Procedures for Determining Alert Levels and Aquifer Quality Limits for Groundwater Compliance Monitoring

Florence Copper Project
Florence, Arizona

June 1, 2018

Revised November 12, 2018

Registered Professional Engineer (Civil)
CERTIFICATE NO. 40268
BARBARA A. SYLVESTER
Date Signed 11/12/18
ARIZONA U.S.A.

Brown AND Caldwell
2 North Central Avenue, Suite 1600
Phoenix, Arizona 85004

INTRODUCTION

Temporary Aquifer Protection Permit (APP) No. P-106360 and Underground Injection Control (UIC) Permit No. R9UIC-AZ3-FY11-1 require the calculation of alert levels (ALs) and aquifer quality limits (AQLs) for groundwater compliance monitoring at the Florence Copper Inc. facility (Facility).

The APP outlines methodology for calculating ALs, along with a set of criteria to follow for selecting the final AL and AQL in Permit Conditions 2.5.3.2.1 – Alert Levels for POC Wells, and 2.5.8.5.1 – Alert Levels for Supplemental Wells and MW-01. The majority of the ALs were set using the permit-described methodology. In cases where datasets have reduced variability, this document outlines modifications to the permit method which were used to calculate the ALs and AQLs.

In November 2018, the tables were revised to include AQLs for the UIC Permit, which differ slightly from those required by the APP.

PERMIT METHODOLOGY

The Temporary APP outlines the methodology for setting ALs and AQL. There are three general steps:

- Data preparation;
- Using the mean and standard deviation to calculate a statistical AL; and
- Using case criteria to determine the final ALs and AQLs.

DATA PREPARATION

Permit Methodology

Data was prepared for AL calculations as outlined in the Temporary APP.

- ALs are calculated using a minimum of 8 and a maximum of 12 consecutive sample rounds.
  - In the majority of cases, 9 sample results are used; except where an outlier is identified.
- Any data where the laboratory practical quantitation limit (PQL) exceeds 80% of the Aquifer Water Quality Standard (AWQS) have been excluded from the calculations.
  - Four aluminum and four iron results were excluded from the calculations.
- Obvious outliers are excluded from the calculations.
  - Outliers were determined primarily on the basis of graphical review.
  - The total dissolved solid (TDS) results for M54-LBF and M54-O from August 15, 2018 were likely switched. These outliers were excluded.
  - The zinc result for MW-01-LBF on February 8, 2018 was excluded.
  - The radon results for M52-UBF, M59-0, M60-O, and M61-LBF on July 19, 2017 were excluded.
  - The radon results for M57-O and M58-O on March 6, 2018 were excluded.

In addition:

- Duplicate analytical results were removed.

Handling of Non-Detect Values

The APP prescribes using a value of one-half of the PQL for results below the detection limit for the calculation of ALs.

For cases where a dataset contains at least one non-detect but less than 50% of the results are non-detect, the statistical method proposed below accommodates the non-detects, which only need to be identified at the value of the PQL.

For cases where greater than 50% of the results are non-detect, in the majority of cases, the AL is set by permit to 80% of the standard. While an Upper Protection Limit (UPL) could be calculated, it is not necessary and, therefore, replacement of the non-detect with one-half the PQL does not affect the permit-derived AL. Special cases are discussed in greater detail below.

ALERT LEVEL CALCULATIONS

Permit Methodology

The permit prescribes calculation of the ALs based on a tolerance interval. The AL is calculated with the following equation:

$$AL = \bar{x} + k \cdot s$$

where:

$\bar{x}$ = the mean of the existing concentrations in a given well;

s = the standard deviation of the existing concentrations in a given well; and

k = a multiplicative factor that accounts for uncertainty in the analysis and the desired coverage and confidence of the AL (discussed below).

The values of $\bar{x}$ and s are calculated from the existing concentrations using appropriate statistical methods.

Note that for field pH, which has both upper and lower AL, a lower AL is calculated as $\bar{x} - k \cdot s$.

Development of the *k* Constant

The permit recommends using the Lieberman Tables for a one-side normal tolerance interval with a 95% confidence level. Based on a 99% coverage and a sample size of 9, the *k* value for this data set would be 4.143.

In reviewing preliminary calculations, it was observed that many of the datasets have low-variability, resulting in ALs that would only marginally exceed the maximum observed value.

Table 1A – Example Case 1 shows the calculation of the AL for a magnesium dataset with no non-detect values:

Average – 9.1

Maximum – 11

Standard Deviation – 1.13

Calculated UPL = 9.1 + 1.13 * 4.143 = 13.8

Because the calculated AL is only marginally higher than the maximum observed value, it is likely that a result may exceed the calculated AL due to natural water-quality variation. The 99% coverage of the AL means that the AL represents the 99th percentile of the dataset, which would be exceeded approximately 1% of the time, even under natural conditions. Based on the number of wells and analysis required for the project, this could translate to as many as 10 false positives in a year.

Modified *k* Value – Upper Prediction Limit

An alternative statistical method for calculating the *k* value is described by the United States Environmental Protection Agency (EPA) in "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance" (EPA, 2009). The AL calculated is a UPL, representing a value that is unlikely to be exceeded by any single future measurement, unless groundwater conditions have changed. The value of *k* is calculated as:

$$k = t_{1-\propto,n-1} \cdot \sqrt{1 + \frac{1}{n}}$$

where:

n = the sample size of the existing concentration dataset for a given well;

$\propto$ = the desired false positive rate of the UPL (discussed below); and

$t_{1-\propto,n-1}$ = the value of the t-distribution for the given values of n and $\propto$.

Because the dataset of existing concentrations represents only a sample of the full range of possible concentrations, the chance that the UPL will be exceeded even in the absence of a release to groundwater cannot be reduced to zero. The chance that the UPL will be exceed in the absence of a release to groundwater is managed through the chosen value for $\propto$.

An exceedance of a UPL, even in the absence of a release to groundwater, is called a "false positive." The expected rate of occurrence of false positives (i.e., the false positive rate) is controlled through the value of $\propto$. $\propto$ is equal to the desired false positive rate, and thus a value of $\propto$ = 0.01 would indicate that the UPL has a 1% chance of being exceeded every time a new sample is collected, even if a release to groundwater has not occurred.

Future groundwater samples will be compared to ALs and AQLs for many parameters in many wells multiple times per year. Even if every UPL had only a 1% chance of recording a false positive during each comparison to a new data point, the chance of observing at least one false positive throughout the year would be unacceptably high. To avoid this problem, the false positive rate of each UPL is set at a sufficiently small value to ensure that the overall false

positive rate over the course of the year (called the cumulative false positive rate) is reasonably small.

The value of $\propto$ for each UPL is determined from the desired cumulative false positive rate using the following equation (EPA, 2009):

$$\propto = 1 - (1 - \propto_C)^{1/N_T}$$

where:

$\propto_C$ = the desired cumulative false positive rate; and

N_T = the number of tests (i.e., comparisons to a UPL) conducted over the course of a year.

The number of comparisons to a UPL per year is determined from the number of parameters, number of wells, and sampling frequency. For the APP:

- Four parameters (the common ions) are sampled four times per year.
- A full set of additional parameters (23 parameters in total) is sampled twice per year.
- The number of wells that are to be sampled each year include:
  - the 3 new point-of-compliance (POC) wells;
  - 9 supplemental wells; and
  - plus 4 existing POC wells that already have established ALs and AQLs.
- Thus, the total number of comparisons per year is 992 (Table 2).

The cumulative false positive rate is chosen to minimize, to the degree possible, the chances of observing at least one false positive in a given year. The trade-off to choosing a low cumulative false positive rate is that the value of *k*, and thus the UPLs, increase and are less sensitive to detecting releases to groundwater. However, given the nature of the mining solutions, a release to groundwater would be expected to produce a significant change in groundwater chemistry, quickly exceeding the ALs. Thus, minimizing false positives can be achieved without limiting the effectiveness of the groundwater monitoring program.

The value of the cumulative false positive rate selected in this analysis is 0.01. This means that there will approximately a 1% chance of observing at least one false positive every year, provided that groundwater conditions do not change (either due to a release or through natural variation). In other words, false positives will be expected to occur with a frequency of one every 100 years, assuming stable groundwater conditions.

The cumulative false positive rate of 0.01 gives a value of $\propto$ for each UPL of 1.01 x 10-5, which gives a value for *k* of 9.37 when the sample size of the dataset is 9. Although the *k* value would be higher for any data set with 8 samples, i.e. where an outlier has been excluded, for the purposes of these calculations, the same *k* value of 9.37 will be used for consistency, since this is a more conservative result.

Using this proposed *k* value for the example case yields a UPL that is less likely to have false positives but is nonetheless protective of groundwater.

For-Example Case 1:

Average – 9.1

Maximum – 11

Standard Deviation – 1.13

Calculated UPL = 9.1 + 1.13 * **9.37** = 19.7

Note that while the UIC has some additional parameters, and thus a higher number of comparisons (N_T) which would result in a higher *k* value, the standard *k* value of 9.37 is used for consistency throughout.

Adjusted Standard Deviation

In some cases, the datasets have extremely low variability. This is not unexpected because the data were collected over a relatively short period of time and may not reflect long-term variability in groundwater conditions. Table 1B – Example Case 2 demonstrates the potential for a UPL, using the revised *k* value, that is still likely to result in false positives:

Average – 23.3

Maximum – 24

Standard Deviation – 0.5

Calculated UPL = 23.3 + 0.5 * 9.37 = 28

A water-quality variation of less than 15% would yield an exceedance.

To account for the low variability, an adjusted standard deviation is used:

- The coefficient of variation (CV) is calculated for each dataset where:
  - CV = standard deviation divided by the mean.
- For datasets with a CV less than 0.1; the standard deviation is set to 10% of the mean.

The CV is a standardized measure of variability. In other words, the CV for a dataset with a mean of 1,000 can be directly compared with the CV for a dataset with a mean of 10. The same cannot be said for the standard deviation, which is dependent on the magnitude of the data points as well as the variability.

For-Example Case 2:

Average – 23.3

Maximum – 24

Standard Deviation – 0.5

Coefficient of Variation = 0.02, below 0.1

Adjusted Standard Deviation = 10% of Average = 2.3

Calculated UPL = 23.3 + **2.3** * 9.37 = 45

This yields a UPL that is similar in relative magnitude to the dataset in Example Case 1 and less prone to false positives.

Note that the CV adjustment is not used for field pH. Because pH is calculated as the negative logarithm of hydrogen ion concentrations, it is inherently less variable than other parameters. Applying the adjustment when the CV is below 0.1 would have resulted in pH UPLs greater than

14 or lower prediction limits (LPLs) less than 1. Exempting field pH from the adjustment results in more realistic UPLs and LPLs.

Datasets with Non-Detects

For datasets with all detected results, the mean and standard deviation are calculated using standard methods (e.g., arithmetic average and sample standard deviation formulas found in software such as Microsoft Excel).

If a dataset contains at least one non-detect but the percentage of non-detects is less than 50%, it is proposed to calculate the mean and standard deviation using the Kaplan-Meier Method, as recommended by Helsel (2005). All calculations will be performed in Microsoft Excel, the R Statistical Programming Language (R Core Team, 2016), or the EPA's ProUCL software, version 5.1 (EPA, 2015).

For cases where greater than 50% of the results are non-detect, in the majority of cases, the AL is set by permit at 80% of the standard. While a UPL could be calculated, it is not necessary and, therefore, replacement of the non-detect with one-half the PQL does not affect the permit-derived AL. Parameters with large numbers of non-detects include fluoride, several trace metals, organics, and radium.

In the case of cobalt, there is no established standard for calculation of an AL. The permit-recommended method was used to replace the non-detect values with one-half of the PQL. An adjusted standard deviation was used to generate the UPL.

For naphthalene, octane, and total petroleum diesel hydrocarbons (TPH-D), each of the data sets contain 100% non-detected results and there are no established standards. In these cases, the full PQL was used to generate an average and an adjusted standard deviation.

Examples of the four types of non-detect datasets are shown in Table 1C – Example Case 3. While these last two approaches are not ideal, they provide a method to generate a UPL where no standard exists.

UPLs by Well vs by Parameter

Four parameters have been selected in the Temporary APP and UIC as primary indicator parameters. Individual UPLs were calculated for these on a well-by-well basis.

For most trace metals and organics where there is limited variability, low concentrations relative to the standard, or a large number of non-detects, the entire data set for all wells was used to calculate a UPL.

If sufficient variability existed over the set of wells, then individual UPLs were calculated and the highest UPL was selected for all wells. However, in the event that a single well was significantly different from the other wells, a standard UPL was set for the main group of wells and a separate UPL for the well(s) with unique results. For example, zinc results were non-detect for 10 of the 12 wells. In one of the two wells with positive results, a separate UPL was calculated.

ALS AND AQLS FOR PARAMETERS WITH AWQS

Once a UPL was calculated, it was compared to the numerical AWQS to determine the final AL and AQL in accordance with the permit. Table 3 outlines the case criteria described in the permit. Table 4a gives a summary of all the ALs and AQLs calculated and includes the method used to set the final AL for each parameter for the APP, while Table 4b summarizes the UIC values and highlights where there are differences in the two tables.

Permit Methodology

Numerical AWQS have been established for fluoride, 11 trace metals, benzene, toluene, ethylbenzene, xylene (BTEX), alpha, and radium. For each parameter with an AWQS, the ALs and AQLs was set as follows:

Case 1 – POC Wells

- If greater than 50% of the results for a well are non-detect, then the AL is set at 80% of the AWQS and the AQL is set equal to the AWQS;
- If the calculated UPL is less than 80% of the AWQS, then the AL is set at 80% of the AWQS and the AQL is set equal to the AWQS;
- If the calculated UPL is greater than 80% of the AWQS but less than the AWQS, then the AL is set equal to the UPL and the AQL is set equal to the AWQS; and
- If the calculated UPL is greater than the AWQS, then the AQL is set equal to the calculated UPL. No APP-AL is set for that parameter at that monitoring point, and the UIC-AL is set equal to the UPL.

Case 2 – Supplemental Wells

- If greater than 50% of the results for a well are non-detect, then the AL is set at 80% of the AWQS, and the UIC AQL is set equal to the AWQS;
- If the calculated UPL is less than 80% of the AWQS, then the AL is set at 80% of the AWQS, and the UIC AQL is set equal to the AWQS;
- If the calculated UPL is greater than 80% the AWQS but less than the AWQS, then the AL is set equal to the calculated UPL value and the UIC-AQL is set equal to the UPL; and
- APP AQLs are not required for supplemental wells.

Note that, although nitrate and nitrite have AWQS, the Temporary APP states that ALs and AQLs are not required, as they are not parameters of concern for the process. However, ALs and AQLs are calculated for both compounds for the UIC Permit.

ALS FOR INDICATOR PARAMETERS

Indicators with Secondary Standards

Indicator parameters do not have an established AWQS. Secondary drinking water standards (SDWS) are available for sulfate, total dissolved solids (TDS), and five trace metals. For each parameter with an SDWS, it is proposed to set ALs and AQLs using the same methodology described above.

- If greater than 50% of the results for a well are non-detect, then the AL is set at 80% of the SDWS, and the UIC AQL is set equal to the SDWS;

- If the calculated UPL is less than 80% of the SDWS, then the AL is set at 80% of the SDWS, and the UIC AQL is set equal to the SDWS;
- If the calculated AL is greater than 80% the SDWS, then the AL is set equal to the calculated UPL value and the UIC-AQL is set equal to the UPL; and
- For the five trace metals, as the concentrations are generally low and the indicator parameters are not of primary concern for groundwater protection, the AL is set equal to the highest AL in any well for each indicator metal.

Indicators with No Secondary Standard

Parameters magnesium, cobalt, naphthalene, octane, and TPH-D do not have an AWQS or SDWS.

- The AL for magnesium is set to the calculated UPL for each well;
- The AL for cobalt is set to the calculated UPL based on all 12 wells; and
- Naphthalene, octane, and TPH-D are set to the calculated UPL based on all 12 wells.

APP AQLs are not required for parameters that do not have an established AWQS. The UIC Permit requires some parameters to have AQLs which are set equal to the AL.

CALCULATION TABLES

Table 4 provides a summary of the proposed AL and AQLs. Support calculations are provided in Tables 5-9.

- Table 5 – Primary Four Indicator Parameters (Level 1)
- Table 6a – Trace Metal Parameters Calculated by Parameter
- Table 6b – Trace Metal Parameters Calculated by Well
- Table 7 – Organic Parameters
- Table 8a – Radiochemical Parameters
- Table 8b – Additional UIC Radiochemical Parameters
- Table 9 – Additional UIC Common Ions

FIELD AND LABORATORY DOCUMENTS

Groundwater sampling and analysis was conducted in accordance with the requirements of APP Section 2.5.3 (Groundwater Monitoring and Sampling Protocols). Sampling, preservation, and holding times were in accordance with accepted industry standards. Field summaries for each monthly event include the field sheets, calibration records, daily notes, and deviations from standard sampling protocols. The field summaries and laboratory reports are included as Attachment 1 on CD.

REFERENCES

EPA (United States Environmental Protection Agency), 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance. Office of Resource Conservation and Recovery. EPA 530/R09-007. March.

EPA, 2015. ProUCL Version 5.1.00 Technical Guide – Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations. October.

Helsel, D. R., 2005. Nondetects and Data Analysis – Statistics for Censored Environmental Data. Wiley-Interscience – A John Wiley & Sons, Inc., Publication. Hoboken, NJ.

R Core Team, 2016. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

TABLE 1a - EXAMPLE CASES DEMONSTRATING PROPOSED UPL CALCULATIONS

Example Case 1 Comparison of UPL Calculations Using the Permit *k* Factor and the Proposed UPL *k* Factor		
Description	**M57-O Magnesium**	**Comments**
Results	11 7.5 7.6 10 9.4 9.0 9.0 8.6 9.9	Example Values Detected at Each Sampling Event
Number of Samples	9	
Number of Detections	9	
Number of Non-Detections	0	
Percentage of Non-Detect	0%	
Maximum Value Detected	11	
Calculation Method	Direct Calculation	
Average of Detected Values	9.11	
Standard Deviation	1.13	
Permit k Value	***4.143***	One-side Tolerance Interval, 95% Confidence
Calculated AL Using Permit *k*	***13.8***	Not Protective Against False Positives
Proposed *k* Value	**9.37**	UPL with 99% Confidence Level
Revised AL Using Proposed *k*	**19.7**	Sufficiently Protective Against False Positives

Notes:

All results in milligrams per Liter (mg/L). UPL = Upper Prediction Limit

TABLE 1b - EXAMPLE CASES DEMONSTRATING PROPOSED UPL CALCULATIONS

Example Case 2 Comparison of UPL Calculations Using the Traditional Standard Deviation and the Proposed Adjusted Standard Deviation		
Description	**M52-UBF Magnesium**	**Comments**
Results	24 23 23 23 23 24 23 23 24	Example Values Detected at Each Sampling Event
Number of Samples	9	
Number of Detections	9	
Number of Non-Detections	0	
Percentage of Non-Detect	0%	
Maximum Value Detected	24	
Calculation Method	Direct Calculation	
Average of Detected Values	23.3	
Proposed *k* Value	9.37	UPL with 99% Confidence Level
Standard Deviation	***0.5***	Traditional Standard Deviation
Calculated UPL	***28.0***	Not Protective Against False Positives
Coefficient of Variation	0.02	StDev/Ave Must be Greater than 0.1
Adjusted Standard Deviation	**2.3**	10% of Average
Revised UPL Using Adjusted Standard Deviation	**45**	Sufficiently Protective Against False Positives

Notes:

All results in milligrams per Liter (mg/L). UPL = Upper Prediction Limit

TABLE 1c - EXAMPLE CASES DEMONSTRATING PROPOSED UPL CALCULATIONS

Example Case 3

Examples of Calculations which Require Handling of Non-Detect Values

Description	<50% ND M58-O Fluoride	>50% ND M52-UBF Cobalt	100% ND M52-UBF Antimony	100% ND M52-UBF TPH-D	Comments
Results	0.96	*0.000125*	0.0005	0.1	Example Values at Each Sampling Event
	0.72	0.00028	0.0005	0.1	
	0.57	*0.000125*	0.0005	0.1	
	0.68	0.00028	0.0005	0.21	
	0.60	*0.000125*	0.0005	0.1	
	0.4	*0.000125*	0.0005	0.1	
	0.4	*0.000125*	0.0005	0.1	
	0.4	*0.000125*	0.0005	0.1	
	0.4	*0.000125*	0.0005	0.1	
Number of Samples	9	9	9	9	
Number of Detections	5	2	0	0	
Number of Non-Detections	4	7	9	9	
Percentage of Non-Detect	44%	78%	100%	100%	
Maximum Value Detected	0.96	0.00028	0.0005	NA	
Method of Handling Non-Detects	Kaplan-Meier	Substitute 50% PQL	UPL Not Calculated	Average of PQL Stnd Dev-10%	
Average Value	0.57	0.00016		0.112	
Standard Deviation	0.18	0.00007		0.0	
Coefficient of Variation	0.31	0.43		0.0	StDev/Ave Must be Greater than 0.1
Adjusted Standard Deviation	-	-		0.011	10% of Average
Proposed *k* Value	9.37	9.37		9.37	UPL with 99% Confidence Level
Calculated UPL	**2.29**	**0.0008**	**80% of Standard**	**0.22**	Sufficiently Protective Against False Positives

Notes:

All results in milligrams per Liter (mg/L).

UPL = Upper Prediction Limit

Red = Values are non-detected at the PQL shown.

Italics = Values have been replaced with half the PQL.

TABLE 2 - ANALYTICAL PARAMETER REQUIREMENTS

Analyte	Sample Frequency	Number of Analysis per Year
ANALYTICAL PARAMETERS WITH APP/UIC AL/AQL CALCULATIONS		
Common Ions		
Fluoride	Quarterly	4
Magnesium	Quarterly	4
Sulfate	Quarterly	4
TDS	Quarterly	4
Trace Metals (Dissolved)		
Aluminum	Semi-Annual	2
Antimony	Semi-Annual	2
Arsenic	Semi-Annual	2
Barium	Semi-Annual	2
Beryllium	Semi-Annual	2
Cadmium	Semi-Annual	2
Chromium	Semi-Annual	2
Cobalt	Semi-Annual	2
Copper	Semi-Annual	2
Iron	Semi-Annual	2
Lead	Semi-Annual	2
Manganese	Semi-Annual	2
Mercury	Semi-Annual	2
Nickel	Semi-Annual	2
Selenium	Semi-Annual	2
Thallium	Semi-Annual	2
Zinc	Semi-Annual	2
Organics		
Benzene	Semi-Annual	2
Ethylbenzene	Semi-Annual	2
Toluene	Semi-Annual	2
Xylene	Semi-Annual	2
Radiochemicals		
Gross-Adjusted Alpha*	Semi-Annual	2
Radium 226+228	Semi-Annual	2
Total Number of Analysis per Year		62
Total Number of Permit Required Samples (Wells)		16
Total Number of Comparisons to a Permit Limit		**992**

Analyte	Sample Frequency	Number of Analysis per Year
ANALYTICAL PARAMETERS WITH UIC AL/AQL CALCULATIONS		
Common Ions		
pH (Field)	Quarterly	4
Nitrate as N	Semi-Annual	2
Nitrite as N	Semi-Annual	2
Organics		
Naphthalene	Semi-Annual	2
Octane	Semi-Annual	2
Total Petroleum Hydrocarbons - Diesel	Semi-Annual	2
Radiochemicals		
Gross Beta	Semi-Annual	2
Radon	Semi-Annual	2
Uranium (total)	Semi-Annual	2
ANALYTICAL MONITORING PARAMETERS - WITHOUT AL/AQL CALCULATIONS		
Common Ions		
EC (Field and Lab)	Quarterly	Monitoring
Temperature (Field)	Quarterly	Monitoring
Bicarbonate Alkalinity	Semi-Annual	Monitoring
Carbonate Alkalinity	Semi-Annual	Monitoring
Calcium (dissolved)	Semi-Annual	Monitoring
Chloride	Semi-Annual	Monitoring
Potassium (dissolved)	Semi-Annual	Monitoring
Sodium (dissolved)	Semi-Annual	Monitoring
Cation/Anion Balance	Semi-Annual	Monitoring

Notes:

*Adjusted Alpha calculated as needed.

TABLE 3 - CASE CRITERIA FOR SETTING ALS AND AQLS

PARAMETERS WITH AWQS					
Well Type	**Calculated UPL is:**	**APP AL**	**UIC AL**	**APP AQL**	**UIC AQL**
Case 1 - POC Wells	> 50% non-detects	80% AWQS	80% AWQS	AWQS	AWQS
	< 80% AWQS	80% AWQS	80% AWQS	AWQS	AWQS
	Between 80% and AWQS	UPL	UPL	AWQS	AWQS
	> AWQS	None	UPL	UPL	UPL
	Calculated UPL is:	**APP AL**	**UIC AL**	**APP AQL**	**UIC AQL***
Case 2 - Supplemental Wells	> 50% non-detects	80% AWQS	80% AWQS	None	AWQS
	< 80% AWQS	80% AWQS	80% AWQS	None	AWQS
	> 80% AWQS	UPL	UPL	None	UPL
PARAMETERS WITH SDWS					
Well Type	**Calculated UPL is:**	**APP AL**	**UIC AL**	**APP AQL**	**UIC AQL***
All Wells	> 50% non-detects	80% SDWS	80% SDWS	None	SDWS
	< 80% SDWS	80% SDWS	80% SDWS	None	SDWS
	> 80% SDWS	UPL	UPL	None	UPL
PARAMETERS WITH NO STANDARDS					
Well Type	**Calculated UPL is:**	**APP AL**	**UIC AL**	**APP AQL**	**UIC AQL***
All Wells	UPL	UPL	UPL	None	UPL

Notes:

*Where UIC Requires AQLs

TABLE 4a - SUMMARY OF ALERT LEVEL AND AQUIFER QUALITY LEVEL VALUES FOR THE APP

Analyte	AL Method	AWQS	SDWS	M52-UBF POC		M54-LBF POC		M54-O POC		M55-UBF		M56-LBF		M57-O		M58-O		M59-O		M60-O		M61-LBF		MW-01-LBF		MW-01-O	
				AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL
Primary Indicator Parameters																											
Fluoride	80% AWQS	4	2	3.2	4	3.2	4	3.2	4	3.2	NA	3.2	NA	3.2	NA	3.2	NA	3.2	NA	3.2	NA	3.2	NA	3.2	NA	3.2	NA
Magnesium	Well by Well	NE	NE	45	NA	46	NA	11	NA	50	NA	46	NA	20	NA	59	NA	27	NA	54	NA	13	NA	47	NA	48	NA
Sulfate	Well by Well	NE	250	351	NA	329	NA	200	NA	484	NA	312	NA	200	NA	435	NA	234	NA	313	NA	200	NA	340	NA	254	NA
TDS	Well by Well	NE	500	1666	NA	1731	NA	855	NA	1900	NA	1646	NA	934	NA	1716	NA	947	NA	1492	NA	852	NA	1711	NA	1563	NA
Trace Metals																											
Aluminum	80% SDWS	NE	0.2	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA
Antimony	80% AWQS	0.006	NE	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	NA	0.0048	NA	0.0048	NA	0.0048	NA	0.0048	NA	0.0048	NA	0.0048	NA	0.0048	NA	0.0048	NA
Arsenic[1]	80% AWQS	0.05	NE	0.026	0.05	0.026	0.05	0.026	0.05	0.026	NA	0.026	NA	0.026	NA	0.026	NA	0.026	NA	0.026	NA	0.026	NA	0.026	NA	0.026	NA
Barium	80% AWQS	2	NE	1.6	2	1.6	2	1.6	2	1.6	NA	1.6	NA	1.6	NA	1.6	NA	1.6	NA	1.6	NA	1.6	NA	1.6	NA	1.6	NA
Beryllium	80% AWQS	0.004	NE	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	NA	0.0032	NA	0.0032	NA	0.0032	NA	0.0032	NA	0.0032	NA	0.0032	NA	0.0032	NA	0.0032	NA
Cadmium	80% AWQS	0.005	NE	0.004	0.005	0.004	0.005	0.004	0.005	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA
Chromium	80% AWQS	0.1	NE	0.08	0.1	0.08	0.1	0.08	0.1	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA
Cobalt	UPL on All Results	NE	NE	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA
Copper	80% SDWS	NE	1	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA
Iron	Highest Calculated AL	NE	0.3	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA
Lead	80% AWQS	0.05	NE	0.04	0.05	0.04	0.05	0.04	0.05	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA
Manganese	Highest Calculated AL	NE	0.05	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA
Mercury	80% AWQS	0.002	NE	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA
Nickel	80% AWQS, 1 Exception[3]	0.1	NE	0.08	0.1	0.08	0.1	0.08	0.1	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA	***0.25***	NA	0.08	NA	0.08	NA	0.08	NA
Selenium	80% AWQS	0.05	NE	0.04	0.05	0.04	0.05	0.04	0.05	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA	0.04	NA
Thallium	80% AWQS	0.002	NE	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA	0.0016	NA
Zinc	80% AWQS, 1 Exception[3]	NE	5	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	***5.6***	NA	4	NA
Organics																											
Benzene	80% AWQS	0.005	NE	0.004	0.005	0.004	0.005	0.004	0.005	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA
Ethylbenzene	80% AWQS	0.7	NE	0.56	0.7	0.56	0.7	0.56	0.7	0.56	NA	0.56	NA	0.56	NA	0.56	NA	0.56	NA	0.56	NA	0.56	NA	0.56	NA	0.56	NA
Toluene	80% AWQS	1	NE	0.8	1	0.8	1	0.8	1	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA
Xylene	80% AWQS	10	NE	8	10	8	10	8	10	8	NA	8	NA	8	NA	8	NA	8	NA	8	NA	8	NA	8	NA	8	NA
Naphthalene (UIC)	UPL on All Results	NE	NE	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA	0.004	NA
Octane (UIC)	UPL on All Results	NE	NE	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA	0.001	NA
TPH-D (UIC)	UPL on All Results	NE	NE	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA
Radiochemicals																											
Alpha[2]	Highest Calculated AL	15	NE	NA	26.5	NA	26.5	NA	26.5	26.5	NA	26.5	NA	26.5	NA	26.5	NA	26.5	NA	26.5	NA	26.5	NA	26.5	NA	26.5	NA
Radium 226+228	Highest Calculated AL	5	NE	NA	17.2	NA	17.2	NA	17.2	17.2	NA	17.2	NA	17.2	NA	17.2	NA	17.2	NA	17.2	NA	17.2	NA	17.2	NA	17.2	NA
Gross Beta (UIC)	Highest Calculated AL	4 mrem/yr[4]	NE	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA	55	NA
Radon (UIC)	Highest Calculated AL	NE	NE	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA
Total Uranium (UIC)	Highest Calculated AL	NE	NE	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA
Common Ions (UIC)																											
pH Low (Field) (UIC)	Lowest Calculated AL	NE	6.5	NA	5.4	NA	5.4	NA	5.4	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA
pH High (Field) (UIC	Highest Calculated AL	NE	8.5	NA	9.9	NA	9.9	NA	9.9	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA
Nitrate as N (UIC)	Highest Calculated AL	10	NE	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA	20.4	NA
Nitrite as N (UIC)	80% AWQS	1	NE	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA	0.8	NA

Notes:

[1]Arsenic AL set to 0.026 mg/L for select wells by permit. Used for all wells for consistency.

[2]The AWQS applies to Adjusted Alpha which equals Gross Alpha minus Uranium Isotopes. Adjusted Alpha is calculated if Gross Alpha is greater than 12 picocuries per liter, otherwise Gross Alpha is used.

[3]All wells calculated by standard AL method with one exception where results were significantly different from the average to warrant a separate AL.

[4]Beta speciations are performed above 50 pCi/L. All ambient results were below the speciation level.

TABLE 4b - SUMMARY OF ALERT LEVEL AND AQUIFER QUALITY LEVEL VALUES FOR THE UIC

Analyte	AL Method	AWQS	SDWS	M52-UBF POC		M54-LBF POC		M54-O POC		M55-UBF		M56-LBF		M57-O		M58-O		M59-O		M60-O		M61-LBF		MW-01-LBF		MW-01-O	
				AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL	AL	AQL
Primary Indicator Parameters																											
Fluoride	80% AWQS	4	2	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4	3.2	4
Magnesium	Well by Well	NE	NE	45	NA	46	NA	11	NA	50	NA	46	NA	20	NA	59	NA	27	NA	54	NA	13	NA	47	NA	48	NA
Sulfate	Well by Well	NE	250	351	NA	329	NA	200	NA	484	NA	312	NA	200	NA	435	NA	234	NA	313	NA	200	NA	340	NA	254	NA
TDS	Well by Well	NE	500	1666	NA	1731	NA	855	NA	1900	NA	1646	NA	934	NA	1716	NA	947	NA	1492	NA	852	NA	1711	NA	1563	NA
Trace Metals																											
Aluminum	80% SDWS	NE	0.2	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA
Antimony	80% AWQS	0.006	NE	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006	0.0048	0.006
Arsenic[1]	80% AWQS	0.05	NE	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05	0.026	0.05
Barium	80% AWQS	2	NE	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2	1.6	2
Beryllium	80% AWQS	0.004	NE	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004	0.0032	0.004
Cadmium	80% AWQS	0.005	NE	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005
Chromium	80% AWQS	0.1	NE	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1	0.08	0.1
Cobalt	UPL on All Results	NE	NE	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA	0.002	NA
Copper	80% SDWS	NE	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1
Iron	Highest Calculated AL	NE	0.3	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA	1.4	NA
Lead	80% AWQS	0.05	NE	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05
Manganese	Highest Calculated AL	NE	0.05	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA	0.52	NA
Mercury	80% AWQS	0.002	NE	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002
Nickel	80% AWQS, 1 Exception[3]	0.1	NE	0.08	0.1	0.08	0.1	0.08	0.1	0.08	NA	0.08	NA	0.08	NA	0.08	NA	0.08	NA	***0.25***	NA	0.08	NA	0.08	NA	0.08	NA
Selenium	80% AWQS	0.05	NE	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.05
Thallium	80% AWQS	0.002	NE	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002	0.0016	0.002
Zinc	80% AWQS, 1 Exception[3]	NE	5	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	4	NA	***5.6***	NA	4	NA
Organics																											
Benzene	80% AWQS	0.005	NE	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.005
Ethylbenzene	80% AWQS	0.7	NE	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7	0.56	0.7
Toluene	80% AWQS	1	NE	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1
Xylene	80% AWQS	10	NE	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8	10	8	10
Naphthalene (UIC)	UPL on All Results	NE	NE	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Octane (UIC)	UPL on All Results	NE	NE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
TPH-D (UIC)	UPL on All Results	NE	NE	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA	0.32	NA
Radiochemicals																											
Alpha[2]	Highest Calculated AL	15	NE	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
Radium 226+228	Highest Calculated AL	5	NE	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
Gross Beta (UIC)	Highest Calculated AL	4 mrem/yr[4]	NE	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Radon (UIC)	Highest Calculated AL	NE	NE	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA	25,040	NA
Total Uranium (UIC)	Highest Calculated AL	NE	NE	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA	0.16	NA
Common Ions (UIC)																											
pH Low (Field) (UIC)	Lowest Calculated AL	NE	6.5	NA	5.4	NA	5.4	NA	5.4	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA	5.4	NA
pH High (Field) (UIC	Highest Calculated AL	NE	8.5	NA	9.9	NA	9.9	NA	9.9	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA	9.9	NA
Nitrate as N (UIC)	Highest Calculated AL	10	NE	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
Nitrite as N (UIC)	80% AWQS	1	NE	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8	1

Notes:

[1]Arsenic AL set to 0.026 mg/L for select wells by permit. Used for all wells for consistency.

[2]The AWQS applies to Adjusted Alpha which equals Gross Alpha minus Uranium Isotopes. Adjusted Alpha is calculated if Gross Alpha is greater than 12 picocuries per liter, otherwise Gross Alpha is used.

[3]All wells calculated by standard AL method with one exception where results were significantly different from the average to warrant a separate AL.

[4]Beta speciations are performed above 50 pCi/L. All ambient results were below the speciation level.

Highlights indicate where the UIC requirements for establishing AQLs are different from the APP requirements.

TABLE 5 - PRIMARY FOUR INDICATOR PARAMETERS (LEVEL I)

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M52-UBF	7/19/2017	24	0.69	190	860
M52-UBF	8/17/2017	23	0.65	180	870
M52-UBF	9/14/2017	23	0.74	180	860
M52-UBF	10/25/2017	23	0.71	180	850
M52-UBF	11/16/2017	23	0.71	180	870
M52-UBF	12/12/2017	24	0.59	180	870
M52-UBF	1/9/2018	23	0.4	180	820
M52-UBF	2/9/2018	23	0.66	180	860
M52-UBF	3/7/2018	24	0.64	180	880
Number of Samples		9	9	9	9
Number of Detections		9	8	9	9
Number of Non-Detections		0	1	0	0
Percentage of Non-Detect		0%	11%	0%	0%
Maximum Value Detected		24	0.74	190	880
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		23.3	0.64	181	860
Standard Deviation		0.50	0.10	3.3	17
Coefficient of Variation		*0.02*	0.15	*0.02*	*0.02*
Adj Stnd Deviation		2.3	0.10	18	86
k value		9.37	9.37	9.37	9.37
UPL		**45**	**1.54**	**351**	**1666**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**45**	**3.2**	**351**	**1666**
AQL - POC Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M54-LBF	7/18/2017	23	0.67	180	890
M54-LBF	8/15/2017	23	0.61	160	(450)
M54-LBF	9/12/2017	24	0.69	160	900
M54-LBF	10/23/2017	23	0.75	170	880
M54-LBF	11/15/2017	23	0.69	170	910
M54-LBF	12/12/2017	23	0.57	170	900
M54-LBF	1/9/2018	24	0.4	170	890
M54-LBF	2/7/2018	24	0.60	180	900
M54-LBF	3/5/2018	27	0.54	170	880
Number of Samples		9	9	9	8
Number of Detections		9	8	9	8
Number of Non-Detections		0	1	0	0
Percentage of Non-Detect		0%	11%	0%	0%
Maximum Value Detected		27	0.75	180	910
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		23.8	0.61	170	894
Standard Deviation		1.30	0.10	7.1	11
Coefficient of Variation		*0.05*	0.16	*0.04*	*0.01*
Adj Stnd Deviation		2.4	0.10	17	89
k value		9.37	9.37	9.37	9.37
UPL		**46**	**1.53**	**329**	**1731**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**46**	**3.2**	**329**	**1731**
AQL - POC Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M54-O	7/18/2017	5.6	0.61	56	420
M54-O	8/15/2017	5.2	0.64	47	(910)
M54-O	9/12/2017	5.5	0.74	43	470
M54-O	10/23/2017	5.3	0.74	44	440
M54-O	11/16/2017	5.2	0.80	42	430
M54-O	12/12/2017	6.2	0.68	43	440
M54-O	1/9/2018	5.2	0.56	42	460
M54-O	2/7/2018	5.8	0.71	48	430
M54-O	3/6/2018	5.6	0.62	42	440
Number of Samples		9	9	9	8
Number of Detections		9	9	9	8
Number of Non-Detections		0	0	0	0
Percentage of Non-Detect		0%	0%	0%	0%
Maximum Value Detected		6	0.80	56	470
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	Direct Calculation
Average		5.5	0.68	45	441
Standard Deviation		0.34	0.08	4.6	16
Coefficient of Variation		*0.06*	0.11	0.10	*0.04*
Adj Stnd Deviation		0.6	0.08	5	44
k value		9.37	9.37	9.37	9.37
UPL		**11**	**1.40**	**88**	**855**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**11**	**3.2**	**200**	**855**
AQL - POC Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M55-UBF	7/17/2017	29	0.4	240	1100
M55-UBF	8/16/2017	28	0.52	230	1100
M55-UBF	9/13/2017	27	0.62	230	1100
M55-UBF	10/25/2017	25	0.63	180	910
M55-UBF	11/21/2017	24	0.58	180	910
M55-UBF	12/12/2017	25	0.52	180	890
M55-UBF	1/15/2018	23	0.4	150	900
M55-UBF	2/9/2018	24	0.56	180	890
M55-UBF	3/7/2018	27	0.54	180	910
Number of Samples		9	9	9	9
Number of Detections		9	7	9	9
Number of Non-Detections		0	2	0	0
Percentage of Non-Detect		0%	22%	0%	0%
Maximum Value Detected		29	0.63	240	1100
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		25.8	0.53	194	968
Standard Deviation		2.05	0.08	30.9	99
Coefficient of Variation		*0.08*	0.15	0.16	0.10
Adj Stnd Deviation		2.6	0.08	31	99
k value		9.37	9.37	9.37	9.37
UPL		**50**	**1.27**	**484**	**1900**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**50**	**3.2**	**484**	**1900**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M56-LBF	7/17/2017	26	0.4	180	870
M56-LBF	8/16/2017	24	0.4	170	890
M56-LBF	9/13/2017	24	0.4	160	890
M56-LBF	10/25/2017	23	0.4	160	840
M56-LBF	11/20/2017	23	0.4	160	810
M56-LBF	12/12/2017	23	0.4	160	820
M56-LBF	1/15/2018	23	0.4	130	840
M56-LBF	2/9/2018	22	0.4	170	850
M56-LBF	3/7/2018	24	0.4	160	840
Number of Samples		9	9	9	9
Number of Detections		9	0	9	9
Number of Non-Detections		0	9	0	0
Percentage of Non-Detect		0%	100%	0%	0%
Maximum Value Detected		26	0.4	180	890
Calculation Method		Direct Calculation	80% of AWQS	Direct Calculation	Direct Calculation
Average		23.6		161	850
Standard Deviation		1.13		13.6	28
Coefficient of Variation		*0.05*		*0.08*	*0.03*
Adj Stnd Deviation		2.4		16	85
k value		9.37		9.37	9.37
UPL		**46**		**312**	**1646**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**46**	**3.2**	**312**	**1646**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M57-O	7/17/2017	11	0.51	88	520
M57-O	8/17/2017	7.5	0.57	62	440
M57-O	9/13/2017	7.6	0.63	60	450
M57-O	10/25/2017	10	0.4	74	500
M57-O	11/20/2017	9.4	0.54	75	500
M57-O	12/13/2017	9.0	0.4	73	500
M57-O	1/10/2018	9.0	0.4	65	470
M57-O	2/8/2018	8.6	0.52	70	480
M57-O	3/6/2018	9.9	0.4	62	480
Number of Samples		9	9	9	9
Number of Detections		9	5	9	9
Number of Non-Detections		0	4	0	0
Percentage of Non-Detect		0%	44%	0%	0%
Maximum Value Detected		11	0.63	88	520
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		9.1	0.49	70	482
Standard Deviation		1.13	0.08	8.9	26
Coefficient of Variation		0.12	0.17	0.13	*0.05*
Adj Stnd Deviation		1.1	0.08	9	48
k value		9.37	9.37	9.37	9.37
UPL		**19.7**	**1.26**	**153**	**934**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**20**	**3.2**	**200**	**934**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

TABLE 5 - PRIMARY FOUR INDICATOR PARAMETERS (LEVEL I)

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M58-O	7/18/2017	10	0.96	140	640
M58-O	8/15/2017	14	0.72	170	780
M58-O	9/12/2017	20	0.57	200	890
M58-O	10/24/2017	16	0.68	180	800
M58-O	11/16/2017	17	0.60	190	870
M58-O	12/13/2017	20	0.4	210	900
M58-O	1/9/2018	21	0.4	220	930
M58-O	2/7/2018	22	0.4	220	920
M58-O	3/6/2018	24	0.4	200	890
Number of Samples		9	9	9	9
Number of Detections		9	5	9	9
Number of Non-Detections		0	4	0	0
Percentage of Non-Detect		0%	44%	0%	0%
Maximum Value Detected		24	0.96	220	930
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		18.2	0.57	192	847
Standard Deviation		4.38	0.18	25.9	93
Coefficient of Variation		0.24	0.32	0.13	0.11
Adj Stnd Deviation		4.4	0.18	26	93
k value		9.37	9.37	9.37	9.37
UPL		**59**	**2.29**	**435**	**1716**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**59**	**3.2**	**435**	**1716**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M59-O	7/19/2017	8.0	0.68	72	460
M59-O	8/17/2017	8.3	0.62	66	470
M59-O	9/14/2017	8.0	0.73	68	500
M59-O	10/24/2017	6.9	0.74	70	480
M59-O	11/20/2017	9.0	0.66	66	490
M59-O	12/14/2017	5.0	0.72	76	470
M59-O	1/10/2018	3.6	0.78	120	510
M59-O	2/8/2018	9.1	0.61	71	500
M59-O	3/7/2018	9.8	0.58	74	520
Number of Samples		9	9	9	9
Number of Detections		9	9	9	9
Number of Non-Detections		0	0	0	0
Percentage of Non-Detect		0%	0%	0%	0%
Maximum Value Detected		10	0.78	120	520
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	Direct Calculation
Average		7.5	0.68	76	489
Standard Deviation		2.03	0.07	16.9	20
Coefficient of Variation		0.27	*0.10*	0.22	*0.04*
Adj Stnd Deviation		2.0	0.07	17	49
k value		9.37	9.37	9.37	9.37
UPL		**27**	**1.32**	**234**	**947**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**27**	**3.2**	**234**	**947**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M60-O	7/19/2017	12	0.55	97	590
M60-O	8/16/2017	7.5	0.67	81	540
M60-O	9/14/2017	10	0.66	98	590
M60-O	10/24/2017	18	0.4	130	720
M60-O	11/21/2017	18	0.4	130	740
M60-O	12/14/2017	15	0.4	140	740
M60-O	1/15/2018	8.7	0.54	100	530
M60-O	2/7/2018	7.4	0.65	98	560
M60-O	3/8/2018	6.6	0.64	79	510
Number of Samples		9	9	9	9
Number of Detections		9	6	9	9
Number of Non-Detections		0	3	0	0
Percentage of Non-Detect		0%	33%	0%	0%
Maximum Value Detected		18	0.67	140	740
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		11.5	0.55	106	613
Standard Deviation		4.53	0.11	22.1	94
Coefficient of Variation		0.39	0.21	0.21	0.15
Adj Stnd Deviation		4.5	0.11	22	94
k value		9.37	9.37	9.37	9.37
UPL		**54**	**1.60**	**313**	**1492**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**54**	**3.2**	**313**	**1492**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
M61-LBF	7/19/2017	7.8	0.63	68	450
M61-LBF	8/16/2017	7.1	0.71	61	430
M61-LBF	9/14/2017	6.8	0.69	60	460
M61-LBF	10/23/2017	6.5	0.79	61	440
M61-LBF	11/20/2017	7.1	0.63	59	450
M61-LBF	12/13/2017	6.6	0.55	63	440
M61-LBF	1/11/2018	7.1	0.4	60	440
M61-LBF	1/25/2018	6.5	0.4	61	430
M61-LBF	2/9/2018	6.9	0.55	59	430
M61-LBF	3/8/2018	7.2	0.84	63	430
Number of Samples		10	10	10	10
Number of Detections		10	8	10	10
Number of Non-Detections		0	2	0	0
Percentage of Non-Detect		0%	20%	0%	0%
Maximum Value Detected		7.8	0.84	68	460
Calculation Method		Direct Calculation	Kaplan-Meier	Direct Calculation	Direct Calculation
Average		7.0	0.62	62	440
Standard Deviation		0.39	0.14	2.7	11
Coefficient of Variation		*0.06*	0.23	*0.04*	*0.02*
Adj Stnd Deviation		0.7	0.14	6	44
k value		9.37	9.37	9.37	9.37
UPL		**13**	**1.93**	**119**	**852**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**13**	**3.2**	**200**	**852**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
MW-01-LBF	12/28/2017	25	0.4	180	890
MW-01-LBF	1/11/2018	23	0.4	170	870
MW-01-LBF	1/25/2018	23	0.4	170	880
MW-01-LBF	2/8/2018	23	0.4	190	880
MW-01-LBF	2/22/2018	24	0.4	190	870
MW-01-LBF	3/8/2018	24	0.4	180	880
MW-01-LBF	3/22/2018	26	0.4	160	900
MW-01-LBF	4/5/2018	27	0.4	170	890
MW-01-LBF	4/19/2018	24	0.4	170	890
Number of Samples		9	9	9	9
Number of Detections		9	0	9	9
Number of Non-Detections		0	9	0	0
Percentage of Non-Detect		0%	100%	0%	0%
Maximum Value Detected		27	0.4	190	900
Calculation Method		Direct Calculation	80% of AWQS	Direct Calculation	Direct Calculation
Average		24.3		176	883
Standard Deviation		1.41		10.1	10
Coefficient of Variation		*0.06*		*0.06*	*0.01*
Adj Stnd Deviation		2.4		18	88
k value		9.37		9.37	9.37
UPL		**47**		**340**	**1711**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**47**	**3.2**	**340**	**1711**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Well	Sample Date	Magnesium	Fluoride	Sulfate	TDS
MW-01-O	12/28/2017	23	0.4	140	820
MW-01-O	1/11/2018	19	0.4	120	740
MW-01-O	1/25/2018	22	0.4	150	830
MW-01-O	2/8/2018	17	0.4	130	840
MW-01-O	2/22/2018	22	0.4	140	790
MW-01-O	3/8/2018	22	0.4	120	820
MW-01-O	3/22/2018	18	0.4	140	820
MW-01-O	4/5/2018	18	0.4	120	810
MW-01-O	4/19/2018	14	0.4	120	790
Number of Samples		9	9	9	9
Number of Detections		9	0	9	9
Number of Non-Detections		0	9	0	0
Percentage of Non-Detect		0%	100%	0%	0%
Maximum Value Detected		23	0.4	150	840
Calculation Method		Direct Calculation	80% of AWQS	Direct Calculation	Direct Calculation
Average		19.4		131	807
Standard Deviation		3.00		11.7	30
Coefficient of Variation		0.15		*0.09*	*0.04*
Adj Stnd Deviation		3.0		13	81
k value		9.37		9.37	9.37
UPL		**48**		**254**	**1563**
AWQS/SDWS		**NE**	**4**	**250**	**500**
AL		**48**	**3.2**	**254**	**1563**
AQL - Supplemental Well		**NA**	**4.0**	**NA**	**NA**

Notes:

All results in milligrams per liter (mg/L).

(#) = Outlier, excluded from calculations.

Red = Values are non-detected at the PQL shown.

Blue = Coefficient of Variation <0.1

AL = Alert Level

AQL = Aquifer Quality Limit

AWQS = Aquifer Water Quality Standard

NA = Not Applicable

NE = Not Established

SDWS = Secondary Drinking Water Standard

UPL = Upper Prediction Limit

TABLE 6a - TRACE METAL PARAMETERS CALCULATED BY PARAMETER

Well	Sample Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Selenium	Thallium
M52-UBF	7/19/2017	0.04	0.0005	0.0024	0.051	0.00025	0.00025	0.0011	*0.000125*	0.00061	0.0005	0.001	0.0025	0.0005
M52-UBF	8/17/2017	0.04	0.0005	0.0024	0.051	0.0013	0.00025	0.00097	0.00028	0.0016	0.0005	0.000094	0.0025	0.0005
M52-UBF	9/14/2017	0.08	0.0005	0.0023	0.049	0.0005	0.00025	0.0013	*0.000125*	0.0006	0.0005	0.000094	0.0025	0.0005
M52-UBF	10/25/2017	0.08	0.0005	0.0028	0.054	0.0005	0.00025	0.0014	0.00028	0.00065	0.0005	0.00016	0.0025	0.0005
M52-UBF	11/16/2017	0.04	0.0005	0.0025	0.051	0.00025	0.00025	0.00091	*0.000125*	0.0005	0.0005	0.000079	0.0025	0.0005
M52-UBF	12/12/2017	0.08	0.0005	0.0024	0.048	0.0005	0.00025	0.0009	*0.000125*	0.0005	0.0005	0.000079	0.0025	0.0005
M52-UBF	1/9/2018	0.04	0.0005	0.0026	0.052	0.00025	0.00025	0.0016	*0.000125*	0.00057	0.0005	0.000079	0.0025	0.0005
M52-UBF	2/9/2018	0.04	0.0005	0.0028	0.051	0.00025	0.00025	0.0021	*0.000125*	0.0013	0.0005	0.000079	0.0025	0.0005
M52-UBF	3/7/2018	0.08	0.0005	0.0025	0.05	0.0005	0.00025	0.0021	*0.000125*	0.0016	0.0005	0.000079	0.0025	0.0005
M54-LBF	7/18/2017	0.04	0.0005	0.0019	0.055	0.00025	0.00025	0.0005	*0.000125*	0.00093	0.0005	0.001	0.0025	0.0005
M54-LBF	8/15/2017	0.04	0.0005	0.0019	0.049	0.00025	0.00025	0.0015	*0.000125*	0.0017	0.0005	0.000094	0.0025	0.0005
M54-LBF	9/12/2017	0.04	0.0005	0.0016	0.052	0.00025	0.00025	0.0024	0.00026	0.0007	0.0005	0.000094	0.0025	0.0005
M54-LBF	10/23/2017	0.04	0.0005	0.002	0.054	0.00025	0.00025	0.0013	*0.000125*	0.001	0.0005	0.000094	0.0025	0.0005
M54-LBF	11/15/2017	0.08	0.0005	0.0019	0.055	0.0005	0.00025	0.00088	0.00034	0.00058	0.0005	0.000079	0.0025	0.0005
M54-LBF	12/12/2017	0.08	0.0005	0.002	0.05	0.0005	0.00025	0.0015	0.00043	0.00077	0.0005	0.000079	0.0025	0.0005
M54-LBF	1/9/2018	0.08	0.0005	0.0018	0.045	0.0005	0.00025	0.0015	*0.000125*	0.00078	0.0005	0.000079	0.0025	0.0005
M54-LBF	2/7/2018	0.04	0.0005	0.0022	0.048	0.00025	0.00025	0.0022	*0.000125*	0.0016	0.0005	0.00008	0.0025	0.0005
M54-LBF	3/5/2018	0.08	0.0005	0.0018	0.041	0.0005	0.00025	0.003	*0.000125*	0.0018	0.0005	0.000079	0.0025	0.0005
M54-O	7/18/2017	0.04	0.0005	0.0014	0.0092	0.00025	0.00025	0.0005	*0.000125*	0.003	0.0005	0.001	0.0025	0.0005
M54-O	8/15/2017	0.04	0.0005	0.0015	0.0094	0.00025	0.00025	0.0005	*0.000125*	0.0039	0.0005	0.000094	0.0025	0.0005
M54-O	9/12/2017	0.04	0.0005	0.0021	0.013	0.00025	0.00025	0.0012	0.00041	0.0018	0.0005	0.000094	0.0025	0.0005
M54-O	10/23/2017	0.04	0.0005	0.0019	0.012	0.00025	0.00025	0.00054	*0.000125*	0.0015	0.0005	0.00013	0.0025	0.0005
M54-O	11/16/2017	0.04	0.0005	0.0024	0.014	0.00025	0.00025	0.0005	*0.000125*	0.0011	0.0005	0.000079	0.0025	0.0005
M54-O	12/12/2017	0.04	0.0005	0.002	0.012	0.00025	0.00025	0.00085	*0.000125*	0.00094	0.0005	0.000079	0.0025	0.0005
M54-O	1/9/2018	0.04	0.0005	0.0026	0.015	0.00025	0.00025	0.00065	*0.000125*	0.0014	0.0005	0.000079	0.0025	0.0005
M54-O	2/7/2018	0.04	0.0005	0.0022	0.013	0.00025	0.00025	0.00088	*0.000125*	0.0018	0.0005	0.000079	0.0025	0.0005
M54-O	3/6/2018	0.04	0.0005	0.0024	0.015	0.00025	0.00025	0.0018	0.00069	0.048	0.0005	0.000079	0.0025	0.0005
M55-UBF	7/17/2017	(<0.4)	0.0005	0.00062	0.063	0.0025	0.00025	0.0041	0.00077	0.0024	0.0005	0.001	0.0025	0.0005
M55-UBF	8/16/2017	0.04	0.0005	0.00096	0.068	0.0013	0.00025	0.00067	0.00049	0.0018	0.0005	0.000094	0.0025	0.0005
M55-UBF	9/13/2017	0.08	0.0005	0.001	0.071	0.0005	0.00025	0.0013	0.00033	0.00076	0.0005	0.000094	0.0025	0.0005
M55-UBF	10/25/2017	0.08	0.0005	0.0015	0.063	0.0005	0.00025	0.0016	*0.000125*	0.00082	0.0005	0.000094	0.0025	0.0005
M55-UBF	11/21/2017	0.08	0.0005	0.0016	0.062	0.0005	0.00025	0.0014	0.00026	0.00055	0.0005	0.000079	0.0025	0.0005
M55-UBF	12/12/2017	0.04	0.0005	0.002	0.055	0.00025	0.00025	0.0011	0.00028	0.00075	0.0005	0.00052	0.0025	0.0005
M55-UBF	1/15/2018	0.04	0.0005	0.0023	0.063	0.00025	0.00025	0.0016	*0.000125*	0.0005	0.0005	0.000079	0.0025	0.0005
M55-UBF	2/9/2018	0.04	0.0005	0.0025	0.06	0.00025	0.00025	0.0026	*0.000125*	0.0015	0.0005	0.000079	0.0025	0.0005
M55-UBF	3/7/2018	0.08	0.0005	0.0021	0.059	0.0005	0.00025	0.0029	0.00027	0.0018	0.0005	0.000079	0.0025	0.0005
M56-LBF	7/17/2017	(<0.4)	0.0005	0.0005	0.071	0.0025	0.00025	0.0028	0.001	0.0019	0.0005	0.001	0.0026	0.0005
M56-LBF	8/16/2017	0.04	0.0005	0.0005	0.067	0.0013	0.00025	0.0005	0.00037	0.0014	0.0005	0.000094	0.0025	0.0005
M56-LBF	9/13/2017	0.08	0.0005	0.0005	0.076	0.0005	0.00025	0.0005	0.00041	0.00069	0.0005	0.000094	0.0025	0.0005
M56-LBF	10/25/2017	0.08	0.0005	0.00053	0.081	0.0005	0.00025	0.00094	*0.000125*	0.00066	0.0005	0.00018	0.0025	0.0005
M56-LBF	11/20/2017	0.04	0.0005	0.00056	0.081	0.00025	0.00025	0.0011	*0.000125*	0.00058	0.0005	0.000079	0.0025	0.0005
M56-LBF	12/12/2017	0.04	0.0005	0.0005	0.065	0.00025	0.00025	0.0016	0.00026	0.0006	0.0005	0.000079	0.0025	0.0005
M56-LBF	1/15/2018	0.04	0.0005	0.00074	0.076	0.00025	0.00025	0.001	*0.000125*	0.0005	0.0005	0.000079	0.0025	0.0005
M56-LBF	2/9/2018	0.04	0.0005	0.0005	0.074	0.00025	0.00025	0.0014	*0.000125*	0.0012	0.0005	0.000079	0.0025	0.0005
M56-LBF	3/7/2018	0.08	0.0005	0.00051	0.073	0.0005	0.00025	0.0016	*0.000125*	0.0015	0.0005	0.000079	0.0025	0.0005

TABLE 6a - TRACE METAL PARAMETERS CALCULATED BY PARAMETER

Well	Sample Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Selenium	Thallium
M57-O	7/17/2017	(<0.4)	0.0005	0.0011	0.011	0.0025	0.00025	0.0047	*0.000125*	0.0033	0.0005	0.00012	0.0025	0.0005
M57-O	8/17/2017	0.04	0.0005	0.0014	0.011	0.00025	0.00025	0.0041	*0.000125*	0.0028	0.0005	0.000094	0.0025	0.0005
M57-O	9/13/2017	0.04	0.0005	0.0015	0.014	0.00025	0.00025	0.0031	*0.000125*	0.0019	0.0005	0.000094	0.0025	0.0005
M57-O	10/25/2017	0.04	0.0005	0.0019	0.021	0.00025	0.00025	0.0022	*0.000125*	0.0018	0.0005	0.00012	0.0025	0.0005
M57-O	11/20/2017	0.04	0.0005	0.0018	0.018	0.00025	0.00025	0.0014	*0.000125*	0.0023	0.0005	0.000079	0.0025	0.0005
M57-O	12/13/2017	0.04	0.0005	0.0014	0.016	0.00025	0.00025	0.0014	*0.000125*	0.0015	0.0005	0.000079	0.0025	0.0005
M57-O	1/10/2018	0.04	0.0005	0.0017	0.019	0.00025	0.00025	0.0026	*0.000125*	0.0013	0.0005	0.000079	0.0025	0.0005
M57-O	2/8/2018	0.04	0.0005	0.0019	0.016	0.00025	0.00025	0.0034	*0.000125*	0.0031	0.0005	0.000079	0.0025	0.0005
M57-O	3/6/2018	0.04	0.0005	0.0015	0.018	0.00025	0.00025	0.003	0.00026	0.0022	0.0005	0.000079	0.0025	0.0005
M58-O	7/18/2017	0.04	0.0005	0.0026	0.035	0.00025	0.00025	0.0005	*0.000125*	0.0011	0.0005	0.001	0.0037	0.0005
M58-O	8/15/2017	0.04	0.0005	0.0021	0.037	0.00025	0.00025	0.0017	*0.000125*	0.0017	0.0005	0.000094	0.0028	0.0005
M58-O	9/12/2017	(<0.2)	0.0005	0.002	0.045	0.0013	0.00025	0.0021	0.0003	0.0015	0.0005	0.000094	0.0025	0.0005
M58-O	10/24/2017	0.04	0.0012	0.0028	0.053	0.00025	0.00025	0.001	*0.000125*	0.0014	0.0005	0.000094	0.0025	0.0005
M58-O	11/16/2017	0.04	0.0005	0.0023	0.043	0.00025	0.00025	0.0011	*0.000125*	0.0013	0.0005	0.000079	0.0025	0.0005
M58-O	12/13/2017	0.04	0.0005	0.002	0.04	0.00025	0.00025	0.0022	0.00027	0.0013	0.0005	0.000079	0.0025	0.0005
M58-O	1/9/2018	0.04	0.0005	0.0026	0.059	0.00025	0.00025	0.0018	*0.000125*	0.0013	0.0005	0.000079	0.0026	0.0005
M58-O	2/7/2018	0.04	0.0005	0.0028	0.051	0.00025	0.00025	0.0025	0.00031	0.0026	0.0005	0.000079	0.0025	0.0005
M58-O	3/6/2018	0.04	0.0005	0.0026	0.06	0.00025	0.00025	0.003	0.00026	0.0025	0.0005	0.000079	0.0027	0.0005
M59-O	7/19/2017	0.04	0.0005	0.0022	0.025	0.00025	0.00025	0.00078	*0.000125*	0.0018	0.0005	0.001	0.0025	0.0005
M59-O	8/17/2017	0.04	0.0005	0.0023	0.028	0.0013	0.00025	0.001	*0.000125*	0.0017	0.0005	0.000094	0.0025	0.0005
M59-O	9/14/2017	0.04	0.0005	0.0023	0.029	0.00025	0.00025	0.00065	*0.000125*	0.0015	0.0005	0.000094	0.0025	0.0005
M59-O	10/24/2017	0.04	0.0005	0.0024	0.023	0.00025	0.00025	0.00083	*0.000125*	0.0013	0.0005	0.000094	0.0025	0.0005
M59-O	11/20/2017	0.04	0.0005	0.0025	0.027	0.00025	0.00025	0.00092	*0.000125*	0.00084	0.0005	0.000079	0.0025	0.0005
M59-O	12/14/2017	0.04	0.0005	0.0025	0.022	0.00025	0.00025	0.0005	*0.000125*	0.001	0.0005	0.000079	0.0025	0.0005
M59-O	1/10/2018	0.04	0.0005	0.0024	0.018	0.00025	0.00025	0.0011	*0.000125*	0.0015	0.0005	0.000079	0.0025	0.0005
M59-O	2/8/2018	0.04	0.0005	0.0026	0.031	0.00025	0.00025	0.00093	*0.000125*	0.0023	0.0005	0.000079	0.0025	0.0005
M59-O	3/7/2018	0.08	0.0005	0.0023	0.033	0.0005	0.00025	0.0015	*0.000125*	0.0034	0.0005	0.000079	0.0025	0.0005
M60-O	7/19/2017	0.04	0.0005	0.0017	0.036	0.00025	0.00025	0.0022	*0.000125*	0.0023	0.0005	0.001	0.0025	0.0005
M60-O	8/16/2017	0.04	0.0005	0.0022	0.029	0.00025	0.00025	0.001	*0.000125*	0.0029	0.0005	0.000094	0.0026	0.0005
M60-O	9/14/2017	0.04	0.0005	0.002	0.035	0.00025	0.00025	0.00092	*0.000125*	0.0022	0.0005	0.000094	0.0025	0.0005
M60-O	10/24/2017	0.04	0.0005	0.0014	0.047	0.00025	0.00025	0.0021	0.00063	0.0019	0.0005	0.000094	0.0025	0.0005
M60-O	11/21/2017	0.04	0.0005	0.0015	0.048	0.00025	0.00025	0.0024	0.00057	0.0018	0.0005	0.000079	0.0025	0.0005
M60-O	12/14/2017	0.04	0.0005	0.0015	0.048	0.00025	0.00025	0.0016	0.00052	0.0018	0.0005	0.000079	0.0025	0.0005
M60-O	1/15/2018	0.04	0.0005	0.0022	0.041	0.00025	0.00025	0.0022	*0.000125*	0.0017	0.0005	0.000079	0.0025	0.0005
M60-O	2/7/2018	0.04	0.0005	0.0023	0.035	0.00025	0.00025	0.0021	*0.000125*	0.0022	0.0005	0.000079	0.0025	0.0005
M60-O	3/8/2018	0.04	0.0005	0.0017	0.031	0.00025	0.00025	0.0024	*0.000125*	0.0023	0.0005	0.000079	0.0025	0.0005
M61-LBF	7/19/2017	0.04	0.0005	0.0018	0.064	0.00025	0.00025	0.0005	*0.000125*	0.00053	0.0005	0.001	0.0025	0.0005
M61-LBF	8/16/2017	0.04	0.0005	0.0019	0.063	0.00025	0.00025	0.0005	*0.000125*	0.0009	0.0005	0.000094	0.0025	0.0005
M61-LBF	9/14/2017	0.04	0.0005	0.0024	0.062	0.00025	0.00025	0.0005	*0.000125*	0.0013	0.0005	0.000094	0.0025	0.0005
M61-LBF	10/23/2017	0.04	0.0005	0.0027	0.065	0.00025	0.00025	0.0005	*0.000125*	0.0007	0.0005	0.000094	0.0025	0.0005
M61-LBF	11/20/2017	0.04	0.0005	0.0023	0.071	0.00025	0.00025	0.0005	*0.000125*	0.00099	0.0005	0.000079	0.0025	0.0005
M61-LBF	12/13/2017	0.04	0.0005	0.0018	0.052	0.00025	0.00025	0.00062	*0.000125*	0.00075	0.0005	0.000079	0.0025	0.0005
M61-LBF	1/11/2018	0.04	0.0005	0.002	0.08	0.00025	0.00025	0.0017	*0.000125*	0.0007	0.0005	0.000079	0.0025	0.0005
M61-LBF	1/25/2018	0.04	0.0005	0.0018	0.085	0.00025	0.00025	0.0017	*0.000125*	0.00084	0.0005	0.000079	0.0025	0.0005
M61-LBF	2/9/2018	0.04	0.0005	0.0021	0.085	0.00025	0.00025	0.002	*0.000125*	0.001	0.0005	0.000079	0.0025	0.0005
M61-LBF	3/8/2018	0.04	0.0005	0.0019	0.069	0.00025	0.00025	0.0005	*0.000125*	0.0011	0.0005	0.000079	0.0025	0.0005

TABLE 6a - TRACE METAL PARAMETERS CALCULATED BY PARAMETER

Well	Sample Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Selenium	Thallium
MW-01-LBF	12/28/2017	0.08	0.0005	0.0015	0.048	0.0005	0.00025	0.0015	0.00029	0.0007	0.00066	0.000079	0.0025	0.0005
MW-01-LBF	1/11/2018	0.04	0.0005	0.0015	0.077	0.00025	0.00025	0.0019	0.00029	0.00068	0.0005	0.000079	0.0025	0.0005
MW-01-LBF	1/25/2018	0.04	0.0005	0.0018	0.081	0.00025	0.00025	0.0014	0.00029	0.00076	0.0005	0.000079	0.0025	0.0005
MW-01-LBF	2/8/2018	0.04	0.00056	0.0012	0.062	0.00025	0.00025	0.0025	0.00055	0.0022	0.0005	0.000079	0.0027	0.0005
MW-01-LBF	2/22/2018	0.08	0.0005	0.00061	0.074	0.0005	0.00025	0.00076	0.0006	0.0014	0.0005	0.000079	0.0025	0.0005
MW-01-LBF	3/8/2018	0.04	0.0005	0.0011	0.071	0.00025	0.00025	0.00077	0.00036	0.002	0.0005	0.000079	0.0025	0.0005
MW-01-LBF	3/22/2018	0.04	0.0005	0.0016	0.078	0.00025	0.00025	0.0013	0.00033	0.0007	0.0005	0.000079	0.0025	0.0005
MW-01-LBF	4/5/2018	0.04	0.0005	0.0015	0.072	0.00025	0.00025	0.0013	0.00035	0.00069	0.0005	0.000079	0.0025	0.0005
MW-01-LBF	4/19/2018	0.04	0.0005	0.0016	0.074	0.00025	0.00025	0.0014	0.00035	0.00077	0.0005	0.000079	0.0025	0.0005
MW-01-O	12/28/2017	0.04	0.0005	0.0014	0.027	0.00025	0.00025	0.0043	0.00035	0.0047	0.0022	0.000079	0.0025	0.0005
MW-01-O	1/11/2018	0.04	0.0005	0.0021	0.035	0.00025	0.00025	0.0044	*0.000125*	0.0018	0.0005	0.000079	0.0025	0.0005
MW-01-O	1/25/2018	0.04	0.0005	0.0019	0.036	0.00025	0.00025	0.0061	*0.000125*	0.0024	0.0005	0.000079	0.0026	0.0005
MW-01-O	2/8/2018	0.04	0.0005	0.0015	0.027	0.00025	0.00025	0.0025	0.001	0.0017	0.0005	0.000086	0.0031	0.0005
MW-01-O	2/22/2018	0.04	0.0005	0.0018	0.033	0.00025	0.00025	0.0021	0.00029	0.0017	0.0005	0.000079	0.0026	0.0005
MW-01-O	3/8/2018	0.04	0.0005	0.002	0.034	0.00025	0.00025	0.0043	*0.000125*	0.0027	0.0005	0.000079	0.0025	0.0005
MW-01-O	3/22/2018	0.04	0.0005	0.0022	0.022	0.00025	0.00025	0.0035	0.00034	0.0022	0.0005	0.000079	0.0027	0.0005
MW-01-O	4/5/2018	0.04	0.0005	0.0016	0.019	0.00025	0.00025	0.0026	*0.000125*	0.0019	0.0005	0.000079	0.0025	0.0005
MW-01-O	4/19/2018	0.04	0.0005	0.0019	0.016	0.00025	0.00025	0.0057	*0.000125*	0.003	0.0005	0.000079	0.0025	0.0005
Number of Samples		105	109	109	109	109	109	109	109	109	109	109	109	109
Number of Detections		0	2	104	109	0	0	95	38	106	2	8	12	0
Number of Non-Detections		105	107	5	0	109	109	14	71	3	107	101	97	109
Percentage of Non-Detect		100%	98%	5%	0%	100%	100%	13%	65%	3%	98%	93%	89%	100%
Maximum Value Detected		0.08000	0.0012	0.0028	0.0850	0.0025	0.0003	0.0061	0.00100	0.04800	0.0022	0.0010	0.0037	0.0005
Calculation Method		80% of SDWS	80% of AWQS	Direct Calculation	Direct Calculation	80% of AWQS	80% of AWQS	Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS	80% of AWQS	80% of AWQS	80% of AWQS
Average				0.0018	0.0457			0.0017	0.0002	0.0019				
Standard Deviation				0.0006	0.0216			0.0011	0.0002	0.0045				
Coefficient of Variation				0.33	0.47			0.67	0.79	2.34				
Adj Stnd Deviation				0.0006	0.0216			0.0011	0.0002	0.0045				
k value				9.37	9.37			9.37	9.37	9.37				
UPL				**0.0075**	**0.2482**			**0.0125**	**0.0019**	**0.0444**				
AWQS/SDWS		**0.2**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**NE**	**1**	**0.05**	**0.002**	**0.05**	**0.002**
AL		**0.16**	**0.0048**	***0.026***	**1.6**	**0.0032**	**0.004**	**0.08**	**0.002**	**0.8**	**0.04**	**0.0016**	**0.040**	**0.0016**
AQLS		**NA**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**NA**	**1**	**0.05**	**0.002**	**0.05**	**0.002**

Notes:

All results in milligrams per liter (mg/L).
(#) = Outlier or RL above 80% of standard, excluded from calculations.
Red = Values are non-detected at the PQL shown.
Italics = Values are non-detected. One-half the PQL shown.
Blue = Coefficient of Variation <0.1

AL = Alert Level
AQL = Aquifer Quality Limit
AWQS = Aquifer Water Quality Standard
NA = Not Applicable
Arsenic AL set to 0.026 mg/L for select wells by permit. Used for all wells for consistency.

NE = Not Established
SDWS = Secondary Drinking Water Standard
UPL = Upper Prediction Limit

TABLE 6b - TRACE METAL PARAMETERS CALCULATED BY WELL

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M52-UBF	7/19/2017	(<0.3)	0.00099	0.0041	0.04
M52-UBF	8/17/2017	0.0031	0.0011	0.011	0.04
M52-UBF	9/14/2017	0.0031	0.00059	0.0092	0.04
M52-UBF	10/25/2017	0.0031	0.00058	0.0099	0.04
M52-UBF	11/16/2017	0.0031	0.00055	0.011	0.04
M52-UBF	12/12/2017	0.024	0.00036	0.0097	0.04
M52-UBF	1/9/2018	0.0031	0.00045	0.008	0.04
M52-UBF	2/9/2018	0.0031	0.00025	0.0084	0.04
M52-UBF	3/7/2018	0.0031	0.00025	0.0079	0.04
Number of Samples		8	9	9	9
Number of Detections		1	7	7	0
Number of Non-Detections		7	2	2	9
Percentage of Non-Detect		88%	22%	22%	100%
Maximum Value Detected		0	0.0011	0.011	0.04
Calculation Method		80% of SDWS	Kaplan-Meier	Kaplan-Meier	80% of SDWS
Average			0.0006	0.0080	
Standard Deviation			0.0003	0.0027	
Coefficient of Variation			0.50	0.34	
Adj Stnd Deviation			0.0003	0.0027	
k value			9.37	9.37	
UPL			**0.003**	**0.034**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.04**	**0.08**	**4**
AQL - POC Well		**NA**	**NA**	**0.1**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M54-LBF	7/18/2017	(<0.3)	0.0012	0.0029	0.04
M54-LBF	8/15/2017	(<0.3)	0.0015	0.0047	0.04
M54-LBF	9/12/2017	0.0031	0.0013	0.0047	0.04
M54-LBF	10/23/2017	0.0031	0.0005	0.0021	0.04
M54-LBF	11/15/2017	0.014	0.001	0.011	0.04
M54-LBF	12/12/2017	0.043	0.0012	0.015	0.04
M54-LBF	1/9/2018	0.0031	0.001	0.0039	0.04
M54-LBF	2/7/2018	0.0031	0.00033	0.0057	0.04
M54-LBF	3/5/2018	0.0031	0.00025	0.0037	0.04
Number of Samples		7	9	9	9
Number of Detections		2	8	8	0
Number of Non-Detections		5	1	1	9
Percentage of Non-Detect		71%	11%	11%	100%
Maximum Value Detected		0	0.0015	0.015	0.04
Calculation Method		80% of SDWS	Kaplan-Meier	Kaplan-Meier	80% of SDWS
Average			0.0009	0.0058	
Standard Deviation			0.0004	0.0041	
Coefficient of Variation			0.46	0.70	
Adj Stnd Deviation			0.0004	0.0041	
k value			9.37	9.37	
UPL			**0.005**	**0.044**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.04**	**0.08**	**4**
AQL - POC Well		**NA**	**NA**	**0.1**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M54-O	7/18/2017	0.0059	0.05	0.0005	0.04
M54-O	8/15/2017	0.0036	0.11	0.00078	0.04
M54-O	9/12/2017	0.043	0.14	0.00072	0.04
M54-O	10/23/2017	0.16	0.086	0.0005	0.04
M54-O	11/16/2017	0.28	0.094	0.0005	0.04
M54-O	12/12/2017	0.22	0.1	0.0005	0.04
M54-O	1/9/2018	0.18	0.098	0.0005	0.04
M54-O	2/7/2018	0.019	0.085	0.0008	0.04
M54-O	3/6/2018	0.15	0.13	0.0005	0.04
Number of Samples		9	9	9	9
Number of Detections		9	9	3	0
Number of Non-Detections		0	0	6	9
Percentage of Non-Detect		0%	0%	67%	100%
Maximum Value Detected		0	0.14	0.0008	0.04
Calculation Method		Direct Calculation	Direct Calculation	80% of AWQS	80% of SDWS
Average		0.1179	0.0992		
Standard Deviation		0.1027	0.0264		
Coefficient of Variation		0.87	0.27		
Adj Stnd Deviation		0.1027	0.0264		
k value		9.37	9.37		
UPL		**1.1**	**0.35**		
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**1.1**	**0.35**	**0.08**	**4**
AQL - POC Well		**NA**	**NA**	**0.1**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M55-UBF	7/17/2017	0.03	0.11	0.0064	0.04
M55-UBF	8/16/2017	0.0035	0.035	0.016	0.04
M55-UBF	9/13/2017	0.008	0.037	0.0058	0.04
M55-UBF	10/25/2017	0.0067	0.0035	0.0031	0.04
M55-UBF	11/21/2017	0.0069	0.0015	0.0069	0.04
M55-UBF	12/12/2017	0.021	0.00064	0.0038	0.04
M55-UBF	1/15/2018	0.0031	0.001	0.0038	0.04
M55-UBF	2/9/2018	0.0031	0.00076	0.0049	0.04
M55-UBF	3/7/2018	0.012	0.003	0.0069	0.04
Number of Samples		9	9	9	9
Number of Detections		7	9	9	0
Number of Non-Detections		2	0	0	9
Percentage of Non-Detect		22%	0%	0%	100%
Maximum Value Detected		0	0.11	0.016	0.04
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation	80% of SDWS
Average		0.0105	0.0214	0.0064	
Standard Deviation		0.0087	0.0364	0.0039	
Coefficient of Variation		0.83	1.70	0.60	
Adj Stnd Deviation		0.0087	0.0364	0.0039	
k value		9.37	9.37	9.37	
UPL		**0.092**	**0.363**	**0.043**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.36**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M56-LBF	7/17/2017	0.45	0.13	0.0068	0.04
M56-LBF	8/16/2017	0.0034	0.06	0.0074	0.04
M56-LBF	9/13/2017	0.0031	0.11	0.0056	0.04
M56-LBF	10/25/2017	0.0031	0.0049	0.0027	0.04
M56-LBF	11/20/2017	0.0072	0.0012	0.0072	0.04
M56-LBF	12/12/2017	0.014	0.0027	0.012	0.04
M56-LBF	1/15/2018	0.041	0.0055	0.0079	0.04
M56-LBF	2/9/2018	0.0031	0.0054	0.012	0.04
M56-LBF	3/7/2018	0.023	0.0044	0.015	0.04
Number of Samples		9	9	9	9
Number of Detections		6	9	9	0
Number of Non-Detections		3	0	0	9
Percentage of Non-Detect		33%	0%	0%	100%
Maximum Value Detected		0	0.13	0.015	0.04
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation	80% of SDWS
Average		0.0609	0.0360	0.0085	
Standard Deviation		0.1380	0.0513	0.0038	
Coefficient of Variation		2.27	1.42	0.45	
Adj Stnd Deviation		0.1380	0.0513	0.0038	
k value		9.37	9.37	9.37	
UPL		**1.354**	**0.517**	**0.044**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**1.35**	**0.52**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M57-O	7/17/2017	0.0044	0.0013	0.0032	0.04
M57-O	8/17/2017	0.0031	0.00072	0.0075	0.04
M57-O	9/13/2017	0.0046	0.00042	0.0061	0.04
M57-O	10/25/2017	0.0062	0.00054	0.0025	0.04
M57-O	11/20/2017	0.0031	0.0035	0.0018	0.04
M57-O	12/13/2017	0.02	0.0056	0.0022	0.04
M57-O	1/10/2018	0.0031	0.0006	0.0056	0.04
M57-O	2/8/2018	0.011	0.002	0.007	0.04
M57-O	3/6/2018	0.018	0.0013	0.012	0.04
Number of Samples		9	9	9	9
Number of Detections		6	9	9	0
Number of Non-Detections		3	0	0	9
Percentage of Non-Detect		33%	0%	0%	100%
Maximum Value Detected		0	0.0056	0.012	0.04
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation	80% of SDWS
Average		0.0082	0.0018	0.0053	
Standard Deviation		0.0063	0.0017	0.0033	
Coefficient of Variation		0.77	0.97	0.62	
Adj Stnd Deviation		0.0063	0.0017	0.0033	
k value		9.37	9.37	9.37	
UPL		**0.067**	**0.018**	**0.036**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.04**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

TABLE 6b - TRACE METAL PARAMETERS CALCULATED BY WELL

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M58-O	7/18/2017	0.0051	0.006	0.0014	0.04
M58-O	8/15/2017	0.0031	0.0022	0.0047	0.04
M58-O	9/12/2017	0.0039	0.0032	0.013	0.04
M58-O	10/24/2017	0.0031	0.0023	0.0029	0.04
M58-O	11/16/2017	0.0031	0.0011	0.0074	0.04
M58-O	12/13/2017	0.012	0.0012	0.0099	0.04
M58-O	1/9/2018	0.0031	0.0026	0.0077	0.04
M58-O	2/7/2018	0.0031	0.0012	0.012	0.04
M58-O	3/6/2018	0.0055	0.0019	0.0094	0.04
Number of Samples		9	9	9	9
Number of Detections		4	9	9	0
Number of Non-Detections		5	0	0	9
Percentage of Non-Detect		56%	0%	0%	100%
Maximum Value Detected		0	0.006	0.013	0.04
Calculation Method		80% of SDWS	Direct Calculation	Direct Calculation	80% of SDWS
Average			0.0024	0.0076	
Standard Deviation			0.0015	0.0040	
Coefficient of Variation			0.63	0.52	
Adj Stnd Deviation			0.0015	0.0040	
k value			9.37	9.37	
UPL			**0.017**	**0.045**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.04**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M59-O	7/19/2017	0.0033	0.008	0.001	0.04
M59-O	8/17/2017	0.0031	0.0047	0.0027	0.04
M59-O	9/14/2017	0.0034	0.017	0.0015	0.04
M59-O	10/24/2017	0.018	0.016	0.0005	0.04
M59-O	11/20/2017	0.038	0.0084	0.0011	0.04
M59-O	12/14/2017	0.0031	0.014	0.00064	0.04
M59-O	1/10/2018	0.0031	0.015	0.0005	0.04
M59-O	2/8/2018	0.0042	0.0029	0.0013	0.04
M59-O	3/7/2018	0.0031	0.0016	0.0021	0.04
Number of Samples		9	9	9	9
Number of Detections		5	9	7	0
Number of Non-Detections		4	0	2	9
Percentage of Non-Detect		44%	0%	22%	100%
Maximum Value Detected		0	0.017	0.0027	0.04
Calculation Method		Kaplan-Meier	Direct Calculation	Kaplan-Meier	80% of SDWS
Average		0.0088	0.0097	0.0013	
Standard Deviation		0.0113	0.0059	0.0007	
Coefficient of Variation		1.28	0.61	0.56	
Adj Stnd Deviation		0.0113	0.0059	0.0007	
k value		9.37	9.37	9.37	
UPL		**0.115**	**0.065**	**0.008**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.07**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M60-O	7/19/2017	(<0.3)	0.00025	0.0016	0.04
M60-O	8/16/2017	0.0031	0.021	0.0032	0.04
M60-O	9/14/2017	0.0031	0.022	0.0027	0.04
M60-O	10/24/2017	0.0031	0.018	0.05	0.04
M60-O	11/21/2017	0.0073	0.0022	0.056	0.04
M60-O	12/14/2017	0.028	0.003	0.059	0.04
M60-O	1/15/2018	0.0031	0.013	0.0099	0.04
M60-O	2/7/2018	0.0031	0.014	0.0064	0.04
M60-O	3/8/2018	0.0045	0.0017	0.0031	0.04
Number of Samples		8	9	9	9
Number of Detections		3	8	8	0
Number of Non-Detections		5	1	1	9
Percentage of Non-Detect		63%	11%	11%	100%
Maximum Value Detected		0	0.022	0.059	0.04
Calculation Method		80% of SDWS	Kaplan-Meier	Kaplan-Meier	80% of SDWS
Average			0.0106	0.0213	
Standard Deviation			0.0083	0.0240	
Coefficient of Variation			0.79	1.13	
Adj Stnd Deviation			0.0083	0.0240	
k value			9.37	9.37	
UPL			**0.089**	**0.246**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.09**	**0.25**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
M61-LBF	7/19/2017	0.021	0.016	0.0011	0.04
M61-LBF	8/16/2017	0.19	0.05	0.0022	0.04
M61-LBF	9/14/2017	0.21	0.052	0.0012	0.04
M61-LBF	10/23/2017	0.37	0.054	0.0005	0.04
M61-LBF	11/20/2017	0.34	0.042	0.00071	0.04
M61-LBF	12/13/2017	0.1	0.032	0.0006	0.04
M61-LBF	1/11/2018	0.025	0.018	0.00089	0.04
M61-LBF	1/25/2018	0.0031	0.0077	0.0005	0.04
M61-LBF	2/9/2018	0.0031	0.0054	0.00079	0.04
M61-LBF	3/8/2018	0.027	0.047	0.0005	0.04
Number of Samples		10	10	10	10
Number of Detections		8	10	7	0
Number of Non-Detections		2	0	3	10
Percentage of Non-Detect		20%	0%	30%	100%
Maximum Value Detected		0.4	0.054	0.0022	0.04
Calculation Method		Kaplan-Meier	Direct Calculation	Kaplan-Meier	80% of SDWS
Average		0.1290	0.0324	0.0009	
Standard Deviation		0.1340	0.0191	0.0005	
Coefficient of Variation		1.04	0.59	0.55	
Adj Stnd Deviation		0.1340	0.0191	0.0005	
k value		9.37	9.37	9.37	
UPL		**1.385**	**0.211**	**0.006**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**1.38**	**0.21**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
MW-01-LBF	12/28/2017	0.0031	0.0078	0.0031	0.057
MW-01-LBF	1/11/2018	0.0031	0.017	0.0044	0.04
MW-01-LBF	1/25/2018	0.0031	0.024	0.0049	0.04
MW-01-LBF	2/8/2018	0.0035	0.074	0.005	(6.7)
MW-01-LBF	2/22/2018	0.0044	0.081	0.0064	1.8
MW-01-LBF	3/8/2018	0.01	0.05	0.0047	0.51
MW-01-LBF	3/22/2018	0.015	0.051	0.0068	0.16
MW-01-LBF	4/5/2018	0.0048	0.037	0.0078	0.13
MW-01-LBF	4/19/2018	0.0099	0.039	0.0069	0.11
Number of Samples		9	9	9	8
Number of Detections		6	9	9	6
Number of Non-Detections		3	0	0	2
Percentage of Non-Detect		33%	0%	0%	25%
Maximum Value Detected		0.0	0.081	0.0078	1.8
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation	Kaplan-Meier
Average		0.0063	0.0423	0.0056	0.36
Standard Deviation		0.0040	0.0246	0.0015	0.56
Coefficient of Variation		0.64	0.58	0.27	1.58
Adj Stnd Deviation		0.0040	0.0246	0.0015	0.56
k value		9.37	9.37	9.37	9.37
UPL		**0.044**	**0.273**	**0.020**	**5.64**
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.27**	**0.08**	**5.6**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

Well	Sample Date	Iron	Manganese	Nickel	Zinc
MW-01-O	12/28/2017	0.0031	0.003	0.003	0.04
MW-01-O	1/11/2018	0.0031	0.00072	0.0025	0.04
MW-01-O	1/25/2018	0.0031	0.00052	0.0049	0.04
MW-01-O	2/8/2018	0.033	0.022	0.0032	0.49
MW-01-O	2/22/2018	0.0031	0.0043	0.0044	0.091
MW-01-O	3/8/2018	0.0031	0.0011	0.0044	0.04
MW-01-O	3/22/2018	0.0031	0.011	0.0028	0.04
MW-01-O	4/5/2018	0.0031	0.0081	0.0027	0.05
MW-01-O	4/19/2018	0.0048	0.0066	0.0005	0.04
Number of Samples		9	9	9	9
Number of Detections		2	9	8	3
Number of Non-Detections		7	0	1	6
Percentage of Non-Detect		78%	0%	11%	67%
Maximum Value Detected		0.0	0.022	0.0049	0.49
Calculation Method		80% of SDWS	Direct Calculation	Kaplan-Meier	80% of SDWS
Average			0.0064	0.0032	
Standard Deviation			0.0069	0.0013	
Coefficient of Variation			1.08	0.40	
Adj Stnd Deviation			0.0069	0.0013	
k value			9.37	9.37	
UPL			**0.071**	**0.015**	
AWQS/SDWS		**0.3**	**0.05**	**0.1**	**5**
AL		**0.24**	**0.07**	**0.08**	**4**
AQL - Supplemental Well		**NA**	**NA**	**NA**	**NA**

	Iron	Manganese	Nickel	Nickel - M60-O Only	Zinc	Zinc - MW-01-LBF Only
Final ALs	**1.4**	**0.52**	**0.08**	**0.25**	**4.0**	**5.6**

Notes:

All results in milligrams per liter (mg/L).

(#) = Outlier or RL above 80% of standard, excluded from calculations.

Red = Values are non-detected at the PQL shown.

Blue = Coefficient of Variation <0.1

AL = Alert Level

AQL = Aquifer Quality Limit

AWQS = Aquifer Water Quality Standard

NA = Not Applicable

NE = Not Established

SDWS = Secondary Drinking Water Standard

UPL = Upper Prediction Limit

TABLE 7 - ORGANIC PARAMETERS

Well	Sample Date	Benzene	Ethylbenzene	Toluene	Xylene	Naphthalene*	Octane*	TPH-Diesel*
M52-UBF	7/19/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	8/17/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	9/14/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	10/25/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.21
M52-UBF	11/16/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	12/12/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	1/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	2/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M52-UBF	3/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	7/18/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.11
M54-LBF	8/15/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	9/12/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	10/23/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.2
M54-LBF	11/15/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	12/12/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	1/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	2/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-LBF	3/5/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-O	7/18/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-O	8/15/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-O	9/12/2017	0.0005	0.0005	0.00064	0.0015	0.002	0.0005	0.1
M54-O	10/23/2017	0.0005	0.0005	0.0013	0.0015	0.002	0.0005	0.1
M54-O	11/16/2017	0.0005	0.0005	0.00095	0.0015	0.002	0.0005	0.1
M54-O	12/12/2017	0.0005	0.0005	0.00059	0.0015	0.002	0.0005	0.1
M54-O	1/9/2018	0.0005	0.0005	0.001	0.0015	0.002	0.0005	0.1
M54-O	2/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M54-O	3/6/2018	0.0005	0.0005	0.00053	0.0015	0.002	0.0005	0.1
M55-UBF	7/17/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.11
M55-UBF	8/16/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M55-UBF	9/13/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M55-UBF	10/25/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.2
M55-UBF	11/21/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M55-UBF	12/12/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M55-UBF	1/15/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M55-UBF	2/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M55-UBF	3/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	7/17/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.11
M56-LBF	8/16/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	9/13/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	10/25/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	11/20/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	12/12/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	1/15/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	2/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M56-LBF	3/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1

TABLE 7 - ORGANIC PARAMETERS

Well	Sample Date	Benzene	Ethylbenzene	Toluene	Xylene	Naphthalene*	Octane*	TPH-Diesel*
M57-O	7/17/2017	0.0005	0.0005	0.00068	0.0015	0.002	0.0005	0.11
M57-O	8/17/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	9/13/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	10/25/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	11/20/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	12/13/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	1/10/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	2/8/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M57-O	3/6/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	7/18/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.11
M58-O	8/15/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	9/12/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	10/24/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	11/16/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	12/13/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	1/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	2/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M58-O	3/6/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M59-O	7/19/2017	0.0005	0.0005	0.00052	0.0015	0.002	0.0005	0.1
M59-O	8/17/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M59-O	9/14/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M59-O	10/24/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.2
M59-O	11/20/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M59-O	12/14/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M59-O	1/10/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M59-O	2/8/2018	0.0005	0.0005	0.00055	0.0015	0.002	0.0005	0.1
M59-O	3/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	7/19/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	8/16/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	9/14/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	10/24/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.2
M60-O	11/21/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	12/14/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	1/15/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	2/7/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M60-O	3/8/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M61-LBF	7/19/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M61-LBF	8/16/2017	0.0005	0.0005	0.0013	0.0015	0.002	0.0005	0.1
M61-LBF	9/14/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M61-LBF	10/23/2017	0.0005	0.0005	0.0012	0.0015	0.002	0.0005	0.2
M61-LBF	11/20/2017	0.0005	0.0005	0.0027	0.0015	0.002	0.0005	0.1
M61-LBF	12/13/2017	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M61-LBF	1/11/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	(<0.01)
M61-LBF	1/25/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
M61-LBF	2/9/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1

TABLE 7 - ORGANIC PARAMETERS

Well	Sample Date	Benzene	Ethylbenzene	Toluene	Xylene	Naphthalene*	Octane*	TPH-Diesel*
M61-LBF	3/8/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	12/28/2017	0.0005	0.0005	0.00081	0.0015	0.002	0.0005	0.1
MW-01-LBF	1/11/2018	0.0005	0.0005	0.00061	0.0015	0.002	0.0005	(<0.01)
MW-01-LBF	1/25/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	2/8/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	2/22/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	3/8/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	3/22/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	4/5/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-LBF	4/19/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-O	12/28/2017	0.0005	0.0005	0.00065	0.0015	0.002	0.0005	0.1
MW-01-O	1/11/2018	0.0005	0.0005	0.0016	0.0015	0.002	0.0005	(<0.01)
MW-01-O	1/25/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-O	2/8/2018	0.00056	0.0005	0.0017	0.0015	0.002	0.0005	0.1
MW-01-O	2/22/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-O	3/8/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-O	3/22/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-O	4/5/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
MW-01-O	4/19/2018	0.0005	0.0005	0.0005	0.0015	0.002	0.0005	0.1
Number of Samples		109	109	109	109	109	109	106
Number of Detections		1	0	17	0	0	0	0
Number of Non-Detections		108	109	92	109	109	109	106
Percentage of Non-Detect		99%	100%	84%	100%	100%	100%	100%
Maximum Value		0.00056	0.0005	0.0027	0.0015	0.0020	0.0005	0.2100
Calculation Method		80% AWQS	80% AWQS	80% AWQS	80% AWQS	Direct Calculation	Direct Calculation	Direct Calculation
Average						0.0020	0.0005	0.1062
Standard Deviation						0.0	0.0	0.0236
Coefficient of Variation						0.0	0.0	0.22
Adj Stnd Deviation						0.0002	0.0001	0.0236
k value						9.37	9.37	9.37
UPL						**0.004**	**0.0010**	0.3274
AWQS		**0.005**	**0.7**	**1**	**10**	**NE**	**NE**	**NE**
AL		**0.004**	**0.56**	**0.8**	**8**	**0.004**	**0.001**	**0.327**
AQLS		**0.005**	**0.70**	**1.0**	**10**	**0.004**	**0.001**	**NA**

Notes:

All results in milligrams per liter (mg/L).
Red = Values are non-detected at the PQL shown.
* = UIC Permit Limits
(#) = Outlier excluded from calculations.

AL = Alert Level
AQL = Aquifer Quality Limit
AWQS = Aquifer Water Quality Standard

NA = Not Applicable
NE = Not Established
PQL = Practical Quantitation Limit
TPH = Total Petroleum Hydrocarbons

TABLE 8a - RADIOCHEMICAL PARAMETERS

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M52-UBF	7/19/2017	4.7	4.7	0.6
M52-UBF	8/17/2017	4.5	4.5	0.5
M52-UBF	9/14/2017	5.3	5.3	0.7
M52-UBF	10/25/2017	4.6	4.6	0.7
M52-UBF	11/16/2017	4.1	4.1	0.6
M52-UBF	12/12/2017	4.6	4.6	0.6
M52-UBF	1/9/2018	5.9	5.9	0.9
M52-UBF	2/9/2018	5.2	5.2	0.6
M52-UBF	3/7/2018	4.7	4.7	0.8
Number of Samples			9	9
Number of Detections			9	3
Number of Non-Detections			0	6
Percentage of Non-Detect			0%	67%
Maximum Value Detected			5.9	0.9
Calculation Method			Direct Calculation	80% of AWQS
Average			4.84	
Standard Deviation			0.53	
Coefficient of Variation			0.11	
Adj Stnd Deviation			0.53	
k value			9.37	
UPL			**9.8**	
AWQS			**15**	**5**
AL			**12.0**	**4**
AQL - POC Well			**15**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M54-LBF	7/18/2017	4.6	4.6	0.4
M54-LBF	8/15/2017	4.2	4.2	1.0
M54-LBF	9/12/2017	5.1	5.1	0.7
M54-LBF	10/23/2017	4.9	4.9	0.6
M54-LBF	11/15/2017	4.2	4.2	0.6
M54-LBF	12/12/2017	4.7	4.7	0.7
M54-LBF	1/9/2018	6.0	6.0	0.6
M54-LBF	2/7/2018	6.2	6.2	0.6
M54-LBF	3/5/2018	7.2	7.2	0.6
Number of Samples			9	9
Number of Detections			9	2
Number of Non-Detections			0	7
Percentage of Non-Detect			0%	78%
Maximum Value Detected			7.2	1.0
Calculation Method			Direct Calculation	80% of AWQS
Average			5.23	
Standard Deviation			1.02	
Coefficient of Variation			0.20	
Adj Stnd Deviation			1.02	
k value			9.37	
UPL			**14.8**	
AWQS			**15**	**5**
AL			**14.8**	**4**
AQL - POC Well			**15**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M54-O	7/18/2017	3.6	3.6	0.6
M54-O	8/15/2017	2.9	2.9	0.6
M54-O	9/12/2017	3.9	3.9	0.7
M54-O	10/23/2017	4.8	4.8	0.6
M54-O	11/16/2017	3.3	3.3	0.6
M54-O	12/12/2017	2.9	2.9	0.7
M54-O	1/9/2018	4.1	4.1	1.1
M54-O	2/7/2018	3.5	3.5	0.6
M54-O	3/6/2018	6.6	6.6	0.6
Number of Samples			9	9
Number of Detections			9	2
Number of Non-Detections			0	7
Percentage of Non-Detect			0%	78%
Maximum Value Detected			6.6	1.1
Calculation Method			Direct Calculation	80% of AWQS
Average			3.96	
Standard Deviation			1.16	
Coefficient of Variation			0.29	
Adj Stnd Deviation			1.16	
k value			9.37	
UPL			**14.8**	
AWQS			**15**	**5**
AL			**14.8**	**4**
AQL - POC Well			**15**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M55-UBF	7/17/2017	5.8	5.8	0.7
M55-UBF	8/16/2017	5.4	5.4	0.4
M55-UBF	9/13/2017	7.5	7.5	0.6
M55-UBF	10/25/2017	5.2	5.2	0.7
M55-UBF	11/21/2017	6.2	6.2	1.0
M55-UBF	12/12/2017	5.4	5.4	0.8
M55-UBF	1/15/2018	6.6	6.6	0.7
M55-UBF	2/9/2018	5.5	5.5	0.6
M55-UBF	3/7/2018	4.9	4.9	0.7
Number of Samples			9	9
Number of Detections			9	2
Number of Non-Detections			0	7
Percentage of Non-Detect			0%	78%
Maximum Value Detected			7.5	1.0
Calculation Method			Direct Calculation	80% of AWQS
Average			5.83	
Standard Deviation			0.81	
Coefficient of Variation			0.14	
Adj Stnd Deviation			0.81	
k value			9.37	
UPL			**13.4**	
AWQS			**15**	**5**
AL			**13.4**	**4**
AQL - Supplemental Well			**15**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M56-LBF	7/17/2017	7.3	7.3	0.7
M56-LBF	8/16/2017	7.2	7.2	0.7
M56-LBF	9/13/2017	7.5	7.5	0.6
M56-LBF	10/25/2017	6.3	6.3	0.7
M56-LBF	11/20/2017	6.3	6.3	0.7
M56-LBF	12/12/2017	5.5	5.5	0.6
M56-LBF	1/15/2018	6.0	6.0	0.7
M56-LBF	2/9/2018	8.4	8.4	0.6
M56-LBF	3/7/2018	7.3	7.3	0.7
Number of Samples			9	9
Number of Detections			9	0
Number of Non-Detections			0	9
Percentage of Non-Detect			0%	100%
Maximum Value Detected			8.4	0.7
Calculation Method			Direct Calculation	80% of AWQS
Average			6.87	
Standard Deviation			0.90	
Coefficient of Variation			0.13	
Adj Stnd Deviation			0.90	
k value			9.37	
UPL			**15.3**	
AWQS			**15**	**5**
AL			**15.3**	**4**
AQL - Supplemental Well			**15.3**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M57-O	7/17/2017	4.2	4.2	0.7
M57-O	8/17/2017	3.5	3.5	1.2
M57-O	9/13/2017	3.7	3.7	0.6
M57-O	10/25/2017	5.2	5.2	0.9
M57-O	11/20/2017	3.6	3.6	1.4
M57-O	12/13/2017	4.7	4.7	0.6
M57-O	1/10/2018	4.3	4.3	1.1
M57-O	2/8/2018	3.3	3.3	0.6
M57-O	3/6/2018	4.3	4.3	0.6
Number of Samples			9	9
Number of Detections			9	4
Number of Non-Detections			0	5
Percentage of Non-Detect			0%	56%
Maximum Value Detected			5.2	1.4
Calculation Method			Direct Calculation	80% of AWQS
Average			4.09	
Standard Deviation			0.62	
Coefficient of Variation			0.15	
Adj Stnd Deviation			0.62	
k value			9.37	
UPL			**9.9**	
AWQS			**15**	**5**
AL			**12.0**	**4**
AQL - Supplemental Well			**15**	**5**

TABLE 8a - RADIOCHEMICAL PARAMETERS

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M58-O	7/18/2017	35.5	5.5	5.5
M58-O	8/15/2017	32.4	4.6	4.0
M58-O	9/12/2017	26.9	3.2	3.0
M58-O	10/24/2017	29.7	2.7	3.0
M58-O	11/16/2017	15.6	2.2	2.0
M58-O	12/13/2017	26.7	2.0	3.0
M58-O	1/9/2018	31.6	1.4	2.7
M58-O	2/7/2018	41.3	0.3	5.2
M58-O	3/6/2018	35.7	1.0	5.0
Number of Samples			9	9
Number of Detections			8	9
Number of Non-Detections			1	0
Percentage of Non-Detect			11%	0%
Maximum Value Detected			5.5	5.5
Calculation Method			Kaplan-Meier	Direct Calculation
Average			2.47	3.71
Standard Deviation			1.67	1.26
Coefficient of Variation			0.68	0.34
Adj Stnd Deviation			1.67	1.26
k value			9.37	9.37
UPL			**18.1**	**15.5**
AWQS			**15**	**5**
AL			**18.1**	**15.5**
AQL - Supplemental Well			**18.1**	**15.5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M59-O	7/19/2017	3.6	3.6	0.6
M59-O	8/17/2017	5.2	5.2	1.7
M59-O	9/14/2017	4.9	4.9	0.7
M59-O	10/24/2017	3.0	3.0	2.2
M59-O	11/20/2017	4.6	4.6	1.2
M59-O	12/14/2017	3.3	3.3	0.8
M59-O	1/10/2018	3.1	3.1	0.7
M59-O	2/8/2018	7.3	7.3	2.7
M59-O	3/7/2018	6.3	6.3	1.8
Number of Samples			9	9
Number of Detections			9	6
Number of Non-Detections			0	3
Percentage of Non-Detect			0%	33%
Maximum Value Detected			7.3	2.7
Calculation Method			Direct Calculation	Kaplan-Meier
Average			4.59	1.36
Standard Deviation			1.51	0.74
Coefficient of Variation			0.33	0.54
Adj Stnd Deviation			1.51	0.74
k value			9.37	9.37
UPL			**18.7**	**8.3**
AWQS			**15**	**5**
AL			**18.7**	**8.3**
AQL - Supplemental Well			**18.7**	**8.3**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M60-O	7/19/2017	13.4	2.6	3.0
M60-O	8/16/2017	16.1	2.2	3.8
M60-O	9/14/2017	12.6	1.1	5.2
M60-O	10/24/2017	6.0	6.0	0.6
M60-O	11/21/2017	3.5	3.5	0.7
M60-O	12/14/2017	5.5	5.5	1.1
M60-O	1/15/2018	5.5	5.5	1.9
M60-O	2/7/2018	5.8	5.8	0.6
M60-O	3/8/2018	3.5	3.5	0.7
Number of Samples			9	9
Number of Detections			9	5
Number of Non-Detections			0	4
Percentage of Non-Detect			0%	44%
Maximum Value Detected			6	5.2
Calculation Method			Direct Calculation	Kaplan-Meier
Average			3.97	1.93
Standard Deviation			1.80	1.60
Coefficient of Variation			0.45	0.83
Adj Stnd Deviation			1.80	1.60
k value			9.37	9.37
UPL			**20.8**	**16.9**
AWQS			**15**	**5**
AL			**20.8**	**16.9**
AQL - Supplemental Well			**20.8**	**16.9**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
M61-LBF	7/19/2017	1.4	1.4	0.6
M61-LBF	8/16/2017	3.0	3.0	0.7
M61-LBF	9/14/2017	2.2	2.2	0.7
M61-LBF	10/23/2017	2.1	2.1	0.5
M61-LBF	11/20/2017	2.2	2.2	0.6
M61-LBF	12/13/2017	3.2	3.2	0.6
M61-LBF	1/11/2018	3.9	3.9	0.4
M61-LBF	1/25/2018	3.8	3.8	1.3
M61-LBF	2/9/2018	3.9	3.9	0.8
M61-LBF	3/8/2018	2.8	2.8	0.7
Number of Samples			10	10
Number of Detections			10	3
Number of Non-Detections			0	7
Percentage of Non-Detect			0%	70%
Maximum Value Detected			3.9	1.3
Calculation Method			Direct Calculation	80% of AWQS
Average			2.85	
Standard Deviation			0.87	
Coefficient of Variation			0.30	
Adj Stnd Deviation			0.87	
k value			9.37	
UPL			**11.0**	
AWQS			**15**	**5**
AL			**12.0**	**4**
AQL - Supplemental Well			**15**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
MW-01-LBF	12/28/2017	9.5	9.5	0.7
MW-01-LBF	1/11/2018	6.3	6.3	1.4
MW-01-LBF	1/25/2018	7.5	7.5	1.2
MW-01-LBF	2/8/2018	3.7	3.7	0.6
MW-01-LBF	2/22/2018	4.4	4.4	0.6
MW-01-LBF	3/8/2018	5.7	5.7	0.7
MW-01-LBF	3/22/2018	6.8	6.8	0.7
MW-01-LBF	4/5/2018	7.8	7.8	0.6
MW-01-LBF	4/19/2018	8.8	8.8	0.7
Number of Samples			9	9
Number of Detections			9	2
Number of Non-Detections			0	7
Percentage of Non-Detect			0%	78%
Maximum Value Detected			9.5	1.4
Calculation Method			Direct Calculation	80% of AWQS
Average			6.72	
Standard Deviation			1.92	
Coefficient of Variation			0.29	
Adj Stnd Deviation			1.92	
k value			9.37	
UPL			**24.7**	
AWQS			**15**	**5**
AL			**24.7**	**4**
AQL - Supplemental Well			**24.7**	**5**

Well	Sample Date	Gross Alpha	Adjusted Alpha**	Total Radium
MW-01-O	12/28/2017	15.2	6.8	5.8
MW-01-O	1/11/2018	14.1	6.4	3.1
MW-01-O	1/25/2018	13.0	5.4	5.1
MW-01-O	2/8/2018	14.6	5.1	4.3
MW-01-O	2/22/2018	14.4	4.6	2.4
MW-01-O	3/8/2018	16.2	1.9	2.9
MW-01-O	3/22/2018	12.5	1.8	2.2
MW-01-O	4/5/2018	12.7	1.3	1.5
MW-01-O	4/19/2018	16.9	0.2	4.5
Number of Samples			9	9
Number of Detections			9	9
Number of Non-Detections			0	0
Percentage of Non-Detect			0%	0%
Maximum Value Detected			6.8	5.8
Calculation Method			Direct Calculation	Direct Calculation
Average			3.72	3.53
Standard Deviation			2.43	1.45
Coefficient of Variation			0.65	0.41
Adj Stnd Deviation			2.43	1.45
k value			9.37	9.37
UPL			**26.5**	**17.2**
AWQS			**15**	**5**
AL			**26.5**	**17.2**
AQL - Supplemental Well			**26.5**	**17.2**

	G/Adj Alpha	Total Radium
Final ALs	**26.5**	**17.2**
Final AQLs	**26.5**	**17.2**

Notes:

All results in milligrams per kiloliter (mg/L).
(#) = Outlier, excluded from calculations.
The Gross Alpha or Adjusted Alpha, if calculated, is shown.

Red = Values are non-detected at the PQL shown.
Blue = Coefficient of Variation <0.1
Results shown as the primary result and the radioactivity range is not shown.

AL = Alert Level
AQL = Aquifer Quality Limit
AWQS = Aquifer Water Quality Standard

NA = Not Applicable
NE = Not Established
UPL = Upper Prediction Limit

TABLE 8b - ADDITIONAL UIC RADIOCHEMICAL PARAMETERS

Well	Sample Date	Gross Beta	Radon	Total Uranium
M52-UBF	7/19/2017	2.9	(<15)	0.0044
M52-UBF	8/17/2017	2.4	126.2	0.0050
M52-UBF	9/14/2017	2.6	144.8	0.0047
M52-UBF	10/25/2017	7.0	156.7	0.0048
M52-UBF	11/16/2017	4.0	103.8	0.0045
M52-UBF	12/12/2017	6.1	119.7	0.0041
M52-UBF	1/9/2018	4.6	143.4	0.0045
M52-UBF	2/9/2018	5.9	109.9	0.0053
M52-UBF	3/7/2018	6.2	123.2	0.0043
Number of Samples		9	8	9
Number of Detections		6	8	9
Number of Non-Detections		3	0	0
Percentage of Non-Detect		33%	0%	0%
Maximum Value Detected		7	156.7	0.0053
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		4.56	128	0.0046
Standard Deviation		1.74	18	0.0004
Coefficient of Variation		0.38	0.14	*0.08*
Adj Stnd Deviation		1.7	18	0.0005
k value		9.37	9.37	9.37
UPL		**21**	**300**	**0.0090**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**21**	**300**	**0.0090**
AQL - POC Well		**21**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M54-LBF	7/18/2017	2.5	554.7	0.0045
M54-LBF	8/15/2017	4.9	491.1	0.0049
M54-LBF	9/12/2017	2.7	542.3	0.0046
M54-LBF	10/23/2017	5.6	460.7	0.0062
M54-LBF	11/15/2017	1.2	329.7	0.0042
M54-LBF	12/12/2017	8.1	342.6	0.0054
M54-LBF	1/9/2018	7.3	369.4	0.0062
M54-LBF	2/7/2018	6.5	272.2	0.0066
M54-LBF	3/5/2018	8.7	550.3	0.0057
Number of Samples		9	9	9
Number of Detections		6	9	9
Number of Non-Detections		3	0	0
Percentage of Non-Detect		33%	0%	0%
Maximum Value Detected		8.7	554.7	0.0
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		4.97	435	0.0054
Standard Deviation		2.88	108	0.0009
Coefficient of Variation		0.58	0.25	0.16
Adj Stnd Deviation		2.88	108	0.0009
k value		9.37	9.37	9.37
UPL		**32**	**1,447**	**0.0134**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**32**	**1,447**	**0.0134**
AQL - POC Well		**32**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M54-O	7/18/2017	5.4	2982.9	0.0057
M54-O	8/15/2017	2.1	754.7	0.0054
M54-O	9/12/2017	4.6	623.0	0.0061
M54-O	10/23/2017	10.0	390.7	0.0079
M54-O	11/16/2017	11.4	684.2	0.0058
M54-O	12/12/2017	8.0	1797.9	0.0054
M54-O	1/9/2018	8.1	647.9	0.0094
M54-O	2/7/2018	9.2	2656.7	0.0062
M54-O	3/6/2018	7.0	1083.6	0.0095
Number of Samples		9	9	9
Number of Detections		8	9	9
Number of Non-Detections		1	0	0
Percentage of Non-Detect		11%	0%	0%
Maximum Value Detected		11.4	2982.9	0.0095
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		7.31	1291	0.0068
Standard Deviation		2.73	959	0.0017
Coefficient of Variation		0.37	0.74	0.24
Adj Stnd Deviation		2.73	959	0.0017
k value		9.37	9.37	9.37
UPL		**33**	**10,275**	**0.0224**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**33**	**10,275**	**0.0224**
AQL - POC Well		**33**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M55-UBF	7/17/2017	2.5	128.8	0.0055
M55-UBF	8/16/2017	6.8	145.8	0.0062
M55-UBF	9/13/2017	6.9	111.8	0.0059
M55-UBF	10/25/2017	2.5	566.5	0.0059
M55-UBF	11/21/2017	4.6	196.6	0.0060
M55-UBF	12/12/2017	5.2	192.7	0.0050
M55-UBF	1/15/2018	4.4	161.2	0.0053
M55-UBF	2/9/2018	6.8	189.9	0.0061
M55-UBF	3/7/2018	4.8	149.2	0.0046
Number of Samples		9	9	9
Number of Detections		7	9	9
Number of Non-Detections		2	0	0
Percentage of Non-Detect		22%	0%	0%
Maximum Value Detected		6.9	566.5	0.0
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		4.94	205	0.0056
Standard Deviation		1.60	139	0.0005
Coefficient of Variation		0.32	0.68	*0.10*
Adj Stnd Deviation		1.60	139	0.0006
k value		9.37	9.37	9.37
UPL		**20**	**1,505**	**0.0109**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**20**	**1,505**	**0.0109**
AQL - Supplemental Well		**20**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M56-LBF	7/17/2017	2.5	400.9	0.0070
M56-LBF	8/16/2017	6.0	201.3	0.0080
M56-LBF	9/13/2017	8.1	256.7	0.0076
M56-LBF	10/25/2017	8.1	506.2	0.0069
M56-LBF	11/20/2017	7.4	159.8	0.0084
M56-LBF	12/12/2017	5.1	177.5	0.0056
M56-LBF	1/15/2018	8.7	314.0	0.0060
M56-LBF	2/9/2018	9.9	168.2	0.0083
M56-LBF	3/7/2018	6.2	238.0	0.0062
Number of Samples		9	9	9
Number of Detections		8	9	9
Number of Non-Detections		1	0	0
Percentage of Non-Detect		11%	0%	0%
Maximum Value Detected		9.9	506.2	0.0084
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		6.89	269	0.0071
Standard Deviation		2.09	118	0.0010
Coefficient of Variation		0.30	0.44	0.15
Adj Stnd Deviation		2.09	118	0.0010
k value		9.37	9.37	9.37
UPL		**26**	**1,377**	**0.0168**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**26**	**1,377**	**0.0168**
AQL - Supplemental Well		**26**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M57-O	7/17/2017	3.8	4149.0	0.0043
M57-O	8/17/2017	2.1	1498.5	0.0038
M57-O	9/13/2017	4.0	1159.9	0.0042
M57-O	10/25/2017	4.7	2944.5	0.0072
M57-O	11/20/2017	6.8	1299.4	0.0063
M57-O	12/13/2017	5.5	1354.3	0.0051
M57-O	1/10/2018	5.6	3746.9	0.0056
M57-O	2/8/2018	7.1	1760.1	0.0045
M57-O	3/6/2018	6.0	(18,848.2)	0.0042
Number of Samples		9	8	9
Number of Detections		8	8	9
Number of Non-Detections		1	0	0
Percentage of Non-Detect		11%	0%	0%
Maximum Value Detected		7.1	4149	0.0072
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		5.07	2,239	0.0050
Standard Deviation		1.50	1,197	0.0011
Coefficient of Variation		0.30	0.53	0.23
Adj Stnd Deviation		1.50	1,197	0.0011
k value		9.37	9.37	9.37
UPL		**19**	**13,454**	**0.0157**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**19**	**13,454**	**0.0157**
AQL - Supplemental Well		**19**	**NA**	**NA**

TABLE 8b - ADDITIONAL UIC RADIOCHEMICAL PARAMETERS

Well	Sample Date	Gross Beta	Radon	Total Uranium
M58-O	7/18/2017	7.8	5655.4	0.0190
M58-O	8/15/2017	10.8	1491.1	0.0410
M58-O	9/12/2017	13.3	2790.9	0.0590
M58-O	10/24/2017	13.1	1038.1	0.0410
M58-O	11/16/2017	10.5	2442.4	0.0440
M58-O	12/13/2017	21.3	2717.3	0.0500
M58-O	1/9/2018	11.3	1690.1	0.0470
M58-O	2/7/2018	20.1	2151.4	0.0590
M58-O	3/6/2018	12.8	(12797.9)	0.0400
Number of Samples		9	8	9
Number of Detections		9	8	9
Number of Non-Detections		0	0	0
Percentage of Non-Detect		0%	0%	0%
Maximum Value Detected		21.3	5655.4	0.059
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation
Average		13.44	2,497	0.0444
Standard Deviation		4.45	1,415	0.0120
Coefficient of Variation		0.33	0.57	0.27
Adj Stnd Deviation		4.45	1,415	0.0120
k value		9.37	9.37	9.37
UPL		**55**	**15,760**	**0.1569**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**55**	**15,760**	**0.1569**
AQL - Supplemental Well		**55**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M59-O	7/19/2017	2.5	(<15)	0.0023
M59-O	8/17/2017	5.0	6971.3	0.0028
M59-O	9/14/2017	5.1	949.6	0.0028
M59-O	10/24/2017	5.8	313.0	0.0023
M59-O	11/20/2017	7.2	5411.0	0.0032
M59-O	12/14/2017	5.0	1006.2	0.0027
M59-O	1/10/2018	5.4	1029.2	0.0032
M59-O	2/8/2018	6.5	1760.1	0.0028
M59-O	3/7/2018	7.1	2253.3	0.0027
Number of Samples		9	8	9
Number of Detections		8	8	9
Number of Non-Detections		1	0	0
Percentage of Non-Detect		11%	0%	0%
Maximum Value Detected		7.2	6971.3	0.0032
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		5.51	2,462	0.0028
Standard Deviation		1.34	2,410	0.0003
Coefficient of Variation		0.24	0.98	0.12
Adj Stnd Deviation		1.34	2,410	0.0003
k value		9.37	9.37	9.37
UPL		**18**	**25,040**	**0.0058**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**18**	**25,040**	**0.0058**
AQL - Supplemental Well		**18**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M60-O	7/19/2017	6.0	(<15)	0.0069
M60-O	8/16/2017	4.7	200.7	0.0043
M60-O	9/14/2017	7.2	82.0	0.0061
M60-O	10/24/2017	12.1	454.6	0.0190
M60-O	11/21/2017	14.2	123.5	0.0220
M60-O	12/14/2017	11.4	207.7	0.0140
M60-O	1/15/2018	8.5	707.8	0.0057
M60-O	2/7/2018	7.7	539.5	0.0052
M60-O	3/8/2018	5.7	819.7	0.0034
Number of Samples		9	8	9
Number of Detections		9	8	9
Number of Non-Detections		0	0	0
Percentage of Non-Detect		0%	0%	0%
Maximum Value Detected		14.2	819.7	0.022
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation
Average		8.61	392	0.0096
Standard Deviation		3.25	280	0.0069
Coefficient of Variation		0.38	0.71	0.72
Adj Stnd Deviation		3.25	280	0.0069
k value		9.37	9.37	9.37
UPL		**39**	**3,011**	**0.0744**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**39**	**3,011**	**0.0744**
AQL - Supplemental Well		**39**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
M61-LBF	7/19/2017	2.5	(<15)	0.0011
M61-LBF	8/16/2017	6.4	179.9	0.0020
M61-LBF	9/14/2017	5.1	182.3	0.0018
M61-LBF	10/23/2017	6.7	44.8	0.0015
M61-LBF	11/20/2017	7.5	170.0	0.0018
M61-LBF	12/13/2017	7.0	203.5	0.0013
M61-LBF	1/11/2018	5.0	1750.2	0.0011
M61-LBF	1/25/2018	6.0	1560.2	0.0009
M61-LBF	2/9/2018	3.8	1363.4	0.0013
M61-LBF	3/8/2018	5.1	270.6	0.0014
Number of Samples		10	9	10
Number of Detections		9	9	10
Number of Non-Detections		1	0	0
Percentage of Non-Detect		10%	0%	0%
Maximum Value Detected		7.5	1750.2	0.002
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		5.51	636	0.0014
Standard Deviation		1.46	701	0.0004
Coefficient of Variation		0.26	1.10	0.25
Adj Stnd Deviation		1.46	701	0.0004
k value		9.37	9.37	9.37
UPL		**19.2**	**7,200**	**0.0047**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**19**	**7,200**	**0.0047**
AQL - Supplemental Well		**19**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
MW-01-LBF	12/28/2017	2.3	822.1	0.0069
MW-01-LBF	1/11/2018	6.3	655.5	0.0063
MW-01-LBF	1/25/2018	6.7	473.5	0.0066
MW-01-LBF	2/8/2018	8.0	67.5	0.0050
MW-01-LBF	2/22/2018	7.7	233.7	0.0056
MW-01-LBF	3/8/2018	7.4	327.6	0.0063
MW-01-LBF	3/22/2018	10.0	439.4	0.0071
MW-01-LBF	4/5/2018	7.1	294.0	0.0086
MW-01-LBF	4/19/2018	7.3	337.3	0.0083
Number of Samples		9	9	9
Number of Detections		8	9	9
Number of Non-Detections		1	0	0
Percentage of Non-Detect		11%	0%	0%
Maximum Value Detected		10	822.1	0.0086
Calculation Method		Kaplan-Meier	Direct Calculation	Direct Calculation
Average		6.98	406	0.0067
Standard Deviation		1.93	226	0.0012
Coefficient of Variation		0.3	0.56	0.17
Adj Stnd Deviation		1.9	226	0.0012
k value		9.4	9.37	9.37
UPL		**25**	**2,524**	**0.0176**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**25**	**2,524**	**0.0176**
AQL - Supplemental Well		**25**	**NA**	**NA**

Well	Sample Date	Gross Beta	Radon	Total Uranium
MW-01-O	12/28/2017	7.5	6180.9	0.0110
MW-01-O	1/11/2018	11.2	4759.2	0.0130
MW-01-O	1/25/2018	10.9	1970.2	0.0140
MW-01-O	2/8/2018	15.9	2419.4	0.0200
MW-01-O	2/22/2018	15.1	2708.2	0.0150
MW-01-O	3/8/2018	11.0	3937.1	0.0150
MW-01-O	3/22/2018	14.6	4253.7	0.0160
MW-01-O	4/5/2018	10.7	3389.9	0.0150
MW-01-O	4/19/2018	15.2	6365.0	0.0150
Number of Samples		9	9	9
Number of Detections		9	9	9
Number of Non-Detections		0	0	0
Percentage of Non-Detect		0%	0%	0%
Maximum Value Detected		15.9	6365	0.02
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation
Average		12.5	3,998	0.0149
Standard Deviation		2.8	1,567	0.0024
Coefficient of Variation		0.2	0.39	0.16
Adj Stnd Deviation		2.8	1,567	0.0024
k value		9.4	9.37	9.37
UPL		**39**	**18,685**	**0.0376**
AWQS		**4 mrem/yr**	**NE**	**NE**
AL		**39**	**18,685**	**0.0376**
AQL - Supplemental Well		**39**	**NA**	**NA**

	Gross Beta	Radon	Total Uranium
Final ALs	**55**	**25,040**	**0.16**
Final AQLs	**55**	**NA**	**NA**

Notes:

All results in milligrams per kiloliter (mg/L).
(#) = Outlier, excluded from calculations.
Beta speciations are performed above 50 pCi/L. All ambient results were below the speciation level.

Red = Values are non-detected at the PQL shown.
Blue = Coefficient of Variation <0.1

AL = Alert Level
AQL = Aquifer Quality Limit
AWQS = Aquifer Water Quality Standard

NA = Not Applicable
NE = Not Established
UPL = Upper Prediction Limit

TABLE 9 - ADDITIONAL UIC COMMON IONS

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M52-UBF	7/19/2017	7.44	7.44	10.0	0.1
M52-UBF	8/17/2017	7.37	7.37	10.0	0.1
M52-UBF	9/14/2017	7.47	7.47	9.6	0.1
M52-UBF	10/25/2017	7.41	7.41	11.0	0.1
M52-UBF	11/16/2017	7.52	7.52	9.8	0.1
M52-UBF	12/12/2017	7.31	7.31	11.0	0.1
M52-UBF	1/9/2018	7.35	7.35	10.0	0.1
M52-UBF	2/9/2018	7.38	7.38	11.0	0.1
M52-UBF	3/7/2018	7.38	7.38	12.0	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.52	7.52	12	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.40	7.40	10.5	
Standard Deviation		0.06	0.06	0.79	
Coefficient of Variation		0.01	0.01	0.08	
Adj Stnd Deviation		NA	NA	1.05	
k value		9.37	9.37	9.37	
UPL		**6.80**	**8.01**	**20.3**	
AWQS		**NE**	**NE**	**10**	**1.0**
AL		**6.80**	**8.0**	**20.3**	**0.8**
AQL - POC Well		**NA**	**NA**	**20.3**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M54-LBF	7/18/2017	7.33	7.33	11.0	0.1
M54-LBF	8/15/2017	7.42	7.42	9.9	0.1
M54-LBF	9/12/2017	7.40	7.40	9.9	0.1
M54-LBF	10/23/2017	7.39	7.39	11.0	0.1
M54-LBF	11/15/2017	7.44	7.44	11.0	0.1
M54-LBF	12/12/2017	7.31	7.31	11.0	0.1
M54-LBF	1/9/2018	7.57	7.57	10.0	0.1
M54-LBF	2/7/2018	7.28	7.28	11.0	0.1
M54-LBF	3/5/2018	7.16	7.16	10.0	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.57	7.57	11	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.37	7.37	10.5	
Standard Deviation		0.12	0.12	0.55	
Coefficient of Variation		0.02	0.02	0.05	
Adj Stnd Deviation		NA	NA	1.05	
k value		9.37	9.37	9.37	
UPL		**6.29**	**8.45**	**20.4**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**6.29**	**8.4**	**20.4**	**0.8**
AQL - POC Well		**NA**	**NA**	**20.4**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M54-O	7/18/2017	8.16	8.16	0.5	0.1
M54-O	8/15/2017	8.08	8.08	0.5	0.1
M54-O	9/12/2017	8.21	8.21	0.5	0.1
M54-O	10/23/2017	8.22	8.22	0.5	0.1
M54-O	11/16/2017	8.34	8.34	0.5	0.1
M54-O	12/12/2017	7.98	7.98	0.5	0.1
M54-O	1/9/2018	8.16	8.16	0.5	0.1
M54-O	2/7/2018	7.77	7.77	0.5	0.1
M54-O	3/6/2018	7.97	7.97	0.5	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	0	0
Number of Non-Detections		0	0	9	9
Percentage of Non-Detect		0%	0%	100%	100%
Maximum Value Detected		8.34	8.34	0.5	0.1
Calculation Method		Direct Calculation	Direct Calculation	80% of AWQS	80% of AWQS
Average		8.10	8.10		
Standard Deviation		0.17	0.17		
Coefficient of Variation		0.02	0.02		
Adj Stnd Deviation		NA	NA		
k value		9.37	9.37		
UPL		**6.50**	**9.69**		
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**6.50**	**9.7**	**8**	**0.8**
AQL - POC Well		**NA**	**NA**	**10.0**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M55-UBF	7/17/2017	7.15	7.15	9.2	0.1
M55-UBF	8/16/2017	7.23	7.23	9.0	0.1
M55-UBF	9/13/2017	7.19	7.19	9.3	0.1
M55-UBF	10/25/2017	7.31	7.31	10.0	0.1
M55-UBF	11/21/2017	7.15	7.15	9.8	0.1
M55-UBF	12/12/2017	7.20	7.20	11.0	0.1
M55-UBF	1/15/2018	7.22	7.22	9.8	0.1
M55-UBF	2/9/2018	7.02	7.02	10.0	0.1
M55-UBF	3/7/2018	7.10	7.10	9.7	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.31	7.31	11	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.17	7.17	9.8	
Standard Deviation		0.08	0.08	0.59	
Coefficient of Variation		0.01	0.01	0.06	
Adj Stnd Deviation		NA	NA	0.98	
k value		9.37	9.37	9.37	
UPL		**6.40**	**7.95**	**18.9**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**6.40**	**8.0**	**18.9**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**18.9**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M56-LBF	7/17/2017	7.23	7.23	9.8	0.1
M56-LBF	8/16/2017	7.43	7.43	8.8	0.1
M56-LBF	9/13/2017	7.45	7.45	8.3	0.1
M56-LBF	10/25/2017	7.36	7.36	9.3	0.1
M56-LBF	11/20/2017	7.35	7.35	8.8	0.1
M56-LBF	12/12/2017	7.56	7.56	9.3	0.1
M56-LBF	1/15/2018	7.37	7.37	8.5	0.1
M56-LBF	2/9/2018	7.46	7.46	8.8	0.1
M56-LBF	3/7/2018	7.18	7.18	8.5	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.56	7.56	9.8	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.38	7.38	8.9	
Standard Deviation		0.12	0.12	0.48	
Coefficient of Variation		0.02	0.02	0.05	
Adj Stnd Deviation		NA	NA	0.89	
k value		9.37	9.37	9.37	
UPL		**6.28**	**8.48**	**17.2**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**6.28**	**8.5**	**17.2**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**17.2**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M57-O	7/17/2017	7.90	7.90	1.6	0.1
M57-O	8/17/2017	7.90	7.90	0.55	0.1
M57-O	9/13/2017	7.72	7.72	0.60	0.1
M57-O	10/25/2017	7.78	7.78	1.5	0.1
M57-O	11/20/2017	7.85	7.85	1.3	0.1
M57-O	12/13/2017	7.74	7.74	1.1	0.1
M57-O	1/10/2018	7.83	7.83	1.1	0.1
M57-O	2/8/2018	7.67	7.67	1.0	0.1
M57-O	3/6/2018	7.90	7.90	1.3	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.90	7.9	1.6	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.81	7.81	1.1	
Standard Deviation		0.09	0.09	0.36	
Coefficient of Variation		0.01	0.01	0.32	
Adj Stnd Deviation		NA	NA	0.36	
k value		9.37	9.37	9.37	
UPL		**7.00**	**8.62**	**4.5**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**7.00**	**8.6**	**8**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**10.0**	**1.0**

TABLE 9 - ADDITIONAL UIC COMMON IONS

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M58-O	7/18/2017	7.73	7.73	2.9	0.1
M58-O	8/15/2017	7.76	7.76	4.6	0.1
M58-O	9/12/2017	7.71	7.71	6.6	0.1
M58-O	10/24/2017	7.66	7.66	5.9	0.1
M58-O	11/16/2017	7.69	7.69	6.6	0.1
M58-O	12/13/2017	7.53	7.53	7.4	0.1
M58-O	1/9/2018	7.60	7.60	7.0	0.1
M58-O	2/7/2018	7.19	7.19	7.5	0.1
M58-O	3/6/2018	7.42	7.42	6.9	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.76	7.76	7.5	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.59	7.59	6.2	
Standard Deviation		0.18	0.18	1.50	
Coefficient of Variation		0.02	0.02	0.24	
Adj Stnd Deviation		NA	NA	1.50	
k value		9.37	9.37	9.37	
UPL		**5.87**	**9.31**	**20.3**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**5.87**	**9.3**	**20.3**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**20.3**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M59-O	7/19/2017	7.74	7.74	0.58	0.1
M59-O	8/17/2017	7.95	7.95	0.69	0.1
M59-O	9/14/2017	7.96	7.96	0.75	0.1
M59-O	10/24/2017	7.86	7.86	0.5	0.1
M59-O	11/20/2017	7.81	7.81	0.63	0.1
M59-O	12/14/2017	7.83	7.83	0.5	0.1
M59-O	1/10/2018	7.98	7.98	0.5	0.1
M59-O	2/8/2018	7.66	7.66	1.1	0.1
M59-O	3/7/2018	7.72	7.72	1.5	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	6	0
Number of Non-Detections		0	0	3	9
Percentage of Non-Detect		0%	0%	33%	100%
Maximum Value Detected		7.98	7.98	1.5	0.1
Calculation Method		Direct Calculation	Direct Calculation	Kaplan-Meier	80% of AWQS
Average		7.83	7.83	0.75	
Standard Deviation		0.11	0.11	0.32	
Coefficient of Variation		0.01	0.01	0.43	
Adj Stnd Deviation		NA	NA	0.32	
k value		9.37	9.37	9.37	
UPL		**6.77**	**8.90**	**3.7**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**6.77**	**8.9**	**8**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**10.0**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M60-O	7/19/2017	7.69	7.69	3.0	0.1
M60-O	8/16/2017	7.89	7.89	1.4	0.1
M60-O	9/14/2017	7.56	7.56	2.3	0.1
M60-O	10/24/2017	7.59	7.59	5.7	0.1
M60-O	11/21/2017	7.48	7.48	5.1	0.1
M60-O	12/14/2017	7.47	7.47	4.9	0.1
M60-O	1/15/2018	7.67	7.67	1.9	0.1
M60-O	2/7/2018	7.52	7.52	1.6	0.1
M60-O	3/8/2018	7.97	7.97	1.0	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	0
Number of Non-Detections		0	0	0	9
Percentage of Non-Detect		0%	0%	0%	100%
Maximum Value Detected		7.97	7.97	5.7	0.1
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.65	7.65	3.0	
Standard Deviation		0.18	0.18	1.79	
Coefficient of Variation		0.02	0.02	0.60	
Adj Stnd Deviation		NA	NA	1.79	
k value		9.37	9.37	9.37	
UPL		**5.99**	**9.31**	**19.7**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**5.99**	**9.3**	**19.7**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**19.7**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
M61-LBF	7/19/2017	7.91	7.91	0.5	0.1
M61-LBF	8/16/2017	8.33	8.33	0.5	0.1
M61-LBF	9/14/2017	8.34	8.34	0.5	0.1
M61-LBF	10/23/2017	8.21	8.21	0.5	0.1
M61-LBF	11/20/2017	8.21	8.21	0.5	0.1
M61-LBF	12/13/2017	8.04	8.04	0.5	0.1
M61-LBF	1/11/2018	7.87	7.87	0.5	0.1
M61-LBF	1/25/2018	7.93	7.93	0.5	0.1
M61-LBF	2/9/2018	8.05	8.05	0.5	0.1
M61-LBF	3/8/2018	8.09	8.09	0.5	0.1
Number of Samples		10	10	10	10
Number of Detections		10	10	0	0
Number of Non-Detections		0	0	10	10
Percentage of Non-Detect		0%	0%	100%	100%
Maximum Value Detected		8.34	8.34	0.5	0.1
Calculation Method		Direct Calculation	Direct Calculation	80% of AWQS	80% of AWQS
Average		8.10	8.10		
Standard Deviation		0.17	0.17		
Coefficient of Variation		0.02	0.02		
Adj Stnd Deviation		NA	NA		
k value		9.37	9.37		
UPL		**6.51**	**9.69**		
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**6.51**	**9.7**	**8**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**10.0**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
MW-01-LBF	12/28/2017	7.01	7.01	9.5	0.1
MW-01-LBF	1/11/2018	7.36	7.36	10.0	0.1
MW-01-LBF	1/25/2018	7.35	7.35	9.9	0.1
MW-01-LBF	2/8/2018	7.36	7.36	8.5	0.14
MW-01-LBF	2/22/2018	7.48	7.48	8.5	0.1
MW-01-LBF	3/8/2018	7.41	7.41	9.7	0.1
MW-01-LBF	3/22/2018	7.57	7.57	9.1	0.1
MW-01-LBF	4/5/2018	7.39	7.39	9.0	0.1
MW-01-LBF	4/19/2018	7.41	7.41	8.8	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	1
Number of Non-Detections		0	0	0	8
Percentage of Non-Detect		0%	0%	0%	89%
Maximum Value Detected		7.57	7.57	10	0.14
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.37	7.37	9.2	
Standard Deviation		0.15	0.15	0.58	
Coefficient of Variation		0.02	0.02	0.06	
Adj Stnd Deviation		NA	NA	0.92	
k value		9.37	9.37	9.37	
UPL		**5.94**	**8.80**	**17.9**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**5.94**	**8.8**	**17.9**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**17.9**	**1.0**

Well	Sample Date	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
MW-01-O	12/28/2017	7.02	7.02	7.1	0.1
MW-01-O	1/11/2018	7.63	7.63	5.4	0.1
MW-01-O	1/25/2018	7.60	7.60	7.0	0.1
MW-01-O	2/8/2018	7.84	7.84	5.1	0.20
MW-01-O	2/22/2018	7.63	7.63	6.3	0.1
MW-01-O	3/8/2018	7.72	7.72	6.1	0.1
MW-01-O	3/22/2018	7.75	7.75	4.9	0.1
MW-01-O	4/5/2018	7.68	7.68	4.5	0.1
MW-01-O	4/19/2018	7.74	7.74	4.2	0.1
Number of Samples		9	9	9	9
Number of Detections		9	9	9	1
Number of Non-Detections		0	0	0	8
Percentage of Non-Detect		0%	0%	0%	89%
Maximum Value Detected		7.84	7.84	7.1	0.2
Calculation Method		Direct Calculation	Direct Calculation	Direct Calculation	80% of AWQS
Average		7.62	7.62	5.6	
Standard Deviation		0.24	0.24	1.05	
Coefficient of Variation		0.03	0.03	0.19	
Adj Stnd Deviation		NA	NA	1.05	
k value		9.37	9.37	9.37	
UPL		**5.39**	**9.85**	**15.5**	
AWQS/SDWS		**NE**	**NE**	**10**	**1.0**
AL		**5.39**	**9.9**	**15.5**	**0.8**
AQL - Supplemental Well		**NA**	**NA**	**15.5**	**1.0**

	pH Low (Field)	pH High (Field)	Nitrate as N	Nitrite as N
Final ALs	**5.4**	**9.9**	**20.4**	**0.80**
Final AQLs	**NA**	**NA**	**20.4**	**1.0**

Notes:

All results in milligrams per liter (mg/L).

(#) = Outlier, excluded from calculations.

Red = Values are non-detected at the PQL shown.

Blue = Coefficient of Variation <0.1

AL = Alert Level

AQL = Aquifer Quality Limit

AWQS = Aquifer Water Quality Standard

NA = Not Applicable

NE = Not Established

UPL = Upper Prediction Limit

ATTACHMENT 1

Field Summaries and Laboratory Analytical Reports (CD)