximum | Elevation Standard Deviation |
| CTM79 | DR | D | 4,472.8 | 4,472.7 | 0.1 | Max 4473.8 (6) | 0.01 | 40 | 2013/04 | 4,456.1 | 4,472.9 | 4.09 |
| CTM75 | DR | S | 4,466.3 | 4,465.5 | 0.8 | Max 4469.1 (6) | 0.14 | 40 | 2013/04 | 4,455.4 | 4,469.0 | 2.93 |
| CTM80 | DR | D | 4,466.6 | 4,466.5 | 0.1 | Max 4467.6 (6) | 0.01 | 41 | 2013/04 | 4,424.7 | 4,466.5 | 7.29 |
| CTM81 | DR | D | 4,431.8 | 4,430.7 | 1.1 | Max 4434.7 (6) | 0.03 | 41 | 2013/04 | 4,359.0 | 4,430.7 | 18.30 |
| CTM82 | DR | D | 4,420.8 | 4,416.7 | 4.1 | Max 4422.8 (6) | 0.09 | 41 | 2013/04 | 4,336.1 | 4,417.6 | 21.86 |
| CTM83 | DR | D | 4,418.2 | 4,414.3 | 3.9 | Max 4420.6 (6) | 0.14 | 41 | 2013/04 | 4,359.2 | 4,414.9 | 13.49 |
| CTM84 | DR | D | 4,416.4 | 4,413.4 | 3.0 | Max 4419.0 (6) | 0.16 | 41 | 2013/04 | 4,371.5 | 4,413.7 | 9.48 |
| CTM85 | J | D | 4,395.7 | 4,395.3 | 0.4 | -- | 0.10 | 39 | 2013/04 | 4,387.2 | 4,396.6 | 1.94 |
| CTM86 | J | S | 4,395.9 | 4,395.5 | 0.4 | -- | 0.12 | 40 | 2013/04 | 4,388.5 | 4,397.3 | 1.67 |
| CTM87 | J | S | 4,397.2 | 4,397.0 | 0.2 | -- | 0.07 | 41 | 2013/04 | 4,390.7 | 4,398.4 | 1.53 |
| CTM89 | (Other) | D | 4,410.0 | 4,408.6 | 1.4 | Max 4410.0 (4) | 0.11 | 39 | 2013/04 | 4,383.1 | 4,408.6 | 6.19 |
| CTM8D | DR | D | 4,455.8 | 4,455.4 | 0.4 | -- | 0.01 | 41 | 2013/04 | 4,409.3 | 4,460.7 | 14.89 |
| CTM90 | (Other) | D | 4,403.3 | 4,403.1 | 0.2 | Max 4403.4 (6) | 0.04 | 40 | 2013/04 | 4,383.1 | 4,403.1 | 2.66 |
| CTM91 | (Other) | S | 4,403.0 | 4,402.9 | 0.1 | Max 4403.1 (6) | 0.03 | 40 | 2013/04 | 4,396.3 | 4,402.9 | 1.75 |
| CTM92 | SR | D | 4,429.4 | 4,429.4 | 0.0 | -- | 0.00 | 39 | 2013/04 | 4,418.5 | 4,429.4 | 1.95 |
| CTM93 | SR | S | 4,413.4 | 4,413.4 | 0.0 | Max 4414.4 (6) | 0.00 | 40 | 2013/04 | 4,403.2 | 4,413.4 | 2.21 |
| CTM94 | SR | D | 4,434.4 | 4,437.2 | -2.8 | -- | -0.49 | 39 | 2013/04 | 4,424.7 | 4,437.3 | 2.87 |
| CTM95 | SR | D | 4,430.1 | 4,430.0 | 0.1 | Max 4430.7 (6) | 0.02 | 40 | 2013/04 | 4,420.6 | 4,430.0 | 2.09 |
| CTM96 | SR | S | 4,416.3 | 4,416.1 | 0.2 | Max 4417.3 (6) | 0.05 | 40 | 2013/04 | 4,404.7 | 4,416.4 | 1.96 |
| CTM97 | SR | D | 4,411.6 | 4,411.5 | 0.1 | Max 4414.2 (6) | 0.00 | 41 | 2013/04 | 4,351.5 | 4,411.5 | 15.71 |
| CTM98 | SR | D | 4,409.7 | 4,408.3 | 1.4 | Max 4411.3 (6) | 0.08 | 41 | 2013/04 | 4,376.7 | 4,409.9 | 8.30 |
| CTM99 | SR | S | 4,408.0 | 4,407.7 | 0.3 | Max 4408.8 (6) | 0.07 | 41 | 2013/04 | 4,397.9 | 4,408.3 | 2.22 |
| CTM9S | MK | S | 4,418.9 | 4,418.3 | 0.6 | Max 4420.7 (6) | 0.05 | 39 | 2013/04 | 4,397.9 | 4,418.3 | 5.47 |
| GALLETTIMW | DR-DS | D | 4,412.2 | 4,411.7 | 0.5 | -- | 0.02 | 36 | 2013/04 | 4,350.0 | 4,416.8 | 14.30 |
| GLOBALMW1 | J | S | 4,399.6 | NM | -- | Max 4401.0 (6) | -- | 39 | 2013/04 | 4,390.0 | 4,400.6 | 2.47 |
| GREGMWD | (Other) | D | 4,400.6 | 4,400.1 | 0.5 | -- | 0.02 | 37 | 2013/04 | 4,335.8 | 4,402.7 | 12.50 |
| HV5M | J | D | 4,399.8 | 4,399.4 | 0.4 | Max 4400.7 (6) | 0.03 | 40 | 2013/04 | 4,370.9 | 4,399.8 | 6.92 |
| LEGENDS | DS | S | 4,409.9 | 4,409.5 | 0.4 | Max 4411.5 (6) | 0.06 | 40 | 2013/04 | 4,393.0 | 4,411.1 | 3.24 |
| LINCOLNWAYMW | ES | S | 4,390.9 | 4,390.8 | 0.1 | Max 4392.4 (5) | 0.05 | 27 | 2013/04 | 4,386.5 | 4,392.0 | 0.92 |
| MENTALHEALTH | DS | D | 4,415.0 | 4,414.5 | 0.5 | Max 4416.9 (6) | 0.02 | 40 | 2013/04 | 4,360.8 | 4,415.6 | 12.30 |
| MW10ND | DR | D | 4,469.5 | 4,469.5 | 0.0 | -- | 0.00 | 41 | 2013/04 | 4,460.3 | 4,469.9 | 1.87 |
| MW1ND | DR | D | 4,484.9 | 4,484.3 | 0.6 | -- | 0.10 | 39 | 2013/04 | 4,475.9 | 4,493.8 | 2.88 |
| MW2NS | DR | S | 4,493.1 | 4,491.0 | 2.1 | Max 4494.5 (6) | 0.32 | 39 | 2013/04 | 4,477.6 | 4,493.6 | 3.25 |
| MW3ND | DR | D | 4,479.7 | 4,479.4 | 0.3 | -- | 0.07 | 39 | 2013/04 | 4,469.6 | 4,485.0 | 2.24 |
| MW4NS | DR | S | 4,488.5 | 4,487.8 | 0.7 | -- | 0.16 | 39 | 2013/04 | 4,472.3 | 4,490.1 | 2.23 |
| MW6ND | DR | D | 4,480.2 | 4,479.1 | 1.1 | Max 4480.5 (6) | 0.27 | 40 | 2013/04 | 4,471.4 | 4,480.4 | 2.01 |
| MW7NS | DR | S | 4,468.3 | 4,468.3 | 0.0 | -- | 0.00 | 40 | 2013/04 | 4,460.5 | 4,470.3 | 2.10 |
| MW8ND | DR | D | 4,455.9 | 4,455.8 | 0.1 | -- | 0.00 | 40 | 2013/04 | 4,414.2 | 4,465.7 | 12.60 |
| NVAIRGRDMW17 | SR | S | 4,402.1 | 4,401.9 | 0.2 | Max 4402.2 (6) | 0.10 | 28 | 2016/04 | 4,397.7 | 4,401.9 | 1.03 |
| PURINAMW | (Other) | D | 4,382.0 | 4,381.7 | 0.3 | -- | 0.18 | 32 | 2013/04 | 4,380.1 | 4,384.7 | 0.82 |
| RETRACB13 | DR | S | 4,502.6 | 4,500.4 | 2.2 | Max 4503.7 (6) | 0.36 | 40 | 2013/04 | 4,487.1 | 4,503.2 | 3.04 |
| RETRACB14 | DR | S | 4,489.9 | 4,489.5 | 0.4 | -- | 0.07 | 39 | 2013/04 | 4,478.1 | 4,491.0 | 2.76 |
| RETRACMWE | DR | S | 4,486.9 | 4,486.5 | 0.4 | -- | 0.08 | 39 | 2013/04 | 4,477.4 | 4,487.8 | 2.56 |
| RETRACMWE1 | DR | S | 4,487.4 | 4,487.0 | 0.4 | Max 4488.4 (6) | 0.10 | 39 | 2013/04 | 4,478.2 | 4,488.3 | 2.05 |
| RETRACMWG | DR | S | 4,480.5 | 4,480.4 | 0.1 | -- | 0.02 | 40 | 2013/04 | 4,472.5 | 4,482.2 | 2.22 |
| RETRACP2 | DR | S | 4,472.4 | NM | -- | -- | -- | 37 | 2013/04 | 4,465.5 | 4,473.2 | 1.59 |
| RPDMW6 | DR | S | 4,462.4 | 4,461.7 | 0.7 | -- | 0.32 | 40 | 2013/04 | 4,458.5 | 4,465.2 | 1.11 |
| USGSGREG | (Other) | S | 4,403.5 | 4,403.1 | 0.4 | -- | 0.04 | 38 | 2013/04 | 4,358.2 | 4,404.9 | 5.28 |
| USGSHOLCOMB | SR | S | 4,461.8 | 4,462.3 | -0.5 | -- | -0.47 | 40 | 2013/04 | 4,460.4 | 4,462.6 | 0.53 |
| USGSLISTON | SR | S | 4,419.2 | 4,419.1 | 0.1 | -- | 0.03 | 40 | 2013/04 | 4,413.1 | 4,422.6 | 1.53 |
| USGSWCYARD | (Other) | S | 4,392.0 | 4,392.0 | 0.0 | -- | 0.00 | 41 | 2013/04 | 4,390.4 | 4,393.0 | 0.42 |
| USGSWOOSTER | SR | S | 4,409.4 | 4,409.3 | 0.1 | Max 4410.0 (6) | 0.03 | 41 | 2013/04 | 4,401.0 | 4,409.3 | 1.89 |
| VICTORIANMW | ES | S | 4,384.0 | 4,384.0 | 0.0 | Max 4384.7 (5) | 0.00 | 36 | 2013/04 | 4,380.5 | 4,384.6 | 0.88 |
| VP23A | SR | S | 4,433.5 | 4,433.2 | 0.3 | -- | 0.16 | 36 | 2014/04 | 4,429.7 | 4,433.6 | 0.95 |
| VP23B | SR | S | 4,433.4 | 4,433.1 | 0.3 | -- | 0.16 | 36 | 2014/04 | 4,429.6 | 4,433.5 | 0.96 |
| VP25B | SR | S | 4,435.3 | 4,435.3 | 0.0 | -- | 0.00 | 35 | 2014/04 | 4,430.7 | 4,437.3 | 1.11 |
| VP27B | SR | S | 4,434.3 | 4,434.1 | 0.2 | -- | 0.11 | 35 | 2014/04 | 4,430.6 | 4,435.1 | 0.89 |
| VP29B | SR | S | 4,430.0 | 4,429.9 | 0.1 | -- | 0.04 | 36 | 2014/04 | 4,425.7 | 4,435.1 | 1.25 |

Table A1.1: Water Level Statistics for All CTMRD GMP and TMWA Wells Monitored During 2023 Q2

| Well ID ⁽¹⁾ | Subregion ⁽²⁾ | Screen Position | Current Results | Previous Results and Comparisons | | Statistically Significant Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | |
|------------------------|--------------------------|---|---|----------------------------------|--|---|--|--|--------------------------------|-------------------|-------------------|------------------------------|
| | | Deep Zone/ Shallow Zone ⁽³⁾ | Water Level Elevation ⁽⁴⁾ 2023 Q2 | Water Level Elevation 2023 Q1 | Water Level Change ⁽⁵⁾ Prior Quarter to Current Quarter (ft) | New Maximum/ Minimum ⁽⁶⁾⁽⁸⁾ | Statistical Significance of Elevation Change from Previous Quarter ⁽⁷⁾ | No. of Months Measured | First Month Measured (YYYY/MM) | Elevation Minimum | Elevation Maximum | Elevation Standard Deviation |
| VP31B | SR | S | 4,426.4 | 4,426.3 | 0.1 | -- | 0.05 | 37 | 2014/04 | 4,422.4 | 4,426.5 | 0.95 |
| VP34B | SR | S | 4,432.4 | 4,433.2 | -0.8 | -- | -0.50 | 19 | 2018/10 | 4,431.0 | 4,435.4 | 0.81 |
| VP35B | SR | S | 4,436.2 | 4,436.1 | 0.1 | -- | 0.07 | 18 | 2019/02 | 4,433.4 | 4,437.0 | 0.75 |
| VP37B | SR | S | 4,434.5 | 4,434.3 | 0.2 | Max 4434.5 (4) | 0.12 | 16 | 2019/07 | 4,431.1 | 4,434.3 | 0.82 |
| VP38B | SR | S | 4,431.6 | 4,431.6 | 0.0 | -- | 0.00 | 16 | 2019/07 | 4,429.2 | 4,431.6 | 0.47 |
| VP39B | SR | S | 4,429.2 | 4,429.1 | 0.1 | -- | 0.06 | 18 | 2019/02 | 4,425.8 | 4,429.3 | 0.83 |
| WMMW3 | DR | S | 4,428.0 | 4,426.6 | 1.4 | Max 4431.9 (6) | 0.12 | 38 | 2013/04 | 4,404.3 | 4,426.6 | 5.76 |

Notes:

(1) Only wells with at least 12 monthly measurements are included in table

(2) Subregion designations as follows:

- | | |
|--|---|
| DR = Downtown Reno | ER = El Rancho |
| DR-DS = Downtown Reno-Downtown Sparks overlap area | J = Joule |
| DR-SR = Downtown Reno-South Reno overlap area | MK = Mill/Kietzke |
| DS = Downtown Sparks | MK-SR = Mill/Kietzke-South Reno overlap area |
| SR = South Reno | DR-ER = Downtown Reno-El Rancho overlap area |
| UNK = Unknown | Other = Located outside of currently defined subregions |

(3) Wells completed in the shallow zone are designated with an S and wells completed in the deep zone with a D.

(4) Feet above mean sea level (msl)

(5) Difference in feet between current elevation value and previous period's elevation value.

(6) New Max exceeds the GMP period of record maximum elevation for the prior 10 years. New Min is below the GMP period of record minimum elevation for the prior 10 years.

(7) Absolute values greater than 1 indicates that the water level elevation measurement from current quarter minus the elevation from the previous quarter is more than two times the standard deviation for the GMP period of record starting 10 years prior to the beginning of the current quarter. A positive value indicates that the current quarter increased relative to the previous period. A negative value indicates a decrease relative to the previous period. For the purposes of the quarterly report, absolute values that are > 1 indicate a statistically significant change in the current water level elevation results compared to the previous quarter.

(8) The number in parenthesis shows which month in the quarter had the new minimum or maximum elevation measurement (e.g., "New Min (7)" means the new minimum occurred in July).

NM = Not Measured.

-- = No data available.

Table A1.2: PCE Statistics for All CTMRD GMP Wells Monitored During 2023 Q2

| Well ID | Subregion ⁽¹⁾ | Screen Position | Current Results | Previous Results | | Criteria for Identifying Potentially Significant Changes in PCE Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | | | | | |
|--------------|--------------------------|-----------------|-----------------|---|--|---|--|--|--|--|-----------------------------|------------------|------------------|---------------|--------------------------------|--------------------------------------|
| | | | | Deep Zone/ Shallow Zone ⁽²⁾ | [PCE] ⁽³⁾ Current Quarter (2023 Q2) | [PCE] ⁽³⁾ Recent Previous Sampled Quarter | Date of Most Recent Previous Sample | New ⁽⁴⁾ Maximum/ Minimum | Statistical ⁽⁵⁾ Significance Compared to Most Recent | No. of Prior Quarters Sampled | First Quarter Sampled | [PCE] Minimum | [PCE] Maximum | [PCE] Mean | [PCE] Standard Deviation | [PCE] Coefficient of Variation |
| | | | | | | | | | | | | | | | | |
| ARCO6018MW11 | MK | S | 16.00 | 46.00 | 03/14/2023 | -- | -0.62 | 34 | 2013 Q2 | <0.5 | 97.00 | 25.80 | 24.24 | 0.94 | | |
| ARCO6018MW12 | MK | S | 97.00 | 100.00 | 03/14/2023 | -- | -0.07 | 37 | 2013 Q2 | 1.70 | 100.00 | 19.73 | 22.81 | 1.16 | | |
| ARCO6018MW16 | MK | S | 4.60 | 19.00 | 03/14/2023 | -- | -1.75 | 36 | 2013 Q2 | <0.5 | 19.00 | 2.63 | 4.12 | 1.57 | | |
| C03 | SR | S | 1.50 | 1.30 | 03/09/2023 | -- | 0.18 | 30 | 2013 Q2 | 1.30 | 4.20 | 2.28 | 0.57 | 0.25 | | |
| CTM101 | DR | D | 8.40 | 9.90 | 03/15/2023 | -- | -0.45 | 39 | 2013 Q2 | 5.50 | 14.00 | 9.69 | 1.65 | 0.17 | | |
| CTM102 | DR | S | 8.60 | 8.60 | 03/15/2023 | -- | 0.00 | 39 | 2013 Q2 | 2.70 | 9.30 | 6.07 | 1.33 | 0.22 | | |
| CTM103 | DR | D | 8.40 | 8.00 | 03/15/2023 | -- | 0.05 | 37 | 2013 Q2 | 2.00 | 18.00 | 8.47 | 3.76 | 0.44 | | |
| CTM105 | MK-SR | S | 2.70 | 2.50 | 03/13/2023 | -- | 0.08 | 39 | 2013 Q2 | 2.00 | 6.20 | 3.47 | 1.19 | 0.34 | | |
| CTM106 | SR | D | 3.40 | 3.10 | 03/13/2023 | -- | 0.16 | 39 | 2013 Q2 | 2.50 | 6.30 | 4.51 | 0.92 | 0.21 | | |
| CTM107 | DR-SR | D | 5.90 | 6.60 | 03/13/2023 | -- | -0.07 | 39 | 2013 Q2 | 4.30 | 26.00 | 14.17 | 4.82 | 0.34 | | |
| CTM10D | DR | D | 22.00 | 17.00 | 03/15/2023 | -- | 0.14 | 38 | 2013 Q2 | 9.50 | 89.00 | 42.01 | 17.67 | 0.42 | | |
| CTM11S | MK-SR | S | 6.80 | 0.78 | 03/14/2023 | New Max | 2.16 | 37 | 2013 Q2 | 0.51 | 6.70 | 2.13 | 1.39 | 0.66 | | |
| CTM121A | ER | S | 0.55 | 0.58 | 03/07/2023 | -- | -0.06 | 38 | 2013 Q3 | <0.5 | 1.50 | 0.39 | 0.26 | 0.66 | | |
| CTM127A | MK | S | 65.00 | 46.00 | 02/07/2023 | -- | 0.21 | 9 | 2013 Q2 | 43.00 | 190.00 | 88.56 | 45.25 | 0.51 | | |
| CTM127B | MK | S | 4.60 | 3.70 | 02/07/2023 | -- | 0.00 | 37 | 2013 Q2 | 3.70 | 1,200.00 | 147.29 | 243.65 | 1.65 | | |
| CTM129 | DR | S | 0.90 | 0.70 | 02/09/2023 | -- | 0.00 | 35 | 2013 Q2 | 0.50 | 110.00 | 14.11 | 24.19 | 1.71 | | |
| CTM12D | DR-SR | D | <0.5 | <0.5 | 03/13/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | 18.00 | -- | -- | -- | | |
| CTM130A | MK | S | 39.00 | 32.00 | 02/02/2023 | -- | 0.18 | 7 | 2017 Q2 | 26.00 | 84.00 | 53.57 | 19.21 | 0.36 | | |
| CTM130B | MK | S | 18.00 | 17.00 | 02/02/2023 | -- | 0.02 | 38 | 2013 Q3 | 1.30 | 170.00 | 20.73 | 30.08 | 1.45 | | |
| CTM132A | MK | S | 18.00 | 15.00 | 02/02/2023 | -- | 0.10 | 9 | 2017 Q2 | 6.30 | 59.00 | 25.59 | 14.54 | 0.57 | | |
| CTM132B | MK | S | 1.20 | 0.85 | 02/02/2023 | -- | 0.09 | 36 | 2014 Q1 | 0.85 | 8.10 | 3.01 | 1.87 | 0.62 | | |
| CTM133A | MK | S | 66.00 | 53.00 | 02/01/2023 | -- | 0.40 | 12 | 2014 Q2 | 53.00 | 110.00 | 73.17 | 16.15 | 0.22 | | |
| CTM133B | MK | S | 5.50 | 3.60 | 02/01/2023 | -- | 0.00 | 36 | 2014 Q1 | 3.60 | 1,080.00 | 290.48 | 268.43 | 0.92 | | |
| CTM134A | MK | S | 7.90 | 11.00 | 02/06/2023 | -- | -0.13 | 14 | 2014 Q2 | 1.40 | 45.00 | 14.20 | 12.07 | 0.85 | | |
| CTM134B | MK | S | 120.00 | 250.00 | 02/06/2023 | -- | -0.77 | 35 | 2014 Q1 | 6.60 | 410.00 | 67.77 | 84.71 | 1.25 | | |
| CTM137 | DR | D | 95.00 | 98.00 | 03/21/2023 | -- | -0.07 | 39 | 2013 Q2 | 58.00 | 170.00 | 90.53 | 21.65 | 0.24 | | |
| CTM13S | MK | S | 1.00 | 2.00 | 03/16/2023 | -- | -0.15 | 37 | 2013 Q2 | <0.5 | 19.00 | 2.73 | 3.37 | 1.23 | | |
| CTM142 | SR | S | 1.70 | 1.70 | 02/21/2023 | -- | 0.00 | 19 | 2018 Q3 | 1.70 | 4.20 | 2.33 | 0.63 | 0.27 | | |
| CTM143A | MK | S | 27.00 | 42.00 | 02/08/2023 | New Min | -15.00 | 2 | 2022 Q4 | 41.00 | 42.00 | 41.50 | 0.50 | 0.01 | | |
| CTM143B | MK | S | 3.40 | 2.90 | 02/08/2023 | -- | 0.04 | 9 | 2021 Q1 | 2.40 | 25.00 | 6.17 | 6.75 | 1.09 | | |
| CTM144A | MK | S | 5.90 | 11.00 | 02/08/2023 | New Min | -5.10 | 2 | 2022 Q4 | 10.00 | 11.00 | 10.50 | 0.50 | 0.05 | | |
| CTM144B | MK | S | 0.86 | 0.81 | 02/08/2023 | -- | 0.01 | 9 | 2021 Q1 | 0.81 | 7.70 | 2.02 | 2.05 | 1.01 | | |
| CTM145A | MK | S | 16.00 | 1.20 | 02/09/2023 | New Max | 17.26 | 13 | 2019 Q1 | <0.5 | 2.00 | 0.80 | 0.43 | 0.54 | | |
| CTM145B | MK | S | <0.5 | 0.56 | 02/09/2023 | New Min | -0.01 | 17 | 2019 Q1 | 0.56 | 59.00 | 10.50 | 17.76 | 1.69 | | |
| CTM146 | DR | S | <0.5 | <0.5 | 02/21/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- | | |
| CTM147 | DR | S | 2.90 | 3.40 | 02/09/2023 | -- | -0.44 | 15 | 2019 Q3 | 1.20 | 3.40 | 1.90 | 0.57 | 0.30 | | |
| CTM148 | DR | S | 1.10 | 1.80 | 02/09/2023 | -- | -0.44 | 15 | 2019 Q3 | 1.10 | 4.40 | 2.55 | 0.80 | 0.31 | | |
| CTM149 | DR | S | 1.10 | 1.50 | 02/09/2023 | -- | -0.24 | 15 | 2019 Q3 | 0.89 | 3.60 | 2.06 | 0.84 | 0.41 | | |
| CTM17D | SR | D | 12.00 | 9.00 | 03/13/2023 | -- | 0.50 | 39 | 2013 Q2 | 3.40 | 16.00 | 8.72 | 3.01 | 0.35 | | |
| CTM18S | SR | S | 1.50 | 1.20 | 03/13/2023 | -- | 0.37 | 39 | 2013 Q2 | 0.72 | 2.50 | 1.36 | 0.41 | 0.30 | | |
| CTM15 | DR | S | <0.5 | 2.60 | 03/21/2023 | -- | -2.58 | 36 | 2013 Q2 | <0.5 | 2.60 | 0.55 | 0.45 | 0.83 | | |
| CTM22D | DR | D | 9.50 | 11.00 | 03/16/2023 | -- | -0.23 | 38 | 2013 Q2 | 7.70 | 22.00 | 14.18 | 3.21 | 0.23 | | |
| CTM28S | DR | S | 1.60 | 0.63 | 03/21/2023 | -- | 0.02 | 35 | 2013 Q2 | 0.63 | 89.00 | 13.10 | 20.34 | 1.55 | | |
| CTM30D | DR | D | 3.50 | 0.52 | 03/22/2023 | -- | 0.08 | 36 | 2013 Q2 | <0.5 | 58.00 | 18.17 | 18.50 | 1.02 | | |
| CTM31S | DR | S | 1.90 | 1.60 | 03/21/2023 | -- | 0.09 | 39 | 2013 Q2 | 1.60 | 9.70 | 4.50 | 1.66 | 0.37 | | |
| CTM33D | SR | D | 1.00 | 1.40 | 03/28/2023 | -- | -0.72 | 27 | 2013 Q2 | 0.99 | 2.10 | 1.53 | 0.28 | 0.18 | | |
| CTM37D | MK | S | 0.56 | 0.62 | 03/15/2023 | -- | -0.01 | 38 | 2013 Q2 | <0.5 | 13.00 | 1.51 | 2.11 | 1.40 | | |
| CTM38D | MK-SR | S | 1.30 | 1.40 | 03/13/2023 | -- | -0.09 | 37 | 2013 Q2 | 0.95 | 3.10 | 1.73 | 0.54 | 0.31 | | |
| CTM39S | MK-SR | S | 4.10 | 4.10 | 03/13/2023 | -- | 0.00 | 38 | 2013 Q2 | <0.5 | 4.10 | 0.89 | 0.73 | 0.82 | | |
| CTM35 | DR | S | 13.00 | 27.00 | 03/21/2023 | -- | -0.42 | 36 | 2013 Q2 | 5.40 | 64.00 | 22.52 | 16.82 | 0.75 | | |
| CTM46 | SR | S | 0.84 | 1.30 | 03/23/2023 | -- | -0.28 | 38 | 2013 Q2 | <0.5 | 3.70 | 1.11 | 0.83 | 0.75 | | |
| CTM47 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | 3.00 | -- | -- | -- | | |
| CTM48 | SR | S | 0.98 | 1.70 | 03/27/2023 | New Min | -0.29 | 38 | 2013 Q2 | 1.10 | 6.90 | 2.72 | 1.25 | 0.46 | | |
| CTM49 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | 27.00 | -- | -- | -- | | |
| CTM5 | DR | S | 2.90 | 3.40 | 03/22/2023 | New Min | -0.06 | 39 | 2013 Q2 | 3.40 | 20.00 | 8.86 | 4.06 | 0.46 | | |
| CTM51 | SR | S | 2.30 | 3.30 | 03/27/2023 | -- | -0.27 | 37 | 2013 Q2 | 1.80 | 9.80 | 4.36 | 1.82 | 0.42 | | |
| CTM52 | SR | S | 2.40 | 2.20 | 03/27/2023 | -- | 0.03 | 34 | 2013 Q2 | 1.50 | 13.00 | 5.64 | 2.90 | 0.51 | | |
| CTM53 | SR | S | 2.60 | 2.50 | 03/27/2023 | -- | 0.02 | 37 | 2013 Q2 | 1.30 | 9.10 | 3.78 | 2.24 | 0.59 | | |
| CTM62 | SR | S | 13.00 | 15.00 | 03/27/2023 | New Min | -0.05 | 37 | 2013 Q2 | 14.00 | 95.00 | 35.53 | 18.73 | 0.53 | | |
| CTM63 | MK | S | 6.20 | 6.50 | 03/14/2023 | -- | -0.02 | 37 | 2013 Q2 | 0.77 | 29.00 | 6.21 | 7.21 | 1.16 | | |
| CTM65 | DS | S | <0.5 | <0.5 | 03/06/2023 | -- | -- | 40 | 2013 Q2 | <0.5 | 1.40 | -- | -- | -- | | |
| CTM66 | DS | S | 2.60 | 1.60 | 03/06/2023 | -- | 0.80 | 40 | 2013 Q2 | 0.79 | 3.10 | 1.74 | 0.62 | 0.36 | | |
| CTM67 | DS | S | 18.00 | 17.00 | 03/06/2023 | -- | 0.06 | 39 | 2013 Q2 | 13.00 | 55.00 | 28.85 | 8.64 | 0.30 | | |

Table A1.2: PCE Statistics for All CTMRD GMP Wells Monitored During 2023 Q2

| Well ID | Subregion ⁽¹⁾ | Screen Position | Current Results | Previous Results | | Criteria for Identifying Potentially Significant Changes in PCE Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | | | | |
|-------------|--------------------------|-----------------|-----------------|--|---|---|------------------------------------|--|-------------------------------|---------------|---------------|---------------|------------|--------------------------|--------------------------------|
| | | | | [PCE] ⁽³⁾ Current Quarter (2023 Q2) | [PCE] ⁽³⁾ Most Recent Previous Sampled Quarter | Date of Most Recent Previous Sample | New ⁽⁴⁾ Maximum/Minimum | Statistical ⁽⁵⁾ Significance Compared to Most Recent | No. of Prior Quarters Sampled | First Quarter | [PCE] Minimum | [PCE] Maximum | [PCE] Mean | [PCE] Standard Deviation | [PCE] Coefficient of Variation |
| CTM68 | DS | D | 0.71 | 0.56 | 03/06/2023 | -- | 0.21 | 39 | 2013 Q3 | <0.5 | 2.20 | 0.59 | 0.36 | 0.62 | |
| CTM69 | DS | S | 0.57 | 0.52 | 03/06/2023 | -- | 0.07 | 38 | 2013 Q2 | <0.5 | 1.30 | 0.60 | 0.35 | 0.59 | |
| CTM6S | DR | S | 6.70 | 7.80 | 03/23/2023 | -- | -0.14 | 36 | 2013 Q2 | 0.61 | 16.00 | 9.53 | 3.80 | 0.40 | |
| CTM70 | DS | S | 3.00 | 3.10 | 03/06/2023 | -- | -0.02 | 40 | 2013 Q2 | 1.00 | 12.00 | 5.18 | 2.60 | 0.50 | |
| CTM75 | DS | D | 7.00 | 5.20 | 03/08/2023 | -- | 0.34 | 39 | 2013 Q2 | 1.80 | 12.00 | 4.56 | 2.63 | 0.58 | |
| CTM81 | DR | D | 4.20 | 4.10 | 03/16/2023 | -- | 0.04 | 39 | 2013 Q2 | 3.20 | 9.50 | 5.77 | 1.33 | 0.23 | |
| CTM83 | DR | D | <0.5 | <0.5 | 03/09/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | 1.40 | -- | -- | -- | |
| CTM84 | DR | D | <0.5 | <0.5 | 03/09/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | 1.30 | -- | -- | -- | |
| CTM86 | J | S | <0.5 | 0.50 | 03/08/2023 | -- | -0.32 | 40 | 2013 Q2 | <0.5 | 1.40 | 0.64 | 0.39 | 0.61 | |
| CTM87 | J | S | 1.40 | 1.50 | 03/08/2023 | -- | -0.06 | 39 | 2013 Q2 | 1.10 | 4.10 | 2.43 | 0.87 | 0.36 | |
| CTM8D | DR | D | 7.70 | 22.00 | 03/16/2023 | -- | -0.92 | 38 | 2013 Q2 | 3.40 | 42.00 | 23.16 | 7.74 | 0.33 | |
| CTM92 | SR | D | 2.10 | 2.60 | 03/28/2023 | -- | -0.52 | 27 | 2013 Q2 | 2.10 | 3.80 | 2.97 | 0.48 | 0.16 | |
| CTM93 | SR | S | 1.30 | 1.20 | 03/28/2023 | -- | 0.08 | 36 | 2013 Q2 | 1.20 | 3.80 | 2.15 | 0.64 | 0.30 | |
| CTM96 | SR | S | 1.20 | 1.40 | 03/22/2023 | -- | -0.08 | 36 | 2013 Q2 | 1.00 | 5.70 | 2.59 | 1.25 | 0.48 | |
| CTM98 | SR | D | 25.00 | 17.00 | 03/09/2023 | -- | 0.66 | 38 | 2013 Q2 | 1.20 | 31.00 | 10.14 | 6.04 | 0.60 | |
| CTM99 | SR | S | 2.20 | 2.20 | 03/09/2023 | -- | 0.00 | 39 | 2013 Q2 | 1.70 | 7.00 | 3.93 | 1.08 | 0.27 | |
| MW6ND | DR | D | 2.70 | 2.60 | 03/22/2023 | -- | 0.02 | 39 | 2013 Q2 | 2.60 | 11.00 | 5.33 | 2.00 | 0.38 | |
| MW7NS | DR | S | 1.80 | 3.00 | 03/30/2023 | -- | -0.79 | 34 | 2013 Q2 | <0.5 | 3.00 | 1.23 | 0.76 | 0.62 | |
| MW8ND | DR | D | 19.00 | 22.00 | 03/30/2023 | -- | -0.21 | 35 | 2013 Q2 | 12.00 | 45.00 | 27.18 | 7.28 | 0.27 | |
| USGSLUSTON | SR | S | 3.20 | 3.70 | 03/22/2023 | New Min | -0.26 | 37 | 2013 Q2 | 3.60 | 7.20 | 5.14 | 0.96 | 0.19 | |
| USGSWOOSTER | SR | S | 2.90 | 3.60 | 03/13/2023 | -- | -0.19 | 39 | 2013 Q2 | 2.20 | 10.00 | 5.98 | 1.81 | 0.30 | |
| VP27B | SR | S | 9.80 | 15.00 | 02/17/2023 | New Min | -0.03 | 33 | 2014 Q1 | 14.00 | 495.00 | 67.00 | 85.24 | 1.27 | |
| VP29B | SR | S | 6.90 | 8.10 | 02/17/2023 | -- | -0.11 | 34 | 2014 Q1 | 2.50 | 30.00 | 12.68 | 5.68 | 0.45 | |
| VP31B | SR | S | 2.60 | 3.80 | 02/16/2023 | -- | -0.36 | 34 | 2014 Q1 | 1.60 | 9.30 | 4.56 | 1.66 | 0.36 | |
| VP34B | SR | S | 43.00 | 35.00 | 02/23/2023 | -- | 0.21 | 19 | 2018 Q3 | 13.00 | 100.00 | 40.47 | 18.95 | 0.47 | |
| VP35B | SR | S | 12.00 | 19.00 | 02/21/2023 | -- | -0.30 | 17 | 2019 Q1 | 12.00 | 58.00 | 34.41 | 11.73 | 0.34 | |
| VP37B | SR | S | <0.5 | 0.61 | 02/22/2023 | -- | -0.93 | 15 | 2019 Q3 | <0.5 | 0.83 | 0.36 | 0.19 | 0.54 | |
| VP38B | SR | S | 0.57 | 0.68 | 02/21/2023 | -- | -0.09 | 15 | 2019 Q3 | <0.5 | 2.50 | 1.26 | 0.63 | 0.50 | |
| VP39B | SR | S | 5.60 | 5.90 | 02/16/2023 | -- | -0.10 | 17 | 2019 Q1 | 3.20 | 9.00 | 6.16 | 1.48 | 0.24 | |

Notes:

(1) Subregion designations as follows:

- DR = Downtown Reno
- DR-DS = Downtown Reno-Downtown Sparks overlap area
- DR-SR = Downtown Reno-South Reno overlap area
- DS = Downtown Sparks
- SR = South Reno
- UNK = Unknown
- ER = El Rancho
- J = Joule
- MK = Mill/Kietzke
- MK-SR = Mill/Kietzke-South Reno overlap area
- DR-ER = Downtown Reno-El Rancho overlap area
- Other = Located outside of currently defined subregions

(2) Wells completed in the shallow zone are designated with an S and wells completed in the deep zone with a D.

(3) All Tetrachloroethene (PCE) values are reported in µg/L. A value of <1.0 or <0.50 = PCE not detected at noted reporting limit. When there are more than one analytical result in a quarter, the highest current quarter's result and lowest previous quarter's results are used.

(4) New Max exceeds the previous GMP period of record maximum for the prior 10 years. New Min is below the previous GMP period of record minimum for the prior 10 years.

(5) Absolute values greater than 1 indicates that the PCE result from current quarter minus the most recently sampled previous quarter is more than two times the standard deviation for the GMP period of record starting 10 years prior to the beginning of the current quarter. A positive value indicates that the current quarter increased relative to the previous period. A negative value indicates a decrease relative to the previous period. For the purposes of the quarterly report, absolute values that are > 1 indicate a statistically significant change in the current PCE results compared to the most recent previously sampled quarter.

-- = No Data Available

NA = Not Applicable

NS = Not Sampled

Table A1.3: TCE Statistics for All CTMRD GMP Wells Monitored During 2023 Q2

| Well ID | Subregion ⁽¹⁾ | Screen Position | Current Results | Previous Results | | Criteria for Identifying Potentially Significant Changes in TCE Results | | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | | | |
|--------------|--------------------------|-----------------|-----------------|--|---|---|------------------------------------|---|--|-----------------------|---------------|---------------|------------|--------------------------|--------------------------------|
| | | | | [TCE] ⁽³⁾ Current Quarter (2023 Q2) | [TCE] ⁽³⁾ Most Recent Previous Sampled Quarter | Date of Most Recent Previous Sample | New ⁽⁴⁾ Maximum/Minimum | Statistical ⁽⁵⁾ Significance Compared to Most Recent | No. of Prior Quarters Sampled | First Quarter Sampled | [TCE] Minimum | [TCE] Maximum | [TCE] Mean | [TCE] Standard Deviation | [TCE] Coefficient of Variation |
| ARCO6018MW11 | MK | S | <0.5 | <0.5 | 03/14/2023 | -- | -- | 34 | 2013 Q2 | <0.5 | 1.10 | -- | -- | -- | |
| ARCO6018MW12 | MK | S | <0.5 | <0.5 | 03/14/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| ARCO6018MW16 | MK | S | <0.5 | <0.5 | 03/14/2023 | -- | -- | 36 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| C03 | SR | S | <0.5 | <0.5 | 03/09/2023 | -- | -- | 30 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM101 | DR | D | <0.5 | <0.5 | 03/15/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM102 | DR | S | <0.5 | <0.5 | 03/15/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM103 | DR | D | <0.5 | <0.5 | 03/15/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | 0.99 | -- | -- | -- | |
| CTM105 | MK-SR | S | <0.5 | <0.5 | 03/13/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM106 | SR | D | <0.5 | <0.5 | 03/13/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM107 | DR-SR | D | <0.5 | <0.5 | 03/13/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | 0.51 | -- | -- | -- | |
| CTM10D | DR | D | 1.80 | 1.70 | 03/15/2023 | -- | 0.13 | 38 | 2013 Q2 | <0.5 | 2.00 | 1.18 | 0.38 | 0.32 | |
| CTM11S | MK-SR | S | <0.5 | <0.5 | 03/14/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM121A | ER | S | <0.5 | <0.5 | 03/07/2023 | -- | -- | 38 | 2013 Q3 | <0.5 | <0.5 | -- | -- | -- | |
| CTM127A | MK | S | <0.5 | <0.5 | 02/07/2023 | -- | -- | 9 | 2013 Q2 | <0.5 | 0.82 | -- | -- | -- | |
| CTM127B | MK | S | <0.5 | <0.5 | 02/07/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | 12.00 | -- | -- | -- | |
| CTM129 | DR | S | <0.5 | <0.5 | 02/09/2023 | -- | -- | 35 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM12D | DR-SR | D | 0.51 | 0.69 | 03/13/2023 | -- | -0.04 | 38 | 2013 Q2 | <0.5 | 13.00 | 1.97 | 2.49 | 1.26 | |
| CTM130A | MK | S | <0.5 | <0.5 | 02/02/2023 | -- | -- | 7 | 2017 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM130B | MK | S | <0.5 | <0.5 | 02/02/2023 | -- | -- | 38 | 2013 Q3 | <0.5 | 2.40 | -- | -- | -- | |
| CTM132A | MK | S | <0.5 | <0.5 | 02/02/2023 | -- | -- | 9 | 2017 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM132B | MK | S | <0.5 | <0.5 | 02/02/2023 | -- | -- | 36 | 2014 Q1 | <0.5 | <0.5 | -- | -- | -- | |
| CTM133A | MK | S | <0.5 | <0.5 | 02/01/2023 | -- | -- | 12 | 2014 Q2 | <0.5 | 2.50 | -- | -- | -- | |
| CTM133B | MK | S | <0.5 | <0.5 | 02/01/2023 | -- | -- | 36 | 2014 Q1 | <0.5 | 11.00 | -- | -- | -- | |
| CTM134A | MK | S | <0.5 | <0.5 | 02/06/2023 | -- | -- | 14 | 2014 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM134B | MK | S | <0.5 | <0.5 | 02/06/2023 | -- | -- | 35 | 2014 Q1 | <0.5 | 1.26 | -- | -- | -- | |
| CTM137 | DR | D | 0.71 | 0.74 | 03/21/2023 | -- | -0.03 | 39 | 2013 Q2 | <0.5 | 2.70 | 1.46 | 0.56 | 0.38 | |
| CTM13S | MK | S | <0.5 | <0.5 | 03/16/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM142 | SR | S | <0.5 | <0.5 | 02/21/2023 | -- | -- | 19 | 2018 Q3 | <0.5 | <0.5 | -- | -- | -- | |
| CTM143A | MK | S | <0.5 | <0.5 | 02/08/2023 | -- | -- | 2 | 2022 Q4 | <0.5 | <0.5 | -- | -- | -- | |
| CTM143B | MK | S | <0.5 | <0.5 | 02/08/2023 | -- | -- | 9 | 2021 Q1 | <0.5 | <0.5 | -- | -- | -- | |
| CTM144A | MK | S | <0.5 | <0.5 | 02/08/2023 | -- | -- | 2 | 2022 Q4 | <0.5 | 0.67 | -- | -- | -- | |
| CTM144B | MK | S | <0.5 | <0.5 | 02/08/2023 | -- | -- | 9 | 2021 Q1 | <0.5 | <0.5 | -- | -- | -- | |
| CTM145A | MK | S | <0.5 | <0.5 | 02/09/2023 | -- | -- | 13 | 2019 Q1 | <0.5 | <0.5 | -- | -- | -- | |
| CTM145B | MK | S | <0.5 | <0.5 | 02/09/2023 | -- | -- | 17 | 2019 Q1 | <0.5 | <0.5 | -- | -- | -- | |
| CTM146 | DR | S | <0.5 | <0.5 | 02/21/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- | |
| CTM147 | DR | S | <0.5 | <0.5 | 02/09/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- | |
| CTM148 | DR | S | <0.5 | <0.5 | 02/09/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- | |
| CTM149 | DR | S | <0.5 | <0.5 | 02/09/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- | |
| CTM17D | SR | D | <0.5 | <0.5 | 03/13/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM18S | SR | S | <0.5 | <0.5 | 03/13/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM15 | DR | S | <0.5 | <0.5 | 03/21/2023 | -- | -- | 36 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM22D | DR | D | <0.5 | <0.5 | 03/16/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | 0.74 | -- | -- | -- | |
| CTM28S | DR | S | <0.5 | <0.5 | 03/21/2023 | -- | -- | 35 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM30D | DR | D | 4.50 | 0.68 | 03/22/2023 | -- | 0.54 | 36 | 2013 Q2 | <0.5 | 18.00 | 1.86 | 3.56 | 1.92 | |
| CTM31S | DR | S | <0.5 | <0.5 | 03/21/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM33D | SR | D | <0.5 | <0.5 | 03/28/2023 | -- | -- | 27 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM37D | MK | S | <0.5 | <0.5 | 03/15/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM38D | MK-SR | S | <0.5 | <0.5 | 03/13/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM39S | MK-SR | S | <0.5 | <0.5 | 03/13/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM3S | DR | S | <0.5 | <0.5 | 03/21/2023 | -- | -- | 36 | 2013 Q2 | <0.5 | 3.80 | -- | -- | -- | |
| CTM46 | SR | S | <0.5 | <0.5 | 03/23/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM47 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | 0.64 | -- | -- | -- | |
| CTM48 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM49 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | 3.70 | -- | -- | -- | |
| CTM5 | DR | S | <0.5 | <0.5 | 03/22/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM51 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM52 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 34 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM53 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM62 | SR | S | <0.5 | <0.5 | 03/27/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | 1.50 | -- | -- | -- | |
| CTM63 | MK | S | <0.5 | <0.5 | 03/14/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM65 | DS | S | <0.5 | <0.5 | 03/06/2023 | -- | -- | 40 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM66 | DS | S | <0.5 | <0.5 | 03/06/2023 | -- | -- | 40 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- | |
| CTM67 | DS | S | <0.5 | <0.5 | 03/06/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | 0.76 | -- | -- | -- | |

Table A1.3: TCE Statistics for All CTMRD GMP Wells Monitored During 2023 Q2

| Well ID | Subregion ⁽¹⁾ | Screen Position | Current Results | Previous Results | | | Criteria for Identifying Potentially Significant Changes in TCE Results | | Summary Statistics for the Prior 10 Years of the GMP Period of Record to the Current Quarter | | | | | | |
|-------------|--------------------------|-----------------|-----------------|--|---|-------------------------------------|---|--|--|---------------|---------------|---------------|------------|--------------------------|--------------------------------|
| | | | | [TCE] ⁽³⁾ Current Quarter (2023 Q2) | [TCE] ⁽³⁾ Most Recent Previous Sampled Quarter | Date of Most Recent Previous Sample | New/ ⁽⁴⁾ Maximum/Minimum | Statistical ⁽⁵⁾ Significance Compared to Most Recent Previous Sampled Quarter | No. of Prior Quarters Sampled | First Quarter | [TCE] Minimum | [TCE] Maximum | [TCE] Mean | [TCE] Standard Deviation | [TCE] Coefficient of Variation |
| CTM68 | DS | D | <0.5 | <0.5 | <0.5 | 03/06/2023 | -- | -- | 39 | 2013 Q3 | <0.5 | <0.5 | -- | -- | -- |
| CTM69 | DS | S | <0.5 | <0.5 | <0.5 | 03/06/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM6S | DR | S | <0.5 | <0.5 | <0.5 | 03/23/2023 | -- | -- | 36 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM70 | DS | S | <0.5 | <0.5 | <0.5 | 03/06/2023 | -- | -- | 40 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM75 | DS | D | <0.5 | <0.5 | <0.5 | 03/08/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM81 | DR | D | <0.5 | <0.5 | <0.5 | 03/16/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | 2.70 | -- | -- | -- |
| CTM83 | DR | D | 3.30 | 3.80 | <0.5 | 03/09/2023 | -- | -0.19 | 39 | 2013 Q2 | 2.00 | 7.50 | 3.96 | 1.31 | 0.33 |
| CTM84 | DR | D | 2.40 | 2.20 | <0.5 | 03/09/2023 | -- | 0.04 | 39 | 2013 Q2 | 2.00 | 14.00 | 5.23 | 2.75 | 0.53 |
| CTM86 | J | S | <0.5 | <0.5 | <0.5 | 03/08/2023 | -- | -- | 40 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM87 | J | S | <0.5 | <0.5 | <0.5 | 03/08/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM8D | DR | D | <0.5 | 0.80 | <0.5 | 03/16/2023 | -- | -0.75 | 38 | 2013 Q2 | <0.5 | 1.90 | 0.88 | 0.37 | 0.42 |
| CTM92 | SR | D | <0.5 | <0.5 | <0.5 | 03/28/2023 | -- | -- | 27 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM93 | SR | S | <0.5 | <0.5 | <0.5 | 03/28/2023 | -- | -- | 36 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM96 | SR | S | <0.5 | <0.5 | <0.5 | 03/22/2023 | -- | -- | 36 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM98 | SR | D | <0.5 | <0.5 | <0.5 | 03/09/2023 | -- | -- | 38 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| CTM99 | SR | S | <0.5 | <0.5 | <0.5 | 03/09/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| MW6ND | DR | D | <0.5 | <0.5 | <0.5 | 03/22/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| MW7NS | DR | S | <0.5 | <0.5 | <0.5 | 03/30/2023 | -- | -- | 34 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| MW8ND | DR | D | 0.51 | 0.57 | <0.5 | 03/30/2023 | -- | -0.05 | 35 | 2013 Q2 | <0.5 | 2.50 | 1.37 | 0.57 | 0.42 |
| USGSLUSTON | SR | S | <0.5 | <0.5 | <0.5 | 03/22/2023 | -- | -- | 37 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| USGSWOOSTER | SR | S | <0.5 | <0.5 | <0.5 | 03/13/2023 | -- | -- | 39 | 2013 Q2 | <0.5 | <0.5 | -- | -- | -- |
| VP27B | SR | S | <0.5 | <0.5 | <0.5 | 02/17/2023 | -- | -- | 33 | 2014 Q1 | <0.5 | 9.27 | -- | -- | -- |
| VP29B | SR | S | 1.10 | 0.95 | <0.5 | 02/17/2023 | -- | 0.07 | 34 | 2014 Q1 | <0.5 | 5.60 | 1.78 | 1.12 | 0.63 |
| VP31B | SR | S | <0.5 | <0.5 | <0.5 | 02/16/2023 | -- | -- | 34 | 2014 Q1 | <0.5 | 1.30 | -- | -- | -- |
| VP34B | SR | S | 0.52 | 0.64 | <0.5 | 02/23/2023 | -- | -0.39 | 19 | 2018 Q3 | <0.5 | 0.80 | 0.31 | 0.15 | 0.49 |
| VP35B | SR | S | <0.5 | <0.5 | <0.5 | 02/21/2023 | -- | -- | 17 | 2019 Q1 | <0.5 | <0.5 | -- | -- | -- |
| VP37B | SR | S | <0.5 | <0.5 | <0.5 | 02/22/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- |
| VP38B | SR | S | <0.5 | <0.5 | <0.5 | 02/21/2023 | -- | -- | 15 | 2019 Q3 | <0.5 | <0.5 | -- | -- | -- |
| VP39B | SR | S | <0.5 | <0.5 | <0.5 | 02/16/2023 | -- | -- | 17 | 2019 Q1 | <0.5 | <0.5 | -- | -- | -- |

Notes:

(1) Subregion designations as follows:

- DR = Downtown Reno
- DR-DS = Downtown Reno-Downtown Sparks overlap area
- DR-SR = Downtown Reno-South Reno overlap area
- DS = Downtown Sparks
- SR = South Reno
- UNK = Unknown
- ER = El Rancho
- J = Joule
- MK = Mill/Kietzke
- MK-SR = Mill/Kietzke-South Reno overlap area
- DR-ER = Downtown Reno-El Rancho overlap area
- Other = Located outside of currently defined subregions

(2) Wells completed in the shallow zone are designated with an S and wells completed in the deep zone with a D.

(3) All Trichloroethene (TCE) values are reported in µg/L. A value of <1.0 or <0.50 = TCE not detected at noted reporting limit. When there are more than one analytical result in a quarter, the highest current quarter's result and lowest previous quarter's results are used.

(4) New Max exceeds the previous GMP period of record maximum for the prior 10 years. New Min is below the previous GMP period of record minimum for the prior 10 years.

(5) Absolute values greater than 1 indicates that the TCE result from current quarter minus the most recently sampled previous quarter is more than two times the standard deviation for the GMP period of record starting 10 years prior to the beginning of the current quarter. A positive value indicates that the current quarter increased relative to the previous period. A negative value indicates a decrease relative to the previous period. For the purposes of the quarterly report, absolute values that are > 1 indicate a statistically significant change in the current TCE results compared to the most recent previously sampled quarter.

- = No Data Available
- NA = Not Applicable
- NS = Not Sampled



Appendix 2 Summary of Laboratory Data QC Review

Table A2.1: Summary of Laboratory Data QC Review

Table A2.1: Summary of Laboratory Data QC Review: Qualifiers & Flags

| QAPP Attachment A Criteria: QC Data Review Qualifier Flags | | | | | | | | | | | | | | |
|--|--------------------------|---------|----------------|-----------------------|--------------------------|-----------------|-------------------|-----------------------------|---------------------------------|------------------------|---------------------------------|---------------|-------------|----------|
| Work Order | Sample ID | Analyte | Target Analyte | Reporting Limits (RL) | Holding Times | Blanks | Field Duplicates | Surrogate Spikes Recovery | Matrix Spike / MSD Recovery | Matrix Spike / MSD RPD | Lab Control Spike (LCS) Results | Lab Qualified | Data Usable | Comments |
| WCW2305162 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2305204 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2305262 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2305280 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2306044 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2306065 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2306097 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| WCW2306138 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| QAPP Attachment B Criteria: QC Data Validation Qualifier Flags | | | | | | | | | | | | | | |
| Work Order | Sample ID | Analyte | Target Analyte | Initial Calibration | Calibration Verification | Instrument Tune | Internal Standard | Matrix Spike / MSD Recovery | Lab Control Spike (LCS) Results | | | | Data Usable | Comments |
| WCW2306065 | TB-1A-Q1-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| | GW-CTM39S-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| | GW-CTM38D-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| | GW-CTM107-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| | GW-ARCO6018MW16-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| | GW-ARCO6018MW12-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| | GW-CTM18S-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- |
| GW-CTM106-L-061223 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Yes | -- | |

Notes:

- Not applicable
- DNQ - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- H - Sample was analyzed outside the 14-day hold time.
- LRL - Low Reporting Limit, reported analytes are ND at half of the reporting limit.
- MS/MSD - Matrix Spike/Matrix Spike Duplicate
- ND - Non-Detect
- QA/QC - Quality Assurance/Quality Control
- QAPP - Quality Assurance Project Plan, 2018
- %D - Percent Difference
- %R -Percent Recovery
- RL -Reporting Limit
- RPD - Relative Percent Difference
- RSD -Relative Standard Deviation
- S - Spike Recovery outside accepted recovery limits.
- (J) The associated detected value is an estimated quantity.
- (J-) The associated detected value is an estimated quantity with a low bias.
- (J+) The associated detected value is an estimated quantity with a high bias.
- (U) The analyte was not detected above the associated limitation value The associated limitation value is either the sample reporting limit or sample detection limit.
- (UJ) The analyte was not detected above the associated limitation value. The associated limitation value is an estimate.
- (R) The data are unusable (Analyte may or may not be present).