

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 1st Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic	Seattle, WA	<input checked="" type="checkbox"/>
Cadmium	Seattle, WA	<input checked="" type="checkbox"/>
Calcium	Spokane, WA	<input checked="" type="checkbox"/>
Chloride	Spokane, WA	<input checked="" type="checkbox"/>
Chromium	Seattle, WA	<input checked="" type="checkbox"/>
Copper	Seattle, WA	<input checked="" type="checkbox"/>
Fluoride	Seattle, WA	<input checked="" type="checkbox"/>
Iron	Spokane, WA	<input checked="" type="checkbox"/>
Lead	Seattle, WA	<input checked="" type="checkbox"/>
Magnesium	Spokane, WA	<input checked="" type="checkbox"/>
Manganese	Seattle, WA	<input checked="" type="checkbox"/>
Mercury	Spokane, WA	<input type="checkbox"/>
Ortho-phosphate-phosphorous	Seattle, WA	<input checked="" type="checkbox"/>
Potassium	Spokane, WA	<input checked="" type="checkbox"/>
Sodium	Spokane, WA	<input checked="" type="checkbox"/>
Sulfate	Spokane, WA	<input checked="" type="checkbox"/>
Total Dissolved Solids	Spokane, WA	<input checked="" type="checkbox"/>
Total Nitrate + Nitrite	Seattle, WA	<input checked="" type="checkbox"/>
Total phosphorus	Spokane, WA	<input checked="" type="checkbox"/>
Zinc	Seattle, WA	<input checked="" type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)	Spokane, WA	<input checked="" type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)	Spokane, WA	<input checked="" type="checkbox"/>

Laboratory Work Order #: SQB0023

Sample Delivery Group Submission Date: 02/06/2007 15:15 pm

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery: Blank – samples delivered same day as taken

(On TestAmerica "chain of custody report")

Data Quality Review (Blank, LCS, MS/MSD, Duplicates):

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: All results within RPD acceptance limits.

Detail Checking (10% of laboratory data & 100% of Field Data): Done.

(Data: Vendors PDF & Access db [Aquifer Sampling Data Sheet], our db & aquifer sampling data sheet [field entries]. Our db is located at R-A Data\Water Quality\ WaterQualityAdmin2000.mdb\TblOrganicsWaterQuality. Use 'Sample Date' and 'WQMP Well ID' columns.)

Data Anomalies:

Well number for sample 6425R01 (on chain of custody report) is 6524R01 (on aquifer sampling data sheet). Chain of Custody Report – missing temperature, missing sampling date on all but the first sample ID, & missing preservative. Mercury hold time is longer than 13 days (Between *sampled date and time* and *analyzed time*).

Nitrate/Nitrate: The MS for Batch 7B16047 had a recovery of 53%. All positive results receive a J flag and all NDs a UJ flag.

Manganese: The lab duplicate for Batch 7B08043 had an RPD >20%. All positive results receive a J flag and all NDs a UJ flag.

Chloride: The lab duplicate RPD and MS recovery were both outside acceptance limits. All positive results receive a J flag and NDs a UJ flag.

Total Phosphorus: The lab duplicate for Batch 7B08043 had an RPD outside acceptance limits. All positive results receive a J flag and all NDs a UJ flag.

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 1 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic	Seattle, WA	<input checked="" type="checkbox"/>
Cadmium	Seattle, WA	<input checked="" type="checkbox"/>
Calcium	Spokane, WA	<input checked="" type="checkbox"/>
Chloride	Spokane, WA	<input checked="" type="checkbox"/>
Chromium	Seattle, WA	<input checked="" type="checkbox"/>
Copper	Seattle, WA	<input checked="" type="checkbox"/>
Fluoride	Seattle, WA	<input checked="" type="checkbox"/>
Iron	Spokane, WA	<input checked="" type="checkbox"/>
Lead	Seattle, WA	<input checked="" type="checkbox"/>
Magnesium	Spokane, WA	<input checked="" type="checkbox"/>
Manganese	Seattle, WA	<input checked="" type="checkbox"/>
Mercury	Spokane, WA	<input checked="" type="checkbox"/>
Ortho-phosphate-phosphorous	Seattle, WA	<input checked="" type="checkbox"/>
Potassium	Spokane, WA	<input checked="" type="checkbox"/>
Sodium	Spokane, WA	<input checked="" type="checkbox"/>
Sulfate	Spokane, WA	<input checked="" type="checkbox"/>
Total Dissolved Solids	Spokane, WA	<input checked="" type="checkbox"/>
Total Nitrate + Nitrite	Seattle, WA	<input checked="" type="checkbox"/>
Total phosphorus	Spokane, WA	<input checked="" type="checkbox"/>
Zinc	Seattle, WA	<input checked="" type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)	Spokane, WA	<input checked="" type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)	Spokane, WA	<input checked="" type="checkbox"/>

Laboratory Work Order #: SQB0031

Sample Delivery Group Submission Date: 02/07/2007

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery: Blank – samples delivered same day as taken

(On TestAmerica "chain of custody report")

Data Quality Review (Blank, LCS, MS/MSD, Duplicates):

Completeness: 99%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: Orthophosphate-phosphorus RPD 36.4%, results for sample and duplicate sample receive a J flag.

Detail Checking (10% of laboratory data & 100% of Field Data): SQB 0023-04 Sample ID is 6425R01 on Analytical report from Test America but database shows 6245R01. SQB0031-11 - Nitrate/Nitrite-Nitrogen is 0.1 but should be the MRL of 0.01.

(Data: Vendors PDF & Access db [Aquifer Sampling Data Sheet], our db & aquifer sampling data sheet [field entries]. Our db is located at R-A Data\Water Quality\ WaterQualityAdmin2000.mdb\TblOrganicsWaterQuality. Use 'Sample Date' and 'WQMP Well ID' columns.)

Data Anomalies:

Nitrate/Nitrite: The MS for Batch 7B16048 had a -9% recovery. All positive results receive a -J flag and all NDs an R flag. The MS for Batch 7B16047 had a recovery of 53%. All positive results receive a J flag and all NDs a UJ flag.

Iron: The lab duplicate for Batch 7020098 had an RPD >20% (26.9%). All positive results receive a J flag and all NDs a UJ flag.

Zinc: The lab duplicate RPD for Batch 7B12008 had an RPD >20% (27.2%) and an MS recovery of 126%. All positive results receive a J flag and NDs a UJ flag.

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 1 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic	Seattle, WA	<input checked="" type="checkbox"/>
Cadmium	Seattle, WA	<input checked="" type="checkbox"/>
Calcium	Spokane, WA	<input checked="" type="checkbox"/>
Chloride	Spokane, WA	<input checked="" type="checkbox"/>
Chromium	Seattle, WA	<input checked="" type="checkbox"/>
Copper	Seattle, WA	<input checked="" type="checkbox"/>
Fluoride	Seattle, WA	<input checked="" type="checkbox"/>
Iron	Spokane, WA	<input checked="" type="checkbox"/>
Lead	Seattle, WA	<input checked="" type="checkbox"/>
Magnesium	Spokane, WA	<input checked="" type="checkbox"/>
Manganese	Seattle, WA	<input checked="" type="checkbox"/>
Mercury	Spokane, WA	<input checked="" type="checkbox"/>
Ortho-phosphate-phosphorous	Seattle, WA	<input checked="" type="checkbox"/>
Potassium	Spokane, WA	<input checked="" type="checkbox"/>
Sodium	Spokane, WA	<input checked="" type="checkbox"/>
Sulfate	Spokane, WA	<input checked="" type="checkbox"/>
Total Dissolved Solids	Spokane, WA	<input checked="" type="checkbox"/>
Total Nitrate + Nitrite	Seattle, WA	<input checked="" type="checkbox"/>
Total phosphorus	Spokane, WA	<input checked="" type="checkbox"/>
Zinc	Seattle, WA	<input checked="" type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)	Spokane, WA	<input checked="" type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)	Spokane, WA	<input checked="" type="checkbox"/>

Laboratory Work Order #: SQB0041

Sample Delivery Group Submission Date: 02/08/07

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery: Blank – samples delivered same day as taken

(On TestAmerica "chain of custody report")

Data Quality Review (Blank, LCS, MS/MSD, Duplicates):

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: All results within RPD acceptance limits.

Detail Checking (10% of laboratory data & 100% of Field Data): 11/28/07

(Data: Vendors PDF & Access db [Aquifer Sampling Data Sheet], our db & aquifer sampling data sheet [field entries]. Our db is located at R-A Data\Water Quality\ WaterQualityAdmin2000.mdb\TblOrganicsWaterQuality. Use 'Sample Date' and 'WQMP Well ID' columns.)

Data Anomalies:

Sample ID on field data sheet and chain of custody shows 5307M01, and shows 5307H01 on Test America report.

Nitrate/Nitrate: The MS for Batch 7B16048 had a -9% recovery. All positive results receive a -J flag and all NDs an R flag.

Total Phosphorus: The lab duplicate for Batch 7B08043 had an RPD outside acceptance limits. All positive results receive a J flag and all NDs a UJ flag.

Cadmium: The MS for Batch 7B14040 had a recovery outside of acceptance limits. All positive results receive a J flag and all NDs a UJ flag.

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 1st Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic	Seattle, WA	<input checked="" type="checkbox"/>
Cadmium	Seattle, WA	<input checked="" type="checkbox"/>
Calcium	Spokane, WA	<input checked="" type="checkbox"/>
Chloride	Spokane, WA	<input checked="" type="checkbox"/>
Chromium	Seattle, WA	<input checked="" type="checkbox"/>
Copper	Seattle, WA	<input checked="" type="checkbox"/>
Fluoride	Seattle, WA	<input checked="" type="checkbox"/>
Iron	Spokane, WA	<input checked="" type="checkbox"/>
Lead	Seattle, WA	<input checked="" type="checkbox"/>
Magnesium	Spokane, WA	<input checked="" type="checkbox"/>
Manganese	Seattle, WA	<input checked="" type="checkbox"/>
Mercury	Spokane, WA	<input checked="" type="checkbox"/>
Ortho-phosphate-phosphorous	Seattle, WA	<input checked="" type="checkbox"/>
Potassium	Spokane, WA	<input checked="" type="checkbox"/>
Sodium	Spokane, WA	<input checked="" type="checkbox"/>
Sulfate	Spokane, WA	<input checked="" type="checkbox"/>
Total Dissolved Solids	Spokane, WA	<input checked="" type="checkbox"/>
Total Nitrate + Nitrite	Seattle, WA	<input checked="" type="checkbox"/>
Total phosphorus	Spokane, WA	<input checked="" type="checkbox"/>
Zinc	Seattle, WA	<input checked="" type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)	Spokane, WA	<input checked="" type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)	Spokane, WA	<input checked="" type="checkbox"/>

Laboratory Work Order #: SQA0093

Sample Delivery Group Submission Date: 1/30/2007

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery: Blank – samples delivered same day as taken

(On TestAmerica "chain of custody report")

Data Quality Review (Blank, LCS, MS/MSD, Duplicates):

Completeness: 96%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: No field duplicate for sample delivery group.

Detail Checking (10% of laboratory data & 100% of Field Data): 11/7/07 & 12/27/07

(Data: Vendors PDF & Access db [Aquifer Sampling Data Sheet], our db & aquifer sampling data sheet [field entries]. Our db is located at R-A Data\Water Quality\ WaterQualityAdmin2000.mdb\TblOrganicsWaterQuality. Use 'Sample Date' and 'WQMP Well ID' columns.)

Data Anomalies:

Orthophosphate: Analyte was detected in method blank at 0.002 mg/L. All results less than 10x concentration found in method blank receive an R flag, all others receive no flag.

Chloride: RPD lab duplicate in batch 7020068 outside acceptance limits. MS recovery outside of acceptance limits. All positive results receive a -J flag.

Corrective Action: _____

Sampling Round: 1 / 2007

Laboratory Work Order: SQB0023-14 (5411R03)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00249	0.00258	3.55	0.001	C	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	27.4	26.9	1.84	0.04	D	no qualifier
Chloride	2.34	2.41	2.95	0.5	C	no qualifier
Chromium	ND	ND	0.00	0.001	A	no qualifier
Copper	ND	ND	0.00	0.001	A	no qualifier
Fluoride	ND	ND	0.00	0.1	A	no qualifier
Iron	0.0221	ND	0.00	0.02	B	no qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	12	11.8	1.68	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.0006	0.0005	18.18	0.002	C	no qualifier
Potassium	1.57	1.53	2.58	0.5	C	no qualifier
Sodium	2.67	2.59	3.04	0.5	D	no qualifier
Sulfate	11	11.1	0.90	0.5	D	no qualifier
Total Dissolved Solids	128	136	6.06	2	D	no qualifier
Total Nitrate + Nitrite	0.842	0.844	0.24	0.02	D	no qualifier
Total phosphorus	ND	ND	0.00	0.02	A	no qualifier
Zinc	ND	ND	0.00	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	107	107	0.00	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 1 / 2007

Laboratory Work Order: SQB0031-09 (5312C01)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	ND	ND	0.0	0.001	A	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	25.5	25.7	0.8	0.04	D	no qualifier
Chloride	2.64	2.84	7.3	0.5	D	no qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	ND	ND	0.0	0.001	A	no qualifier
Fluoride	0.319	0.329	3.1	0.1	C	no qualifier
Iron	7.38	7.37	0.1	0.02	D	no qualifier
Lead	ND	ND	0.0	0.001	A	no qualifier
Magnesium	13.2	13.3	0.8	0.1	D	no qualifier
Manganese	0.414	0.447	7.7	0.01	D	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.039	0.027	36.4	0.002	D	qualifier
Potassium	5.09	5.13	0.8	0.5	D	no qualifier
Sodium	12.9	12.9	0.0	0.5	D	no qualifier
Sulfate	19.3	19.5	1.0	0.5	D	no qualifier
Total Dissolved Solids	222	221	0.5	2	D	no qualifier
Total Nitrate + Nitrite	ND	ND	0.0	0.02	A	no qualifier
Total phosphorus	0.288	0.292	1.4	0.02	D	no qualifier
Zinc	ND	ND	0.0	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	2	2	0.0	2	C	no qualifier
Bicarbonate Alkalinity (HCO3)	135	130	3.8	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 1/2007
 Laboratory Work Order: SQB0041

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00279	0.00275	1.4	0.001	C	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	28.8	28.9	0.3	0.04	D	no qualifier
Chloride	4.74	4.78	0.8	0.5	D	no qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	ND	ND	0.0	0.001	A	no qualifier
Fluoride	0.1	0.1	0.0	0.1	C	no qualifier
Iron	0.0329	0.0409	21.7	0.02	C	no qualifier
Lead	ND	ND	0.0	0.001	A	no qualifier
Magnesium	15.6	15.6	0.0	0.1	D	no qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.005	0.004	22.2	0.002	C	no qualifier
Potassium	1.83	1.84	0.5	0.5	C	no qualifier
Sodium	3.44	3.44	0.0	0.5	D	no qualifier
Sulfate	13.2	13.3	0.8	0.5	D	no qualifier
Total Dissolved Solids	175	162	7.7	2	D	no qualifier
Total Nitrate + Nitrite	1.18	1.56	27.7	0.02	D	no qualifier
Total phosphorus	ND	ND	0.0	0.02	A	no qualifier
Zinc	ND	ND	0.0	0.01	A	no qualifier
Carbonate Alkalinity (CO3-) *	ND	ND	0.0	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	127	122	4.0	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 2nd Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic	Seattle, WA	X
Cadmium	Seattle, WA	X
Calcium	Spokane, WA	X
Chloride	Spokane, WA	X
Chromium	Seattle, WA	X
Copper	Seattle, WA	X
Fluoride	Seattle, WA	X
Iron	Spokane, WA	X
Lead	Seattle, WA	X
Magnesium	Spokane, WA	X
Manganese	Seattle, WA	X
Mercury	Spokane, WA	X
Ortho-phosphate-phosphorous	Seattle, WA	X
Potassium	Spokane, WA	X
Sodium	Spokane, WA	X
Sulfate	Spokane, WA	X
Total Dissolved Solids	Spokane, WA	X
Total Nitrate + Nitrite	Seattle, WA	X
Total phosphorus	Spokane, WA	X
Zinc	Seattle, WA	X
Carbonate Alkalinity (CO ₃ ⁻)	Spokane, WA	X
Bicarbonate Alkalinity (HCO ₃)	Spokane, WA	X

Laboratory Work Order #: SQE0031

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: All results within acceptance limits

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Sulfate: Batch 7050055 – MS recovery below acceptance limits, associated samples flagged J & UJ

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 2 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQD0131

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: Lead and Total Dissolved Solids results outside acceptance limits, results on sample and sample duplicate flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Sulfate: Batch 7040208, MS below acceptance limits, associated samples flagged J & UJ

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 2 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQD0125

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 99%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: calcium, chloride, iron, magnesium, orthophosphate, potassium, sulfate, total dissolved solids, and bicarbonate outside acceptance limits. Associated results in sample and sample duplicated flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Chloride: Batch 7040176, MS recovery below acceptance limits, associated samples flagged J & UJ.

Nitrate/Nitrite: Batch 7D25056, MS recovery outside acceptance limits associated samples flagged J

Orthophosphate: Batch 7D26054, 0.002 mg/L of analyte found in method blank. All results less than 0.02 mg/L (10x the amount found in the method blank) flagged R.

Corrective Action: _____

Sampling Round: 2 / 2007

Laboratory Work Order: SQE0031 (6330J01)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00283	0.00283	0.00	0.001	C	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	30.2	29.7	1.67	0.04	D	no qualifier
Chloride	3.98	3.97	0.25	0.5	D	no qualifier
Chromium	ND	ND	0.00	0.001	A	no qualifier
Copper	ND	ND	0.00	0.001	A	no qualifier
Fluoride	ND	ND	0.00	0.1	A	no qualifier
Iron	ND	ND	0.00	0.02	A	no qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	16.6	16.2	2.44	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.003	0.003	0.00	0.002	C	no qualifier
Potassium	1.92	1.86	3.17	0.5	C	no qualifier
Sodium	3.82	3.74	2.12	0.5	D	no qualifier
Sulfate	12.5	12.1	3.25	0.5	D	no qualifier
Total Dissolved Solids	155	142	8.75	2	D	no qualifier
Total Nitrate + Nitrite	1.32	1.31	0.76	0.02	D	no qualifier
Total phosphorus	ND	ND	0.00	0.02	A	no qualifier
Zinc	ND	ND	0.00	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	124	124	0.00	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 2 / 2007

Laboratory Work Order: SQDD0131 (5517D05)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	ND	ND	0.0	0.001	A	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	12.2	12.5	2.4	0.04	D	no qualifier
Chloride	1.82	1.86	2.2	0.5	C	no qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	ND	ND	0.0	0.001	A	no qualifier
Fluoride	ND	ND	0.0	0.1	A	no qualifier
Iron	ND	ND	0.0	0.02	A	no qualifier
Lead	0.00207	ND	0.0	0.001	B	qualifier
Magnesium	4.3	4.39	2.1	0.1	D	no qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.004	0.004	0.0	0.002	C	no qualifier
Potassium	1.09	1.13	3.6	0.5	C	no qualifier
Sodium	2	2.06	3.0	0.5	C	no qualifier
Sulfate	4.92	4.97	1.0	0.5	D	no qualifier
Total Dissolved Solids	87	896	164.6	2	D	qualifier
Total Nitrate + Nitrite	0.69	0.697	1.0	0.02	D	no qualifier
Total phosphorus	ND	ND	0.0	0.02	A	no qualifier
Zinc	0.0141	0.012	16.1	0.01	C	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.0	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	47.4	44.9	5.4	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 2/2007

Laboratory Work Order: SQD0125 (5515C01)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00412	0.00313	27.3	0.001	C	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	40.1	28.9	32.5	0.04	D	qualifier
Chloride	5.55	3.32	50.3	0.5	D	qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	0.00223	0.00186	0.0	0.001	C	no qualifier
Fluoride	ND	0.117	0.0	0.1	B	no qualifier
Iron	0.0357	ND	0.0	0.02	B	qualifier
Lead	0.00176	0.00175	0.0	0.001	C	no qualifier
Magnesium	16.4	8.62	62.2	0.1	D	qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.023	0.013	55.6	0.002	D	qualifier
Potassium	2.28	1.17	64.3	0.5	C	qualifier
Sodium	4.36	4.37	0.2	0.5	D	no qualifier
Sulfate	13.8	7.08	64.4	0.5	D	qualifier
Total Dissolved Solids	193	133	36.8	2	D	qualifier
Total Nitrate + Nitrite	1.83	1.5	19.8	0.02	D	no qualifier
Total phosphorus	ND	ND	0.0	0.02	A	no qualifier
Zinc	ND	ND	0.0	0.01	A	no qualifier
Carbonate Alkalinity (CO3-) *	ND	ND	0.0	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	149	99.4	39.9	2	D	qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 3 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQG0155

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: All results within acceptance limits

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Flouride: Batch 7H01016, MS outside acceptance limits, associated results flagged J,
NDs no action.

Chloride: Batch 7080029 MS outside acceptance limits, associated results flagged J & UJ

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 3 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQG0163

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: Chromium and total phosphorus results outside acceptance limits, results on sample and sample duplicate flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Chloride: Batch 7080029, MS below acceptance limits, all associated results flagged J and UJ

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 3 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQG0164

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: Iron and total phosphorus outside acceptance limits. Associated results in sample and sample duplicated flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Chloride: Batch 7080029 MS below acceptance limits, associated results flagged J and UJ.

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 3 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQH0009

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: Orthophosphate and total phosphorus outside acceptance limits.
Associated results in sample and sample duplicated flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Chloride: Batch 7080046 lab duplicate outside acceptance limits, associated results
flagged J and UJ

Orthophosphate: Batch 7080046 MS below acceptance limits, associated results flagged J
and UJ.

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 3 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQH0019

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 99%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: Total phosphorus outside acceptance limits. Associated results in sample and sample duplicated flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Phosphorus: Batch SQH0019 calibration verification recovery above acceptance limit.

ND data not impacted, positive results flagged J

Orthophosphate: Analyzed past hold time, all associated results flagged J and UJ

Chloride: Batch 7080046, MS outside acceptance limits, associated results flagged J and UJ

Zinc: Batch 7H09008, MS outside acceptance limits associated positive results flagged J
ND results flagged R.

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 3 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQH0024

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: No field duplicate associated with sample delivery group.

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Zinc: Batch 7H09008, MS outside acceptance limits, associated results flagged J and UJ.

Corrective Action: _____

Sampling Round: 3 / 2007

Laboratory Work Order: SQG0155 (5508M01)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	ND	ND	0.00	0.001	A	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	6.36	6.3	0.95	0.04	D	no qualifier
Chloride	2.31	2.22	3.97	0.5	C	no qualifier
Chromium	ND	ND	0.00	0.001	A	no qualifier
Copper	ND	ND	0.00	0.001	A	no qualifier
Fluoride	ND	ND	0.00	0.1	A	no qualifier
Iron	ND	ND	0.00	0.02	A	no qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	1.81	1.8	0.55	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.011	0.011	0.00	0.002	D	no qualifier
Potassium	0.769	0.743	3.44	0.5	C	no qualifier
Sodium	2.02	2.01	0.50	0.5	C	no qualifier
Sulfate	3.69	3.88	5.02	0.5	D	no qualifier
Total Dissolved Solids	57	56	1.77	2	D	no qualifier
Total Nitrate + Nitrite	0.129	0.128	0.78	0.02	D	no qualifier
Total phosphorus	ND	ND	0.00	0.02	A	no qualifier
Zinc	0.0399	0.0408	2.23	0.01	C	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	25	25	0.00	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 3 / 2007

Laboratory Work Order: SQG0163 (5426LO1)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00417	0.00403	3.41	0.001	C	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	50.9	52.9	3.85	0.04	D	no qualifier
Chloride	9.13	8.84	3.23	0.5	D	no qualifier
Chromium	ND	0.00123	0.00	0.001	B	qualifier
Copper	0.00147	0.00182	21.28	0.001	C	no qualifier
Fluoride	0.1	0.1	0.00	0.1	C	no qualifier
Iron	ND	ND	0.00	0.02	A	no qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	14	14.5	3.51	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.018	0.021	15.38	0.002	D	no qualifier
Potassium	2.78	2.88	3.53	0.5	D	no qualifier
Sodium	6.59	6.8	3.14	0.5	D	no qualifier
Sulfate	14.6	14.2	2.78	0.5	D	no qualifier
Total Dissolved Solids	245	238	2.90	2	D	no qualifier
Total Nitrate + Nitrite	2.9	2.91	0.34	0.02	D	no qualifier
Total phosphorus	0.0337	ND	0.00	0.02	B	qualifier
Zinc	0.0128	ND	0.00	0.01	B	no qualifier
Carbonate Alkalinity (CO ₃ ⁻)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO ₃ ⁻)	181	178	1.67	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	Acceptance Criteria	Qualifier
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 3 / 2007

Laboratory Work Order: SQG0164 (6436NO1)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00238	0.00259	8.45	0.001	C	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	63.6	65.2	2.48	0.04	D	no qualifier
Chloride	6.93	7.02	1.29	0.5	D	no qualifier
Chromium	0.00331	0.00329	0.61	0.001	C	no qualifier
Copper	ND	ND	0.00	0.001	A	no qualifier
Fluoride	0.11	0.11	0.00	0.1	C	no qualifier
Iron	0.173	0.279	46.90	0.02	D	qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	28.5	29.3	2.77	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.049	0.049	0.00	0.002	D	no qualifier
Potassium	4.04	4.07	0.74	0.5	D	no qualifier
Sodium	8.47	8.72	2.91	0.5	D	no qualifier
Sulfate	20.5	18.6	9.72	0.5	D	no qualifier
Total Dissolved Solids	338	337	0.30	2	D	no qualifier
Total Nitrate + Nitrite	5.67	5.71	0.70	0.02	D	no qualifier
Total phosphorus	ND	0.0654	0.00	0.02	B	qualifier
Zinc	ND	ND	0.00	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	249	261	4.71	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 3 / 2007

Laboratory Work Order: SQHD0009 (5311JO7)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00276	0.00277	0.4	0.001	C	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	37	36.6	1.1	0.04	D	no qualifier
Chloride	5.28	6.72	24.0	0.5	D	no qualifier
Chromium	0.00132	0.0013	1.5	0.001	C	no qualifier
Copper	ND	ND	0.0	0.001	A	no qualifier
Fluoride	ND	ND	0.0	0.1	A	no qualifier
Iron	ND	ND	0.0	0.02	A	no qualifier
Lead	ND	ND	0.0	0.001	A	no qualifier
Magnesium	17.2	17.1	0.6	0.1	D	no qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.004	0.007	54.5	0.002	C	qualifier
Potassium	2.03	1.97	3.0	0.5	C	no qualifier
Sodium	3.7	3.69	0.3	0.5	D	no qualifier
Sulfate	15.3	15.7	2.6	0.5	D	no qualifier
Total Dissolved Solids	180	198	9.5	2	D	no qualifier
Total Nitrate + Nitrite	1.37	1.36	0.7	0.02	D	no qualifier
Total phosphorus	ND	0.0763	0.0	0.02	B	qualifier
Zinc	ND	ND	0.0	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.0	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	154	154	0.0	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 3/2007

Laboratory Work Order: SQH0019 (6211KO1)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00329	0.00344	4.5	0.001	C	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	32.1	30.4	5.4	0.04	D	no qualifier
Chloride	6.88	6.96	1.2	0.5	D	no qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	ND	ND	0.0	0.001	A	no qualifier
Fluoride	ND	ND	0.0	0.1	A	no qualifier
Iron	ND	ND	0.0	0.02	A	no qualifier
Lead	ND	ND	0.0	0.001	A	no qualifier
Magnesium	17.3	16.4	5.3	0.1	D	no qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.004	0.005	22.2	0.002	C	no qualifier
Potassium	2.09	1.99	4.9	0.5	C	no qualifier
Sodium	3.98	3.78	5.2	0.5	D	no qualifier
Sulfate	15.2	13.4	12.6	0.5	D	no qualifier
Total Dissolved Solids	171	NOT REPORTED	0.0	2	D	no qualifier
Total Nitrate + Nitrite	1.42	1.43	0.7	0.02	D	no qualifier
Total phosphorus	0.0346	0.0632	58.5	0.02	C	qualifier
Zinc	0.0102	0.0114	11.1	0.01	C	no qualifier
Carbonate Alkalinity (CO3-) *	ND	ND	0.0	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	136	136	0.0	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 4 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQJ0166

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: Copper, iron, and bicarbonate alkalinity results outside acceptance limits, results on sample and sample duplicate flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 4 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQJ0178

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate RPD: Chromium and total phosphorus results outside acceptance limits, results on sample and sample duplicate flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Chloride & Sulfate: Batch 7110006 MS and MSD above acceptance limits, associated results flagged J

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 4 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQJ0189

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: Iron and orthophosphate outside acceptance limits. Associated results in sample and sample duplicated flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 4 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQJ0199

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate:

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 4 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQJ0219

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: Copper outside acceptance limits. Associated results in sample and sample duplicated flagged J

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Chloride: Batch 7110056, MS outside acceptance limits, associated results flagged J and UJ

Corrective Action: _____

Groundwater Monitoring Program – Data Validation Report

Sampling Round: Quarter 4 Year 2007

(Project/Year found on front page of test report)

Analyte	Laboratory	Within Hold Time Range Hold Time Table.doc
Arsenic		<input type="checkbox"/>
Cadmium		<input type="checkbox"/>
Calcium		<input type="checkbox"/>
Chloride		<input type="checkbox"/>
Chromium		<input type="checkbox"/>
Copper		<input type="checkbox"/>
Fluoride		<input type="checkbox"/>
Iron		<input type="checkbox"/>
Lead		<input type="checkbox"/>
Magnesium		<input type="checkbox"/>
Manganese		<input type="checkbox"/>
Mercury		<input type="checkbox"/>
Ortho-phosphate-phosphorous		<input type="checkbox"/>
Potassium		<input type="checkbox"/>
Sodium		<input type="checkbox"/>
Sulfate		<input type="checkbox"/>
Total Dissolved Solids		<input type="checkbox"/>
Total Nitrate + Nitrite		<input type="checkbox"/>
Total phosphorus		<input type="checkbox"/>
Zinc		<input type="checkbox"/>
Carbonate Alkalinity (CO ₃ ⁻)		<input type="checkbox"/>
Bicarbonate Alkalinity (HCO ₃)		<input type="checkbox"/>

Laboratory Work Order #: SQJ0208

Sample Delivery Group Submission Date:

Complete Chain of Custody:

Signatures: Dates: Sample Dates: Sample Times:

(Verify Chain of Custody fields above are complete)

Chain of Custody Matches Lab Report:

Sample Names: Sample Dates: Sample Times: Analyses:

(Verify 'Analytical Report for Samples' page match 'Chain of Custody' page)

Sample Preservation

(Enter a check mark when "chain of custody report" sheet has preservative items listed at the top.)

Temperature at Delivery:

(On TestAmerica "chain of custody report")

Completeness: 100%

(Used by Mike and Reanette. Sample times # of analytes & # rejected)

Field Duplicate: No field duplicate associated with sample delivery group.

Detail Checking (10% of laboratory data & 100% of Field Data):

Data Anomalies:

Orthophosphate: Batch 7J30060, MS outside acceptance limits, associated results flagged J and UJ.

Corrective Action: _____

Sampling Round: 4 / 2007

Laboratory Work Order: SQJ0166 (5508M02)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	ND	ND	0.00	0.001	A	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	6.82	6.62	2.98	0.04	D	no qualifier
Chloride	1.52	1.5	1.32	0.5	C	no qualifier
Chromium	ND	ND	0.00	0.001	A	no qualifier
Copper	0.00107	0.0317	186.94	0.001	E	qualifier
Fluoride	ND	ND	0.00	0.1	A	no qualifier
Iron	0.0326	ND	0.00	0.02	B	qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	1.94	1.89	2.61	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.005	0.005	0.00	0.002	C	no qualifier
Potassium	0.939	0.933	0.64	0.5	C	no qualifier
Sodium	2.15	2.1	2.35	0.5	C	no qualifier
Sulfate	4.04	3.93	2.76	0.5	D	no qualifier
Total Dissolved Solids	34	38	11.11	2	D	no qualifier
Total Nitrate + Nitrite	0.186	0.182	2.17	0.02	D	no qualifier
Total phosphorus	0.02	0.019	5.13	0.02	C	no qualifier
Zinc	0.0148	0.0128	14.49	0.01	C	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	16.6	24.9	40.00	2	D	qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	Acceptance Criteria	Qualifier
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 4 / 2007

Laboratory Work Order: SQJ0178 (5312C01)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00617	0.0065	5.21	0.001	D	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	29.6	29	2.05	0.04	D	no qualifier
Chloride	3.32	3.46	4.13	0.5	D	no qualifier
Chromium	ND	ND	0.00	0.001	A	qualifier
Copper	0.00209	0.00201	3.90	0.001	C	no qualifier
Fluoride	ND	ND	0.00	0.1	A	no qualifier
Iron	ND	ND	0.00	0.02	A	no qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	8.01	7.88	1.64	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.016	0.014	13.33	0.002	D	no qualifier
Potassium	1.67	1.63	2.42	0.5	C	no qualifier
Sodium	3.58	3.53	1.41	0.5	D	no qualifier
Sulfate	10.6	10.7	0.94	0.5	D	no qualifier
Total Dissolved Solids	115	126	9.13	2	D	no qualifier
Total Nitrate + Nitrite	1.18	1.19	0.84	0.02	D	no qualifier
Total phosphorus	0.023	0.039	51.61	0.02	C	qualifier
Zinc	ND	ND	0.00	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	ND	ND	0.00	2	A	no qualifier
Bicarbonate Alkalinity (HCO3)	98.3	98.2	0.10	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 4 / 2007

Laboratory Work Order: SQJ0189 (6436NO1)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00212	0.00268	23.33	0.001	C	no qualifier
Cadmium	ND	ND	0.00	0.001	A	no qualifier
Calcium	79.3	79.7	0.50	0.04	D	no qualifier
Chloride	7.23	7.37	1.92	0.5	D	no qualifier
Chromium	0.00308	0.00262	16.14	0.001	C	no qualifier
Copper	0.00131	0.00171	26.49	0.001	C	no qualifier
Fluoride	0.1	0.1	0.00	0.1	C	no qualifier
Iron	1.13	0.247	128.25	0.02	D	qualifier
Lead	ND	ND	0.00	0.001	A	no qualifier
Magnesium	35.9	36	0.28	0.1	D	no qualifier
Manganese	ND	ND	0.00	0.01	A	no qualifier
Mercury	ND	ND	0.00	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.187	0.039	130.97	0.002	D	qualifier
Potassium	4.97	4.94	0.61	0.5	D	no qualifier
Sodium	9.41	9.51	1.06	0.5	D	no qualifier
Sulfate	18.3	18.3	0.00	0.5	D	no qualifier
Total Dissolved Solids	382	392	2.58	2	D	no qualifier
Total Nitrate + Nitrite	6.2	6.5	4.72	0.02	D	no qualifier
Total phosphorus	0.045	0.054	18.18	0.02	C	no qualifier
Zinc	ND	ND	0.00	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	ND	2.05	0.00	2	B	no qualifier
Bicarbonate Alkalinity (HCO3)	323	323	0.00	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 4 / 2007

Laboratory Work Order: SQJ0199 (6211J01S)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00335	0.00322	4.0	0.001	C	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	35.4	36.7	3.6	0.04	D	no qualifier
Chloride	7.79	8.27	6.0	0.5	D	no qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	ND	ND	0.0	0.001	A	no qualifier
Fluoride	ND	ND	0.0	0.1	A	no qualifier
Iron	ND	ND	0.0	0.02	A	no qualifier
Lead	ND	ND	0.0	0.001	A	no qualifier
Magnesium	19	19.8	4.1	0.1	D	no qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.009	0.009	0.0	0.002	C	no qualifier
Potassium	2.45	2.55	4.0	0.5	E	no qualifier
Sodium	4.69	4.93	5.0	0.5	D	no qualifier
Sulfate	16.5	16.8	1.8	0.5	D	no qualifier
Total Dissolved Solids	198	193	2.6	2	D	no qualifier
Total Nitrate + Nitrite	1.72	1.75	1.7	0.02	D	no qualifier
Total phosphorus	0.005	ND	0.0	0.005	B	no qualifier
Zinc	ND	ND	0.0	0.01	A	no qualifier
Carbonate Alkalinity (CO3-)	2.25	2.19	2.7	2	C	no qualifier
Bicarbonate Alkalinity (HCO3)	148	150	1.3	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J

Sampling Round: 4/2007

Laboratory Work Order: SQJ0219 (5427L01)

	Sample Result	Field Duplicate Result	RPD	MRL	Case	
Arsenic	0.00416	0.00414	0.5	0.001	C	no qualifier
Cadmium	ND	ND	0.0	0.001	A	no qualifier
Calcium	47.4	46.7	1.5	0.04	D	no qualifier
Chloride	6.22	6.17	0.8	0.5	D	no qualifier
Chromium	ND	ND	0.0	0.001	A	no qualifier
Copper	0.00419	0.0028	39.8	0.001	C	qualifier
Fluoride	ND	ND	0.0	0.1	A	no qualifier
Iron	ND	ND	0.0	0.02	A	no qualifier
Lead	ND	ND	0.0	0.001	A	no qualifier
Magnesium	17	16.7	1.8	0.1	D	no qualifier
Manganese	ND	ND	0.0	0.01	A	no qualifier
Mercury	ND	ND	0.0	0.0005	A	no qualifier
Ortho-phosphate-phosphorous	0.005	0.004	22.2	0.002	C	no qualifier
Potassium	2.65	2.58	2.7	0.5	D	no qualifier
Sodium	6.48	6.39	1.4	0.5	D	no qualifier
Sulfate	13	13.1	0.8	0.5	D	no qualifier
Total Dissolved Solids	224	223	0.4	2	D	no qualifier
Total Nitrate + Nitrite	2.46	2.46	0.0	0.02	D	no qualifier
Total phosphorus	0.02	0.018	10.5	0.02	C	no qualifier
Zinc	ND	ND	0.0	0.01	A	no qualifier
Carbonate Alkalinity (CO3-) *	2.49	2.88	14.5	2	C	no qualifier
Bicarbonate Alkalinity (HCO3)	175	172	1.7	2	D	no qualifier

Note: If the sample result is ND and the duplicate has a result, use the MRL. If both sample and field duplicate is ND, relative % difference is 0.

	<u>Acceptance Criteria</u>	<u>Qualifier</u>
case A - both results are ND	no qualifier	
case B - one result is ND	absolute difference between result and MRL less than MRL	J
case C - results are less than 5x MRL	absolute difference of results less than MRL	J
case D - results are greater than or equal to 5x MRL	relative percent difference less than 30%	J
case E - one result is less than 5x MRL and one result is greater than or equal to 5x MRL	relative percent difference less than 30%	J