UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

January 20, 2016

MEMORANDUM

SUBJECT: Contract Laboratory Program Data Review

FROM: Raymond Flores, Alternate ESAT Regional Project Officer
Environmental Services Branch (6MD-HL)

TO: Katrina Coltrain, Remedial Project Manager (6SF-RL)

Site: **WILCOX OIL**

Case#: **45671**

SDG#: **MF6R29**

The EPA Region 6 Environmental Services Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for regional use. Problems, if any, are listed in the report narrative. If you have any questions regarding the data review report, please contact me at (281) 983-2139.

9751645

ENVIRONMENTAL SERVICES ASSISTANCE TEAM

ESAT Region 6
10625 Fallstone Road
Houston, TX 77099

Alion Science and Technology

MEMORANDUM

DATE: January 19, 2016

TO: Marvelyn Humphrey, ESAT PO, Region 6 EPA

FROM: Sonya Meekins, Data Reviewer, ESAT

THRU: Dominic G. Jarecki, ESAT Program Manager, ESAT

SUBJECT: CLP Data Review

Contract No.:	EP-W-13-026
TO No.:	002
Task/Sub-Task:	2-12
ESAT Doc. No.:	1602-212-0011
TDF No.:	6-16-121A
ESAT File No.:	I-0680

Attached is the data review summary for Case # 45671
SDG # MF6R29
Site Wilcox Oil

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO.	45671	SITE	Wilcox Oil
LABORATORY	BON	NO. OF SAMPLES	5
CONTRACT#	EP-W-14-029	MATRIX	Water
SDG#	MF6R29	REVIEWER (IF NOT ESB)	ESAT
SOW#	ISM02.3/MA 2542.1	REVIEWER'S NAME	Sonya Meekins
SF#	303DD2GG	COMPLETION DATE	January 19, 2016

SAMPLE NO.					
	MF6R29	MF6R36			
	MF6R33				
	MF6R34				
	MF6R35				

		ICP-MS	HG
1.	HOLDING TIMES	O	O
2.	CALIBRATIONS	O	O
3.	BLANKS	O	O
4.	MATRIX SPIKES	O	O
5.	DUPLICATE ANALYSIS	M	O
6.	ICP QC	M	N/A
7.	LCS	O	N/A
8.	SAMPLE VERIFICATION	O	O
9.	OTHER QC	N/A	N/A
10.	OVERALL ASSESSMENT	M	O

O = Data had no problems.
M = Data qualified due to major or minor problems.
Z = Data unacceptable.
NA = Not applicable.

ACTION ITEMS:

AREAS OF CONCERN: The aluminum laboratory duplicate difference was above the QC limit. The aluminum and zinc serial dilution differences were above the QC limit. Two samples had poor I.S. performance.

COMMENTS/CLARIFICATIONS
REGION 6 CLP QA REVIEW

CASE 45671 **SDG** MF6R29 **SITE** Wilcox Oil **LAB** BON

COMMENTS: This SDG consisted of five water samples for total metals by ICP-MS and mercury analyses following SOW ISM02.3. The samples were also subject to Modified Analysis Request 2542.1 (MA 2542.1), which requested lower CRQLs for eight analytes. The sampler designated sample MF6R29 for QC analyses.

S4VEM Review was performed for this data package as requested by the TDF. The target analytes of concern with the desired CRQLs in parentheses are antimony (1.0 ug/L), arsenic (0.50 ug/L), cadmium (0.50 ug/L), chromium (1.0 ug/L), cobalt (0.50 ug/L), magnesium (250 ug/L), selenium (2.5 ug/L), and thallium (0.50 ug/L). The analytes of concern detected above the CRQLs are arsenic, cadmium, chromium, cobalt, and/or magnesium in all samples. The laboratory reanalyzed samples MF6R33 and MF6R34 at the required 2X dilution because the %RI for ISs SC-45, Y-89, and Bi-209 were above the QC limit in the undiluted analyses of these samples. The dilutions repeated this problem so the laboratory reported the undiluted results associated with ISs SC-45, Y-89, Ho-165 and Bi-209. The laboratory also diluted (up to 300X) and reanalyzed sample MF6R33 because of high lead, manganese, and sodium concentrations.

OVERALL ASSESSMENT: Some results were qualified for all samples because of problems with a laboratory duplicate difference, serial dilution differences, and poor instrument performance. ESAT's final data qualifiers in the DST indicate the technical usability of all reported sample results. An Evidence Audit was conducted for the CSF, and the audit results were reported on the Evidence Inventory Checklist. The DST included in this report is the final version.

INORGANIC ACRONYMS

CCB	Continuing Calibration Blank
CCS	Contract Compliance Screening
CCV	Continuing Calibration Verification
CN	Cyanide
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
DST	Data Summary Table
EDM	EXES Data Manager
HG	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICP-AES	Inductively Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma-Mass Spectrometry
ICS	Interference Check Sample
ICV	Initial Calibration Verification
IS	Internal Standard
LCS	Laboratory Control Sample
MDL	Method Detection Limit
NFG	National Functional Guidelines
PE	Performance Evaluation
%D	Percent Difference
%R	Percent Recovery
%RI	Percent Relative Intensity
%RSD	Percent Relative Standard Deviation
QA	Quality Assurance
QC	Quality Control
QL	Quantitation Limit
RPD	Relative Percent Difference
RSCC	Regional Sample Control Center
S3VEM	Stage 3 Validation Electronic and Manual (previously called Modified CADRE Review)
S4VEM	Stage 4 Validation Electronic and Manual (previously called Standard Review)
SDG	Sample Delivery Group
SMO	Sample Management Office
SOW	Statement of Work
SQL	Sample Quantitation Limit
TAL	Target Analyte List

HEADER DEFINITIONS FOR INORGANIC EXCEL DST

CASE: Case Number
SDG: SDG Number
EPASAMP: EPA Sample Number
LABID: Laboratory File/Sample ID
MATRIX: Sample Matrix
QCCOD: Sample QC Code
SMPQUAL: Sample Qualifier
ANDATE: Sample Analysis Date
ANTIME: Sample Analysis Time
CASNUM: Compound CAS Number
ANALYTE: Compound Name
CONC: Compound Concentration
VALDQAL: Region 6 Inorganic Data Validation Qualifier (see Inorganic Data Qualifier Definitions on the next page)
UNITS: Concentration Units
ADJCRQL: Adjusted Contract Required Quantitation Limit Value
SMPDATE: Sampling Date
PRPDATE: Sample Preparation Date
LRDATE: Laboratory Receipt Date
LEVEL: Sample Level
PERSOLD: Sample Percent Solids
SMPWTVL: Sample Weight (Soil Samples)/Initial Sample Volume (Water Samples)
FINLVOL: Final Sample Volume
METHOD: Method of Analysis
STATLOC: Station Location

Disclaimer: **ESAT verified the accuracy of the information reported in the Excel DST only for the following data fields: CASE, SDG, EPASAMP, MATRIX, ANALYTE, CONC, UNITS, ADJCRQL, VALDQAL, and PERSOLD. The data qualifiers in the VALDQAL column indicate the technical usability of the reported results.**

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

U Not detected at reported quantitation limit.

L Reported concentration is between the MDL and the CRQL.

J Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, etc., or the result is below the CRQL.

R Result is unusable.

F A possibility of a false negative exists.

UC Reported concentration should be used as a raised quantitation limit because of blank effects and/or laboratory or field contamination.

+ High biased. Actual concentration may be lower than the concentration reported.

- Low biased. Actual concentration may be higher than the concentration reported.

W The result should be used with caution. The result was reported on a dry weight basis although the sample did not conform to the EPA Office of Water definition of a soil sample because of its high water content (>70% moisture).

CASE	SDG	EPASAMP	LABID	MATRIX	QCCODE	ANDATE	ANTIME	CASNUM	ANALYTE	CONC	VALDQAL	UNITS	ADJCRQL	SMPDATE	PRPDATE	LRDATE	LEVEL	PERSOLD	SMPWTVL	FINVOL	METHOD	STATLOC
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/30/2015	16:36:46	7429-90-5	Aluminum	3200	J	ug/L	20.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-36-0	Antimony	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-38-2	Arsenic	2.5		ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-39-3	Barium	45.0		ug/L	10.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-41-7	Beryllium	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-43-9	Cadmium	0.50	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-70-2	Calcium	16000		ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-47-3	Chromium	2.3		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-48-4	Cobalt	3.8		ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-50-8	Copper	4.2		ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7439-89-6	Iron	7230		ug/L	200	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/28/2015	12:37:25	7439-92-1	Lead	495		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7439-95-4	Magnesium	6890		ug/L	250	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/30/2015	16:36:46	7439-96-5	Manganese	827		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-02-0	Nickel	4.6		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-09-7	Potassium	2960		ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7782-49-2	Selenium	2.5	U	ug/L	2.5	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-22-4	Silver	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-23-5	Sodium	7890		ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-28-0	Thallium	0.50	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/30/2015	16:36:46	7440-62-2	Vanadium	4.6	LJ	ug/L	5.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/29/2015	11:01:33	7440-66-6	Zinc	23.5	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-DISCH
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/30/2015	16:53:24	7429-90-5	Aluminum	46100	J	ug/L	20.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-36-0	Antimony	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-38-2	Arsenic	32.9		ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-39-3	Barium	1800		ug/L	10.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-41-7	Beryllium	5.1	J	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-43-9	Cadmium	1.9	J	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-70-2	Calcium	63500	J	ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-47-3	Chromium	99.8		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-48-4	Cobalt	24.0	J	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-50-8	Copper	32.1	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7439-89-6	Iron	35400	J	ug/L	200	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/28/2015	12:46:38	7439-92-1	Lead	151000		ug/L	300	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7439-95-4	Magnesium	59700	J	ug/L	250	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/30/2015	17:09:59	7439-96-5	Manganese	6950		ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-02-0	Nickel	31.8	J	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-09-7	Potassium	4690	J	ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7782-49-2	Selenium	4.0		ug/L	2.5	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-22-4	Silver	1.5	J	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:56:43	7440-23-5	Sodium	146000	J	ug/L	1000	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-28-0	Thallium	0.50	UJ	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/30/2015	16:53:24	7440-62-2	Vanadium	133		ug/L	5.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/29/2015	11:18:04	7440-66-6	Zinc	70.4	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	TF-34-01
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/30/2015	16:57:33	7429-90-5	Aluminum	71600	J	ug/L	20.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-36-0	Antimony	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-38-2	Arsenic	24.3		ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-39-3	Barium	704		ug/L	10.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-41-7	Beryllium	5.8	J	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-43-9	Cadmium	0.50	UJ	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-70-2	Calcium	11800	J	ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-47-3	Chromium	148		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-48-4	Cobalt	16.2	J	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-50-8	Copper	21.2	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7439-89-6	Iron	29100	J	ug/L	200	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/28/2015	12:49:23	7439-92-1	Lead	471	J	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7439-95-4	Magnesium	7810	J	ug/L	250	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/30/2015	16:57:33	7439-96-5	Manganese	2470		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-02-0	Nickel	15.7	J	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-09-7	Potassium	4230	J	ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7782-49-2	Selenium	3.4		ug/L	2.5	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-22-4	Silver	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-23-5	Sodium	2180	UJ	ug/L	500	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-28-0	Thallium	0.50	UJ	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/30/2015	16:57:33	7440-62-2	Vanadium	209		ug/L	5.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/29/2015	11:22:12	7440-66-6	Zinc	26.4	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	LOR-18
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/30/2015	17:01:42	7429-90-5	Aluminum	1740	J	ug/L	20.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-36-0	Antimony	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-38-2	Arsenic	1.3		ug/L	0.50	12/14/2015	12/22/2015	12/16/2015			50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-39-3	Barium	62.3		ug/L	10.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-41-7	Beryllium	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015			50	50	MS	POND DISCH

45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-43-9	Cadmium	0.50	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-70-2	Calcium	24400		ug/L	500	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-47-3	Chromium	2.6		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-48-4	Cobalt	0.5	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-50-8	Copper	5.1		ug/L	2.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7439-89-6	Iron	1700		ug/L	200	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/28/2015	12:51:48	7439-92-1	Lead	61.8		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7439-95-4	Magnesium	7120		ug/L	250	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/30/2015	17:01:42	7439-96-5	Manganese	59.0		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-02-0	Nickel	3.3		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-09-7	Potassium	4190		ug/L	500	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7782-49-2	Selenium	2.5	U	ug/L	2.5	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-22-4	Silver	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-23-5	Sodium	8610		ug/L	500	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-28-0	Thallium	0.50	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/30/2015	17:01:42	7440-62-2	Vanadium	2.8	LJ	ug/L	5.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/29/2015	11:26:20	7440-66-6	Zinc	17.5	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	POND DISCH
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/30/2015	17:05:50	7429-90-5	Aluminum	1740	J	ug/L	20.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-36-0	Antimony	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-38-2	Arsenic	1.2		ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-39-3	Barium	65.0		ug/L	10.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-41-7	Beryllium	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-43-9	Cadmium	0.50	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-70-2	Calcium	25900		ug/L	500	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-47-3	Chromium	2.6		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-48-4	Cobalt	0.69	LJ	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-50-8	Copper	5.2		ug/L	2.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7439-89-6	Iron	1750		ug/L	200	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/28/2015	12:53:55	7439-92-1	Lead	59.8		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7439-95-4	Magnesium	7670		ug/L	250	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/30/2015	17:05:50	7439-96-5	Manganese	59.5		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-02-0	Nickel	3.4		ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-09-7	Potassium	4400		ug/L	500	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7782-49-2	Selenium	2.5	U	ug/L	2.5	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-22-4	Silver	1.0	U	ug/L	1.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-23-5	Sodium	9050		ug/L	500	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-28-0	Thallium	0.50	U	ug/L	0.50	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/30/2015	17:05:50	7440-62-2	Vanadium	2.8	LJ	ug/L	5.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/29/2015	11:30:28	7440-66-6	Zinc	18.7	J	ug/L	2.0	12/14/2015	12/22/2015	12/16/2015	50	50	MS	FD-04
45671	MF6R29	MF6R29	5120218-01	W	Field_Sample	12/28/2015	15:01:34	7439-97-6	Mercury	0.089	LJ	ug/L	0.20	12/14/2015	12/22/2015	12/16/2015	50	50	CV	TF-34-DISCH
45671	MF6R29	MF6R33	5120218-02	W	Field_Sample	12/28/2015	15:04:06	7439-97-6	Mercury	0.20	U	ug/L	0.20	12/14/2015	12/22/2015	12/16/2015	50	50	CV	TF-34-01
45671	MF6R29	MF6R34	5120218-03	W	Field_Sample	12/28/2015	15:06:38	7439-97-6	Mercury	0.20	U	ug/L	0.20	12/14/2015	12/22/2015	12/16/2015	50	50	CV	LOR-18
45671	MF6R29	MF6R35	5120218-04	W	Field_Sample	12/28/2015	15:09:10	7439-97-6	Mercury	0.20	U	ug/L	0.20	12/14/2015	12/22/2015	12/16/2015	50	50	CV	POND DISCH
45671	MF6R29	MF6R36	5120218-05	W	Field_Sample	12/28/2015	15:11:41	7439-97-6	Mercury	0.20	U	ug/L	0.20	12/14/2015	12/22/2015	12/16/2015	50	50	CV	FD-04

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 45671 SDG No. MF6R29 SDG Nos. To Follow Mod. Ref. No. 2542.1 Date Rec 01/06/16

EPA Lab ID: BON

Lab location: Hattiesburg, MS

Region: 6 Audit No.: 45671/MF6R29

Resubmitted CSF? Yes ____ No X

Box No(s): 1

COMMENTS:

14/15 Sample tags were not required for this case.

Over for additional comments.

ORIGINALS	YES	NO	N/A
CUSTODY SEALS			
1. Present on package?	X		
2. Intact upon receipt?	X		
FORM DC-2			
3. Numbering scheme accurate?	X		
4. Are enclosed documents listed?	X		
5. Are listed documents enclosed?	X		
FORM DC-1			
6. Present?	X		
7. Complete?	X		
8. Accurate?	X		
TRAFFIC REPORT/CHAIN-OF-CUSTODY RECORD(s)			
9. Signed?	X		
10. Dated?	X		
AIRBILLS/AIRBILL STICKER			
11. Present?	X		
12. Signed?	X		
13. Dated?	X		
SAMPLE TAGS			
14. Does DC-1 list tags as being included?			X
15. Present?			X
OTHER DOCUMENTS			
16. Complete?	X		
17. Legible?	X		
18. Original?	X		
18a. If "NO", does the copy indicate where original documents are located?			X

Audited by: [signature] Sonya Meekins/ESAT Data Reviewer Date 01/13/16

Audited by: ____ Date ____

Signature Printed Name/Title

DC-2__

USEPA CLP COC (LAB COPY)

DateShipped: 12/15/2015
CarrierName: FedEx
AirbillNo: 859483220215

CHAIN OF CUSTODY RECORD

Case #: 45671 EPW14029
Cooler #: MF6R29

No: 6-121515-111029-0018

Lab: Bonner Analytical Testing Company - BON
Lab Contact: Chris Bonner
Lab Phone: 601-264-2854

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
277-0030	MF6R29 MF6R42	Ground Water/ SERAS	Grab	DMw+DHg(21), TMw+Hg+Cn(21)	1218 (HNO3 pH<2, 4 C), 1219 (HNO3 pH<2, 4 C), 1221 (HNO3 pH<2, 4 C), 1222 (HNO3 pH<2, 4 C) (4)	TF-34-DISCH	12/14/2015 10:30	
277-0033	MF6R32	Ground Water/ SERAS	Grab	DMw+DHg(21)	1253 (HNO3 pH<2, 4 C) (1)	AA-GW-03	12/14/2015 11:45	
277-0034	MF6R33 MF6R44	Ground Water/ SERAS	Grab	DMw+DHg(21), TMw+Hg+Cn(21)	1263 (HNO3 pH<2, 4 C), 1264 (HNO3 pH<2, 4 C) (2)	TF-34-01	12/14/2015 13:00	
277-0035	MF6R34 MF6R45	Ground Water/ SERAS	Grab	DMw+DHg(21), TMw+Hg+Cn(21)	1273 (HNO3 pH<2, 4 C), 1274 (HNO3 pH<2, 4 C) (2)	LOR-18	12/14/2015 12:00	
277-0036	MF6R35 MF6R46	Surface Water/ SERAS	Grab	DMw+DHg(21), TMw+Hg+Cn(21)	1283 (HNO3 pH<2, 4 C), 1284 (HNO3 pH<2, 4 C) (2)	POND DISCH	12/14/2015 14:00	
277-0037	MF6R36 MF6R47	Surface Water/ SERAS	Grab	DMw+DHg(21), TMw+Hg+Cn(21)	1293 (HNO3 pH<2, 4 C), 1294 (HNO3 pH<2, 4 C) (2)	FD-04	12/14/2015 14:00	

Sample(s) to be used for Lab QC: 277-0030 Tag 1218, 277-0030 Tag 1219, 277-0030 Tag 1221, 277-0030 Tag 1222 - Special Instructions: ICP-MS for: Aluminum, Calcium, Iron, Magnesium, Potassium, Sodium, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc 3°C

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: DMw+DHg=DissMetals ICP-MS by ISM02.3/MA#2542.1 & Dissolved Hg by ISM02.3, TMw+Hg+Cn=TotalMetals ICP-MS by ISM02.3/MA#2542.1 & Hg,Cn by ISM02.3

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Day/Analysis	LM/SERAS	12/15/15 12:50	D. Aik Bonner	0943 12-16-15	good

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