ICF International / Laboratory Data Consultants
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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105077 Amendment 3

DATE: October 8, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	36520
SDG No.:	MY3CJ1
Laboratory:	Bonner Analytical Testing Co. (BONNER)
Analysis:	Select CLP Dissolved Metals and Dissolved Boron and Dissolved Silicon by ICP-AES
Samples:	20 Groundwater Samples (see Case Summary)
Collection Date:	July 9 through 13, 2007
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Cynthia Gurley, CLP PO USEPA Region 4
Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] FYI [ ] Action

SAMPLING ISSUES: [X] Yes [ ] No

Data Validation Report

Case No.: 36520
SDG No.: MY3CJ1
Site: Omega Chem OU2
Laboratory: Bonner Analytical Testing Co. (BONNER)
Reviewer: Stan Kott, ESAT/LDC
Date: October 8, 2007

I. CASE SUMMARY

Sample Information

Samples:	MY3CJ1 through MY3CJ5, MY3CJ7 through MY3CJ9, MY3CK0, MY3CK2 through MY3CK5, MY3CK7 through MY3CK9, MY3CL0, MY3CL1, MY3CL3, and MY3CL7
Concentration and Matrix:	Low Concentration Groundwater
Analysis:	Select CLP Dissolved Metals, Dissolved Boron, and Dissolved Silicon by ICP-AES
SOW:	ILM05.4 and Modification Reference Number: 1450.0
Collection Date:	July 9 through 13, 2007
Sample Receipt Date:	July 11 through 14, 2007
Preparation Date:	July 18, 2007
Analysis Date:	July 19, 2007

Field QC

Field Blanks (FB):	Not Provided
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	MY3CJ4 and MY3CJ5
Field Duplicates (D2):	MY3CK9 and MY3CL0

Laboratory QC

Method Blank & Associated Samples:	Preparation Blank-Water (PBW) and samples listed above
Matrix Spike:	MY3CK2S
Duplicates:	MY3CK2D
ICP Serial Dilution:	MY3CK2L
Analysis:	Select CLP Dissolved Metals, Dissolved Boron, and Dissolved Silicon by ICP-AES

Analyte	Sample Preparation and Digestion Date	Analysis Date
ICP-AES Metals	July 18, 2007	July 19, 2007
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None.

Sampling Issues

1. The laboratory indicated that temperature indicator bottles were not provided in two sample coolers. The laboratory used a thermometer to determine the cooler temperatures to be 0.1°C and 0.6°C. Although these temperatures are outside the 4°C±2°C limit, no adverse effect on data quality is expected.

2. The laboratory indicated that the labels on the sample bottles incorrectly identified the nitric acid preservative as HNO_2. The laboratory indicated that the pH was within the method limit of less than two. No adverse effect on data quality is expected.

Additional Comments

Samples of this SDG were analyzed under Modified Analysis Request (MAR), Modification Reference Number 1450.0 for CLP dissolved metals plus dissolved boron and dissolved silicon by inductively coupled plasma-atomic emission spectroscopy (ICP-AES).

The laboratory indicated that the MY3CJ3 metals sample was transshipped from the USEPA Region 9 laboratory. No adverse effect on data quality is expected.

Initial sodium concentrations exceeded the instrument's linear range and were analyzed at the following dilutions: 2-fold for MY3CJ1, MY3CJ2, MY3CJ4, MY3CJ5, MY3CJ9, MY3CK0, MY3CK4, MY3CK5, MY3CK7, MY3CK9, MY3CL0, MY3CL1, MY3CL3, and MY3CL7; 3-fold for MY3CJ3. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004;
- *ILM05.3 to ILM05.4 Summary of Changes*, December 1, 2006; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	Yes	
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ1
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for Select Dissolved Metals by ICP-AES

Station Location :	MY3CJ1			MY3CJ2			MY3CJ3			MY3CJ4			MY3CJ5			Y3CJ7		
Sample ID :	MY3CJ1			MY3CJ2			MY3CJ3			MY3CJ4	D1		MY3CJ5	D1		MY3CJ7		
Collection Date :	7/9/2007			7/9/2007			7/9/2007			7/9/2007			7/9/2007			7/10/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	129L	J	A	200U			110L	J	A	21.1L	J	A	200U			200U		
CALCIUM	84500			110000			121000			184000			182000			44100		
IRON	149			100U			93.6L	J	A	100U			100U			4.8L	J	A
MAGNESIUM	35600			55300			50700			53600			53800			11700		
POTASSIUM	7520			6410			10100			5110			5160			2900L	J	A
SODIUM	137000			129000			160000			117000			118000			35700		
BORON	320			371			410			393			396			82.8L	J	A
SILICON	15400			16200			13100			20800			20700			10900		

Station Location :	Y3CJ8			Y3CJ9			Y3CK0			Y3CK2			Y3CK3			Y3CK4		
Sample ID :	MY3CJ8			MY3CJ9			MY3CK0			MY3CK2			MY3CK3			MY3CK4		
Collection Date :	7/10/2007			7/10/2007			7/10/2007			7/11/2007			7/11/2007			7/11/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			139L	J	A	200U			200U			35.7L	J	A	27.9L	J	A
CALCIUM	37200			165000			196000			45700			154000			184000		
IRON	100U			131			6.9L	J	A	4.9L	J	A	100U			10.1L	J	A
MAGNESIUM	10400			48900			44200			9310			38500			46600		
POTASSIUM	3650L	J	A	9550			6110			2930L	J	A	5490			6450		
SODIUM	57400			144000			115000			34200			79800			119000		
BORON	120			370			378			70.9L	J	A	216			338		
SILICON	10200			13300			14800			11000			12900			13800		

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

ANALYTICAL RESULTS
Table 1A

Case No. : 36520 SDG No. : MY3CJ1
Site : OMEGA RECOVERY SERV.
Lab : BONNER ANALYTICAL TESTING Co. (BONNER)
Reviewer : Stan Kott, ESAT/LDC
Date : October 8, 2007

QUALIFIED DATA
Concentration in ug/L

Analysis Type : Low Concentration Groundwater Samples for Select Dissolved Metals by ICP-AES

Station Location :	Y3CK5			Y3CK7			Y3CK8			Y3CK9			Y3CL0			Y3CL1		
Sample ID :	MY3CK5			MY3CK7			MY3CK8			MY3CK9	D2		MY3CL0	D2		MY3CL1		
Collection Date :	7/11/2007			7/12/2007			7/12/2007			7/12/2007			7/12/2007			7/12/2007		
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	24.0L	J	A	200U			200U			20.4L	J	A	200U			200U		
CALCIUM	237000			46100			36000			164000			163000			189000		
IRON	100U			58.6L	J	A	22.8L	J	A	110			108			8.4L	J	A
MAGNESIUM	58000			12500			7680			51900			51000			50500		
POTASSIUM	6830			5060			3780L	J	A	6600			6440			6470		
SODIUM	94600			150000			98800			105000			104000			129000		
BORON	387			149			170			271			269			364		
SILICON	13400			16600			15000			18600			18400			8220		

Station Location :	Y3CL3			Y3CL7			MDL			CRQL								
Sample ID :	MY3CL3			MY3CL7														
Collection Date :	7/13/2007			7/13/2007														
PARAMETER	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**	**Result**	**Val**	**Com**
ALUMINUM	200U			29.7L	J	A	18.4			200								
CALCIUM	155000			214000			15.0			5000								
IRON	100U			54.4L	J	A	4.4			100								
MAGNESIUM	43400			53500			3.8			5000								
POTASSIUM	4950L	J	A	6600			21.1			5000								
SODIUM	112000			101000			131			5000								
BORON	386			255			2.6			100								
SILICON	18100			13800			12.4			5000								

Val - Validity. Refer to Data Qualifiers in Table 1B.
Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.
MDL - Method Detection Limit
N/A - Not Applicable NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs
FB - Field Blank, EB - Equipment Blank,
TB - Trip Blank, BG - Background Sample
CRQL - Contract Required Quantitation Limit

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.