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

January 12, 2016

MEMORANDUM

SUBJECT: Contract Laboratory Program Data Review

Raymond Flores

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#: **MF6R00**

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.

9754886

ENVIRONMENTAL SERVICES ASSISTANCE TEAM

ESAT Region 6
10625 Fallstone Road
Houston, TX 77099

Alion Science and Technology

MEMORANDUM

DATE: January 5, 2016

TO: Marvelyn Humphrey, ESAT PO, Region 6 EPA

FROM: Sonya Meekins, Data Reviewer, ESAT

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

SUBJECT: CLP Data Review

Contract No.:	EP-W-13-026
TO No.:	002
Task/Sub-Task:	2-12
ESAT Doc. No.:	1602-212-0008
TDF No.:	6-16-110A
ESAT File No.:	I-0677

Attached is the data review summary for Case # 45671
SDG # MF6R00
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	Soil
SDG#	MF6R00	REVIEWER (IF NOT ESB)	ESAT
SOW#	ISM02.3/MA 2542.1	REVIEWER'S NAME	Sonya Meekins
SF#	303DD2GG	COMPLETION DATE	January 5, 2016

SAMPLE NO.					
	MF6R00	MF6R04			
	MF6R01				
	MF6R02				
	MF6R03				

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

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

ACTION ITEMS: The laboratory analyzed the thallium LCS at 10X the MA 2542.1 CRQL instead of 2X.

AREAS OF CONCERN: ICP-MS Cobalt, copper, and nickel had serial dilution differences that exceeded the expanded QC limit for soil samples.

COMMENTS/CLARIFICATIONS
REGION 6 CLP QA REVIEW

CASE 45671 **SDG** MF6R00 **SITE** Wilcox Oil **LAB** BON

COMMENTS: This SDG consisted of five soil samples for total metals (by ICP-AES and ICP-MS), mercury, and cyanide analyses following SOW ISM02.3. The samples were also subject to Modified Analysis Request 2542.1 (MA 2542.1), which requested a lower CRQL for thallium. The sampler designated sample MF6R00 for QC analyses.

The SOW requires that the soil sample results be adjusted for moisture content, which raised the adjusted QLs above the CRQLs specified in the SOW and MA 2542.1. The adjusted CRQLs were reported by the laboratory and are referred to as SQLs in this report.

S4VEM Review was performed for this data package as requested by the Region. The target analytes of concern with the desired CRQLs in parentheses are antimony (1.0 mg/kg), arsenic (0.5 mg/kg), cadmium (0.5 mg/kg), chromium (1.0 mg/kg), cobalt (0.5 mg/kg), selenium (2.5 mg/kg), and thallium (0.25 mg/kg). The analytes of concern detected above the SQLs are arsenic, chromium, and cobalt in all samples.

OVERALL ASSESSMENT: Some results were qualified for all samples because of problems with a matrix spike recovery and serial dilution differences. 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 laboratory was contacted for a few CSF issues (see Resubmission Request). The laboratory resubmission will not impact the DST, so the DST included 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	VALDOAL	UNITS	ADJCRQL	SMPDATE	PRPDATE	LRDATE	LEVEL	PERSOLD	SMPWTVL	FINVOL	METHOD	STATLOC
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-36-0	Antimony	1.2	U	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-38-2	Arsenic	9.0		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-39-3	Barium	43.5		mg/kg	5.8	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-41-7	Beryllium	1.0		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-43-9	Cadmium	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-47-3	Chromium	26.4		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-48-4	Cobalt	23.2	J	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-50-8	Copper	16.7	J	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7439-92-1	Lead	10.2		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7439-96-5	Manganese	2370		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-02-0	Nickel	20.1	J	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7782-49-2	Selenium	0.34	LJ	mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	17:34:44	7440-22-4	Silver	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-28-0	Thallium	0.29	U	mg/kg	0.29	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-62-2	Vanadium	35.7		mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/21/2015	13:25:34	7440-66-6	Zinc	5.2		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.7	1	500	MS	P-04-01
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-36-0	Antimony	1.2	U	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-38-2	Arsenic	2.6		mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-39-3	Barium	40.5		mg/kg	5.9	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-41-7	Beryllium	0.59	U	mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-43-9	Cadmium	0.59	U	mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-47-3	Chromium	7.1		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-48-4	Cobalt	2.2	J	mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-50-8	Copper	5.0	J	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7439-92-1	Lead	3.4		mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7439-96-5	Manganese	82.6		mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-02-0	Nickel	3.3	J	mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7782-49-2	Selenium	2.9	U	mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	17:49:16	7440-22-4	Silver	0.59	U	mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-28-0	Thallium	0.29	U	mg/kg	0.29	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-62-2	Vanadium	15.4		mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/21/2015	13:41:35	7440-66-6	Zinc	5.2		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		85.4	1	500	MS	LOR-06
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-36-0	Antimony	1.2	U	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-38-2	Arsenic	2.7		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-39-3	Barium	53.8		mg/kg	5.8	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-41-7	Beryllium	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-43-9	Cadmium	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-47-3	Chromium	8.9		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-48-4	Cobalt	4.6	J	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-50-8	Copper	4.1	J	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7439-92-1	Lead	3.8		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7439-96-5	Manganese	168		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-02-0	Nickel	5.9	J	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7782-49-2	Selenium	2.9	U	mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	17:52:54	7440-22-4	Silver	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-28-0	Thallium	0.29	U	mg/kg	0.29	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-62-2	Vanadium	14.8		mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/21/2015	13:45:31	7440-66-6	Zinc	10.2		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		86.3	1	500	MS	LOR-12
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-36-0	Antimony	1.1	U	mg/kg	1.1	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-38-2	Arsenic	1.7		mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-39-3	Barium	31.1		mg/kg	5.7	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-41-7	Beryllium	0.57	U	mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-43-9	Cadmium	0.57	U	mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-47-3	Chromium	7.2		mg/kg	1.1	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-48-4	Cobalt	2.5	J	mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-50-8	Copper	3.7	J	mg/kg	1.1	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7439-92-1	Lead	2.1		mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7439-96-5	Menganese	82.3		mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-02-0	Nickel	5.3	J	mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7782-49-2	Selenium	2.9	U	mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	17:56:32	7440-22-4	Silver	0.57	U	mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-28-0	Thallium	0.29	U	mg/kg	0.29	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-62-2	Vanadium	11.8		mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/21/2015	13:49:31	7440-66-6	Zinc	7.4		mg/kg	1.1	12/03/2015	12/14/2015	12/04/2015		87.4	1	500	MS	LOR-09
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-36-0	Antimony	1.2	U	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-38-2	Arsenic	1.6		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-39-3	Barium	32.0		mg/kg	5.8	12/03/2015	12/14/2015	12/04/2015		85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-41-7	Beryllium	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-43-9	Cadmium	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015		85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-47-3	Chromium	6.0		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015		85.6	1	500	MS	FD-01

45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-48-4	Cobalt	1.9	J	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-50-8	Copper	3.0	J	mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7439-92-1	Lead	1.7		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7439-96-5	Manganese	47.8		mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-02-0	Nickel	4.2	J	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7782-49-2	Selenium	2.9	U	mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	18:00:10	7440-22-4	Silver	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-28-0	Thallium	0.29	U	mg/kg	0.29	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-62-2	Vanadium	9.7		mg/kg	2.9	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/21/2015	13:53:15	7440-66-6	Zinc	6.6		mg/kg	1.2	12/03/2015	12/14/2015	12/04/2015	85.6	1	500	MS	FD-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/16/2015	11:35:16	7429-90-5	Aluminum	13900		mg/kg	23.1	12/03/2015	12/14/2015	12/04/2015	86.7	1	100	P	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/16/2015	11:35:16	7440-70-2	Calcium	577	U	mg/kg	577	12/03/2015	12/14/2015	12/04/2015	86.7	1	100	P	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/16/2015	11:35:16	7439-89-6	Iron	27300		mg/kg	11.5	12/03/2015	12/14/2015	12/04/2015	86.7	1	100	P	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/16/2015	11:35:16	7439-95-4	Magnesium	886		mg/kg	577	12/03/2015	12/14/2015	12/04/2015	86.7	1	100	P	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/16/2015	11:35:16	7440-09-7	Potassium	1470		mg/kg	577	12/03/2015	12/14/2015	12/04/2015	86.7	1	100	P	P-04-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/16/2015	11:35:16	7440-23-5	Sodium	577	U	mg/kg	577	12/03/2015	12/14/2015	12/04/2015	86.7	1	100	P	P-04-01
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/16/2015	11:52:48	7429-90-5	Aluminum	15300		mg/kg	23.4	12/03/2015	12/14/2015	12/04/2015	85.4	1	100	P	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/16/2015	11:52:48	7440-70-2	Calcium	598		mg/kg	585	12/03/2015	12/14/2015	12/04/2015	85.4	1	100	P	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/16/2015	11:52:48	7439-89-6	Iron	12600		mg/kg	11.7	12/03/2015	12/14/2015	12/04/2015	85.4	1	100	P	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/16/2015	11:52:48	7439-95-4	Magnesium	1080		mg/kg	585	12/03/2015	12/14/2015	12/04/2015	85.4	1	100	P	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/16/2015	11:52:48	7440-09-7	Potassium	1770		mg/kg	585	12/03/2015	12/14/2015	12/04/2015	85.4	1	100	P	LOR-06
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/16/2015	11:52:48	7440-23-5	Sodium	585	U	mg/kg	585	12/03/2015	12/14/2015	12/04/2015	85.4	1	100	P	LOR-06
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/16/2015	11:57:13	7429-90-5	Aluminum	13500		mg/kg	23.2	12/03/2015	12/14/2015	12/04/2015	86.3	1	100	P	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/16/2015	11:57:13	7440-70-2	Calcium	579	U	mg/kg	579	12/03/2015	12/14/2015	12/04/2015	86.3	1	100	P	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/16/2015	11:57:13	7439-89-6	Iron	13500		mg/kg	11.6	12/03/2015	12/14/2015	12/04/2015	86.3	1	100	P	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/16/2015	11:57:13	7439-95-4	Magnesium	1600		mg/kg	579	12/03/2015	12/14/2015	12/04/2015	86.3	1	100	P	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/16/2015	11:57:13	7440-09-7	Potassium	1760		mg/kg	579	12/03/2015	12/14/2015	12/04/2015	86.3	1	100	P	LOR-12
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/16/2015	11:57:13	7440-23-5	Sodium	579	U	mg/kg	579	12/03/2015	12/14/2015	12/04/2015	86.3	1	100	P	LOR-12
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/16/2015	12:01:39	7429-90-5	Aluminum	11000		mg/kg	22.9	12/03/2015	12/14/2015	12/04/2015	87.4	1	100	P	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/16/2015	12:01:39	7440-70-2	Calcium	596		mg/kg	572	12/03/2015	12/14/2015	12/04/2015	87.4	1	100	P	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/16/2015	12:01:39	7439-89-6	Iron	12000		mg/kg	11.4	12/03/2015	12/14/2015	12/04/2015	87.4	1	100	P	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/16/2015	12:01:39	7439-95-4	Magnesium	1440		mg/kg	572	12/03/2015	12/14/2015	12/04/2015	87.4	1	100	P	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/16/2015	12:01:39	7440-09-7	Potassium	1810		mg/kg	572	12/03/2015	12/14/2015	12/04/2015	87.4	1	100	P	LOR-09
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/16/2015	12:01:39	7440-23-5	Sodium	572	U	mg/kg	572	12/03/2015	12/14/2015	12/04/2015	87.4	1	100	P	LOR-09
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/16/2015	12:06:05	7429-90-5	Aluminum	7940		mg/kg	23.4	12/03/2015	12/14/2015	12/04/2015	85.6	1	100	P	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/16/2015	12:06:05	7440-70-2	Calcium	584	U	mg/kg	584	12/03/2015	12/14/2015	12/04/2015	85.6	1	100	P	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/16/2015	12:06:05	7439-89-6	Iron	7610		mg/kg	11.7	12/03/2015	12/14/2015	12/04/2015	85.6	1	100	P	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/16/2015	12:06:05	7439-95-4	Magnesium	916		mg/kg	584	12/03/2015	12/14/2015	12/04/2015	85.6	1	100	P	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/16/2015	12:06:05	7440-09-7	Potassium	1160		mg/kg	584	12/03/2015	12/14/2015	12/04/2015	85.6	1	100	P	FD-01
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/16/2015	12:06:05	7440-23-5	Sodium	584	U	mg/kg	584	12/03/2015	12/14/2015	12/04/2015	85.6	1	100	P	FD-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/10/2015	16:42:21	7439-97-6	Mercury	0.0066	LJ	mg/kg	0.12	12/03/2015	12/10/2015	12/04/2015	86.7	0.5	100	CV	P-04-01
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/10/2015	16:44:53	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/03/2015	12/10/2015	12/04/2015	85.4	0.5	100	CV	LOR-06
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/10/2015	16:47:25	7439-97-6	Mercury	0.0071	LJ	mg/kg	0.12	12/03/2015	12/10/2015	12/04/2015	86.3	0.5	100	CV	LOR-12
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/10/2015	16:49:58	7439-97-6	Mercury	0.11	U	mg/kg	0.11	12/03/2015	12/10/2015	12/04/2015	87.4	0.5	100	CV	LOR-09
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/10/2015	16:52:29	7439-97-6	Mercury	0.12	U	mg/kg	0.12	12/03/2015	12/10/2015	12/04/2015	85.6	0.5	100	CV	FD-01
45671	MF6R00	MF6R00	5120091-01	S	Field_Sample	12/14/2015	15:02:57	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	86.7	1	50	AS	P-04-01
45671	MF6R00	MF6R01	5120091-02	S	Field_Sample	12/14/2015	15:05:27	57-12-5	Cyanide	0.59	U	mg/kg	0.59	12/03/2015	12/14/2015	12/04/2015	85.4	1	50	AS	LOR-06
45671	MF6R00	MF6R02	5120091-03	S	Field_Sample	12/14/2015	15:06:17	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	86.3	1	50	AS	LOR-12
45671	MF6R00	MF6R03	5120091-04	S	Field_Sample	12/14/2015	15:07:07	57-12-5	Cyanide	0.57	U	mg/kg	0.57	12/03/2015	12/14/2015	12/04/2015	87.4	1	50	AS	LOR-09
45671	MF6R00	MF6R04	5120091-05	S	Field_Sample	12/14/2015	15:07:57	57-12-5	Cyanide	0.58	U	mg/kg	0.58	12/03/2015	12/14/2015	12/04/2015	85.6	1	50	AS	FD-01

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 45671 SDG No. MF6R00 SDG Nos. To Follow Mod. Ref. No. 2542.1 Date Rec 12/28/15

EPA Lab ID: BON

Lab location: Hattiesburg, MS

Region: 6 Audit No.: 45671/MF6R00

Resubmitted CSF? Yes ____ No X

Box No(s): 1

COMMENTS:

4. Page 26 was included but not listed on Form DC-2.

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: Sonya Meekins/ESAT Data Reviewer Date 01/04/16

Audited by: Date

Signature Printed Name/Title

DC-2__

In Reference To Case No(s):
45671 SDG: MF6R00 (I-0677)

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Resubmission Request

Laboratory Name:	BON
Lab Contact:	Chris Bonner
Region:	6
Regional Contact:	Raymond Flores - EPA
ESAT Reviewer:	Sonya Meekins - ESAT

In reference to data for the following fractions:

CSF

Summary of Questions/Issues:

1. Page 26 was not listed on Form DC-2 (ISM02.3, p. B-52, sect 3.6.2.1). Please add this page number in an appropriate section on Form DC-2.

2. The corrections on Form DC-2-1 (p. 8) were not initialed and dated. Please add this contract-required information and resubmit this page with proper pagination (ISM02.3, p. E-17, sec. 5.6.7).

NOTE: Any submitted laboratory resubmission should be clearly marked as "Additional Data" with a cover letter included describing what data is being delivered, which Case the data pertains, and who requested the data (ISM02.3, p. B-9, sec. 2.2.1). Custody seals are required only for regular mail shipments.

Please respond to the above item **within 5 business days (ISM02.3, p. B-9, sec. 2.2.1)** by e-mail to Flores.Raymond@epa.gov. If you have any questions, please contact Mr. Flores at 281-983-2139.

Distribution: (1) Lab Copy, (2) Region Copy, and (3) ESAT Copy

USEPA CLP COC (LAB COPY)
DateShipped: 12/3/2015
CarrierName: FedEx
AirbillNo: 859483220443

CHAIN OF CUSTODY RECORD

Case #: 45671
Cooler #:

EPW14029
MF6R00

No: 6-120315-171308-0004
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
277-0001	MF6R00	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1013 (4 C) (1)	P-04-01	12/03/2015 09:05	
277-0002	MF6R01	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1020 (4 C) (1)	LOR-06	12/03/2015 10:30	
277-0003	MF6R02	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1027 (4 C) (1)	LOR-12	12/03/2015 11:10	
277-0004	MF6R03	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1034 (4 C) (1)	LOR-09	12/03/2015 11:45	
277-0005	MF6R04	Soil/ SERAS	Discrete Interval	TMs+Hg+Cn(21)	1041 (4 C) (1)	FD-01	12/03/2015 14:40	

Sample(s) to be used for Lab QC: 277-0001 Tag 1013 - Special Instructions: ICP-AES for Aluminum, Calcium, Iron, Magnesium, Potassium, Sodium.
ICP-MS for Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: TMs+Hg+Cn=TotalMetals ICP-AES +Hg+Cn by ISM02.3, ICP-MS by ISM02.3/MA#2542.1

5°C

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All/Analysis	LM SERAS	1600 12/3/15	P. Aik Bon	1018 12-4-15	good

Page 11 of 11

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