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February 15, 2010
 Nobis File No. 80013

Ms. Christine Clark
 Regional Sample Control Coordinator
 U.S. Environmental Protection Agency
 Region I
 11 Technology Drive
 No. Chelmsford, MA 01863

Superfund Records Center
 SITE: Chlor-Alkali
 BREAK: 3.2
 OTHER: _____



SDMS DocID 463248

Re: Contract No.: EP-S1-06-03
 Task Order No. 80013-RI-CO-01BQ
 Case No. 39067; Sample Delivery Group (SDG) No. MA31D2
 ALS DataChem Laboratories, Inc., Salt Lake City, UT
 Chlor-Alkali Facility (Former) Superfund Site
 Berlin, New Hampshire
 CERCLIS No.: NHN000103313
 Tier II Inorganic Data Validation

Metals: 16/Water/ MA31D0, MA31D2, MA31D4, MA31D6, MA31D9, MA31E1,
 MA31E6, MA31E8, MA31F0, MA31F2, MA31F4, MA31F7, MA31F9, MA31L7,
 MA31L9, MA31M1
 No Equipment blank
 Field duplicates: MA31D2/MA31D4
 PE sample: MA31E6 (MS03130)

Dear Ms. Clark:

Nobis Engineering, Inc. performed a Tier II data validation in accordance with the "Part IV, Inorganic Data Validation Functional Guidelines", November 2008 of the *Region I, EPA New-England Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996*" on the inorganic analytical data for sixteen water samples and one PE sample collected by Nobis Engineering, Inc. at the Chlor-Alkali Facility (Former) Superfund Site in Berlin, New Hampshire. The samples were analyzed for total metals, under the Contract Laboratory Program (CLP) Routine Analytical Services (RAS) according to the ILM05.4 Statement of Work (SOW) with modification 1784.0. This SDG includes total antimony, beryllium, and thallium results analyzed by ICP-MS. Other total metal results analyzed by ICP-AES and CVAA can be found in SDG MA31D0, under a separate memorandum.

The data were evaluated based on the following parameters:

- * ● Overall Evaluation of Data and Potential Usability Issues
 - * ● Data Completeness
 - * ● Preservation and Technical Holding Times
 - * ● ICP-MS Tune Analysis
 - * ● Initial and Continuing Calibrations
 - * ● Quantitation Limit Check Standard (CRI)
 - Blanks
 - ICP Interference Check Results
 - * ● Matrix Spike Recoveries
 - * ● Laboratory Duplicates
 - * ● Field Duplicates
 - * ● Lab Control Sample Results
 - NA ● Furnace AA Results
 - NA ● Method of Standard Addition (MSA)
 - * ● ICP Serial Dilution Results
 - * ● ICP-MS Internal Standards
 - * ● CRQL/Method Detection Limit (MDL) Results
 - * ● PE Samples/Accuracy Check
 - * ● Sample Quantitation
- * All criteria were met for this parameter.

Note: Worksheets, except for Worksheet XIII – Sample Quantitation, are not included for parameters that have met criteria or for criteria that are not applicable (NA) to the method.

The following information was used to generate the Data Validation Memorandum attachments:

Table I: Recommendation Summary Table - Summarizes validation recommendations

Table II: Overall Evaluation of Data - Summarizes site DQOs and potential usability issues

Data Summary Table: Summarizes accepted, qualified, and rejected data

Overall Evaluation of Data and Potential Usability Issues

Following is a summary of the site DQOs:

- Accurate identification of environmental bioaccumulation risks from site contamination.
- Determination of where and what magnitude of risk applies for:
 - Humans, likely from incidental ingestion and dermal contact with sediments and surface waters, as well as consumption of fish;
 - Ecological assessment endpoints; and
 - Filling of existing data gaps throughout the study area.

Data was qualified due to Blank Contamination.

Blanks

The following metals were detected in blanks at various concentrations: antimony and thallium.

Sample results requiring qualifications are summarized below.

Analyte	Type of Blank	Date Blank Originated	Max. Conc. (ug/L)	Blank Action Level (ug/L)	Sample CRQL (ug/L)	Action	Samples Affected
Antimony	CCB3	11/5/2009	0.785	3.79	2	U ¹	MA31D9, MA31E1, MA31E8, MA31F0, MA31F2, MA31F7, MA31F9, MA31L7
Thallium	ICB	11/5/2009	0.086	0.43	1	U ²	MA31D0, MA31D2, MA31D9, MA31E1, MA31E8, MA31F0, MA31F2, MA31F4, MA31F7, MA31F9, MA31L7

CCB = Continuing Calibration Blank
ICB = Initial Calibration Blank

ICP Interference Check Sample Results

All recoveries in Interference Check Solution AB (ICSAB) analyses were acceptable.

Beryllium was detected in the ICSA sample. All detected field sample results for beryllium were less than the CRQL. These data were already estimated (J) therefore no further action was necessary.

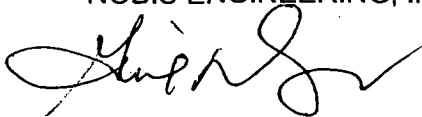
PE Samples

The PE sample MA31E6 (MS03130) was provided by EPA. Recoveries of antimony, beryllium, and thallium from the PE sample were acceptable.

Please contact Gail DeRuzzo at (978) 703-6021 should you have any questions or comments regarding this information.

Very truly yours,

NOBIS ENGINEERING, INC.



Gail DeRuzzo
Lead Chemist



Paul Swift, PhD, PE
Subcontractor Data Validator
WESTON SOLUTIONS, INC.

Tables: Table I: Recommendation Summary Table for Total Metals
 Table II: Overall Evaluation of Total Metals Data
 Data Summary Table

Enclosures: Data Validation Worksheets
 CCS Reports
 PE Score Reports
 Region Electronic Correspondence
 Field Sampling Notes
 CSF Audit (DC-2 Form)
 DQO Summary

cc: Darryl Luce, EPA Site Manager (w/o Enclosures)
 Don Goodrich USEPA Region VIII (w/ Enclosures)

TABLE I

**Recommendation Summary Table for Total Metals
Chlor-Alkali Facility (Former) Superfund Site
Case 39067; SDG MA31D2**

Element	Matrix	Qualifiers
Antimony	Water	U ¹
Beryllium	Water	A
Thallium	Water	U ²

A - Accept the data.

U¹⁻² - Positive results were qualified non-detected due to blank contaminations.

TABLE II

Overall Evaluation of Total Metals Data
 Chlor-Alkali Facility (Former) Superfund Site
 Case 39067; SDG MA31D2

Metals					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability**	Potential Usability Issues
		Analytical Error	Sampling Error*		
<p>Accurate identification of environmental bioaccumulation risks from site contamination.</p> <p>Determination of where and what magnitude of risk applies for: Humans, likely from incidental ingestion and dermal contact with sediments and surface waters, as well as consumption of fish; Ecological assessment endpoints Filling of existing data gaps throughout the study area.</p>	<p>Yes, ILM05.4 analytical methods and sampling procedures according to the requirements of the QAAP are appropriate for all samples.</p>	<p>Refer to qualifications in R/S key: U¹⁻²</p>			<p>U¹⁻² - Positive results were qualified non-detected due to laboratory blank.</p>

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

DATA SUMMARY TABLE
Tier II Validated Data
Total Metals Analysis
Aqueous -ug/L

SITE: Chlor-Alkali Facility (Former) - Berlin, NH
CASE NO.: 39067 SDG NO.: MA31D2

		MA31D0	MA31D2	MA31D4	MA31D6	MA31D9	
Sample Name:		MA31D0	MA31D2	MA31D4	MA31D6	MA31D9	
Sample Location:		MW-16A	MW-11A	MW-11A	MW-12	MW-11B	
Lab Sample ID:		9281045001	9281045002	9281045003	9281045004	9281045007	
Station ID:		MW-16A-1005-1551	MW-11A-1005-1610	DUP-01-1005-1610A	MW-12-1005-1600	MW-11B-1006-0945	
Dilution Factor:		1	1	1	1	1	
Sample Date:		05 Oct 09	05 Oct 09	05 Oct 09	05 Oct 09	06 Oct 09	
Date Analyzed:		05 Nov 09	05 Nov 09	05 Nov 09	05 Nov 09	05 Nov 09	
Chemical	CRQL						
ANTIMONY	2	2	U	2	U	2	U
BERYLLIUM	1	0.38	J	0.15	J	0.18	J
THALLIUM	1	1	U	1	U	1	U

See SDG MA31D0 for ICP-AES results.

DATA SUMMARY TABLE
Tier II Validated Data
Total Metals Analysis
Aqueous -ug/L

SITE: Chlor-Alkali Facility (Former) - Berlin, NH
CASE NO.: 39067 SDG NO.: MA31D2

Sample Name:		MA31E1		MA31E8		MA31F0		MA31F2		MA31F4	
Sample Location:		MW-6		MW-16B		MW-10B		MW-21		MW-19	
Lab Sample ID:		9281045008		9281047001		9281047002		9281047003		9281047004	
Station ID:		MW-6-1006-1010		MW-16B-1006-1155		MW-10B-1006-1355		MW-21-1006-1455		MW-19-1006-1705	
Dilution Factor:		1		1		1		1		1	
Sample Date:		06 Oct 09		06 Oct 09		06 Oct 09		06 Oct 09		06 Oct 09	
Date Analyzed:		05 Nov 09		05 Nov 09		05 Nov 09		05 Nov 09		05 Nov 09	
Chemical	CRQL										
ANTIMONY	2	2	U	2	U	2	U	2	U	2	U
BERYLLIUM	1	0.61	J	1	U	0.26	J	0.18	J	0.033	J
THALLIUM	1	1	U	1	U	1	U	1	U	1	U

See SDG MA31D0 for ICP-AES results.

DATA SUMMARY TABLE
Tier II Validated Data
Total Metals Analysis
Aqueous -ug/L

SITE: Chlor-Alkali Facility (Former) - Berlin, NH
CASE NO.: 39067 SDG NO.: MA31D2

Sample Name:		MA31F7		MA31F9		MA31L7		MA31L9		MA31M1	
Sample Location:		MW-24B1		MW-9		MW-24O1		MW-18B		MW-1	
Lab Sample ID:		9281047005		9281047006		9284003001		9284003002		9284003003	
Station ID:		MW-24B1-1006-1600		MW-9-1007-0925		MW-24O1-1009-0840		MW-18B-1009-0905		MW-1-1009-1010	
Dilution Factor:		1		1		1		1		1	
Sample Date:		06 Oct 09		07 Oct 09		09 Oct 09		09 Oct 09		09 Oct 09	
Date Analyzed:		05 Nov 09		05 Nov 09		05 Nov 09		05 Nov 09		05 Nov 09	
Chemical	CRQL										
ANTIMONY	2	2	U	2	U	3.3	U	2	U	2	U
BERYLLIUM	1	0.79	J	0.54	J	0.31	J	0.11	J	1	U
THALLIUM	1	1	U	1	U	1	U	1	U	1	U

See SDG MA31D0 for ICP-AES results.