



**United States Environmental Protection Agency
Region 9 Laboratory**

**1337 S. 46th Street Building 201
Richmond, CA 94804**

**Subject: Analytical Testing Results - Project R10S16
SDG: 09322A**

**From: Brenda Bettencourt, Director
EPA Region 9 Laboratory
MTS-2**

**To: Wayne Praskins
California Site Cleanup Section 3
SFD-7-3**

Attached are the results from the analysis of samples from the **Halaco 2009 Groundwater and Surface Water Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Analyses included in this report:

Alkalinity	Anions by Ion Chromatography
Total Organic Carbon	Ammonia as N
Total Kjeldahl Nitrogen	pH
Specific Conductance	



United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Wayne Praskins

Project Number: R10S16

Project: Halaco 2009 Groundwater and Surface
Water Sampling

California Site Cleanup Section 3

**75 Hawthorne Street
San Francisco CA, 94105**

SDG: 09322A

Reported: 12/18/09 15:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
SW-HUD-001-1109	0911030-01	Water	11/16/09 09:38	11/18/09 09:40
SW-JSD-001	0911030-02	Water	11/16/09 10:10	11/18/09 09:40
SW-LAG-001-1109	0911030-03	Water	11/16/09 08:25	11/18/09 09:40
SW-LAG-002-1109	0911030-04	Water	11/16/09 11:05	11/18/09 09:40
SW-OCE-001-1109	0911030-05	Water	11/16/09 10:15	11/18/09 09:40
SW-OCE-002-1109	0911030-06	Water	11/16/09 09:50	11/18/09 09:40
SW-OID-001-1109	0911030-07	Water	11/16/09 11:40	11/18/09 09:40
SW-OID-002-1109	0911030-08	Water	11/16/09 13:05	11/18/09 09:40
SW-OID-003-1109	0911030-09	Water	11/16/09 13:30	11/18/09 09:40
SW-OID-004-1109	0911030-10	Water	11/16/09 13:05	11/18/09 09:40
SW-OID-005-1109	0911030-11	Water	11/16/09 12:15	11/18/09 09:40
SW-OID-006-1109	0911030-12	Water	11/16/09 11:55	11/18/09 09:40
SW-OID-007-1109	0911030-13	Water	11/16/09 11:15	11/18/09 09:40
SW-OID-008-1109	0911030-14	Water	11/16/09 08:50	11/18/09 09:40
SW-OID-101-1109	0911030-15	Water	11/16/09 11:40	11/18/09 09:40
SW-OID-104-1109	0911030-16	Water	11/16/09 13:05	11/18/09 09:40
SW-WMU-001-1109	0911030-17	Water	11/16/09 08:45	11/18/09 09:40
SW-WMU-002-1109	0911030-18	Water	11/16/09 09:10	11/18/09 09:40

SDG ID 09322A

Samples were received in four coolers. Coolers #1 and #3 were received at 10 deg C and cooler #2 was received at 8 deg C which is above the recommended temperature range of >0 to 6 deg C.

pH, Nitrite, Nitrate and Specific Conductance: Samples were received after the 24 hour hold time for pH, Nitrite, Nitrate and Specific Conductance had passed. Results are flagged accordingly.

Ammonia: Samples were analyzed direct without distillation which is a deviation from the SOP. The SOP for analysis of ammonia specifies that samples with high concentration, turbidity, and color are to be distilled prior to ammonia analysis. The laboratory's distillation procedure is still under development. Results are flagged accordingly.

Work Order(s)

0911030



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San Francisco CA, 94105

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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-01						Water - Sampled: 11/16/09 09:38			
Sample ID: SW-HUD-001-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		8,900	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-HUD-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		370		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		370		10	"	"	"	"	SM2320/SOP560
Fluoride		0.79		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE2	2,500		100	"	B9K0129	"	11/19/09	300.0/SOP 530
Nitrite as N	RE2	ND	A3, J, Q9, U	10	"	"	"	"	300.0/SOP 530
Bromide		8.9		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		0.15	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	900		25	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		2.3		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.68	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.4		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		7.7	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-02						Water - Sampled: 11/16/09 10:10			
Sample ID: SW-JSD-001						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		6,800	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-JSD-001						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		270		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		270		10	"	"	"	"	SM2320/SOP560
Fluoride		0.63		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	1,800		50	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	5	"	"	"	"	300.0/SOP 530
Bromide		7.1		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		0.83	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	910		25	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		6.0		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.11	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		2.6		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.2	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-03						Water - Sampled: 11/16/09 08:25			
Sample ID: SW-LAG-001-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		4,000	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-LAG-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560



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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-03						Water - Sampled: 11/16/09 08:25			
Sample ID: SW-LAG-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Carbonate Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.58		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	740		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.8		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		4.8	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	900		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		7.8		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.056	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		2.0		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-04						Water - Sampled: 11/16/09 11:05			
Sample ID: SW-LAG-002-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		4,300	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-LAG-002-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		210		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		210		10	"	"	"	"	SM2320/SOP560
Fluoride		0.59		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	890		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.9		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		3.2	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	880		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		8.9		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		ND	A-01, U	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.9		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.3	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-05						Water - Sampled: 11/16/09 10:15			
Sample ID: SW-OCE-001-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		49,000	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OCE-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		120		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		120		10	"	"	"	"	SM2320/SOP560



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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-05						Water - Sampled: 11/16/09 10:15			
Sample ID: SW-OCE-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Fluoride	RE1	ND	Q9, U	10	mg/L	B9K0129	11/18/09	11/19/09	300.0/SOP 530
Chloride		21,000		1,000	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N		ND	A3, J, Q9, U	100	"	"	"	"	300.0/SOP 530
Bromide	RE1	66		10	"	B9K0129	"	11/19/09	300.0/SOP 530
Nitrate as N	RE1	ND	A3, J, Q9, U	10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	2,600		50	"	"	"	"	300.0/SOP 530
Total Organic Carbon		ND	U	0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		ND	A-01, U	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		0.05	C1, J	0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580

Lab ID: 0911030-06						Water - Sampled: 11/16/09 09:50			
Sample ID: SW-OCE-002-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		49,000	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OCE-002-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		120		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		120		10	"	"	"	"	SM2320/SOP560
Fluoride	RE1	ND	Q9, U	10	"	B9K0129	11/18/09	11/19/09	300.0/SOP 530
Chloride		19,000		1,000	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N		ND	A3, J, Q9, U	100	"	"	"	"	300.0/SOP 530
Bromide	RE1	70		10	"	B9K0129	"	11/19/09	300.0/SOP 530
Nitrate as N	RE1	ND	A3, J, Q9, U	10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	2,600		50	"	"	"	"	300.0/SOP 530
Total Organic Carbon		ND	U	0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		ND	A-01, U	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		ND	U	0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580

Lab ID: 0911030-07						Water - Sampled: 11/16/09 11:40			
Sample ID: SW-OID-001-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,800	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.60		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	670		20	"	B9K0113	"	11/18/09	300.0/SOP 530



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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-07						Water - Sampled: 11/16/09 11:40			
Sample ID: SW-OID-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Nitrite as N	RE1	ND	A3, J, Q9, U	2	mg/L	B9K0113	11/18/09	11/18/09	300.0/SOP 530
Bromide		4.8		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		5.8	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	920		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		8.6		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.057	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		2.0		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.2	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-08						Water - Sampled: 11/16/09 13:05			
Sample ID: SW-OID-002-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,300	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-002-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.60		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	460		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.7		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		8.4	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	970		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		8.0		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.090	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.6		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-09						Water - Sampled: 11/16/09 13:30			
Sample ID: SW-OID-003-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,300	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-003-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.60		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	450		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.6		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		8.6	A3, J	0.10	"	"	"	"	300.0/SOP 530



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Reported: 12/18/09 15:26

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-09						Water - Sampled: 11/16/09 13:30			
Sample ID: SW-OID-003-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Sulfate	RE1	970		10	mg/L	B9K0113	11/18/09	11/18/09	300.0/SOP 530
Total Organic Carbon		7.5		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.094	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.8		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580

Lab ID: 0911030-10						Water - Sampled: 11/16/09 13:05			
Sample ID: SW-OID-004-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,200	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-004-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.60		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	420		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N		0.05	A3, C1, J	0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Bromide		4.6		0.10	"	"	"	"	300.0/SOP 530
Nitrate as N		9.0	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	980		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		7.7		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.094	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.9		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580

Lab ID: 0911030-11						Water - Sampled: 11/16/09 12:15			
Sample ID: SW-OID-005-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,100	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-005-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.60		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	340		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N		0.07	A3, C1, J	0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Bromide		4.6		0.10	"	"	"	"	300.0/SOP 530
Nitrate as N		10	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	960		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		7.1		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.12	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.5		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592



United States Environmental Protection Agency
Region 9 Laboratory

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Project Manager: Wayne Praskins

Project Number: R10S16

Project: Halaco 2009 Groundwater and Surface
Water Sampling

California Site Cleanup Section 3

75 Hawthorne Street

San Francisco CA, 94105

SDG: 09322A

Reported: 12/18/09 15:26

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-11						Water - Sampled: 11/16/09 12:15			
Sample ID: SW-OID-005-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-12						Water - Sampled: 11/16/09 11:55			
Sample ID: SW-OID-006-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,000	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-006-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.61		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	320		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N		0.07	C1, J, A3	0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Bromide		4.6		0.10	"	"	"	"	300.0/SOP 530
Nitrate as N		11	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	950		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		7.2		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.13	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.3		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.1	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-13						Water - Sampled: 11/16/09 11:15			
Sample ID: SW-OID-007-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		2,600	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-007-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.59		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	120		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N		0.12	A3, J	0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Bromide		4.6		0.10	"	"	"	"	300.0/SOP 530
Nitrate as N		15	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE2	1,100		25	"	B9K0129	"	11/19/09	300.0/SOP 530
Total Organic Carbon		6.4		0.50	"	B9K0162	11/25/09	11/25/09	415.3/SOP 553
Ammonia as N		0.14	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.1		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.2	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-14						Water - Sampled: 11/16/09 08:50			
Sample ID: SW-OID-008-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		2,000	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545



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Water Sampling

California Site Cleanup Section 3

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SDG: 09322A

Reported: 12/18/09 15:26

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-14						Water - Sampled: 11/16/09 08:50			
Sample ID: SW-OID-008-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		18		10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		290		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		300		10	"	"	"	"	SM2320/SOP560
Fluoride		0.63		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	97		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	J, Q9, A3, U	2	"	"	"	"	300.0/SOP 530
Bromide		2.3		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		ND	A3, J, U	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	690		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		9.9		0.50	"	B9K0162	11/25/09	11/26/09	415.3/SOP 553
Ammonia as N		ND	A-01, U	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		0.92		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.5	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580

Lab ID: 0911030-15						Water - Sampled: 11/16/09 11:40			
Sample ID: SW-OID-101-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,700	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-OID-101-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.60		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	630		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.8		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		6.0	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	900		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		8.2		0.50	"	B9K0162	11/25/09	11/26/09	415.3/SOP 553
Ammonia as N		0.064	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.9		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.2	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580

Lab ID: 0911030-16						Water - Sampled: 11/16/09 13:05			
Sample ID: SW-OID-104-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Total Organic Carbon		8.6		0.50	mg/L	B9K0162	11/25/09	11/26/09	415.3/SOP 553
Ammonia as N		0.099	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.8		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592

Lab ID: 0911030-17						Water - Sampled: 11/16/09 08:45			
Sample ID: SW-WMU-001-1109						*** DEFAULT GENERAL METHOD ***			



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Project: Halaco 2009 Groundwater and Surface
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California Site Cleanup Section 3

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SDG: 09322A

Reported: 12/18/09 15:26

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 0911030-17						Water - Sampled: 11/16/09 08:45			
Sample ID: SW-WMU-001-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		4,000	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-WMU-001-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		210		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		210		10	"	"	"	"	SM2320/SOP560
Fluoride		0.61		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	740		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.8		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		4.4	A3, J	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	870		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		8.4		0.50	"	B9K0162	11/25/09	11/26/09	415.3/SOP 553
Ammonia as N		0.12	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		2.0		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		8.0	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580
Lab ID: 0911030-18						Water - Sampled: 11/16/09 09:10			
Sample ID: SW-WMU-002-1109						*** DEFAULT GENERAL METHOD ***			
Specific Conductance (EC)		3,900	A3, J	10	umhos/cm	B9K0115	11/18/09	11/18/09	EPA120.1/SOP545
Sample ID: SW-WMU-002-1109						Conventional Chemistry Parameters by APHA/EPA Methods			
Hydroxide Alkalinity		ND	U	10	mg/L	B9K0161	11/25/09	11/25/09	SM2320/SOP560
Carbonate Alkalinity		ND	U	10	"	"	"	"	SM2320/SOP560
Bicarbonate Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Total Alkalinity		220		10	"	"	"	"	SM2320/SOP560
Fluoride		0.61		0.10	"	B9K0110	11/18/09	11/18/09	300.0/SOP 530
Chloride	RE1	700		20	"	B9K0113	"	11/18/09	300.0/SOP 530
Nitrite as N	RE1	ND	A3, J, Q9, U	2	"	"	"	"	300.0/SOP 530
Bromide		4.8		0.10	"	B9K0110	"	11/18/09	300.0/SOP 530
Nitrate as N		4.4	J, A3	0.10	"	"	"	"	300.0/SOP 530
Sulfate	RE1	870		10	"	B9K0113	"	11/18/09	300.0/SOP 530
Total Organic Carbon		8.5		0.50	"	B9K0162	11/25/09	11/26/09	415.3/SOP 553
Ammonia as N		0.19	A-01	0.030	"	B9L0017	12/02/09	12/02/09	350.1/SOP590
Nitrogen, Total Kjeldahl		1.8		0.10	"	B9L0059	12/08/09	12/09/09	351.2/SOP592
pH		7.8	A3, J	0.10	pH Units	B9K0111	11/18/09	11/18/09	SM4500-H+/SOP 580



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B9K0110 - - General Inorganic - Anions

Prepared & Analyzed: 11/18/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0110-BLK1)

Fluoride	ND	U	0.1	mg/L
Chloride	ND	U	1	"
Nitrite as N	ND	U	0.1	"
Bromide	ND	U	0.1	"
Nitrate as N	ND	U	0.1	"
Sulfate	ND	U	0.5	"

Blank (B9K0110-BLK2)

Fluoride	ND	U	0.1	mg/L
Chloride	ND	U	1	"
Nitrite as N	ND	U	0.1	"
Bromide	ND	U	0.1	"
Nitrate as N	ND	U	0.1	"
Sulfate	ND	U	0.5	"

Blank (B9K0110-BLK3)

Fluoride	ND	U	0.1	mg/L
Chloride	ND	U	1	"
Nitrite as N	ND	U	0.1	"
Bromide	ND	U	0.1	"
Nitrate as N	ND	U	0.1	"
Sulfate	ND	U	0.5	"

LCS (B9K0110-BS1)

Fluoride	4.7	mg/L	5.00	94	90-110
Chloride	9.24	"	10.1	91	90-110
Nitrite as N	4.75	"	5.00	95	90-110
Bromide	4.77	"	5.00	95	90-110
Nitrate as N	4.75	"	4.99	95	90-110
Sulfate	9.46	"	10.1	94	90-110

LCS (B9K0110-BS2)

Fluoride	4.81	mg/L	5.00	96	90-110
Chloride	9.37	"	10.1	93	90-110
Nitrite as N	4.82	"	5.00	96	90-110
Bromide	4.8	"	5.00	96	90-110
Nitrate as N	4.85	"	4.99	97	90-110
Sulfate	9.25	"	10.1	92	90-110

LCS (B9K0110-BS3)

Fluoride	4.71	mg/L	5.00	94	90-110
Chloride	9.2	"	10.1	91	90-110
Nitrite as N	4.69	"	5.00	94	90-110
Bromide	4.58	"	5.00	92	90-110
Nitrate as N	4.68	"	4.99	94	90-110
Sulfate	9.41	"	10.1	93	90-110



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B9K0110 - - General Inorganic - Anions

Prepared & Analyzed: 11/19/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Matrix Spike (B9K0110-MS1)

Source: 0911030-08

Fluoride	5.44		0.1	mg/L	5.00	0.599	97	80-120
Bromide	8.86		0.1	"	5.00	4.66	84	80-120
Nitrate as N	12.6		0.1	"	4.99	8.44	82	80-120

Matrix Spike (B9K0110-MS2)

Source: 0911030-08

Nitrite as N	96.9		2	mg/L	99.9	ND	97	80-120
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Matrix Spike (B9K0110-MS3)

Source: 0911030-10

Fluoride	5.49		0.1	mg/L	5.00	0.598	98	80-120
Bromide	8.8		0.1	"	5.00	4.62	84	80-120
Nitrate as N	13		0.1	"	4.99	8.97	81	80-120

Matrix Spike (B9K0110-MS4)

Source: 0911030-10

Nitrite as N	97.2		2	mg/L	99.9	ND	97	80-120
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Matrix Spike Dup (B9K0110-MSD1)

Source: 0911030-08

Fluoride	5.45		0.1	mg/L	5.00	0.599	97	80-120	0.07	20
Bromide	8.88		0.1	"	5.00	4.66	84	80-120	0.2	20
Nitrate as N	12.6		0.1	"	4.99	8.44	82	80-120	0.04	20

Matrix Spike Dup (B9K0110-MSD2)

Source: 0911030-08

Nitrite as N	96.7		2	mg/L	99.9	ND	97	80-120	0.2	20
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Matrix Spike Dup (B9K0110-MSD3)

Source: 0911030-10

Fluoride	5.47		0.1	mg/L	5.00	0.598	98	80-120	0.2	20
Bromide	8.82		0.1	"	5.00	4.62	84	80-120	0.2	20
Nitrate as N	13.1		0.1	"	4.99	8.97	82	80-120	0.3	20

Matrix Spike Dup (B9K0110-MSD4)

Source: 0911030-10

Nitrite as N	96.8		2	mg/L	99.9	ND	97	80-120	0.4	20
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Batch B9K0111 - - General Inorganic - pH by 150.1

Prepared & Analyzed: 11/18/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Duplicate (B9K0111-DUP1)

Source: 0911030-08

pH	8.07		0.1	pH Units		8.06			0.1	20
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Reference (B9K0111-SRM1)

pH	7.05			pH Units	7.00		101	98.6-101.4		
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Reference (B9K0111-SRM2)

pH	7.05			pH Units	7.00		101	98.6-101.4		
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Reference (B9K0111-SRM3)

pH	7.03			pH Units	7.00		100	98.6-101.4		
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Batch B9K0113 - - General Inorganic - Anions

Prepared & Analyzed: 11/18/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0113-BLK1)

Fluoride	ND	U	0.1	mg/L						
Chloride	ND	U	1	"						
Nitrite as N	ND	U	0.1	"						
Bromide	ND	U	0.1	"						



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Project: Halaco 2009 Groundwater and Surface
Water Sampling

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San Francisco CA, 94105

SDG: 09322A

Reported: 12/18/09 15:26

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B9K0113 - - General Inorganic - Anions

Prepared & Analyzed: 11/18/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0113-BLK1)

Nitrate as N	ND	U	0.1	"						
Sulfate	ND	U	0.5	"						

Blank (B9K0113-BLK2)

Fluoride	ND	U	0.1	mg/L						
Chloride	ND	U	1	"						
Nitrite as N	ND	U	0.1	"						
Bromide	ND	U	0.1	"						
Nitrate as N	ND	U	0.1	"						
Sulfate	ND	U	0.5	"						

LCS (B9K0113-BS1)

Fluoride	5.04			mg/L	5.00		101	90-110		
Chloride	9.75			"	10.1		97	90-110		
Nitrite as N	4.99			"	5.00		100	90-110		
Bromide	4.98			"	5.00		100	90-110		
Nitrate as N	4.96			"	4.99		99	90-110		
Sulfate	10.1			"	10.1		100	90-110		

LCS (B9K0113-BS2)

Fluoride	4.98			mg/L	5.00		100	90-110		
Chloride	9.6			"	10.1		95	90-110		
Nitrite as N	4.95			"	5.00		99	90-110		
Bromide	4.99			"	5.00		100	90-110		
Nitrate as N	4.91			"	4.99		98	90-110		
Sulfate	9.97			"	10.1		99	90-110		

Duplicate (B9K0113-DUP2)

Source: 0911030-08RE1

Chloride	463		20	mg/L		464		0.2	20	
Sulfate	973		10	"		975		0.2	20	

Duplicate (B9K0113-DUP3)

Source: 0911030-10RE1

Chloride	420		20	mg/L		421		0.03	20	
Sulfate	978		10	"		975		0.3	20	

Batch B9K0115 - - General Inorganic - Specific Conductance

Prepared & Analyzed: 11/18/09

*** DEFAULT GENERAL METHOD *** - Quality Control

Blank (B9K0115-BLK1)

Specific Conductance (EC)	ND	U	10	umhos/c m						
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Blank (B9K0115-BLK2)

Specific Conductance (EC)	ND	U	10	umhos/c m						
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LCS (B9K0115-BS1)

Specific Conductance (EC)	1,400			umhos/c m	1410		99	95-105		
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Duplicate (B9K0115-DUP1)

Source: 0911030-08



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B9K0115 - - General Inorganic - Specific
Conductance**

Prepared & Analyzed: 11/18/09

*** DEFAULT GENERAL METHOD *** - Quality Control

Duplicate (B9K0115-DUP1)

Source: 0911030-08

Specific Conductance (EC)	3,320			10 umhos/cm		3,320			0	20
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Duplicate (B9K0115-DUP2)

Source: 0911030-14

Specific Conductance (EC)	1,990			10 umhos/cm		2,000			0.5	20
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Batch B9K0129 - - General Inorganic - Anions

Prepared & Analyzed: 11/19/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0129-BLK1)

Fluoride	ND	U		0.1 mg/L						
Chloride	ND	U		1 "						
Nitrite as N	ND	U		0.1 "						
Bromide	ND	U		0.1 "						
Nitrate as N	ND	U		0.1 "						
Sulfate	ND	U		0.5 "						

LCS (B9K0129-BS1)

Fluoride	4.96			mg/L	5.00		99	90-110		
Chloride	9.59			"	10.1		95	90-110		
Nitrite as N	4.91			"	5.00		98	90-110		
Bromide	4.94			"	5.00		99	90-110		
Nitrate as N	4.86			"	4.99		97	90-110		
Sulfate	9.96			"	10.1		99	90-110		

Batch B9K0161 - Alkalinity - Alkalinity

Prepared & Analyzed: 11/25/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0161-BLK1)

Hydroxide Alkalinity	ND	U		10 mg/L						
Carbonate Alkalinity	ND	U		10 "						
Bicarbonate Alkalinity	ND	U		10 "						
Total Alkalinity	ND	U		10 "						

LCS (B9K0161-BS1)

Total Alkalinity	100			mg/L	100		100	85-115		
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LCS (B9K0161-BS2)

Total Alkalinity	10			mg/L	10.0		100	85-115		
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Duplicate (B9K0161-DUP1)

Source: 0911030-08

Hydroxide Alkalinity	ND	U		10 mg/L		ND				20
Carbonate Alkalinity	ND	U		10 "		ND				20
Bicarbonate Alkalinity	219			10 "		217			0.9	20
Total Alkalinity	219			10 "		217			0.9	20

**Batch B9K0162 - - General Inorganic - Carbon, Total
Organic by 415.3**

Prepared & Analyzed: 11/25/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0162-BLK1)

Total Organic Carbon	ND	U		0.5 mg/L						
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Blank (B9K0162-BLK2)



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch B9K0162 - - General Inorganic - Carbon, Total
Organic by 415.3**

Prepared & Analyzed: 11/30/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9K0162-BLK2)

Total Organic Carbon	ND	U		0.5 mg/L						
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LCS (B9K0162-BS1)

Total Organic Carbon	2.85			0.5 mg/L	2.86		100	80-120		
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LCS (B9K0162-BS2)

Total Organic Carbon	2.75			0.5 mg/L	2.86		96	80-120		
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Matrix Spike (B9K0162-MS1)

Source: 0911030-08

Total Organic Carbon	15.1			1.2 mg/L	6.67	8.05	106	70-130		
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Matrix Spike Dup (B9K0162-MSD1)

Source: 0911030-08

Total Organic Carbon	15.4			1.2 mg/L	6.67	8.05	110	70-130	2	20
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Batch B9L0017 - - General Inorganic - Nitrogen, Ammonia

Prepared & Analyzed: 12/02/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9L0017-BLK1)

Ammonia as N	ND	U		0.03 mg/L						
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Blank (B9L0017-BLK2)

Ammonia as N	ND	U		0.03 mg/L						
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LCS (B9L0017-BS1)

Ammonia as N	0.5			mg/L	0.500		100	90-110		
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LCS (B9L0017-BS2)

Ammonia as N	0.508			mg/L	0.500		102	90-110		
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Matrix Spike (B9L0017-MS3)

Source: 0911030-05

Ammonia as N	1.03			0.032 mg/L	1.05	ND	98	90-110		
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Matrix Spike (B9L0017-MS4)

Source: 0911030-08

Ammonia as N	1.12			0.032 mg/L	1.05	0.09	97	90-110		
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Matrix Spike Dup (B9L0017-MSD3)

Source: 0911030-05

Ammonia as N	1.03			0.032 mg/L	1.05	ND	98	90-110	0.1	10
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Matrix Spike Dup (B9L0017-MSD4)

Source: 0911030-08

Ammonia as N	1.11			0.032 mg/L	1.05	0.09	96	90-110	0.9	10
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**Batch B9L0059 - 351.2/365.1 TKN/T-P - Nitrogen, Total
Kjeldahl**

Prepared: 12/08/09 Analyzed: 12/09/09

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B9L0059-BLK1)

Nitrogen, Total Kjeldahl	ND	U		0.1 mg/L						
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Blank (B9L0059-BLK2)

Nitrogen, Total Kjeldahl	ND	U		0.1 mg/L						
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LCS (B9L0059-BS1)

Nitrogen, Total Kjeldahl	0.943			0.1 mg/L	1.00		94	90-110		
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LCS (B9L0059-BS2)

Nitrogen, Total Kjeldahl	1.08			0.1 mg/L	1.00		108	90-110		
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Matrix Spike (B9L0059-MS1)

Source: 0911030-08

Nitrogen, Total Kjeldahl	3.8			0.1 mg/L	2.00	1.61	110	90-110		
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Matrix Spike (B9L0059-MS2)

Source: 0911030-17



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Reported: 12/18/09 15:26

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B9L0059 - 351.2/365.1 TKN/T-P - Nitrogen, Total Kjeldahl						Prepared: 12/08/09 Analyzed: 12/09/09				
Matrix Spike (B9L0059-MS2)						Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control				
Nitrogen, Total Kjeldahl	4.12			0.1 mg/L	2.00	2.05	104	90-110		
Matrix Spike Dup (B9L0059-MSD1)						Source: 0911030-17				
Nitrogen, Total Kjeldahl	3.81			0.1 mg/L	2.00	1.61	110	90-110	0.3	20
Matrix Spike Dup (B9L0059-MSD2)						Source: 0911030-08				
Nitrogen, Total Kjeldahl	4.05			0.1 mg/L	2.00	2.05	100	90-110	2	20
Source: 0911030-17										



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Qualifiers and Comments

Q9 The quantitation limit was raised for this analyte due to interference from other analytes.

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A3 The sample was prepped/analyzed past the recommended holding time.

A-01 Samples were not distilled, a deviation from the SOP.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.