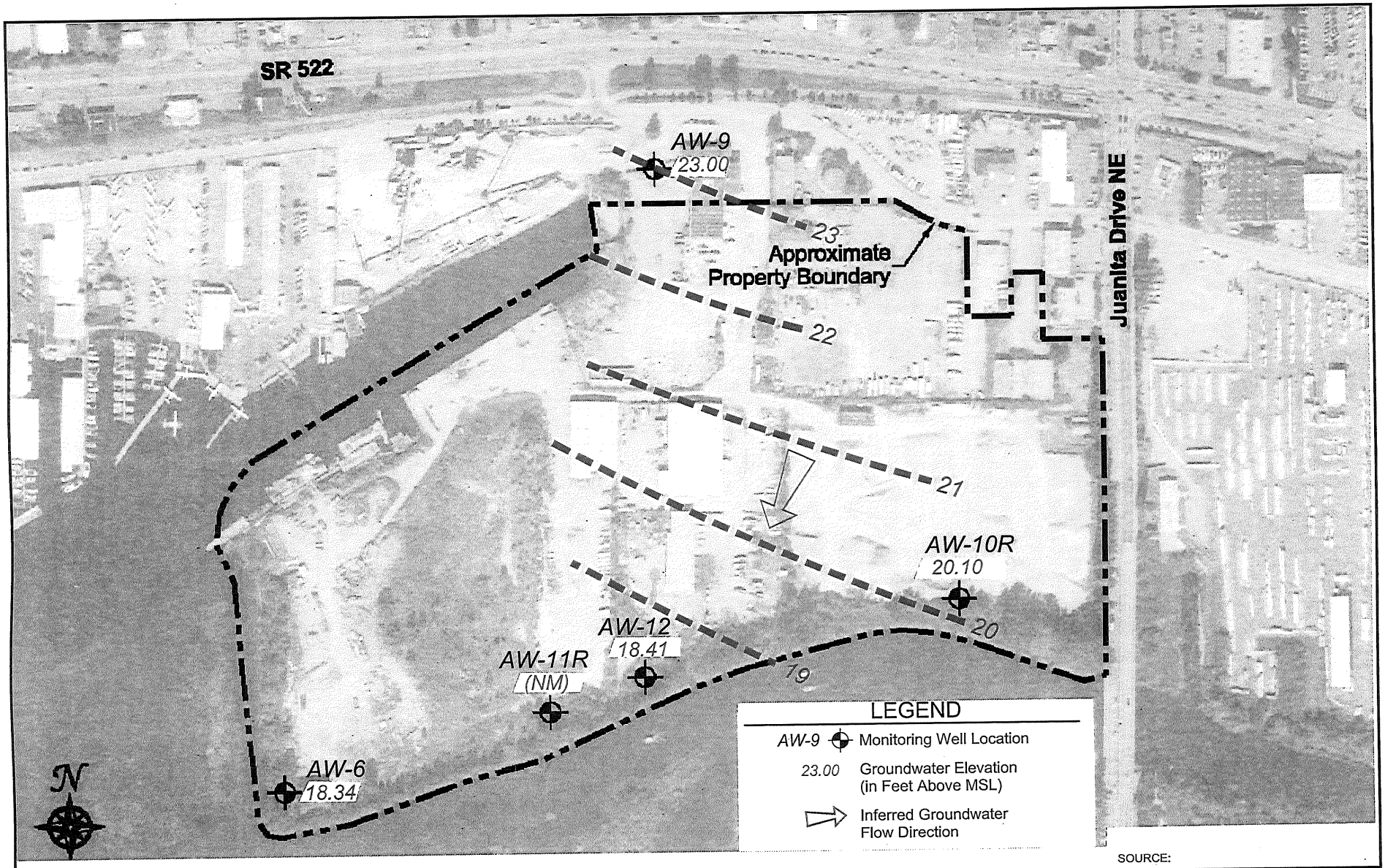
Kenmore Industrial Park (KIP) Site aka Lakepointe Deferred Industrial Maintenance Groundwater Performance Monitoring Results-April 2012

Groundwater Sampling was conducted on April 3 & 27, 2012 to evaluate changes due to Deferred Industrial Maintenance work at the KIP site. Results are reported in ug/L or parts per billion. The results show all metals are significantly below KIP and MTCA cleanup level. So Deferred Industrial Maintenance work has not caused changes to the subsurface and has not caused chemicals of concern to migrate to adjacent waterways -Sammamish River, Lake Washington and Kenmore Navigation Channel.

Wells	AW-9	AW-10	AW-12	AW-6	AW-6 dup	Cleanup Levels, ug/L		
Analytes	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	KIP	MTCA	Method
Arsenic	0.21	1.96	1.80	1.00	1.01	5	5	A
Barium	9.98	104	126	400	434	1000	560	A&B
Cadmium	0.022	0.020 U	0.020 U	0.020 U	0.020 U	ns	5	A
Copper	0.45	0.70	0.70	0.65	0.59	ns	592	B
Chromium	1.69	1.52	1.73	1.18	1.35	ns	50	A
Lead	0.020 U	0.874	0.457	1.97	1.93	14.4*	15	A&B
Mercury	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	ns	2	A
Nickel	1.60	3.10	2.78	0.80	0.58	ns	320	B**
Antimony	0.20 U	0.20 U	0.44	0.49	0.46	ns	6.40	B
Selenium	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	ns	32	B
Silver	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	ns	80	B
Zinc	6.0	27.6	3.7	20.0	15.3	ns	32	B

Manchester Environmental Laboratory conducted Priority Pollutant Metal analyses for the April 2012 results.
All dissolved metal results are listed above in ug/L or parts per billion with KIP site specific cleanup levels and Model Toxics Control Act Method A or B cleanup levels. Total metal results are listed on laboratory sheets.
Note, KIP site specific metal cleanup levels are defined as dissolved metals, not total metals.
Results for mercury, beryllium, selenium and thallium analyses showed no detection and below cleanup level.
* Consent Decreee defined lead cleanup level based on water hardness of 524 mg.eq./L using MTCA formula.
** Cleanup level for nickel based on CLARC version 3 MTCA Method B nickel soluble salts.
U = analyte was not detected at or above laboratory reporting limit with listed reporting limit.
J = analyte was positively identified and associated numerical result is an estimate.
ns = Cleanup level was not specified in the KIP Consent Decree and analyte was not identified as a chemical of concern at the KIP site.

Department of Ecology draft June 26, 2012.



SOURCE:

SCS ENGINEERS
Environmental Consultants and Contractors
2405 140th Avenue NE, Suite 107
Bellevue, Washington 98005
(425) 746-4600 FAX: (425) 746-6747

0 600
Scale in Feet

PROJECT NO.	DES BY
04209040.00	S.A.
SCALE	CHK BY
AS SHOWN	E.S.
CAD FILE	APP BY
FIGURE 3	K.L.

WATER LEVEL MAP
APRIL 3, 2012

KENMORE INDUSTRIAL PARK
KENMORE, WASHINGTON

DATE JUNE 2012

FIGURE 3

Laboratory Analyses Required

Project Name: Kenmore Industrial Park Site
SIC: ______ **Program:** TCP- NWRO
Send Results to: ______ **Mail Stop:** ______

☐ Preliminary Investigation
☒ Monitoring
☐ For HW Designation
☐ For NPDES

Date Results needed by: Standard Turn-around
☒ There is a QAPP for this project

General Chemistry: Alkalinity; Conductivity; pH; Turbidity; ☐ Chloride ☐ Sulfate; ☐ Fluoride; Cyanide ☐ Total ☐ Weak; Total Solids; Total Nonvolatile Solids; Total Suspended Solids; Total Nonvol Suspend; Total Dissolved Solids; ☐ % Solids ☐ % Vol Solids; TOC; DOC; BOD (5 day); BOD, Ultimate; Oil & Grease; Ammonia; Nitrate-Nitrite; Total Phos. ☐ low level; Orthophos.; Nitrate; Nitrite; ☐ TPN ☐ TKN; Chlorophyll ☐ filters

Micro: Fecal Coliforms ☐ MF ☐ MPN; Total Coliforms ☐ MF ☐ MPN; E-Coli ☐ MF ☐ MPN; %Klebsiella; Enterococcus

Metals ✳ (☐Total ☐Total Rec. ☐Dissolved): Metals Scan ☐ low level; TCLP Metals; Mercury (Hg) ☐ low level; Hardness; PP Mets; Total/Dissolved PP Mets

Organic Chemistry: BNA ☐ w/extensive TIC's; PAH's; VOA ☐ w/extensive TIC's; BTEX; Pests/PCB's; PCB's only; OP - Pests; N-Pest; Herbicides; NWTPH-HCID; NWTPH-G; NWTPH-D; HCID Only (Hydrocarbon ID)

Year: 12

Date Mo	Date Da	Time Hr Mn	Field Station Identification	Lab Sample Number	Matrix Code	Source Code	No. of Containers	PP Mets	Total/Dissolved PP Mets
04	03	0930	1204032	4W1001	10	23	1		X
		0935		1002	11		1	X	
		1039		4W1003	10		1		X
		1045		4W1004	11		1	X	
		1215		4W1205	10		1		X
		1220		4W1206	11		1	X	
		1346		4W0607	10		1		X
		1346		4W0608	11		1	X	
		1351		4W2909	10		1		X
		1351		4W2910	11		1	X	

Project Officer: Maura O'Brien
Phone number: 425-649-7249
Samplers: MSO'Brien
Sam Adlington, SCS
Recorder: M.S. O'Brien
Date: April 3, 2012

Chain of Custody Record

Relinquished By:	Received By:	Yr	Mo	Da	Hr	Mn	Seal I.D.	Condition of Seals	Comments
MSOB		12	04	03	16	05	004728427	Good	2-coolers/Red/Blu Tags

✳ Comments: Priority Poll. Metal analyses - all samples with pre measured Nitric acid. Dissolved samples filtered "in field" with .45 micron filter.

ECY 040-115 (Rev. 01/01)

Laboratory Analyses Required

1204044

Project Name: Kenmore Industrial Park
SIC: JA140 **Program:** TCP- NWRO
Send Results to: Maura S O'Brien **Mail Stop:** NWRO-TCP

☐ Preliminary Investigation ☒ Monitoring ☐ For HW Designation ☐ For NPDES

Date Results needed by: Standard Turnaround
Name/Reference # of QAPP for this project: Standard

Year: 2012

Date Mo	Date Day	Time (Military 0001-2400) Hr	Mn	Field Station Identification	Manchester Lab Sample Number	Matrix Code	Source Code	No. of Containers	Metals: PP Mets	Metals: Mercury (Hg) ☐ low level	Metals: Hardness	Metals: Individual Elements (please list) Barium	☐ Total	☐ Dissolved
04	27	10	05	1204044-01	11K-01	17	23	1	X			X	X	
04	27	10	10	1204044-02	11K-02	17	23	1	X			X		X

NR (handwritten beside the second row)

General Chemistry (no analyses marked): Alkalinity, Conductivity, pH, Turbidity, ☐ Chloride ☐ Sulfate, Fluoride, Total Suspended Solids, Total Dissolved Solids, ☐ Total Solids ☐ % Sol ☐ % Vol Sol, TOC, DOC, BOD5, Oil & Grease (HEM), Ammonia, Nitrite/Nitrate, Total Phosphorus, Orthophosphate, TPN, Chlorophyll ☐ filters

Micro (no analyses marked): Fecal Coliform ☐ MF ☐ MPN, Total Coliform ☐ MF ☐ MPN, E. Coli ☐ MF ☐ MPN, % Klebsiella, Enterococcus

Organic Chemistry (no analyses marked): VOA, BTEX, TPHG, TPHD, HCID Only (Hydrocarbon ID), PCB aroclors, ☐ Pest 1 ☐ w/PCB aroclors, ☐ Pest 2 ☐ w/PCB aroclors, ☐ Pest 3 ☐ w/PCB aroclors, Carbamates, PESTMS, Herbicides, PBDE, BNA, PAH

Project Officer: MSO'BRIEN
Phone Number: 425-649-7249
Cell Number:
Samplers: Sam Adlington

Chain of Custody Record

Relinquished By:	Received By:	Yr	Mo	Da	Hr	Mn	Seal I.D.	Condition of Seals	Comments (Temperature, Preserv., etc.)
MSO'BRIEN		12	04	27	12	06	11-27-12	Good	
Tukwila	[signature]	12	04	2̶7̶ 30	08	30	custody seals	Intact	Cooler 1°C
									pH ≤ 2

Recorder: MSO'BRIEN

Comments:

Manchester Environmental Laboratory

7411 Beach Drive E, Port Orchard, Washington 98366

Case Narrative

May 21, 2012

Project: Metals Kenmore Industrial Park Site

Work Order: 1204044

Project Manager: OBrien, Maura

By: Meredith Jones MJ

Summary

The laboratory followed EPA 200.8 for the preparation and analysis of trace metals and EPA 245.1 for the preparation and analysis of mercury.

All analyses requested were evaluated by established regulatory quality assurance guidelines.

Sample Information

The samples were received at the Manchester Laboratory on 4/30/2012. The samples were received in good condition and were properly preserved. Two samples were received and assigned laboratory identification numbers 1204044-01 and 1204044-02.

Holding Times

The laboratory performed all analyses within their hold times.

Calibration

The instruments were calibrated following the appropriate methods. All initial and continuing calibration verification checks were within the acceptance limits. All initial and continuing calibration verification and blank checks were within the acceptance limits. All standard residuals were within acceptance limits. All r-values were within

acceptance limits. The instruments were calibrated with NIST traceable standards and verified to be in calibration with a second source NIST traceable standard.

Method Blanks

No analytically significant levels of analyte were detected in the method blanks associated with these samples.

Laboratory Control Samples

All laboratory control sample recoveries were within the acceptance limits.

Replicates

All associated duplicate relative percent differences of samples with concentrations greater than 5 times the reporting limit were within the acceptance limits.

Matrix Spikes

All matrix spike (MS) recoveries were within the acceptance limits except for dissolved selenium and dissolved barium.

Both MS/MSD recoveries for sample 1204044-02 for dissolved barium were outside of the acceptance limits. The standard spiking level was insufficient for the elevated concentration in the source sample therefore the recovery was not evaluated.

Both MS/MSD recoveries for sample 1204044-02 for dissolved selenium were outside of the acceptance limits due to matrix interference. The source sample was qualified as an estimate.

Internal Standards

All internal standard recoveries were within the acceptance limits.

Other Quality Assurance Measures and Issues

Sample numbers 1204044-02 for dissolved chromium was prepared by EPA 200.8 due to matrix interference, causing an elevated result when analyzed without preparation.

Samples where the dissolved result is greater than the associated total result with concentrations less than 5 times the reporting or where the relative percent difference was < 20% were not evaluated.

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

bold - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Please call Meredith Jones at (360) 871-8833 to further discuss this project.

cc: Project File

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Zinc, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Zinc
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	**1204044-11R-02**	**10.3**		1.0	0.03	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	1.0	U	1.0	0.03	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.0	20			100	85-115		
B12E127-MS1	Matrix Spike	27.8	20	1204044-02	10.3	88	75-125		
B12E127-MSD1	Matrix Spike Dup	28.5	20	1204044-02	10.3	91	75-125	2	20

Authorized by: M Jom

Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Zinc

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 | **Analyte: Zinc** | **Matrix: Water**
Project Officer: OBrien, Maura | **Method: EPA200.8** | **Units: ug/L**
Date Collected: 04/27/2012 | **Date Analyzed: 05/07/2012**

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	42.5		5.0	0.7	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	5.0	U	5.0	0.7	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	21.0	20			105	85-115		
B12E011-MS1	Matrix Spike	60.7	20	1204033-01	41.8	95	75-125		
B12E011-MSD1	Matrix Spike Dup	61.0	20	1204033-01	41.8	96	75-125	0.4	20

Authorized by: M Joan **Release Date:** 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Thallium, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Thallium
Method: EPA200.8
Date Analyzed: 05/16/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.10	U	0.10	0.002	04/27/12	05/16/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.10	U	0.10	0.002	05/16/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.4	20			102	85-115		
B12E127-MS1	Matrix Spike	21.9	20	1204044-02	0.023	109	75-125		
B12E127-MSD1	Matrix Spike Dup	23.1	20	1204044-02	0.023	115	75-125	5	20

Authorized by: _____ Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Thallium

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 **Analyte:** Thallium **Matrix:** Water
Project Officer: OBrien, Maura **Method:** EPA200.8 **Units:** ug/L
Date Collected: 04/27/2012 **Date Analyzed:** 05/07/2012

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.10	U	0.10	0.003	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.003	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.9	20			105	85-115		
B12E011-MS1	Matrix Spike	20.7	20	1204033-01	0.020	104	75-125		
B12E011-MSD1	Matrix Spike Dup	22.3	20	1204033-01	0.020	111	75-125	7	20

Authorized by: M. Joan **Release Date:** 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Selenium, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Selenium
Method: EPA200.8
Date Analyzed: 05/16/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.56	J	0.50	0.09	04/27/12	05/16/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.50	U	0.50	0.09	05/16/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	19.8	20			99	85-115		
B12E127-MS1	Matrix Spike	39.3	20	1204044-02	0.562	194	75-125		
B12E127-MSD1	Matrix Spike Dup	41.7	20	1204044-02	0.562	205	75-125	6	20

Authorized by: MJan

Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Selenium

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Selenium
Method: EPA200.8
Date Analyzed: 05/07/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.50	U	0.50	0.16	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.50	U	0.50	0.16	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.3	20			102	85-115		
B12E011-MS1	Matrix Spike	21.2	20	1204033-01	0.985	101	75-125		
B12E011-MSD1	Matrix Spike Dup	21.2	20	1204033-01	0.985	101	75-125	0.3	20

Authorized by: _____ **Release Date:** 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Antimony, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Antimony
Method: EPA200.8
Date Analyzed: 05/15/2012

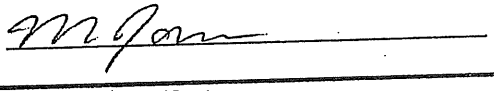
Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.25		0.20	0.004	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.20	U	0.20	0.004	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.0	20			100	85-115		
B12E127-MS1	Matrix Spike	20.5	20	1204044-02	0.253	101	75-125		
B12E127-MSD1	Matrix Spike Dup	20.7	20	1204044-02	0.253	102	75-125	1	20

Authorized by: 

Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Antimony

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Antimony
Method: EPA200.8
Date Analyzed: 05/07/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.46		0.20	0.12	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.20	U	0.20	0.12	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.3	20			102	85-115		
B12E011-MS1	Matrix Spike	21.5	20	1204033-01	0.671	104	75-125		
B12E011-MSD1	Matrix Spike Dup	21.4	20	1204033-01	0.671	104	75-125	0.1	20

Authorized by: M Jon

Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Lead, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Lead
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	1.54		0.020	0.002	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.020	U	0.020	0.002	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.2	20			101	85-115		
B12E127-MS1	Matrix Spike	22.3	20	1204044-02	1.54	104	75-125		
B12E127-MSD1	Matrix Spike Dup	22.9	20	1204044-02	1.54	107	75-125	3	20

Authorized by: MJ

Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Lead

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012
Analyte: Lead
Method: EPA200.8
Date Analyzed: 05/07/2012
Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	33.6		0.10	0.01	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.01	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	19.0	20			95	85-115		
B12E011-MS1	Matrix Spike	18.9	20	1204033-01	0.338	93	75-125		
B12E011-MSD1	Matrix Spike Dup	18.8	20	1204033-01	0.338	92	75-125	0.6	20

Authorized by: M Jones **Release Date:** 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Nickel, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Nickel
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.10	U	0.10	0.01	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.10	U	0.10	0.01	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result		%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.1	20				101	85-115		
B12E127-MS1	Matrix Spike	21.5	20	1204044-02	0.10	U	108	75-125		
B12E127-MSD1	Matrix Spike Dup	21.3	20	1204044-02	0.10	U	107	75-125	0.9	20

Authorized by: M Jorn **Release Date:** 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Nickel

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Nickel
Method: EPA200.8
Date Analyzed: 05/07/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.10	U	0.10	0.04	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.04	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.2	20			101	85-115		
B12E011-MS1	Matrix Spike	44.3	20	1204033-01	24.1	101	75-125		
B12E011-MSD1	Matrix Spike Dup	44.7	20	1204033-01	24.1	103	75-125	0.8	20

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Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Mercury, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Mercury
Method: EPA245.1
Date Analyzed: 05/07/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.050	U	0.050	0.014	04/27/12	05/07/12	B12E004

QC Results for Batch ID: B12E004

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E004-BLK1	Blank	0.050	U	0.050	0.014	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result		%Rec	%Rec Limits	RPD	RPD Limit
B12E004-BS1	LCS	0.983	1				98	80-120		
B12E004-MS1	Matrix Spike	0.995	1	1204044-02	0.050	U	100	75-115		
B12E004-MSD1	Matrix Spike Dup	0.995	1	1204044-02	0.050	U	100	75-115	0	20

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Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Mercury

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 | **Analyte: Mercury** | **Matrix: Water**
Project Officer: OBrien, Maura | **Method: EPA245.1** | **Units: ug/L**
Date Collected: 04/27/2012 | **Date Analyzed: 05/03/2012**

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.050	U	0.050	0.004	04/27/12	05/03/12	B12E001

QC Results for Batch ID: B12E001

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E001-BLK1	Blank	0.050	U	0.050	0.004	05/03/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E001-BS1	LCS	1.00	1			100	80-120		
B12E001-MS1	Matrix Spike	1.26	1	1204082-02	0.282	97	75-115		
B12E001-MSD1	Matrix Spike Dup	1.30	1	1204082-02	0.282	102	75-115	4	20

Authorized by: M Jorn **Release Date:** 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Copper, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Copper
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	1.03		1.00	0.03	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.10	U	0.10	0.003	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	19.8	20			99	85-115		
B12E127-MS1	Matrix Spike	20.5	20	1204044-02	1.03	97	75-125		
B12E127-MSD1	Matrix Spike Dup	21.1	20	1204044-02	1.03	100	75-125	3	20

Authorized by: M Jonn Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Copper

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 **Analyte:** Copper **Matrix:** Water
Project Officer: OBrien, Maura **Method:** EPA200.8 **Units:** ug/L
Date Collected: 04/27/2012 **Date Analyzed:** 05/07/2012

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	1.55		0.10	0.03	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.03	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.0	20			100	85-115		
B12E011-MS1	Matrix Spike	23.4	20	1204033-01	3.47	100	75-125		
B12E011-MSD1	Matrix Spike Dup	23.5	20	1204033-01	3.47	100	75-125	0.5	20

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Chromium, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Chromium
Method: EPA200.8
Date Analyzed: 05/18/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	1.63		0.25	0.03	04/27/12	05/18/12	B12E149

QC Results for Batch ID: B12E149

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E149-BLK1	Blank	0.25	U	0.25	0.03	05/18/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E149-BS1	LCS	19.7	20			98	85-115		
B12E149-MS1	Matrix Spike	24.2	20	1204044-02	1.63	113	75-125		
B12E149-MSD1	Matrix Spike Dup	24.4	20	1204044-02	1.63	114	75-125	0.7	20

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Release Date: 5/21/12

Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Chromium

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 **Analyte:** Chromium **Matrix:** Water
Project Officer: OBrien, Maura **Method:** EPA200.8 **Units:** ug/L
Date Collected: 04/27/2012 **Date Analyzed:** 05/08/2012

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	1.58		0.50	0.06	04/27/12	05/08/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.50	U	0.50	0.06	05/08/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	19.6	20			98	85-115		
B12E011-MS1	Matrix Spike	21.1	20	1204033-01	0.865	101	75-125		
B12E011-MSD1	Matrix Spike Dup	21.1	20	1204033-01	0.865	101	75-125	0.2	20

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Cadmium, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Cadmium
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.020	U	0.020	0.002	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.020	U	0.020	0.002	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result		%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.3	20				102	85-115		
B12E127-MS1	Matrix Spike	19.9	20	1204044-02	0.007	U	99	75-125		
B12E127-MSD1	Matrix Spike Dup	20.4	20	1204044-02	0.007	U	102	75-125	2	20

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Release Date: 5/21/12

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Washington State Department of Ecology
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Final Analysis Report for
Cadmium

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 **Analyte:** Cadmium **Matrix:** Water
Project Officer: OBrien, Maura **Method:** EPA200.8 **Units:** ug/L
Date Collected: 04/27/2012 **Date Analyzed:** 05/07/2012

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.10	U	0.10	0.003	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.003	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	19.2	20			96	85-115		
B12E011-MS1	Matrix Spike	19.1	20	1204033-01	0.318	94	75-125		
B12E011-MSD1	Matrix Spike Dup	19.0	20	1204033-01	0.318	93	75-125	0.7	20

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Beryllium, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Beryllium
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.10	U	0.10	0.01	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.10	U	0.10	0.01	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	19.8	20			99	85-115		
B12E127-MS1	Matrix Spike	20.2	20	1204044-02	0.025	101	75-125		
B12E127-MSD1	Matrix Spike Dup	20.3	20	1204044-02	0.025	101	75-125	0.5	20

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Beryllium

Project Name: Kenmore Industrial Park Site

Work Order: 1204044 **Analyte:** Beryllium **Matrix:** Water
Project Officer: OBrien, Maura **Method:** EPA200.8 **Units:** ug/L
Date Collected: 04/27/2012 **Date Analyzed:** 05/07/2012

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.10	U	0.10	0.01	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.01	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	19.1	20			96	85-115		
B12E011-MS1	Matrix Spike	18.8	20	1204033-01	0.053	94	75-125		
B12E011-MSD1	Matrix Spike Dup	18.8	20	1204033-01	0.053	94	75-125	0.2	20

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Barium, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Barium
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	571		1.00	0.07	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.10	U	0.10	0.007	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	19.5	20			98	85-115		
B12E127-MS1	Matrix Spike	569	20	1204044-02	571	-10	75-125		
B12E127-MSD1	Matrix Spike Dup	579	20	1204044-02	571	39	75-125	2	20

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Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Barium

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Barium
Method: EPA200.8
Date Analyzed: 05/08/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	**1204044-11R-01**	587		1.00	0.06	04/27/12	05/08/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.006	05/08/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	19.7	20			98	85-115		
B12E011-MS1	Matrix Spike	37.1	20	1204033-01	16.5	103	75-125		
B12E011-MSD1	Matrix Spike Dup	37.0	20	1204033-01	16.5	102	75-125	0.3	20

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Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Arsenic, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Arsenic
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	1.47		1.00	0.10	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.10	U	0.10	0.01	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	19.8	20			99	85-115		
B12E127-MS1	Matrix Spike	22.7	20	1204044-02	1.47	106	75-125		
B12E127-MSD1	Matrix Spike Dup	23.5	20	1204044-02	1.47	110	75-125	3	20

Authorized by: _____ Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Arsenic

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Arsenic
Method: EPA200.8
Date Analyzed: 05/07/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	1.72		0.10	0.04	04/27/12	05/07/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.04	05/07/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.3	20			102	85-115		
B12E011-MS1	Matrix Spike	28.9	20	1204033-01	7.75	106	75-125		
B12E011-MSD1	Matrix Spike Dup	28.6	20	1204033-01	7.75	104	75-125	0.9	20

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Release Date: 5/21/12

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Silver, Dissolved

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Silver
Method: EPA200.8
Date Analyzed: 05/15/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-02	1204044-11R-02	0.020	U	0.020	0.002	04/27/12	05/15/12	B12E127

QC Results for Batch ID: B12E127

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E127-BLK1	Blank	0.020	U	0.020	0.002	05/15/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result		%Rec	%Rec Limits	RPD	RPD Limit
B12E127-BS1	LCS	20.8	20				104	85-115		
B12E127-MS1	Matrix Spike	19.8	20	1204044-02	0.020	U	99	75-125		
B12E127-MSD1	Matrix Spike Dup	20.1	20	1204044-02	0.020	U	101	75-125	2	20

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Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Silver

Project Name: Kenmore Industrial Park Site

Work Order: 1204044
Project Officer: OBrien, Maura
Date Collected: 04/27/2012

Analyte: Silver
Method: EPA200.8
Date Analyzed: 05/08/2012

Matrix: Water
Units: ug/L

Sample #	Sample ID	Result	Qualifier	RL	MDL	Collected	Analyzed	Batch ID
1204044-01	1204044-11R-01	0.10	U	0.10	0.003	04/27/12	05/08/12	B12E011

QC Results for Batch ID: B12E011

Method Blank	Sample ID	Result	Qualifer	RL	MDL	Analyzed
B12E011-BLK1	Blank	0.10	U	0.10	0.003	05/08/12

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result		%Rec	%Rec Limits	RPD	RPD Limit
B12E011-BS1	LCS	20.2	20				101	85-115		
B12E011-MS1	Matrix Spike	18.9	20	1204033-01	0.10	U	95	75-125		
B12E011-MSD1	Matrix Spike Dup	18.9	20	1204033-01	0.10	U	94	75-125	0.5	20

Authorized by: M Jan

Release Date: 5/21/12

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