PRATHER SPRINGS DATA REVIEW SUMMARY

Data Package Number: 08-09-060

Sampling Event: September 8th, 2008

Sample-specific Parameter Review? **Yes** Laboratory Performance Parameters? **No**

Data Reviewer: Liz Kraak Date Completed: 09/22/08

Peer Reviewer: Geoff Webb Date Completed: 09/23/08

The table below summarizes the results presented in this data package.

Field ID	Sample Type	Lab ID	Sampling Date	Matrix	Analyses			
					Metals	Inorganics	VOCs (8260)	Methane (RSK 175)
PS-MW03D	SA	0809060-1	09/08/08	Water	X	X[m]	X[m]	X
PS-MW03S	SA	0809060-2	09/08/08	Water	X	X	X	X
PS-MW04D	SA	0809060-3	09/08/08	Water	X	X	X	X
PSMW04S	SA	0809060-4	09/08/08	Water	X	X	X	X
PS-MW06R	SA	0809060-5	09/08/08	Water	X	---	X	X[m]
PS-MW05D	SA	0809060-6	09/08/08	Water	X	X	X	X
PS-MW08S	SA	0809060-7	09/08/08	Water	X	X	X	X
PS-MW08D	SA	0809060-8	09/08/08	Water	X	X	X	X

Analyses:

Metals including barium, boron, calcium, chromium, copper, iron, magnesium, manganese, potassium, sodium (6010), arsenic, cadmium, lead, selenium, and silver (6020).

Inorganics including bicarbonate as $CaCO_3$, carbonate as $CaCO_3$, hydroxide as $CaCO_3$, total alkalinity as $CaCO_3$ (310.1), specific conductivity (120.1), sulfide (376.1), total dissolved solids (160.1), bromide, chloride, fluoride, nitrate as N, nitrite as N, and sulfate (300.0)

VOCs – Volatile Organic Compounds

QC Type: SA - Sample m - Matrix Spike/Matrix Spike Duplicate

--- Not analyzed for this parameter.

The data review was conducted in accordance with the Phase I Site Investigation Work Plan – Prather Spring Investigation dated July 31, 2008.

General Overall Assessment:

_____ Data are usable without qualification.
_X_ Data are usable with qualification (noted below).
_____ Some data are unusable for any purpose (noted below).

Case Narrative Summary: Except as noted below, any of the issues noted in the laboratory case narrative potentially affecting data quality are addressed in the appropriate sections in the table below.

Review Parameter	Criteria Met?	Comments
Sample-specific Parameters	Complete with "Yes", "No", or "Not Applicable (N/A)".	For each "No" response, list what was out, associated acceptance limits, all qualified data, and bias direction or reference associated table with pertinent details.
COC & Sample Receipt	No	Samples were received intact and the cooler temperatures were 3.8°C and 2.6°C upon arrival at the laboratory, within the ≤6°C temperature criterion. The time listed on the labels for samples PS-MW08S and PS-MW08D were not in agreement with the sample collection times listed for these samples on the COC. The COC sample collection times were used and further action was not necessary. Samples PS-MW04D (50%) and PS-MW05D (100%) were received containing sediment. Only the aqueous portion of these samples were analyzed and further action was not required. At least one of the 40 mL vials for samples PS-MW03S (less than pea size), PS-MW04D (less than pea size), and PS-MW05D (less than pea size) were received with headspace. As sufficient volume remained to analyze the samples for VOCs and dissolved methane without using the vials containing headspace, data qualification was not required.
Holding Times	No	With the exceptions summarized below, all samples were analyzed within the holding time requirements specified in the Work Plan. The samples for aqueous specific conductivity were analyzed three days after collection due to the need to separate the phases of the samples, which exceeds the holding time requirement of immediate upon receipt at the laboratory. Therefore, the specific conductivity results for the sample were qualified as estimated (J HT-I) with an indeterminate bias.
Method Blanks Continuing Calibration Blanks	No	With the exceptions listed in Table 1 below, target analytes were not reported as detected within the associated method blanks (MBs) or continuing calibration blanks (CCBs). As no samples were bracketed by the initial calibration blank (ICB), data qualification was not issued based on ICB contamination. The highest CCB concentration associated with the samples reported in this data package was used to assign data qualification.
Matrix QC • MS/MSD PS-MW06R (Dissolved Methane) PS-MW03D (Fluoride, Chloride, Nitrite as N, Bromide, Nitrate as N, Sulfate) • LD PS-MW03D (Dissolved Methane, Specific Conductivity, Total Dissolved Solids)	Yes	The recoveries and RPDs for the matrix spike (MS) and matrix spike duplicate (MSD) analyses were within the laboratory-determined acceptance range. Data qualification was not required. The RPD between parent result and the laboratory duplicate results satisfied the applicable evaluation criterion.
Method QC • Serial Dilution None • Internal Standards	Yes	**SD** As a metals sample was not the selected quality control sample, quality control results are not included in this report. **Internal Standard** All internal standards were within the laboratory-determined acceptance limits. Data qualification was not required.
Field QC • Field Blanks (Ambient, Rinsate, or Trip) None • Field Duplicate None	No	A trip blank was inadvertently not provided for this sampling event and therefore an assessment of trip blank results could not be made.

Review Parameter	Criteria Met?	Comments
Interference Check Sample (ICS)	Yes	The interferent elements (reported in the raw data): aluminum, calcium, iron, and magnesium were not present at concentrations greater than that in the ICS A and ICS AB solutions in the analyses of the samples. Therefore, data qualification was not required. All ICS A and ICS B solution percent recoveries were within the acceptance limits of 80-120%. Therefore, data qualification based on ICS A and ICS B percent recoveries was not required.
Continuing Calibration Verification	Yes	All of the applicable initial and continuing calibration verifications were within the acceptance ranges. Data qualification was not required.
Surrogates	Yes	All surrogate recoveries were within the laboratory acceptance limits. Therefore, data qualification was not required.
Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD)	Yes	LCS and LCSD recoveries were within the laboratory determined acceptance limits. Data qualification was not required.
Non-detect results without associated elevated RLs	No	Several cadmium results were reported as non-detect with elevated reporting limits due to dilutions or matrix interference. These will need to be evaluated by the end user of the data with respect to project objectives.
Package Completeness	Yes	
Other Parameters	Yes	Detected analytes with concentrations between the Instrument Detection Limit (IDL) and the Reporting Limit (RL) were qualified as estimated (J). A qualifier code of "SQL-I" (Sample Quantitation Limit) was assigned to reflect the greater uncertainty in quantitative values below the RL. Splits of samples PSMW-06R, PSMW-08S, PSMW08D, PSMW-03D, and PSMW-04D were sent to Test America and evaluated using the split sample evaluation criteria in the Work Plan. Analytes for the native samples and split samples that were not in agreement with the split sample evaluation criteria were qualified as estimated (J D-I) and are discussed in detail in Test America data packages NRI0729 and NRI0779.

Table 1: Method Blank Outliers and Resultant Data Qualification

Blank	Analyte	Concentration	Qualification
Metals			
MB CCB 3	Barium	-0.71 µg/L -0.709 µg/L	None. The associated listed analytical results were reported at concentrations >4x the negative blank contamination.
MB	Boron	-3.9 µg/L	
MB	Calcium	-15 µg/L	
MB CCB 3	Chromium	-0.73 µg/L -2.09 µg/L	The associated listed analytical results that were reported at concentrations <4x the negative blank contamination were qualified as estimated (UJ/J MB, CCB-I or UJ/J MB-I).
MB	Copper	-0.78 µg/L	
MB CCB 4	Iron	-9 µg/L -4.77 µg/L	
MB CCB 3	Magnesium	-40 µg/L -32.8 µg/L	None. The associated magnesium results were reported at concentrations >4x the negative blank contamination.
MB CCB 3	Manganese	-0.52 µg/L -0.651 µg/L	The associated manganese results that were reported at concentrations <4x the negative blank contamination were qualified as estimated (UJ/J MB-I).
MB CCB 4	Sodium	92 µg/L 109 µg/L	None. The associated sodium results were reported at concentrations >5x the positive blank contamination.
CCB 2	Potassium	-191 µg/L	The associated potassium results that were reported at concentrations <4x the negative CCB contamination were qualified as estimated (J CCB-I).
MB CCB 1	Cadmium	0.044 µg/L 0.0044 µg/L	The associated listed analytical results that were reported at concentrations <5x the blank contamination were qualified as non-detect at the reporting limit (U MB, CCB-I or U MB-I).
MB CCB 1	Lead	0.22 µg/L 0.0145 µg/L	
MB	Selenium	0.3 µg/L	
MB CCB 1	Silver	0.052 µg/L 0.00421 µg/L	
CCB 5	Arsenic	0.0258 µg/L	None. The associated arsenic results were reported at concentrations >5x the positive blank contamination.
Inorganics			
MB CCB 1	Sulfate	0.38 mg/L 0.387 mg/L	None. The associated sulfate and chloride results were reported at concentrations >5x the positive blank contamination.
CCB 3	Chloride	0.116 mg/L	
CCB 1	Fluoride	0.0496 mg/L	The associated fluoride results that were reported at concentrations <5x the positive blank contamination were qualified as non-detect at the reporting limit (U MB-I).
VOCs			
MB	Methylene Chloride	0.35 µg/L	The associated methylene chloride results that were reported at concentrations <5x the positive blank contamination were qualified as non-detect at the reporting limit (U MB-I).

µg/L – Micrograms per Liter mg/Kg – Milligrams per Kilogram U – Non-detect UJ/J - Estimated

MB – Method blank contamination. CCB – Continuing calibration blank contamination. I – Indeterminate

PRATHER SPRINGS DATA REVIEW SUMMARY

Data Package Number: 08-09-076
Sampling Event: September 10th, 2008
Sample-specific Parameter Review? **Yes** Laboratory Performance Parameters? **No**
Data Reviewer: Liz Kraak Date Completed: 09/22/08
Peer Reviewer: Geoff Webb Date Completed: 09/23/08

The table below summarizes the results presented in this data package.

Field ID	Sample Type	Lab ID	Sampling Date	Matrix	Analyses		
					Metals	Inorganics	VOCs (8260)
Ned Prather Spring	SA	0809076-1	09/10/08	Water	X	X	X
Ned Prather Spring (Dup)	FD	0809076-2	09/10/08	Water	X	X	X
Ned Prather Spring DS-440	SA	0809076-3	09/10/08	Water	X	X	X
Ned Prather Cabin[1]	SA	0809076-4	09/10/08	Water	X	X	X
Spring 2	SA	0809076-5	09/10/08	Water	X	X	X
Spring 2 DS-100	SA	0809076-6	09/10/08	Water	X	X	X
Ned Prather Stock Pond	SA	0809076-7	09/10/08	Water	X	X	X
Donna Stock Pond	SA	0809076-8	09/10/08	Water	X	X	X
Dick Prather Cabin	SA	0809076-9	09/10/08	Water	X	X	X
McKay Gulch	SA	0809076-10	09/10/08	Water	X	X	X
Ned Prather Stock Pond DS-500[2]	SA	0809076-11	09/10/08	Water	X^m	X^m	X^m
Trip Blank	TB	0809076-12	09/10/08	Water	---	---	X

Analyses:

Metals including barium, boron, calcium, chromium, copper, iron, magnesium, manganese, potassium, sodium (6010), arsenic, cadmium, lead, selenium, and silver (6020).

Inorganics including bicarbonate as $CaCO_3$, carbonate as $CaCO_3$, hydroxide as $CaCO_3$, total alkalinity as $CaCO_3$ (310.1), specific conductivity (120.1), sulfide (376.1), total dissolved solids (160.1), bromide, chloride, fluoride, nitrate as N, nitrite as N, and sulfate (300.0)

VOCs – Volatile Organic Compounds
QC Type: SA - Sample FD – Field Duplicate TB – Trip Blank m - Matrix Spike/Matrix Spike Duplicate

[1] The sampler inadvertently labeled this sample as Ned Prather Spring Cabin on the COC. To reflect the proper nomenclature the data sheets and database have been updated with the correct sample identification, Ned Prather Cabin.

[2] The sample ID was not complete on the data sheets, Ned Prather Stock Pond DS, and was manually corrected to Ned Prather Stock Pond DS-500 on the data sheets to reflect proper nomenclature.

The data review was conducted in accordance with the Phase I Site Investigation Work Plan – Prather Spring Investigation dated July 31, 2008.

General Overall Assessment:

_____ Data are usable without qualification.
_X_ Data are usable with qualification (noted below).
_____ Some data are unusable for any purpose (noted below).

Case Narrative Summary: Except as noted below, any of the issues noted in the laboratory case narrative potentially affecting data quality are addressed in the appropriate sections in the table below.

Review Parameter	Criteria Met?	Comments
Sample-specific Parameters	Complete with "Yes", "No", or "Not Applicable (N/A)".	For each "No" response, list what was out, associated acceptance limits, all qualified data, and bias direction or reference associated table with pertinent details.
COC & Sample Receipt	Yes	Samples were received intact and the cooler temperatures were 6.0°C and 6.0°C upon arrival at the laboratory, within the ≤6°C temperature criterion.
Holding Times	No	With the exceptions summarized below, all samples were analyzed within the holding time requirements specified in the Work Plan. The samples for aqueous specific conductivity were analyzed one day after collection due to the need to separate the phases of the samples, which exceeds the holding time requirement of immediate upon receipt at the laboratory. Therefore, the specific conductivity results for the sample were qualified as estimated (J HT-I) with an indeterminate bias.
Method Blanks Continuing Calibration Blanks	No	With the exceptions listed in Table 1 below, target analytes were not reported as detected within the associated method blanks (MBs) or continuing calibration blanks (CCBs). As no samples were bracketed by the initial calibration blank (ICB), data qualification was not issued based on ICB contamination. The highest CCB concentration associated with the samples reported in this data package was used to assign data qualification.
Matrix QC • MS/MSD Ned Prather Stock Pond DS-500 (Metals, Fluoride, Nitrite as N, Bromide, Nitrate as N, Sulfate, VOCs) • LD Ned Prather Stock pond DS-500 (Bicarbonate as $CaCO_3$, Carbonate as $CaCO_3$, Hydroxide as $CaCO_3$, Total Alkalinity as $CaCO_3$, Specific Conductance, Sulfide, TDS)	No	With the exceptions summarized in Table 2, the recoveries and RPDs for the matrix spike (MS) and matrix spike duplicate (MSD) analyses were within the laboratory-determined acceptance range. The RPD between parent result and the laboratory duplicate results satisfied the applicable evaluation criterion.
Method QC • Serial Dilution Ned Prather Stock Pond DS-500 • Internal Standards	Yes	**SD** The percent difference (%D) between undiluted and diluted sample results was compared to an evaluation criterion of ± 10% when native sample concentration is > 50xMDL. With the exceptions listed Table 3 below, all applicable analytes met this criterion. **Internal Standard** All internal standards were within the laboratory-determined acceptance limits. Data qualification was not required.
Field QC • Field Blanks (Ambient, Rinsate, or Trip) Trip Blank • Field Duplicate Ned Prather Spring (Dup)	Yes	Target analytes were not reported as detected in the associated trip blank. The applicable criteria were met for the field duplicate pair Ned Prather Spring/ Ned Prather Spring (Dup). Data qualification was not required.
Interference Check Sample (ICS)	Yes	The interferent elements (reported in the raw data): aluminum, calcium, iron, and magnesium were not present at concentrations greater than that in the ICS A and ICS AB solutions in the analyses of the samples. Therefore, data qualification was not required. All ICS A and ICS B solution percent recoveries were within the acceptance limits of 80-120%. Therefore, data qualification based on ICS A and ICS B percent recoveries was not required.
Continuing Calibration Verification	Yes	All of the applicable initial and continuing calibration verifications were within the acceptance ranges. Data qualification was not required.
Surrogates	Yes	All surrogate recoveries were within the laboratory acceptance limits. Data qualification was not required.

Review Parameter	Criteria Met?	Comments
Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD)	Yes	LCS and LCSD recoveries were within the laboratory determined acceptance limits. Data qualification was not required.
Non-detect results without associated elevated RLs	No	Several fluoride, nitrate as N, nitrite as N, and cadmium results were reported as non-detect with elevated reporting limits due to dilutions or matrix interference. These will need to be evaluated by the end user of the data with respect to project objectives. For VOC samples that were re-analyzed at dilutions due to a high concentration of target analytes above the calibration levels, the analytical results that exceeded the calibration range in the lower diluted analyses were selected for reporting from the higher diluted analyses. To be conservative, the ethylbenzene and m+p xylene results for sample Spring 2 were also reported from the higher diluted analyses. The remaining analytes were selected for reporting from the lower diluted analyses and no non-detect results were reported at elevated reporting limits.
Package Completeness	Yes	
Other Parameters	Yes	Detected analytes with concentrations between the Instrument Detection Limit (IDL) and the Reporting Limit (RL) were qualified as estimated (J). A qualifier code of “SQL-I” (Sample Quantitation Limit) was assigned to reflect the greater uncertainty in quantitative values below the RL.

Table 1: Method Blank Outliers and Resultant Data Qualification

Blank	Analyte	Concentration	Qualification
Metals			
MB CCB 3	Barium	-0.63 µg/L -0.709 µg/L	None. The associated listed analytical results were reported at concentrations >5x the positive blank contamination or >4x the negative blank contamination.
MB	Calcium	160 µg/L	
MB CCB 3	Chromium	-0.59 µg/L -2.09 µg/L	None. All associated chromium results were reported as non-detect.
MB	Copper	0.85 µg/L	The associated copper results that were reported at concentrations <5x the positive blank contamination were qualified as non-detect at the reporting limit (U MB-I).
MB CCB 3	Magnesium	-23 µg/L -32.8 µg/L	None. The associated magnesium results were reported at concentrations >4x the negative blank contamination.
MB CCB 3	Manganese	-0.38 µg/L -0.651 µg/L	The associated manganese results that were reported at concentrations <4x the negative blank contamination were qualified as estimated (J/UJ MB, CCB-I).
MB CCB 3	Potassium	-76 µg/L -86.5 µg/L	None. The associated listed analytical results were reported at concentrations >5x the positive blank contamination or >4x the negative blank contamination.
MB CCB 5	Sodium	160 µg/L 115 µg/L	
CCB 4	Iron	-4.77 µg/L	The associated iron results that were reported at concentrations <4x the negative blank contamination were qualified as estimated (J/UJ CCB-I).
CCB 5	Boron	2.44 µg/L	None. The associated boron results were reported at concentrations >5x the positive blank contamination.
MB CCB 2	Lead	0.12 µg/L 0.0206 µg/L	The associated listed analytical results that were reported at concentrations <5x the positive blank contamination were qualified as non-detect at the reporting limit (U MB-I, U CCB-I, or U MB, CCB-I).
MB	Selenium	0.15 µg/L	
MB CCB 1	Silver	0.031 µg/L 0.00421 µg/L	
CCB 1	Cadmium	0.0044 µg/L	None. The associated cadmium results were reported as either non-detect or at concentrations >5x the positive blank contamination.
CCB 5	Arsenic	0.0258 µg/L	None. All associated arsenic results were reported at concentrations >5x the positive blank contamination.
Inorganics			
MB CCB 4	Chloride	0.12 mg/L 0.217 mg/L	None. All associated chloride results were reported at concentrations >5x the method blank contamination.
MB	Nitrate as N	0.057 mg/L	The associated nitrate as N results that were reported at concentrations <5x the positive blank contamination were qualified as non-detect at the reported value (U MB-I).
VOCs			
MB	Methylene Chloride	0.88 µg/L	The associated methylene chloride results that were reported at concentrations <10x the positive blank contamination were qualified as non-detect at the reporting limit (U MB-I).

µg/L – Micrograms per Liter mg/Kg – Milligrams per Kilogram U – Non-detect UJ - Estimated
MB – Method blank contamination. CCB – Continuing calibration blank contamination. I – Indeterminate

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Sample	Analyte	MS/MSD %R (Limits)	RPD (Limit)	Qualification
Metals				
Ned Prather Stock Pond DS-500	Potassium	**128**/ **127** (80-120)	1 (20)	As the potential bias was considered high, all detected potassium results were qualified as estimated (J MS-H).
Inorganics				
Ned Prather Stock Pond DS-500	Nitrite as N	**73**/ **76** (85-115)	4 (15)	As the potential bias was considered low, all nitrite as N results were qualified as estimated (UJ MS-L).

%R – Percent Recovery RPD – Relative Percent Difference J – Estimated MS- Matrix spike recovery failure.
H – High Bias L – Low Bias

Table 3: Serial Dilution Outliers and Resultant Data Qualification

Sample/ Analytes	Sample Result (µg/L)	SD Result (µg/L)	%D	Qualification
Ned Prather Stock Pond DS-500				
Sodium	53600	47100	12	Since the diluted result can be considered to be the more accurate result, the bias direction associated with the original result is considered to be potentially high. Therefore, the listed analytical result for sample Ned Prather Stock Pond DS-500 was qualified as estimated (J DL-H) to reflect the potential high bias.

SD =Serial Dilution J = Estimated DL = Serial dilution results did not met evaluation criteria. µg/L = Micrograms per Liter
H = High Bias L = Low Bias

PRATHER SPRINGS DATA REVIEW SUMMARY

Data Package Number: 08-09-093

Sampling Event: September 10th, 2008

Sample-specific Parameter Review? **Yes** Laboratory Performance Parameters? **No**

Data Reviewer: Liz Kraak Date Completed: 09/22/08

Peer Reviewer: Geoff Webb Date Completed: 09/23/08

The table below summarizes the results presented in this data package.

Field ID	Sample Type	Lab ID	Sampling Date	Matrix	Analyses			
					Metals	Inorganics	VOCs (8260)	Methane (RSK 175)
PS-MW12M[1]	SA	0809093-1	09/10/08	Water	X	X	X	X
PS-MW13D	SA	0809093-2	09/10/08	Water	X	X	X	X
PS-MW07S	SA	0809093-3	09/10/08	Water	X	X	X	X
PS-MW07S Dup	FD	0809093-4	09/10/08	Water	X	X	X	X
PS-MW07D	SA	0809093-5	09/10/08	Water	X	X	X	X
PS-MW09S	SA	0809093-6	09/10/08	Water	X	X	X	X
PS-MW10S	SA	0809093-7	09/10/08	Water	X	X	X	X
PS-MW10D	SA	0809093-8	09/10/08	Water	X^m	X^m	X^m	X^m
PS-MW11S	SA	0809093-9	09/10/08	Water	X	X	X	X

Analyses:

Metals including barium, boron, calcium, chromium, copper, iron, magnesium, manganese, potassium, sodium (6010), arsenic, cadmium, lead, selenium, and silver (6020).

Inorganics including bicarbonate as $CaCO_3$, carbonate as $CaCO_3$, hydroxide as $CaCO_3$, total alkalinity as $CaCO_3$ (310.1), specific conductivity (120.1), sulfide (376.1), total dissolved solids (160.1), bromide, chloride, fluoride, nitrate as N, nitrite as N, and sulfate (300.0)

VOCs – Volatile Organic Compounds

QC Type: SA - Sample FD – Field Duplicate m - Matrix Spike/Matrix Spike Duplicate

[1] The sampler inadvertently labeled this sample as PS-MW12D on the COC. To reflect the proper nomenclature the data sheets and database have been updated with the correct sample identification, PS-MW12M.

The data review was conducted in accordance with the Phase I Site Investigation Work Plan – Prather Spring Investigation dated July 31, 2008.

General Overall Assessment:

_____ Data are usable without qualification.
_X_ Data are usable with qualification (noted below).
_____ Some data are unusable for any purpose (noted below).

Case Narrative Summary: Except as noted below, any of the issues noted in the laboratory case narrative potentially affecting data quality are addressed in the appropriate sections in the table below.

Review Parameter	Criteria Met?	Comments
Sample-specific Parameters	Complete with "Yes", "No", or "Not Applicable (N/A)".	For each "No" response, list what was out, associated acceptance limits, all qualified data, and bias direction or reference associated table with pertinent details.
COC & Sample Receipt	No	Samples were received intact and the cooler temperatures were 3.8°C and 2.6°C upon arrival at the laboratory, within the ≤6°C temperature criterion. The time listed on the labels for samples PS-MW12D, PS-MW07S, PS-MW07S Dup, and PS-MW10D were not in agreement with the sample collection times listed for these samples on the COC. The COC sample collection times were used and further action was not necessary. The laboratory received only 1 bottle for the anion and metals analyses for sample PS-MW07D. Sufficient volume remained to perform the anion and metals analyses and further action was not necessary. At least one of the 40 mL vials for samples PS-MW12M (less than pea size), PS-MW07S (less than pea size), PS-MW07S Dup (less than pea size), PS-MW10S (less than pea size), PS-MW10D (less than pea size), and PS-MW07D (greater than pea size) were received with headspace. As sufficient volume remained to analyze the samples for VOCs and dissolved methane without using the vials containing headspace, data qualification was not required.
Holding Times	No	With the exceptions summarized below, all samples were analyzed within the holding time requirements specified in the Work Plan. The samples for aqueous specific conductivity were analyzed five days after collection due to the need to separate the phases of the samples, which exceeds the holding time requirement of immediate upon receipt at the laboratory. Therefore, the specific conductivity results for the sample were qualified as estimated (J HT-I) with an indeterminate bias.
Method Blanks Continuing Calibration Blanks	No	With the exceptions listed in Table 1 below, target analytes were not reported as detected within the associated method blanks (MBs) or continuing calibration blanks (CCBs). As no samples were bracketed by the initial calibration blank (ICB), data qualification was not issued based on ICB contamination. The highest CCB concentration associated with the samples reported in this data package was used to assign data qualification.
Matrix QC • MS/MSD PS-MW10D (Metals, Fluoride, Nitrate as N, Bromide, Nitrite as N, Sulfate, VOCs, Dissolved Methane) • LD PS-MW10D (Bicarbonate as $CaCO_3$, Carbonate as $CaCO_3$, Hydroxide as $CaCO_3$, Total Alkalinity as $CaCO_3$, Specific Conductance, Sulfide, Total Dissolved Solids, Dissolved Methane)	No	With the exceptions summarized in Table 2, the recoveries and RPDs for the matrix spike (MS) and matrix spike duplicate (MSD) analyses were within the laboratory-determined acceptance range. The RPD between parent result and the laboratory duplicate results satisfied the applicable evaluation criterion.
Method QC • Serial Dilution PS-MW10D • Internal Standards	Yes	**SD** The percent difference (%D) between undiluted and diluted sample results was compared to an evaluation criterion of ± 10% when native sample concentration is > 50xMDL. With the exceptions listed Table 3 below, all applicable analytes met this criterion. **Internal Standard** All internal standards were within the laboratory-determined acceptance limits. Data qualification was not required.

Review Parameter	Criteria Met?	Comments
Field QC • Field Blanks (Ambient, Rinsate, or Trip) None • Field Duplicate PS-MW07S Dup	No	A trip blank was inadvertently not provided for this sampling event and therefore an assessment of trip blank results could not be made. The applicable criteria were met for the field duplicate pair PS-MW07S/ PS-MW07S Dup. Data qualification was not required.
Interference Check Sample (ICS)	Yes	The interferent elements (reported in the raw data): aluminum, calcium, iron, and magnesium were not present at concentrations greater than that in the ICS A and ICS AB solutions in the analyses of the samples. Therefore, data qualification was not required. All ICS A and ICS B solution percent recoveries were within the acceptance limits of 80-120%. Therefore, data qualification based on ICS A and ICS B percent recoveries was not required.
Continuing Calibration Verification	Yes	All of the applicable initial and continuing calibration verifications were within the acceptance ranges. Data qualification was not required.
Surrogates	Yes	All surrogate recoveries were within the laboratory acceptance limits. Therefore, data qualification was not required.
Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD)	Yes	LCS and LCSD recoveries were within the laboratory determined acceptance limits. Data qualification was not required.
Non-detect results without associated elevated RLs	No	Several cadmium and lead results were reported as non-detect with elevated reporting limits due to dilutions or matrix interference. These will need to be evaluated by the end user of the data with respect to project objectives.
Package Completeness	Yes	
Other Parameters	Yes	Detected analytes with concentrations between the Instrument Detection Limit (IDL) and the Reporting Limit (RL) were qualified as estimated (J). A qualifier code of “SQL-I” (Sample Quantitation Limit) was assigned to reflect the greater uncertainty in quantitative values below the RL.

Table 1: Method Blank Outliers and Resultant Data Qualification

Blank	Analyte	Concentration	Qualification
Metals			
MB	Barium	0.1 µg/L	None. The associated listed analytical results were reported at concentrations >5x the positive method blank contamination or >4x the negative method blank contamination.
MB CCB 2	Boron	-3.7 µg/L -3.17 µg/L	
MB CCB 3	Magnesium	-25 µg/L -29.6 µg/L	
MB CCB 1	Manganese	0.16 µg/L 0.286 µg/L	
MB CCB 2	Potassium	220 µg/L 176 µg/L	The associated potassium results that were reported at concentrations <5x the positive blank contamination were qualified as non-detect at the reporting limit. (U MB-I).
MB CCB 2	Sodium	160 µg/L 166 µg/L	None. The associated listed analytical results were reported at concentrations >5x the blank contamination.
CCB 2	Copper	-1.89 µg/L	The associated copper results that were reported at concentrations <4x the negative blank contamination were qualified as estimated (UJ CCB-I).
CCB 3	Calcium	-59.7 µg/L	None. The associated calcium results were reported at concentrations >4x the CCB contamination.
	Iron	-6.94 µg/L	None. The associated iron results were reported as non-detect at the reporting limit, which was >4x the negative blank contamination.
MB CCB 3	Lead	0.08 µg/L 0.0239 µg/L	The associated listed analytical results that were reported at concentrations <5x the method blank contamination were qualified as non-detect at the reporting limit or reported value, whichever was greater (U MB, CCB-I).
MB CCB 1	Selenium	0.25 µg/L 0.028 µg/L	
MB CCB 2	Silver	0.035 µg/L 0.0000333 µg/L	
CCB 2	Arsenic	0.0309 µg/L	
CCB 3	Cadmium	0.000487 µg/L	
Inorganics			
MB CCB 4	Chloride	0.053 mg/L 0.0822 mg/L	None. All associated chloride and sulfate results were reported at concentrations >5x the positive blank contamination.
MB CCB 1	Sulfate	0.38 mg/L 0.388 mg/L	

µg/L – Micrograms per Liter mg/Kg – Milligrams per Kilogram U – Non-detect UJ - Estimated
MB – Method blank contamination. CCB – Continuing calibration blank contamination. I – Indeterminate

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Sample	Analyte	MS/MSD %R (Limits)	RPD (Limit)	Qualification
Metals				
PS-MW10D	Potassium	**141**/ **131** (80-120)	6 (20)	As the potential bias was considered high, all detected potassium results were qualified as estimated (J MS-H).
Inorganics				
PS-MW10D	Nitrite as N	**75**/ **73** (85-115)	3 (15)	As the potential bias was considered low, all nitrite as N results were qualified as estimated (UJ MS-L).

%R – Percent Recovery RPD – Relative Percent Difference J – Estimated MS- Matrix spike recovery failure.
H – High Bias L – Low Bias

Table 3: Serial Dilution Outliers and Resultant Data Qualification

Sample/ Analytes	Sample Result (µg/L)	SD Result (µg/L)	%D	Qualification
PS-MW10D				
Potassium	1580	1900	20	Since the diluted result can be considered to be the more accurate result, the bias direction associated with the original result is considered to be potentially low. Therefore, the listed analytical result for sample PS-MW10D was qualified as estimated (J DL-L) to reflect the potential low bias.
Sodium	49300	42800	13	Since the diluted result can be considered to be the more accurate result, the bias direction associated with the original result is considered to be potentially high. Therefore, the listed analytical result for sample PS-MW10D was qualified as estimated (J DL-H) to reflect the potential high bias.

SD =Serial Dilution J = Estimated DL = Serial dilution results did not met evaluation criteria. µg/L = Micrograms per Liter
H = High Bias L = Low Bias

PRATHER SPRINGS DATA REVIEW SUMMARY

Data Package Number: 08-09-141

Sampling Event: September 17th & 18th, 2008

Sample-specific Parameter Review? **Yes** Laboratory Performance Parameters? **No**

Data Reviewer: Liz Kraak Date Completed: 09/26/08

Peer Reviewer: Sheri O'Connor Date Completed: 09/26/08

The table below summarizes the results presented in this data package.

Field ID	Sample Type	Lab ID	Sampling Date	Matrix	Analyses			
					Metals	Inorganics	VOCs (8260)	Methane (RSK 175)
PS-MW02D	SA	0809141-1	09/17/08	Water	X^m	X	X	X^m
PS-MW02S	SA	0809141-2	09/17/08	Water	---	---	X	---
Trip Blank	TB	0809141-3	09/18/08	Water	---	---	X	---

Analyses:

Metals including barium, boron, calcium, chromium, copper, iron, magnesium, manganese, potassium, sodium (6010), arsenic, cadmium, lead, selenium, and silver (6020).

Inorganics including bicarbonate as $CaCO_3$, carbonate as $CaCO_3$, hydroxide as $CaCO_3$, total alkalinity as $CaCO_3$ (310.1), specific conductivity (120.1), sulfide (376.1), total dissolved solids (160.1), bromide, chloride, fluoride, nitrate as N, nitrite as N, and sulfate (300.0)

VOCs – Volatile Organic Compounds

QC Type: SA - Sample FD – Field Duplicate m - Matrix Spike/Matrix Spike Duplicate

The data review was conducted in accordance with the Phase I Site Investigation Work Plan – Prather Spring Investigation dated July 31, 2008.

General Overall Assessment:

_____ Data are usable without qualification.
_X_ Data are usable with qualification (noted below).
_____ Some data are unusable for any purpose (noted below).

Case Narrative Summary: Except as noted below, any of the issues noted in the laboratory case narrative potentially affecting data quality are addressed in the appropriate sections in the table below.

Review Parameter	Criteria Met?	Comments
Sample-specific Parameters	Complete with "Yes", "No", or "Not Applicable (N/A)".	For each "No" response, list what was out, associated acceptance limits, all qualified data, and bias direction or reference associated table with pertinent details.
COC & Sample Receipt	No	Samples were received intact and the cooler temperature was 4.0°C upon arrival at the laboratory, within the ≤6°C temperature criterion. One of the three 40 mL vials for sample trip blank (less than pea size) was received with headspace. As sufficient volume remained to analyze the samples for VOCs without using the vial containing headspace, data qualification was not required.
Holding Times	No	With the exceptions summarized below, all samples were analyzed within the holding time requirements specified in the Work Plan. The samples for aqueous specific conductivity were analyzed five days after collection due to the need to separate the phases of the samples, which exceeds the holding time requirement of immediate upon receipt at the laboratory. Therefore, the specific conductivity result for the sample was qualified as estimated (J HT-I) with an indeterminate bias.
Method Blanks Continuing Calibration Blanks	No	With the exceptions listed in Table 1 below, target analytes were not reported as detected within the associated method blanks (MBs) or continuing calibration blanks (CCBs). As no samples were bracketed by the initial calibration blank (ICB), data qualification was not issued based on ICB contamination. The highest CCB concentration associated with the samples reported in this data package was used to assign data qualification.
Matrix QC • MS/MSD PS-MW02D (Dissolved Methane, Metals) • LD PS-MW02D (Specific Conductivity)	No	With the exceptions summarized in Table 2, the recoveries and RPDs for the matrix spike (MS) and matrix spike duplicate (MSD) analyses were within the laboratory-determined acceptance range. The RPD between parent result and the laboratory duplicate result satisfied the applicable evaluation criterion.
Method QC • Serial Dilution PS-MW02D • Internal Standards	No	**SD** The percent difference (%D) between undiluted and diluted sample results was compared to an evaluation criterion of ± 10% when native sample concentration is > 50xMDL. With the exceptions listed Table 3 below, all applicable analytes met this criterion. **Internal Standard** All internal standards were within the laboratory-determined acceptance limits. Data qualification was not required.
Field QC • Field Blanks (Ambient, Rinsate, or Trip) Trip Blank • Field Duplicate None	No	With the exception of chloromethane and acetone, no target analytes were reported as detected in the trip blank. Chloromethane and acetone were reported in the trip blank at concentrations of 0.26 µg/L and 7.4 µg/L, respectively. All chloromethane results were reported as non-detect and data qualification was not required. Acetone results reported at concentrations <10x the trip blank contamination were qualified as non-detect at the reporting limit (U TB-I).
Interference Check Sample (ICS)	Yes	As no interferent elements were present in the sample at the same levels found in the ICS A, ICS evaluation was not required.
Continuing Calibration Verification	Yes	All of the applicable initial and continuing calibration verifications were within the acceptance ranges. Data qualification was not required.
Surrogates	Yes	All surrogate recoveries were within the laboratory acceptance limits. Therefore, data qualification was not required.

Review Parameter	Criteria Met?	Comments
Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD)	Yes	LCS and LCSD recoveries were within the laboratory determined acceptance limits. Data qualification was not required.
Non-detect results without associated elevated RLs	Yes	Results were not reported as non-detect at elevated reporting limits.
Package Completeness	Yes	
Other Parameters	Yes	Detected analytes with concentrations between the Instrument Detection Limit (IDL) and the Reporting Limit (RL) were qualified as estimated (J). A qualifier code of "SQL-I" (Sample Quantitation Limit) was assigned to reflect the greater uncertainty in quantitative values below the RL.

Table 1: Method Blank Outliers and Resultant Data Qualification

Blank	Analyte	Concentration	Qualification
Metals			
MB CCB 12	Barium	-0.64 µg/L -0.531 µg/L	None. The associated listed analytical results were reported at concentrations >4x the negative blank contamination.
MB CCB 11	Calcium	-40 µg/L -45.9 µg/L	
MB CCB 12	Chromium	0.62 µg/L -0.694 µg/L	None. The associated chromium result was reported as non-detect at a value >5x the positive blank contamination and >4x the negative blank contamination.
MB CCB 12	Copper	-2.5 µg/L -3.14 µg/L	The associated copper result was reported as non-detect at a value <4x the negative CCB blank contamination. Therefore, the copper result was qualified as estimated (UJ CCB-I).
MB CCB 11	Magnesium	-30 µg/L -24.5 µg/L	None. The associated listed analytical results were reported at concentrations >5x the positive blank contamination or >4x the negative blank contamination.
MB CCB 11	Manganese	-0.36 µg/L -0.522 µg/L	
MB CCB 12	Potassium	140 µg/L 157 µg/L	
MB CCB 12	Sodium	180 µg/L 168 µg/L	
MB CCB 2	Arsenic	0.38 µg/L 0.032 µg/L	
MB	Cadmium	0.09 µg/L	The associated cadmium result was reported at a concentration <5x the positive blank contamination. Therefore, the cadmium result was qualified as non-detect (U MB-I) at the reporting limit.
MB CCB 3	Selenium	0.13 µg/L 0.0665 µg/L	None. The associated selenium result was reported at a concentration >5x the positive blank contamination.
MB CCB 1	Silver	0.064 µg/L 0.00227 µg/L	The associated silver result was reported at a concentration <5x the positive blank contamination. Therefore, the silver result was qualified as non-detect (U MB-I) at the reporting limit.
CCB 1	Lead	0.0173 µg/L	None. The associated lead result was reported at a concentration >5x the positive blank contamination.
Inorganics			
MB CCB 2	Sulfate	0.37 mg/L 0.421 mg/L	None. All associated chloride and sulfate results were reported at concentrations >5x the positive blank contamination.
CCB 1	Chloride	0.163 mg/L	

µg/L – Micrograms per Liter mg/Kg – Milligrams per Kilogram U – Non-detect UJ - Estimated

MB – Method blank contamination. CCB – Continuing calibration blank contamination. I – Indeterminate

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Sample	Analyte	MS/MSD %R (Limits)	RPD (Limit)	Qualification
Metals				
PS-MW02D	Boron	**123**/ **123** (80-120)	0 (20)	As the potential bias was considered high, all detected listed analytical results were qualified as estimated (J MS-H).
	Calcium	120/ **129** (80-120)	4 (20)	
	Magnesium	**130**/ **133** (80-120)	1 (20)	
	Potassium	**152**/ **151** (80-120)	0 (20)	
	Sodium	**132**/ **133** (80-120)	0 (20)	

%R – Percent Recovery RPD – Relative Percent Difference J – Estimated MS- Matrix spike recovery failure.
H – High Bias L – Low Bias

Table 3: Serial Dilution Outliers and Resultant Data Qualification

Sample/ Analytes	Sample Result (µg/L)	SD Result (µg/L)	%D	Qualification
PS-MW02D				
Potassium	6860	5380	22	Since the diluted results can be considered to be the more accurate results, the bias direction associated with the original results are considered to be potentially high. Therefore, the listed analytical results for sample PS-MW02D were qualified as estimated (J DL-H) to reflect the potential high bias.
Sodium	42300	37100	12	

SD =Serial Dilution J = Estimated DL = Serial dilution results did not met evaluation criteria. µg/L = Micrograms per Liter
H = High Bias

PRATHER SPRINGS – CISTERN EXCAVATION
DATA REVIEW SUMMARY

Data Package Number: Paragon Analytics 08-10-031 Sampling Event: October 3, 2008

Sample-specific Parameter Review? **Yes** Laboratory Performance Parameters? **No**

Data Reviewer: Joseph Capotrio Date Completed: 10/23/08

Peer Reviewer: Geoff Webb Date Completed: 10/24/08

The table below summarizes the results presented in this data package.

Field ID	Sample Type	Lab ID	Sampling Date	Matrix	Analyses						
					Metals	DRO & MRO	VOCs	SVOCs	Glycols	Oil & Grease	Inorganics
Cistern 100308	SA	081031-1	10/03/08	Water	X	X	X	X	X^m	X	X^m
CD 100308	FD	081031-2	10/03/08	Water	X^m	X^m	X	X	X	X	X
Cistern 100308-S	SA	081031-3	10/03/08	Soil	---	---	X^m	---	---	---	---
Trip Blank	TB	081031-4	10/03/08	Water	---	---	X	---	---	---	---
Trip Blank	TB	081031-5	10/03/08	Water	---	---	X	---	---	---	---

Analyses:

Metals including arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury (6010B, 7470A).

DRO – Diesel Range Organics MRO – Motor Oil Range Organics VOCs – Volatile Organic Compounds

SVOCs – Semivolatile Organics

Inorganics including alkalinity (SM2320B), total dissolved solids (SM 2540C), pH (E150.1), specific conductivity (SM2510B), nitrate + nitrite, and sulfide (SM 4500-S C/F), chloride, nitrite as N, bromide, nitrate as N, and sulfate (E300.0)

QC Type: SA – Sample FD – Field Duplicate TB – Trip Blank

The data review was conducted in accordance with the Phase I Site Investigation Work Plan – Prather Spring Investigation dated July 31, 2008.

General Overall Assessment:

_____ Data are usable without qualification.
_____ Data are usable with qualification (noted below).
__X__ Some data are unusable for any purpose (noted below).

Case Narrative Summary: Except as noted below, any of the issues noted in the laboratory case narrative potentially affecting data quality are addressed in the appropriate sections in the table below.

Review Parameter	Criteria Met?	Comments
Sample-specific Parameters	Complete with "Yes", "No", or "Not Applicable (N/A)".	For each "No" response, list what was out, associated acceptance limits, all qualified data, and bias direction or reference associated table with pertinent details.
COC & Sample Receipt	No	Samples were received intact and the cooler temperatures were 7°C and 4°C upon arrival at the laboratory. One cooler was outside the ≤6°C temperature criterion; however, the samples were hand delivered by URS and received by the laboratory the same day of sample collection. It is likely that the samples did not have sufficient time to cool down to the ≤6°C acceptable range and data qualification was not considered necessary. An "-S" suffix was added to soil sample Cistern 100308 per URS request to reflect nomenclature scheme. Samples Cistern 100308 and CD100308 were received with one of three 40 ml VOC vials with head space. The laboratory had sufficient volume available from VOC vials that did not contain head space to perform the required analysis. Qualification of data was not considered necessary.

Review Parameter	Criteria Met?	Comments
Holding Times	Yes	All samples were analyzed within the holding time requirements specified in the Work Plan. Data qualification was not required.
Method Blanks and CCBs	No	With the exceptions listed in Table 1 below, target analytes were not reported as detected within the associated method blanks (MBs) or continuing calibration blanks (CCBs). As no samples were bracketed by the initial calibration blank (ICB), data qualification was not issued based on ICB contamination. The highest CCB concentration associated with the samples reported in this data package was used to assign data qualification.
Matrix QC • MS/MSD Cistern 100308 (Glycols, Nitrate/ Nitrite as N,) CD 100308 (Mercury, DRO) Cistern 100308-S (VOCs) • LD CD 100308 (Mercury) Cistern 100308 (pH, Specific Conductivity)	No	With the exceptions listed in Table 2, the recoveries and RPDs for the matrix spike (MS) and matrix spike duplicate (MSD) analyses were within the laboratory-determined acceptance range. The agreement between parent sample results and the lab duplicate sample results was evaluated for metals; and the results met the evaluation criteria.
Field QC • Field Blanks (Ambient, Rinsate, or Trip) Trip Blank Trip Blank • Field Duplicate CD 100308	No	With the exception listed in Table 3, target analytes were not detected in the trip blank. The comparison between results for the field duplicate pairs Cistern 100308/ CD 100308 met acceptance criteria. Data qualification was not necessary.
Surrogates	Yes	Surrogate recoveries were within the laboratory acceptance limits. Data qualification was not required.
Laboratory Control Sample	No	With the exception summarized in Table 4, LCS recoveries and RPDs were within the laboratory determined acceptance limits.
Elevated RLs without associated non-detect results	No	Due to high concentration of target analytes, cadmium in samples Cistern 100308 and CD 100308 were analyzed at a 10X dilution and reported as non-detect at an elevated reporting limit. These results will need to be evaluated by the end user with respect to the project objectives.
Package Completeness	Yes	
Other Parameters	Yes	Detected analytes with concentrations between the Instrument Detection Limit (IDL) and the Reporting Limit (RL) were qualified as estimated (J). A qualifier code of "SQL-I" (Sample Quantitation Limit) was assigned to reflect the greater uncertainty in quantitative values below the RL. A TIC search was conducted in association with the VOC and SVOC analyses of all samples in this data package. The unknown TIC results and the known TIC results that have been determined to be a good match (i.e. results with a qualitative identification of >80%) have been qualified as estimated ("J"). The other known TIC results that have not been determined to be a good match (i.e. results with a qualitative identification of <80%) have been qualified as tentatively identified at an approximate concentration ("NJ").

Table 1: Method Blank and Continuing Calibration Blank Outliers and Resultant Data Qualification

Analyte	Blank	Concentration (µg/L)	Qualification
Metals-Aqueous			
Aluminum	MB CCB3	74 147	The listed analytical results in samples Cistern 100308 and CD100308 were qualified as non-detect (U) at the reporting limit.
Antimony	MB	0.051	
Beryllium	MB CCB3	0.53 0.9	
Chromium	MB	1.6	
Iron	MB CCB2	24 -5.25	
Potassium	MB CCB2	230 175	
Arsenic	MB	-5.1	The listed analytical results in samples Cistern 100308 and CD100308 were qualified as estimated (UJ) to reflect the potential low bias indicated by the negative blank results.
Copper	MB CCB3	-1.9 -3.06	
Barium	MB	0.11	None. The associated sample results were either reported as non-detect, at concentrations greater than five times the blank concentration, or the negative blank concentrations do not account for more than 25% of the associated sample reported values.
Calcium	MB CCB2	-28 -27.8	
Cobalt	MB	-1.2	
Magnesium	MB CCB3	-35 -32.8	
Mercury	MB CCB3	-0.024 -0.0299	
Sodium	MB CCB2	160 158	
Analyte	**Blank**	**Concentration (mg/L)**	**Qualification**
General Chemistry			
Nitrate/Nitrite as N	CCB1	-0.00261	None. The negative blank concentrations do not account for more than 25% of the associated sample reported values.
Chloride	MB	0.082	None. The associated sample results were reported at concentrations greater than five times the blank concentration
Sulfate	MB CCB6	0.4 0.381	
Analyte	**Blank**	**Concentration (µg/L)**	**Qualification**
VOCs-Aqueous			
Butylated Hydoxytoluene (TIC) RT = 14.26	MB	3.2	None. A butylated hydoxytoluene TIC at an equivalent RT was not reported as detected within the associated samples.
Analyte	**Blank**	**Concentration (µg/L)**	**Qualification**
DRO-Aqueous			
Motor Oil Range Organics	MB	0.4	The MRO results in samples Cistern 100308 and CD100308 were qualified as non-detect (U) at the reporting limit.

µg/L –Micrograms per Liter mg/L – Milligrams per Liter TIC – Tentatively Identified Compounds

Table 2: MS/MSD Recovery and RPD Outliers and Resultant Data Qualification

Analyte	%Rs (Limits) RPD (Limits) (%)	Qualification
VOCs- Soils		
Cistern 100308-S		
1,2,4-Trimethylbenzene	**4/10** (65-135) **93** (30)	The 1,2,4-trimethylbenzene result for sample Cistern 100308-S was qualified as rejected (R MS) due to MS/MSD recoveries below 10%. This result was also qualified "D" to reflect the RPD outside control limits.
M+P-Xylene	**25/17** (79-126) **40** (30)	The listed analytical results in sample Cistern 100308-S were qualified as estimated (UJ MS,D-L) to reflect the potential low bias indicated by the MS/MSD recoveries as well as the RPD outside the control limits.
N-Propylbenzene	**17/10** (63-135) **51** (30)	
Vinyl Acetate	**15/14** (50-150) 6 (30)	The listed analytical results in sample Cistern 100308-S were qualified as estimated (UJ MS-L) to reflect the potential low bias indicated by the MS/MSD recoveries.
Benzene	**60/56** (73-126) 8 (30)	
Bromodichloromethane	**71**/75 (72-128) 6 (30)	
Toluene	**56/51** (71-127) 13 (30)	
1,3-Dichloropropane	**74/74** (76-123) 0 (30)	
1-Chlorohexane	**51/48** (75-125) 6 (30)	
Chlorobenzene	**60/57** (75-125) 5 (30)	
1,1,1,2-Tetrachloroethane	**73**/77 (74-125) 5 (30)	
Ethylbenzene	**44/35** (74-127) 24 (30)	
O-Xylene	**68/63** (77-125) 7 (30)	
Styrene	**47/39** (74-128) 19 (30)	
Isopropylbenzene	**28/21** (77-129) 29 (30)	
Bromobenzene	**55/50** (66-121) 9 (30)	
2-Chlorotoluene	**59/58** (69-128) 2 (30)	
1,3,5-Trimethylbenzene	**59/57** (65-133) 3 (30)	
4-Chlorotoluene	**51/44** (73-126) 13 (30)	
Tert-Butylbenzene	**58/58** (65-132) 0 (30)	
Sec-Butylbenzene	**29/26** (63-132) 12 (30)	
1,3-Dichlorobenzene	**56/58** (72-127) 3 (30)	
P-Isopropyltoluene	**49/49** (75-133)	

Analyte	%Rs (Limits) RPD (Limits) (%)	Qualification
	1 (30)	
1,4-Dichlorotoluene	**53/56** (72-126) 6 (30)	The listed analytical results in sample Cistern 100308-S were qualified as estimated (UJ MS -L) to reflect the potential low bias indicated by the MW/MSD recoveries.
N-Butylbenzene	**24/20** (65-138) 18 (30)	
1,2-Dichlorobenzene	**54/53** (74-119) 2 (30)	
1,2,4-Trichlorobenzne	**37/38** (65-131) 2 (30)	
Hexachlorobutadiene	**23/27** (53-142) 16 (30)	
Naphthalene	**23/19** (40-127) 22 (30)	
1,2,3-Tribhlorobenzene	**33/34** (62-133) 5 (30)	

Bold indicated result outside control limits
%R – Percent Recovery RPD – Relative Percent Difference

Table 3: Trip Blank Outliers and Resultant Data Qualification

Analyte	Concentration (µg/L)	Qualification
Trip Blank (0810031-4)		
Methylene Chloride	2.1	None. The listed analytical results were not reported as detected within the associated samples
Unknown TIC RT = 3.28	1.6	
Trip Blank (0810031-5)		
Methylene Chloride	0.084	None. The listed analytical results were not reported as detected within the associated samples

Table 4: LCS/LCSD Recovery and RPD Outliers and Resultant Data Qualification

Analyte	%Rs (Limits) RPD (Limits) (%)	Qualification
VOCs		
LCS – VL081009-3 (Aqueous)		
Tetrachloroethene	111/87 (79-136) **24** (20)	The listed analytical results for samples Cistern 100308, CD 100308, and both Trip Blanks were reported as estimated (UJ D-I) with in indeterminate bias.
1-Chlorohexane	107/82 (77-135) **27** (20)	
LCS – VL081006-2 (Soils)		
1-Chlorohexane	**75/71** (75-125) 5 (30)	The listed analytical results for sample Cistern 1010308-S were qualified as estimated (UJ LCS-L) to reflect the potential low bias.
M+P – Xylene	**78**/79 (79-126) 0 (30)	
Styrene	**72**/**72** (74-128) 1 (30)	
Isopropylbenzene	**76**/77 (77-129)	

Analyte	%Rs (Limits) RPD (Limits) (%)	Qualification
	1 (30)	
SVOCs		
LCS – EX081007-1		
Pyridine	52/76 (10-108) **38** (20)	The listed analytical results for samples Cistern 100308 and CD 100308 were reported as estimated (UJ D-I) with in indeterminate bias.
Aniline	37/84 (25-125) **78** (20)	
3,3'-Dichlorobenzidine	19/91 (19-111) **132** (20)	

Bold indicated result outside control limits
%R – Percent Recovery RPD – Relative Percent Difference