SAF-RC-008
ERDF Groundwater Well Samples
FINAL DATA PACKAGE

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COMMENTS:

SDG K3987 SAF-RC-008

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

ERDF Groundwater Well Samples – September 2012

FAX COVER SHEET

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LIONVILLE LABORATORY

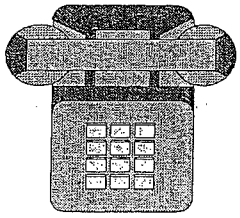
Lionville Laboratory

264 Welsh Pool Road
Exton, PA 19341-1333
Phone: (610) 280-3000
Fax: (610) 280-3041

DATE: 10/11/12

TIME:

NO. PAGES: (including cover sheet)



TO: Joan Kessler

OF: WCH

FAX #:

FROM: Arlette Johnson

COPY TO:

MESSAGE: Data for K3987 VOA
metals
wet chem

1209032

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LXB4
1209032-01 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Volatile Organic Compounds by SW846 8260B									
1,1,1-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2,2-Tetrachloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethene (total)	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloropropane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Butanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Hexanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
4-Methyl-2-pentanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Acetone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Benzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromodichloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromoform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromomethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Disulfide	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Tetrachloride	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chlorobenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloromethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Dibromochloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Ethylbenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Methylene Chloride	6.00	U	6.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Styrene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Tetrachloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Toluene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Trichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Vinyl chloride	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Xylenes, total	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*60-140*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LXB4

1209032-01 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Volatile Organic Compounds by SW846 8260B								
Surrogate: Toluene-d8	*95 %*	*65-120*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*
Surrogate: 4-Bromofluorobenzene	*95 %*	*75-130*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LX83
1209032-03 (Water)

Lionville Laboratory

Volatile Organic Compounds by SW846 8260B

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,1,1-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2,2-Tetrachloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethene (total)	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloropropane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Butanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Hexanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
4-Methyl-2-pentanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Acetone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Benzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromodichloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromoform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromomethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Disulfide	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Tetrachloride	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chlorobenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloromethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Dibromochloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Ethylbenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Methylene Chloride	6.00	U	6.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Styrene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Tetrachloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Toluene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Trichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Vinyl chloride	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Xylenes, total	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Surrogate: 1,2-Dichloroethane-d4	*111 %*		*60-140*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LX83

1209032-03 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Volatile Organic Compounds by SW846 8260B								
Surrogate: Toluene-d8	*99 %*	*65-120*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*
Surrogate: 4-Bromofluorobenzene	*97 %*	*75-130*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LX89
1209032-06 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Volatile Organic Compounds by SW846 8260B									
1,1,1-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2,2-Tetrachloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethene (total)	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloropropane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Butanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Hexanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
4-Methyl-2-pentanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Acetone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Benzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromodichloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromoform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromomethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Disulfide	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Tetrachloride	**2.02**	J	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chlorobenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloromethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Dibromochloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Ethylbenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Methylene Chloride	6.00	U	6.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Styrene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Tetrachloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Toluene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Trichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Vinyl chloride	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Xylenes, total	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*60-140*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LX89

1209032-06 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Volatile Organic Compounds by SW846 8260B								
Surrogate: Toluene-d8	*96 %*	*65-120*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*
Surrogate: 4-Bromofluorobenzene	*91 %*	*75-130*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LX90

1209032-07 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Volatile Organic Compounds by SW846 8260B									
1,1,1-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2,2-Tetrachloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethene (total)	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloropropane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Butanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Hexanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
4-Methyl-2-pentanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Acetone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Benzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromodichloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromoform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromomethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Disulfide	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Tetrachloride	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chlorobenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloromethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Dibromochloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Ethylbenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Methylene Chloride	**2.23**	J	6.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Styrene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Tetrachloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Toluene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Trichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Vinyl chloride	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Xylenes, total	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*60-140*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LX90

1209032-07 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Volatile Organic Compounds by SW846 8260B								
Surrogate: Toluene-d8	*96 %*	*65-120*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*
Surrogate: 4-Bromofluorobenzene	*93 %*	*75-130*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LXB3

1209032-10 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Volatile Organic Compounds by SW846 8260B									
1,1,1-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2,2-Tetrachloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1,2-Trichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,1-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloroethene (total)	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
1,2-Dichloropropane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Butanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
2-Hexanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
4-Methyl-2-pentanone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Acetone	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Benzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromodichloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromoform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Bromomethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Disulfide	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Carbon Tetrachloride	**1.21**	J	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chlorobenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloroform	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Chloromethane	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
cis-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Dibromochloromethane	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Ethylbenzene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Methylene Chloride	6.00	U	6.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Styrene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Tetrachloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,2-Dichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Toluene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
trans-1,3-Dichloropropene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Trichloroethene	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Vinyl chloride	10.0	U	10.0	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Xylenes, total	5.00	U	5.00	ug/L	1	L209091	09/13/2012	09/13/2012	8260B
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*60-140*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

B2LXB3

1209032-10 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Volatile Organic Compounds by SW846 8260B								
Surrogate: Toluene-d8	*97 %*	*65-120*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*
Surrogate: 4-Bromofluorobenzene	*95 %*	*75-130*			*L209091*	*09/13/2012*	*09/13/2012*	*8260B*

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

Volatile Organic Compounds by SW846 8260B - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209091 - SW 5030B										
Blank (L209091-BLK1)				Prepared & Analyzed: 09/13/2012						
1,1,1-Trichloroethane	5.00	U	5.00	ug/L						
1,1,2,2-Tetrachloroethane	5.00	U	5.00	ug/L						
1,1,2-Trichloroethane	5.00	U	5.00	ug/L						
1,1-Dichloroethane	5.00	U	5.00	ug/L						
1,1-Dichloroethene	5.00	U	5.00	ug/L						
1,2-Dichloroethane	5.00	U	5.00	ug/L						
1,2-Dichloroethene (total)	5.00	U	5.00	ug/L						
1,2-Dichloropropane	5.00	U	5.00	ug/L						
2-Butanone	10.0	U	10.0	ug/L						
2-Hexanone	10.0	U	10.0	ug/L						
4-Methyl-2-pentanone	10.0	U	10.0	ug/L						
Acetone	10.0	U	10.0	ug/L						
Benzene	5.00	U	5.00	ug/L						
Bromodichloromethane	5.00	U	5.00	ug/L						
Bromoform	5.00	U	5.00	ug/L						
Bromomethane	10.0	U	10.0	ug/L						
Carbon Disulfide	5.00	U	5.00	ug/L						
Carbon Tetrachloride	5.00	U	5.00	ug/L						
Chlorobenzene	5.00	U	5.00	ug/L						
Chloroethane	10.0	U	10.0	ug/L						
Chloroform	5.00	U	5.00	ug/L						
Chloromethane	10.0	U	10.0	ug/L						
cis-1,2-Dichloroethene	5.00	U	5.00	ug/L						
cis-1,3-Dichloropropene	5.00	U	5.00	ug/L						
Dibromochloromethane	5.00	U	5.00	ug/L						
Ethylbenzene	5.00	U	5.00	ug/L						
Methylene Chloride	6.00	U	6.00	ug/L						
Styrene	5.00	U	5.00	ug/L						
Tetrachloroethene	5.00	U	5.00	ug/L						
trans-1,2-Dichloroethene	5.00	U	5.00	ug/L						
Toluene	5.00	U	5.00	ug/L						
trans-1,3-Dichloropropene	5.00	U	5.00	ug/L						
Trichloroethene	5.00	U	5.00	ug/L						
Vinyl chloride	10.0	U	10.0	ug/L						
Xylenes, total	5.00	U	5.00	ug/L						
Surrogate: 1,2-Dichloroethane-d4	*53.6*			*ug/L*	*50.000*		*107*	*60-140*		

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

Volatile Organic Compounds by SW846 8260B - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209091 - SW 5030B									
Blank (L209091-BLK1)			Prepared & Analyzed: 09/13/2012						
Surrogate: Toluene-d8	*48.6*		*ug/L*	*50.000*		*97*	*65-120*		
Surrogate: 4-Bromofluorobenzene	*48.7*		*ug/L*	*50.000*		*97*	*75-130*		
LCS (L209091-BS1)			Prepared & Analyzed: 09/13/2012						
1,1,1-Trichloroethane	52.9	5.00	ug/L	50.000		106	70-130		
1,1,2,2-Tetrachloroethane	44.8	5.00	ug/L	50.000		90	65-130		
1,1,2-Trichloroethane	46.8	5.00	ug/L	50.000		94	70-125		
1,1-Dichloroethane	51.0	5.00	ug/L	50.000		102	70-130		
1,1-Dichloroethene	48.4	5.00	ug/L	50.000		97	65-140		
1,2-Dichloroethane	53.9	5.00	ug/L	50.000		108	60-140		
1,2-Dichloroethene (total)	99.6	5.00	ug/L	100.00		100	70-130		
1,2-Dichloropropane	51.4	5.00	ug/L	50.000		103	75-125		
2-Butanone	47.6	10.0	ug/L	50.000		95	20-200		
2-Hexanone	52.3	10.0	ug/L	50.000		105	20-200		
4-Methyl-2-pentanone	42.5	10.0	ug/L	50.000		85	45-150		
Acetone	71.8	10.0	ug/L	50.000		144	20-220		
Benzene	50.5	5.00	ug/L	50.000		101	75-125		
Bromodichloromethane	53.3	5.00	ug/L	50.000		107	65-130		
Bromoform	49.7	5.00	ug/L	50.000		99	70-120		
Bromomethane	49.1	10.0	ug/L	50.000		98	50-150		
Carbon Disulfide	47.6	5.00	ug/L	50.000		95	50-150		
Carbon Tetrachloride	55.5	5.00	ug/L	50.000		111	65-130		
Chlorobenzene	48.7	5.00	ug/L	50.000		97	75-125		
Chloroethane	53.2	10.0	ug/L	50.000		106	65-140		
Chloroform	54.3	5.00	ug/L	50.000		109	75-125		
Chloromethane	49.7	10.0	ug/L	50.000		99	50-135		
cis-1,2-Dichloroethene	51.0	5.00	ug/L	50.000		102	70-125		
cis-1,3-Dichloropropene	45.3	5.00	ug/L	50.000		91	70-125		
Dibromochloromethane	49.7	5.00	ug/L	50.000		99	70-130		
Ethylbenzene	50.6	5.00	ug/L	50.000		101	75-125		
Methylene Chloride	47.7	6.00	ug/L	50.000		95	55-150		
Styrene	50.9	5.00	ug/L	50.000		102	75-130		
Tetrachloroethene	49.5	5.00	ug/L	50.000		99	70-130		
trans-1,2-Dichloroethene	48.6	5.00	ug/L	50.000		97	70-130		
Toluene	48.8	5.00	ug/L	50.000		98	70-130		
trans-1,3-Dichloropropene	50.2	5.00	ug/L	50.000		100	70-130		
Trichloroethene	50.5	5.00	ug/L	50.000		101	75-125		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 09/17/2012 13:20

Volatile Organic Compounds by SW846 8260B - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209091 - SW 5030B									
LCS (L209091-BS1)			Prepared & Analyzed: 09/13/2012						
Vinyl chloride	50.6	10.0	ug/L	50.000		101	55-135		
Xylenes, total	152	5.00	ug/L	150.00		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	*51.8*		*ug/L*	*50.000*		*104*	*60-140*		
Surrogate: Toluene-d8	*47.9*		*ug/L*	*50.000*		*96*	*65-120*		
Surrogate: 4-Bromofluorobenzene	*49.2*		*ug/L*	*50.000*		*98*	*75-130*		
Matrix Spike (L209091-MS1)		**Source: 1209032-03**	Prepared & Analyzed: 09/13/2012						
1,1,1-Trichloroethane	50.2	5.00	ug/L	50.000	5.00 U	100	70-130		
1,1,2,2-Tetrachloroethane	44.2	5.00	ug/L	50.000	5.00 U	88	65-130		
1,1,2-Trichloroethane	46.5	5.00	ug/L	50.000	5.00 U	93	70-125		
1,1-Dichloroethane	49.1	5.00	ug/L	50.000	5.00 U	98	70-130		
1,1-Dichloroethene	47.3	5.00	ug/L	50.000	5.00 U	95	65-140		
1,2-Dichloroethane	51.3	5.00	ug/L	50.000	5.00 U	103	60-140		
1,2-Dichloroethene (total)	97.4	5.00	ug/L	100.00	5.00 U	97	70-130		
1,2-Dichloropropane	50.1	5.00	ug/L	50.000	5.00 U	100	75-125		
2-Butanone	42.9	10.0	ug/L	50.000	10.0 U	86	20-200		
2-Hexanone	41.0	10.0	ug/L	50.000	10.0 U	82	20-200		
4-Methyl-2-pentanone	41.5	10.0	ug/L	50.000	10.0 U	83	45-150		
Acetone	40.7	10.0	ug/L	50.000	10.0 U	81	20-220		
Benzene	49.3	5.00	ug/L	50.000	5.00 U	99	75-125		
Bromodichloromethane	50.6	5.00	ug/L	50.000	5.00 U	101	65-130		
Bromoform	48.1	5.00	ug/L	50.000	5.00 U	96	70-120		
Bromomethane	46.8	10.0	ug/L	50.000	10.0 U	94	50-150		
Carbon Disulfide	46.9	5.00	ug/L	50.000	5.00 U	94	50-150		
Carbon Tetrachloride	53.8	5.00	ug/L	50.000	5.00 U	108	65-130		
Chlorobenzene	47.8	5.00	ug/L	50.000	5.00 U	96	75-125		
Chloroethane	51.5	10.0	ug/L	50.000	10.0 U	103	65-140		
Chloroform	54.1	5.00	ug/L	50.000	5.00 U	108	75-125		
Chloromethane	45.5	10.0	ug/L	50.000	10.0 U	91	50-135		
cis-1,2-Dichloroethene	47.3	5.00	ug/L	50.000	5.00 U	95	70-125		
cis-1,3-Dichloropropene	41.9	5.00	ug/L	50.000	5.00 U	84	70-125		
Dibromochloromethane	49.6	5.00	ug/L	50.000	5.00 U	99	70-130		
Ethylbenzene	50.4	5.00	ug/L	50.000	5.00 U	101	75-125		
Methylene Chloride	47.8	6.00	ug/L	50.000	6.00 U	96	55-150		
Styrene	50.0	5.00	ug/L	50.000	5.00 U	100	75-130		
Tetrachloroethene	48.8	5.00	ug/L	50.000	5.00 U	98	70-130		
trans-1,2-Dichloroethene	50.1	5.00	ug/L	50.000	5.00 U	100	70-130		

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

Volatile Organic Compounds by SW846 8260B - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209091 - SW 5030B									
Matrix Spike (L209091-MS1)	**Source: 1209032-03**		Prepared & Analyzed: 09/13/2012						
Toluene	46.9	5.00	ug/L	50.000	5.00 U	94	70-130		
trans-1,3-Dichloropropene	47.3	5.00	ug/L	50.000	5.00 U	95	70-130		
Trichloroethene	49.7	5.00	ug/L	50.000	5.00 U	99	75-125		
Vinyl chloride	45.9	10.0	ug/L	50.000	10.0 U	92	55-135		
Xylenes, total	150	5.00	ug/L	150.00	5.00 U	100	70-130		
Surrogate: 1,2-Dichloroethane-d4	*52.7*		*ug/L*	*50.000*		*105*	*60-140*		
Surrogate: Toluene-d8	*48.9*		*ug/L*	*50.000*		*98*	*65-120*		
Surrogate: 4-Bromofluorobenzene	*49.7*		*ug/L*	*50.000*		*99*	*75-130*		
Matrix Spike Dup (L209091-MSD1)	**Source: 1209032-03**		Prepared & Analyzed: 09/13/2012						
1,1,1-Trichloroethane	52.2	5.00	ug/L	50.000	5.00 U	104	70-130	4	20
1,1,2,2-Tetrachloroethane	45.3	5.00	ug/L	50.000	5.00 U	91	65-130	2	20
1,1,2-Trichloroethane	46.7	5.00	ug/L	50.000	5.00 U	93	70-125	0.4	20
1,1-Dichloroethane	51.7	5.00	ug/L	50.000	5.00 U	103	70-130	5	20
1,1-Dichloroethene	46.6	5.00	ug/L	50.000	5.00 U	93	65-140	1	20
1,2-Dichloroethane	53.3	5.00	ug/L	50.000	5.00 U	107	60-140	4	20
1,2-Dichloroethene (total)	97.1	5.00	ug/L	100.00	5.00 U	97	70-130	0.3	20
1,2-Dichloropropane	48.9	5.00	ug/L	50.000	5.00 U	98	75-125	2	20
2-Butanone	45.3	10.0	ug/L	50.000	10.0 U	91	20-200	6	20
2-Hexanone	44.3	10.0	ug/L	50.000	10.0 U	89	20-200	8	20
4-Methyl-2-pentanone	44.1	10.0	ug/L	50.000	10.0 U	88	45-150	6	20
Acetone	38.2	10.0	ug/L	50.000	10.0 U	76	20-220	6	20
Benzene	50.0	5.00	ug/L	50.000	5.00 U	100	75-125	1	20
Bromodichloromethane	52.9	5.00	ug/L	50.000	5.00 U	106	65-130	4	20
Bromoform	50.5	5.00	ug/L	50.000	5.00 U	101	70-120	5	20
Bromomethane	45.5	10.0	ug/L	50.000	10.0 U	91	50-150	3	20
Carbon Disulfide	47.0	5.00	ug/L	50.000	5.00 U	94	50-150	0.3	20
Carbon Tetrachloride	56.7	5.00	ug/L	50.000	5.00 U	113	65-130	5	20
Chlorobenzene	48.7	5.00	ug/L	50.000	5.00 U	97	75-125	2	20
Chloroethane	47.2	10.0	ug/L	50.000	10.0 U	94	65-140	9	20
Chloroform	54.7	5.00	ug/L	50.000	5.00 U	109	75-125	1	20
Chloromethane	44.4	10.0	ug/L	50.000	10.0 U	89	50-135	2	20
cis-1,2-Dichloroethene	47.8	5.00	ug/L	50.000	5.00 U	96	70-125	1	20
cis-1,3-Dichloropropene	43.1	5.00	ug/L	50.000	5.00 U	86	70-125	3	20
Dibromochloromethane	49.3	5.00	ug/L	50.000	5.00 U	99	70-130	0.5	20
Ethylbenzene	50.2	5.00	ug/L	50.000	5.00 U	100	75-125	0.5	20
Methylene Chloride	48.3	6.00	ug/L	50.000	6.00 U	97	55-150	1	20

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/17/2012 13:20

Volatile Organic Compounds by SW846 8260B - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209091 - SW 5030B									
Matrix Spike Dup (L209091-MSD1)		**Source: 1209032-03**	Prepared & Analyzed: 09/13/2012						
Styrene	50.0	5.00	ug/L	50.000	5.00 U	100	75-130	0.04	20
Tetrachloroethene	49.1	5.00	ug/L	50.000	5.00 U	98	70-130	0.6	20
trans-1,2-Dichloroethene	49.4	5.00	ug/L	50.000	5.00 U	99	70-130	1	20
Toluene	47.8	5.00	ug/L	50.000	5.00 U	96	70-130	2	20
trans-1,3-Dichloropropene	49.0	5.00	ug/L	50.000	5.00 U	98	70-130	4	20
Trichloroethene	50.9	5.00	ug/L	50.000	5.00 U	102	75-125	2	20
Vinyl chloride	44.7	10.0	ug/L	50.000	10.0 U	89	55-135	3	20
Xylenes, total	152	5.00	ug/L	150.00	5.00 U	101	70-130	0.9	20
Surrogate: 1,2-Dichloroethane-d4	*53.0*		*ug/L*	*50.000*		*106*	*60-140*		
Surrogate: Toluene-d8	*48.9*		*ug/L*	*50.000*		*98*	*65-120*		
Surrogate: 4-Bromofluorobenzene	*49.1*		*ug/L*	*50.000*		*98*	*75-130*		

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

B2LXB4
1209032-01 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**14.3**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	4.00	U	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**0.395**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	1000	U	1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	750	U	750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**0.527**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	4000	U	4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	500	U	500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	25.0	U	25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 09/18/2012 13:46

B2LXB2
1209032-02 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**10.9**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	4.00	U	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**0.300**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	1000	U	1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	750	U	750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	4000	U	4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	500	U	500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	25.0	U	25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 09/18/2012 13:46

B2LX83
1209032-03 (Water)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**25.4**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	**3.08**	B	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**40.4**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	**42800**		1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	**17.9**		2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	**276**		50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	**12600**		750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**10.6**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	**5500**		4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	**5.78**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**19900**		500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	**37.0**		25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 09/18/2012 13:46

B2LX82

1209032-04 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**22.1**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	**3.32**	B	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**38.8**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	**40900**		1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	**17.2**		2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	**284**		50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	**12100**		750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**7.93**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	**5270**		4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	**4.77**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**19100**		500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	**35.6**		25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 09/18/2012 13:46

B2LX87
1209032-05 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**12.9**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	**2.38**	B	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**58.0**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	**51100**		1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	**3.51**		2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	**16000**		750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**1.06**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	**5400**		4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	**4.55**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**20000**		500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	**35.5**		25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

B2LX89
1209032-06 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**32.8**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	**2.07**	B	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**59.3**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	**52200**		1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	**4.35**		2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	**30.7**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	**16400**		750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**2.11**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	**5510**		4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	**3.63**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**20400**		500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	**36.2**		25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

B2LX90

1209032-07 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	4.00	U	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**0.352**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	1000	U	1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	750	U	750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	4000	U	4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**31.5**	B	500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	25.0	U	25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

B2LX88
1209032-08 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**12.9**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	4.00	U	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	1000	U	1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	750	U	750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	4000	U	4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	500	U	500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	25.0	U	25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

B2LXB1

1209032-09 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**16.5**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	**2.09**	B	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**75.7**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	**67400**		1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	**2.51**		2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	**22100**		750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**0.533**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	**5640**		4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	**4.96**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**19100**		500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	**34.2**		25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

B2LXB3
1209032-10 (Water)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**24.8**	B	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Antimony	6.00	U	6.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Arsenic	**2.25**	B	4.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Barium	**76.9**		5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cadmium	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Calcium	**68200**		1000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Chromium	**2.59**		2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Cobalt	20.0	U	20.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Copper	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Iron	50.0	U	50.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Lead	5.00	U	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Magnesium	**22400**		750	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Manganese	**0.986**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Nickel	40.0	U	40.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Potassium	**5750**		4000	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Selenium	**4.86**	B	5.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Silver	2.00	U	2.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Sodium	**19500**		500	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Tin	1.00	U	1.00	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Vanadium	**35.0**		25.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B
Zinc	10.0	U	10.0	ug/L	1	L209093	09/14/2012	09/17/2012	6010B

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209093 - SW 3005A										
Blank (L209093-BLK1)				Prepared: 09/14/2012 Analyzed: 09/17/2012						
Aluminum	45.6	B	50.0	ug/L						
Antimony	6.00	U	6.00	ug/L						
Arsenic	4.00	U	4.00	ug/L						
Barium	0.504	B	5.00	ug/L						
Cadmium	2.00	U	2.00	ug/L						
Calcium	183	B	1000	ug/L						
Chromium	2.00	U	2.00	ug/L						
Cobalt	20.0	U	20.0	ug/L						
Copper	10.0	U	10.0	ug/L						
Iron	50.0	U	50.0	ug/L						
Lead	5.00	U	5.00	ug/L						
Magnesium	750	U	750	ug/L						
Manganese	0.685	B	5.00	ug/L						
Nickel	40.0	U	40.0	ug/L						
Potassium	4000	U	4000	ug/L						
Selenium	5.00	U	5.00	ug/L						
Silver	2.00	U	2.00	ug/L						
Sodium	500	U	500	ug/L						
Tin	1.00	U	1.00	ug/L						
Vanadium	25.0	U	25.0	ug/L						
Zinc	10.0	U	10.0	ug/L						
LCS (L209093-BS1)				Prepared: 09/14/2012 Analyzed: 09/17/2012						
Aluminum	4970		50.0	ug/L	5000.0		99	80-120		
Antimony	3110		6.00	ug/L	3000.0		104	80-120		
Arsenic	10500		4.00	ug/L	10000		105	80-120		
Barium	5190		5.00	ug/L	5000.0		104	80-120		
Cadmium	224		2.00	ug/L	250.00		89	80-120		
Calcium	25600		1000	ug/L	25000		103	80-120		
Chromium	510		2.00	ug/L	500.00		102	80-120		
Cobalt	2530		20.0	ug/L	2500.0		101	80-120		
Copper	1290		10.0	ug/L	1250.0		104	80-120		
Iron	5220		50.0	ug/L	5000.0		104	80-120		
Lead	2500		5.00	ug/L	2500.0		100	80-120		
Magnesium	25600		750	ug/L	25000		102	80-120		
Manganese	776		5.00	ug/L	750.00		104	80-120		
Nickel	2020		40.0	ug/L	2000.0		101	80-120		

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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	09/18/2012 13:46

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209093 - SW 3005A										
LCS (L209093-BS1)				Prepared: 09/14/2012 Analyzed: 09/17/2012						
Potassium	25300		4000	ug/L	25000		101	80-120		
Selenium	10400		5.00	ug/L	10000		104	80-120		
Silver	519		2.00	ug/L	500.00		104	80-120		
Sodium	25700		500	ug/L	25000		103	80-120		
Tin	5220		1.00	ug/L	5000.0		104	80-120		
Vanadium	2590		25.0	ug/L	2500.0		103	80-120		
Zinc	1030		10.0	ug/L	1000.0		103	80-120		
Duplicate (L209093-DUP1)		**Source: 1209032-01**		Prepared: 09/14/2012 Analyzed: 09/17/2012						
Aluminum	10.8	B	50.0	ug/L		14.3			28*	20
Antimony	6.00	U	6.00	ug/L		6.00 U				20
Arsenic	4.00	U	4.00	ug/L		4.00 U				20
Barium	5.00	U	5.00	ug/L		0.395				20
Cadmium	2.00	U	2.00	ug/L		2.00 U				20
Calcium	1000	U	1000	ug/L		1000 U				20
Chromium	2.00	U	2.00	ug/L		2.00 U				20
Cobalt	20.0	U	20.0	ug/L		20.0 U				20
Copper	10.0	U	10.0	ug/L		10.0 U				20
Iron	50.0	U	50.0	ug/L		50.0 U				20
Lead	5.00	U	5.00	ug/L		5.00 U				20
Magnesium	750	U	750	ug/L		750 U				20
Manganese	5.00	U	5.00	ug/L		0.527				20
Nickel	40.0	U	40.0	ug/L		40.0 U				20
Potassium	4000	U	4000	ug/L		4000 U				20
Selenium	5.00	U	5.00	ug/L		5.00 U				20
Silver	2.00	U	2.00	ug/L		2.00 U				20
Sodium	30.3	B	500	ug/L		500 U				20
Tin	1.00	U	1.00	ug/L		1.00 U				20
Vanadium	25.0	U	25.0	ug/L		25.0 U				20
Zinc	10.0	U	10.0	ug/L		10.0 U				20

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 09/18/2012 13:46

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209093 - SW 3005A									
Matrix Spike (L209093-MS1)	**Source: 1209032-01**	Prepared: 09/14/2012 Analyzed: 09/17/2012							
Aluminum	2020	50.0	ug/L	2000.0	14.3	100	75-125		
Antimony	529	6.00	ug/L	500.00	6.00 U	106	75-125		
Arsenic	2080	4.00	ug/L	2000.0	4.00 U	104	75-125		
Barium	2070	5.00	ug/L	2000.0	0.395	103	75-125		
Cadmium	46.4	2.00	ug/L	50.000	2.00 U	93	75-125		
Calcium	24800	1000	ug/L	25000	1000 U	99	75-125		
Chromium	202	2.00	ug/L	200.00	2.00 U	101	75-125		
Cobalt	513	20.0	ug/L	500.00	20.0 U	103	75-125		
Copper	263	10.0	ug/L	250.00	10.0 U	105	75-125		
Iron	1050	50.0	ug/L	1000.0	50.0 U	105	75-125		
Lead	505	5.00	ug/L	500.00	5.00 U	101	75-125		
Magnesium	24900	750	ug/L	25000	750 U	100	75-125		
Manganese	517	5.00	ug/L	500.00	0.527	103	75-125		
Nickel	512	40.0	ug/L	500.00	40.0 U	102	75-125		
Potassium	24800	4000	ug/L	25000	4000 U	99	75-125		
Selenium	2060	5.00	ug/L	2000.0	5.00 U	103	75-125		
Silver	52.6	2.00	ug/L	50.000	2.00 U	105	75-125		
Sodium	24700	500	ug/L	25000	500 U	99	75-125		
Tin	1020	1.00	ug/L	1000.0	1.00 U	102	75-125		
Vanadium	531	25.0	ug/L	500.00	25.0 U	106	75-125		
Zinc	528	10.0	ug/L	500.00	10.0 U	106	75-125		

Lionville Laboratory, PADEP Lab ID# 15-00009
264 Welsh Pool Road
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 10/11/2012 16:32

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B2LXB4 (1209032-01) Water										
Total Alkalinity	0.2	U	0.2	0.5	mg/L	1	L209097	09/14/2012 11:00	09/14/2012 13:15	SM 2320B
Total Dissolved Solids	**12.0**	B	5.0	20.0	mg/L	1	L209077	09/12/2012 15:40	09/12/2012 15:40	SM 2540C
Bromide	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Chloride	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Fluoride	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrite	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Orthophosphate	0.20	U	0.20	1.00	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Sulfate	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate/Nitrite as N	0.010	U	0.010	0.050	mg/L	1	L209174	09/21/2012 10:00	09/21/2012 11:51	EPA 353.2
Total Organic Halides	20.0	U	20.0	100	ug/L	1	L210065	10/03/2012 06:20	10/03/2012 19:30	9020B
B2LX83 (1209032-03) Water										
Total Alkalinity	**143**		0.2	0.5	mg/L	1	L209097	09/14/2012 11:00	09/14/2012 13:15	SM 2320B
Total Dissolved Solids	**269**		5.0	20.0	mg/L	1	L209077	09/12/2012 15:40	09/12/2012 15:40	SM 2540C
Bromide	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Chloride	**12.8**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Fluoride	**0.32**	B	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate	**23.1**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrite	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Orthophosphate	0.20	U	0.20	1.00	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Sulfate	**27.1**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate/Nitrite as N	**5.20**	D	0.100	0.500	mg/L	10	L209174	09/21/2012 10:00	09/21/2012 11:55	EPA 353.2
Total Organic Halides	20.0	U	20.0	100	ug/L	1	L210065	10/03/2012 06:20	10/03/2012 19:30	9020B

Lionville Laboratory, PADEP Lab ID# 15-00009
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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	10/11/2012 16:32

Wet Chemistry

Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B2LX89 (1209032-06) Water										
Total Alkalinity	**145**		0.2	0.5	mg/L	1	L209097	09/14/2012 11:00	09/14/2012 13:15	SM 2320B
Total Dissolved Solids	**441**		5.0	20.0	mg/L	1	L209077	09/12/2012 15:40	09/12/2012 15:40	SM 2540C
Bromide	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Chloride	**20.6**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Fluoride	**0.32**	B	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate	**53.6**	D	1.00	5.00	mg/L	10	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrite	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Orthophosphate	0.20	U	0.20	1.00	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Sulfate	**29.9**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate/Nitrite as N	**11.9**	D	0.200	1.00	mg/L	20	L209174	09/21/2012 10:00	09/21/2012 11:57	EPA 353.2
Total Organic Halides	20.0	U	20.0	100	ug/L	1	L210065	10/03/2012 06:20	10/03/2012 19:30	9020B
B2LX90 (1209032-07) Water										
Total Alkalinity	0.2	U	0.2	0.5	mg/L	1	L209097	09/14/2012 11:00	09/14/2012 13:15	SM 2320B
Total Dissolved Solids	**5.0**	B	5.0	20.0	mg/L	1	L209077	09/12/2012 15:40	09/12/2012 15:40	SM 2540C
Bromide	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Chloride	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Fluoride	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrite	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Orthophosphate	0.20	U	0.20	1.00	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Sulfate	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate/Nitrite as N	0.010	U	0.010	0.050	mg/L	1	L209174	09/21/2012 10:00	09/21/2012 11:58	EPA 353.2
Total Organic Halides	20.0	U	20.0	100	ug/L	1	L210065	10/03/2012 06:20	10/03/2012 19:30	9020B

Lionville Laboratory, PADEP Lab ID# 15-00009
264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-008 Project Number: K3987 Project Manager: Joan Kessner	**Reported:** 10/11/2012 16:32

Wet Chemistry

Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B2LXB3 (1209032-10) Water										
Total Alkalinity	**134**		0.2	0.5	mg/L	1	L209097	09/14/2012 11:00	09/14/2012 13:15	SM 2320B
Total Dissolved Solids	**476**		5.0	20.0	mg/L	1	L209077	09/12/2012 15:40	09/12/2012 15:40	SM 2540C
Bromide	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Chloride	**16.7**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Fluoride	**0.32**	B	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate	**153**	D	5.00	25.0	mg/L	50	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrite	0.10	U	0.10	0.50	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Orthophosphate	0.20	U	0.20	1.00	mg/L	1	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Sulfate	**27.7**	D	0.50	2.50	mg/L	5	L209104	09/12/2012 09:23	09/12/2012 17:58	EPA 300.0 (1993)
Nitrate/Nitrite as N	**34.1**	D	1.00	5.00	mg/L	100	L209174	09/21/2012 10:00	09/21/2012 12:02	EPA 353.2
Total Organic Halides	20.0	U	20.0	100	ug/L	1	L210065	10/03/2012 06:20	10/03/2012 19:30	9020B

Lionville Laboratory, PADEP Lab ID# 15-00009
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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/11/2012 16:32

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209077 - Default Prep GenChem										
Blank (L209077-BLK1)				Prepared & Analyzed: 09/12/2012 15:40						
Total Dissolved Solids	5.0 U	5.0	20.0	mg/L						
LCS (L209077-BS1)				Prepared & Analyzed: 09/12/2012 15:40						
Total Dissolved Solids	101	5.0	20.0	mg/L	100.00		101	80-120		
LCS (L209077-BS2)				Prepared & Analyzed: 09/12/2012 15:40						
Total Dissolved Solids	103	5.0	20.0	mg/L	100.00		103	80-120		
Duplicate (L209077-DUP2)		**Source: 1209032-01**		Prepared & Analyzed: 09/12/2012 15:40						
Total Dissolved Solids	7.0 B	5.0	20.0	mg/L		12.0			52.6*	20
Batch L209097 - Default Prep GenChem										
Blank (L209097-BLK1)				Prepared: 09/14/2012 11:00 Analyzed: 09/14/2012 13:15						
Total Alkalinity	0.2 U	0.2	0.5	mg/L						
LCS (L209097-BS1)				Prepared: 09/14/2012 11:00 Analyzed: 09/14/2012 13:15						
Total Alkalinity	103	0.2	0.5	mg/L	100.00		103	90-110		
LCS (L209097-BS2)				Prepared: 09/14/2012 11:00 Analyzed: 09/14/2012 13:15						
Total Alkalinity	98.1	0.2	0.5	mg/L	100.00		98.1	90-110		
Duplicate (L209097-DUP2)		**Source: 1209032-03**		Prepared: 09/14/2012 11:00 Analyzed: 09/14/2012 13:15						
Total Alkalinity	142	0.2	0.5	mg/L		143			0.784	20
Batch L209104 - Default Prep GenChem										
Blank (L209104-BLK1)				Prepared: 09/12/2012 09:23 Analyzed: 09/12/2012 10:08						
Fluoride	0.10 U	0.10	0.50	mg/L						
Chloride	0.10 U	0.10	0.50	mg/L						
Nitrite	0.10 U	0.10	0.50	mg/L						
Bromide	0.10 U	0.10	0.50	mg/L						
Nitrate	0.10 U	0.10	0.50	mg/L						
Orthophosphate	0.20 U	0.20	1.00	mg/L						
Sulfate	0.10 U	0.10	0.50	mg/L						

Lionville Laboratory, PADEP Lab ID# 15-00009
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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	10/11/2012 16:32

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209104 - Default Prep GenChem										
LCS (L209104-BS1)				Prepared: 09/12/2012 09:23 Analyzed: 09/12/2012 10:08						
Fluoride	5.16	0.10	0.50	mg/L	5.0000		103	90-110		
Chloride	4.96	0.10	0.50	mg/L	5.0000		99.2	90-110		
Nitrite	4.95	0.10	0.50	mg/L	5.0000		99.0	90-110		
Bromide	5.09	0.10	0.50	mg/L	5.0000		102	90-110		
Nitrate	5.13	0.10	0.50	mg/L	5.0000		103	90-110		
Orthophosphate	4.92	0.20	1.00	mg/L	5.0000		98.4	90-110		
Sulfate	5.10	0.10	0.50	mg/L	5.0000		102	90-110		
Duplicate (L209104-DUP2)		**Source: 1209032-01**		Prepared: 09/12/2012 09:23 Analyzed: 09/12/2012 17:58						
Fluoride	0.10 U	0.10	0.50	mg/L		0.10 U				20
Chloride	0.10 U	0.10	0.50	mg/L		0.10 U				20
Nitrite	0.10 U	0.10	0.50	mg/L		0.10 U				20
Bromide	0.10 U	0.10	0.50	mg/L		0.10 U				20
Nitrate	0.10 U	0.10	0.50	mg/L		0.10 U				20
Orthophosphate	0.20 U	0.20	1.00	mg/L		0.20 U				20
Sulfate	0.10 U	0.10	0.50	mg/L		0.10 U				20
Matrix Spike (L209104-MS4)		**Source: 1209032-01**		Prepared: 09/12/2012 09:23 Analyzed: 09/12/2012 17:58						
Fluoride	5.12	0.10	0.50	mg/L	5.0000	0.10 U	102	80-120		
Chloride	4.72	0.10	0.50	mg/L	5.0000	0.10 U	94.4	80-120		
Nitrite	4.92	0.10	0.50	mg/L	5.0000	0.10 U	98.4	80-120		
Bromide	4.94	0.10	0.50	mg/L	5.0000	0.10 U	98.8	80-120		
Nitrate	4.92	0.10	0.50	mg/L	5.0000	0.10 U	98.4	80-120		
Orthophosphate	4.95	0.20	1.00	mg/L	5.0000	0.20 U	99.0	80-120		
Sulfate	4.94	0.10	0.50	mg/L	5.0000	0.10 U	98.8	80-120		
Batch L209174 - Default Prep GenChem										
Blank (L209174-BLK1)				Prepared: 09/21/2012 10:00 Analyzed: 09/21/2012 10:38						
Nitrate/Nitrite as N	0.010 U	0.010	0.050	mg/L						

Lionville Laboratory, PADEP Lab ID# 15-00009
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WC-Hanford, Inc.	Project: RC-008	
2620 Fermi Avenue	Project Number: K3987	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	10/11/2012 16:32

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L209174 - Default Prep GenChem										
LCS (L209174-BS1)				Prepared: 09/21/2012 10:00 Analyzed: 09/21/2012 10:37						
Nitrate/Nitrite as N	0.512	0.010	0.050	mg/L	0.51302		100	90-110		
Duplicate (L209174-DUP2)	**Source: 1209032-01**			Prepared: 09/21/2012 10:00 Analyzed: 09/21/2012 11:53						
Nitrate/Nitrite as N	0.010 U	0.010	0.050	mg/L		0.010 U				20
Matrix Spike (L209174-MS2)	**Source: 1209032-01**			Prepared: 09/21/2012 10:00 Analyzed: 09/21/2012 11:54						
Nitrate/Nitrite as N	0.523	0.010	0.050	mg/L	0.50000	0.010 U	105	90-110		
Batch L210065 - Default Prep GenChem										
Blank (L210065-BLK1)				Prepared: 10/03/2012 06:20 Analyzed: 10/03/2012 19:30						
Total Organic Halides	20.0 U	20.0	100	ug/L						
LCS (L210065-BS1)				Prepared: 10/03/2012 06:20 Analyzed: 10/03/2012 19:30						
Total Organic Halides	49.7 B	20.0	100	ug/L	50.000		99	80-120		
Duplicate (L210065-DUP2)	**Source: 1209032-01**			Prepared: 10/03/2012 06:20 Analyzed: 10/03/2012 19:30						
Total Organic Halides	20.0 U	20.0	100	ug/L		20.0 U				20
Matrix Spike (L210065-MS2)	**Source: 1209032-10**			Prepared: 10/03/2012 06:20 Analyzed: 10/03/2012 19:30						
Total Organic Halides	54.5 B	20.0	100	ug/L	50.000	20.0 U	109	75-125		

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # RC-008Q-017
		Page 1 of 1

Collector	F. M. Hall	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	RC-008Q	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302326ES20
Project Title	ERDF, September 2012.	Logbook No.	HNF-N-506 50 / 94	Ice Chest No.	N/A GWS-1704
Shipped To (Lab)	Lionville Laboratory Incorporated	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	9-11-12 ~~N/A~~ 7989 4096 4322
Protocol	GPP	Priority:	45 Days	Offsite Property No.	N/A 4029

POSSIBLE SAMPLE HAZARDS/REMARKS

Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

**Submit invoices and deliverables to JH Kessner, BHI
**FAX copies of Eberline/Lionville log-in to JH Kessner (1-425-969-4823) and Scot Fitzgerald (509-373-7495).
**Sample Management will send all results to Mike Peloquin.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2LXB4	N	W	SEP 11 2012	0745	1x1-L aGs*	TOX - 9020	28 Days	H2SO4 to pH <2/Cool~4C
B2LXB4	N	W			1x500-mL G/P	TDS - 160.1	7 Days	Cool~4C
B2LXB4	N	W			1x20-mL P	Activity Scan	6 Months	None
B2LXB4	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2LXB4	N	W			1x500-mL G/P	NO2/NO3 - 353.2	28 Days	H2SO4 to pH <2/Cool~4C
B2LXB4	N	W			1x500-mL P	IC Anions - 300.0	48 Hours	Cool~4C
B2LXB4	N	W			1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LXB4	N	W			3x40-mL aGs*	VOA - 8260A (TCL)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2LXB2	Y	W	SEP 11 2012	0745	1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall			SEP 11 2012 1480		FED EX		SEP 11 2012
Relinquished By	FedEx	9-12-12	Date/Time 1010	Received By	VICTOR HERNANDEZ	9-12-12	Date/Time 1010
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # RC-008Q-018
		Page 1 of 1

Collector	F. M. Hall	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	RC-008Q	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302326ES20
Project Title	ERDF, September 2012	Logbook No.	HNF-N-506 50194	Ice Chest No.	N/A FWS-179
Shipped To (Lab)	Lionville Laboratory Incorporated	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	~~N/A~~ 7989 4096 4322
Protocol	GPP	Priority:	45 Days	Offsite Property No.	N/A 4029

POSSIBLE SAMPLE HAZARDS/REMARKS

Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

**Submit invoices and deliverables to JH Kessner, BHI

**FAX copies of Eberline/Lionville log-in to JH Kessner (1-425-969-4823) and Scot Fitzgerald (509-373-7495).

**Sample Management will send all results to Mike Peloquin.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2LX83	N	W	SEP 11 2012	1030	1x1-L aGs*	TOX - 9020	28 Days	H2SO4 to pH <2/Cool~4C
B2LX83	N	W			1x500-mL G/P	TDS - 160,1	7 Days	Cool~4C
B2LX83	N	W			1x20-mL P	Activity Scan	6 Months	None
B2LX83	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2LX83	N	W			1x500-mL G/P	NO2/NO3 - 353.2	28 Days	H2SO4 to pH <2/Cool~4C
B2LX83	N	W			1x500-mL P	IC Anions - 300.0	48 Hours	Cool~4C
B2LX83	N	W			1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LX83	N	W			3x40-mL aGs*	VOA - 8260A (TCL)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2LX82	Y	W	SEP 11 2012	1030	1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall			1400 SEP 11 2012	FED EX			SEP 11 2012
Relinquished By			Date/Time	Received By			Date/Time
			9-12-12 1010	VICTOR HERNANDEZ			9-12-12 1010
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PRINTED ON 8/2/2012

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # RC-008Q-012
		Page 1 of 1

Collector	F. M. Hall	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	RC-008Q	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302326ES20
Project Title	ERDF, September 2012	Logbook No.	HNF-N-506 50194	Ice Chest No.	N/A GWS-179
Shipped To (Lab)	Lionville Laboratory Incorporated	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	9.11.12 ~~N/A~~ 7989 4096 4322
Protocol	GPP	Priority:	45 Days	Offsite Property No.	N/A 41029

POSSIBLE SAMPLE HAZARDS/REMARKS

Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

**Submit invoices and deliverables to JH Kessner, BHI
**FAX copies of Eberline/Lionville log-in to JH Kessner (1-425-969-4823) and Scot Fitzgerald (509-373-7495).
**Sample Management will send all results to Mike Peloquin.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2LX87	Y	W	SEP 11 2012	0941	1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LX89	N	W			1x1-L aGs*	TOX - 9020	28 Days	H2SO4 to pH <2/Cool~4C
B2LX89	N	W			1x500-mL G/P	TDS - 160.1	7 Days	Cool~4C
B2LX89	N	W			1x20-mL P	Activity Scan	6 Months	None
B2LX89	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2LX89	N	W			1x500-mL G/P	NO2/NO3 - 353.2	28 Days	H2SO4 to pH <2/Cool~4C
B2LX89	N	W			1x500-mL P	IC Anions - 300.0	48 Hours	Cool~4C
B2LX89	N	W			1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LX89	N	W	SEP 11 2012	0941	3x40-mL aGs*	VOA - 8260A (TCL)	14 Days	HCl or H2SO4 to pH <2/Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall			SEP 11 2012 1900	FED EX			SEP 11 2012
Fed Ex			9-12-12 1010	Victor Hernandez			9-12-12 1010

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # RC-008Q-013
		Page 1 of 1

Collector	F.M. Hall	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	RC-008Q	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302326ES20
Project Title	ERDF, September 2012	Logbook No.	HNF-N-506 50 194	Ice Chest No.	N/A Cws-246
Shipped To (Lab)	Lionville Laboratory Incorporated	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	~~N/A~~ 7989 4091 7544
Protocol	GPP	Priority:	45 Days	Offsite Property No.	N/A 4028

POSSIBLE SAMPLE HAZARDS/REMARKS

Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

**Submit invoices and deliverables to JH Kessner, BHI
**FAX copies of Eberline/Lionville log-in to JH Kessner (1-425-969-4823) and Scot Fitzgerald (509-373-7495).
**Sample Management will send all results to Mike Peloquin.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2LX90	N	W	SEP 11 2012	0900	1x1-L aGs*	TOX - 9020	28 Days	H2SO4 to pH <2/Cool~4C
B2LX90	N	W			1x500-mL G/P	TDS - 160.1	7 Days	Cool~4C
B2LX90	N	W			1x20-mL P	Activity Scan	6 Months	None
B2LX90	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2LX90	N	W			1x500-mL G/P	NO2/NO3 - 353.2	28 Days	H2SO4 to pH <2/Cool~4C
B2LX90	N	W			1x500-mL P	IC Anions - 300.0	48 Hours	Cool~4C
B2LX90	N	W			1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LX90	N	W			3x40-mL aGs*	VOA - 8260A (TCL)	14 Days	HCl or H2SO4 to pH <2/Cool~4C
B2LX88	Y	W	SEP 11 2012	0900	1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F.M. Hall			SEP 11 2012 1400	FEDEX			SEP 11 2012
Fed Ex			9-12-12 1010	VICTOR HERNANDEZ			9-12-12 1010

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PRINTED ON 8/2/2012

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # RC-008Q-016

Collector	F. M. Hall	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	RC-008Q	Sampling Origin	Hanford Site	Purchase Order/Charge Code	302326ES20
Project Title	ERDF, September 2012	Logbook No.	HNF-N-506 50194	Ice Chest No.	N/A 6WS-246
Shipped To (Lab)	Lionville Laboratory Incorporated	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	~~N/A~~ 7989 4091 7544
Protocol	GPP	Priority:	45 Days	Offsite Property No.	N/A 4028

POSSIBLE SAMPLE HAZARDS/REMARKS

Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

**Submit invoices and deliverables to JH Kessner, BHI
**FAX copies of Eberline/Lionville log-in to JH Kessner (1-425-969-4823) and Scot Fitzgerald (509-373-7495).
**Sample Management will send all results to Mike Peloquin.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2LXB1	Y	W	SEP 11 2012	0858	1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LXB3	N	W			1x1-L aGs*	TOX - 9020	28 Days	H2SO4 to pH <2/Cool~4C
B2LXB3	N	W			1x500-mL G/P	TDS - 160.1	7 Days	Cool~4C
B2LXB3	N	W			1x20-mL P	Activity Scan	6 Months	None
B2LXB3	N	W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2LXB3	N	W			1x500-mL G/P	NO2/NO3 - 353.2	28 Days	H2SO4 to pH <2/Cool~4C
B2LXB3	N	W			1x500-mL P	IC Anions - 300.0	48 Hours	Cool~4C
B2LXB3	N	W			1x500-mL G/P	6010_METALS_ICP_TR: List-3 (8)	6 Months	HNO3 to pH <2
B2LXB3	N	W	SEP 11 2012	0958	3x40-mL aGs*	VOA - 8260A (TCL)	14 Days	HCl or H2SO4 to pH <2/Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall			SEP 11 2012 1400		FED EX		SEP 11 2012
					VICTOR HERNANDEZ		9-12-12 1010

Matrix *			
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FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PRINTED ON 8/2/2012

A-6004-842 (REV 2)