Reference 16

9532577

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

RECEIVED
JUN 30 2000
SITE ASSESSMENT & MANAGEMENT SECTION

MEMORANDUM

Date: June 28, 2000

Subject: Contract Laboratory Program Data Review

From: Marvelyn Humphrey, Alternate ESAT RPO, 6MD-HC

To: B. Rhotenberry, 6SF-RA

Site : FALCON REFINING

Case#: 28064

SDG# : MF00NH

The EPA Region 6 Houston 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 call me at (281) 983-2140.

Attachments
cc: R. Flores, Region 6 CLP/TPO
M. El-Feky, Region 6 Data Coordinator
Files (2)

LOCKHEED MARTIN SERVICES GROUP
ESAT REGION VI
10101 SOUTHWEST FREEWAY, SUITE 500
HOUSTON, TEXAS 77074

MEMORANDUM

DATE: June 26, 2000

TO: Melvin Ritter/Marvelyn Humphrey, ESAT RPO/Alternate RPO, Region VI

FROM: Tom Chiang, ESAT Team Manager, Region VI

SUBJECT: CLP Data Review

REF: TDF #6-0383A ESAT File No. I2434
ESAT Contract No. 68-D6-0005

Attached is the data review summary for Case # 28064
SDG # MF00NH
Site Falcon Refining

COMMENTS:

I. CONTRACTUAL ASSESSMENT OF DATA PACKAGE:

Hard copy review could not confirm the noncompliant items noted by CCS but detected the following contractually noncompliant item.

The laboratory analyzed the continuing calibration verification (CCV) standards for antimony at the same concentration as the initial calibration verification (ICV) standard. The SOW requires the analyte concentrations in the CCV to be different than the concentration used for the ICV (ILM04.0, Exhibit E, E-17, b). The sample results were not technically affected because other QC analyses such as the ICSAB with different concentrations from the ICV provided the missing QC information.

II. TECHNICAL/USABILITY ASSESSMENT OF DATA PACKAGE:

A total of 480 results were reviewed for this data package. Some results have been qualified because of technical problems. The significant problems are addressed below.

A. Blank concentrations affected some antimony, arsenic, beryllium, cadmium, mercury, and thallium results.

B. The antimony matrix spike recovery was below the QC limit.

C. Replicate instrument readings were inconsistent for one thallium and three selenium analyses.

MEMORANDUM, continued

Attached is the data review summary for Case # 28064
SDG # MF00NH
Site Falcon Refining

D. Field duplicate results for chromium were inconsistent.

III. OTHER AREAS OF CONCERN:

The cooler containing 12 samples was not at the required 4°C for soil samples.

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

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 28064 SITE Falcon Refining
LABORATORY LIBRTY NO. OF SAMPLES 20
CONTRACT# 68-W0-0082 MATRIX Soil
SDG# MF00NH REVIEWER (IF NOT ESD) ESAT
SOW# ILM04.1 REVIEWER'S NAME S. Meekins
ACCT# 050102DJN73 SF# 50102DZZ COMPLETION DATE June 26, 2000

SAMPLE NO.					
	MF0-0NH	MF0-0NT	MF0-0PM	MF0-0PR	MF0-0PX
	MF0-0NL	MF0-0NW	MF0-0PN	MF0-0PS	MF0-0PZ
	MF0-0NP	MF0-0PK	MF0-0PP	MF0-0PT	MF0-0Q0
	MF0-0NR	MF0-0PL	MF0-0PQ	MF0-0PW	MF0-0Q1

DATA ASSESSMENT SUMMARY

	ICP	HG	CYANIDE
1. HOLDING TIMES	O	O	O
2. CALIBRATIONS	O	O	O
3. BLANKS	M	M	O
4. MATRIX SPIKES	M	O	O
5. DUPLICATE ANALYSIS	O	O	O
6. ICP QC	M		
7. FAA QC			
8. LCS	O	O	O
9. SAMPLE VERIFICATION	O	O	O
10. OTHER QC	M	O	O
11. OVERALL ASSESSMENT	M	M	O

O = Data had no problems.
M = Data qualified because of major or minor problems.
Z = Data unacceptable.
N/A= Not applicable

ACTION ITEMS:

AREAS OF CONCERN: The laboratory failed to analyze the antimony CCV's at contract-required concentrations. Laboratory blank concentrations affected some antimony, arsenic, beryllium, cadmium, mercury, sodium, and thallium results. The antimony matrix spike recovery was below 75 percent. The potassium serial dilution difference was above 10 percent. One thallium and three selenium analyses had coefficients of variation greater than 20 percent. Chromium, copper, iron, manganese, and nickel had inconsistent field duplicate results.

NOTABLE PERFORMANCE: The laboratory submitted the data package two calendar days early.

COMMENTS/CLARIFICATIONS
REGION 6 CLP QA REVIEW

Case 28064 SDG MF00NH Site Falcon Refining Lab LIBRTY

COMMENTS: The SDG consisted of 20 soil samples for total metals and cyanide analyses by ILM04.1. The sampler designated sample MF0-0NH as the QC sample and samples MF0-0NL/MF0-0NK (SDG MF00NK), MF0-0PL/MF0-0PM, MF0-0PP/MF0-0PT, and MF0-0PX/MF0-0Q0 as field duplicate pairs. The laboratory met the 14-day data package turnaround time requirement. The reviewer noted the following contractually noncompliant item.

- The CCV concentrations for antimony were not contractually compliant.

Although listed on the traffic report with the samples in this SDG, sample MF0-0ML was not available. Therefore, the Agency informed the laboratory of the cancellation of this sample (see Record of Communication in the data package).

Forty-five percent of the reported results were above the CRDL's. One calcium sample and one iron sample were diluted up to 5X because analyte concentrations were above the linear ranges. Some results were qualified because of problems with laboratory blank concentrations, a matrix spike recovery, a serial dilution difference, replicate instrument readings, and field duplicate differences. The technical usability of all reported results is indicated in the Data Summary Table (DST). An Evidence Audit was conducted for the Complete Sample Delivery Group File (CSF), and the results were recorded in the Evidence Inventory Checklist.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS. THE ASSESSMENTS ARE DEFINED BELOW.

Acceptable = No results were qualified for any problems associated with this QC parameter.

Provisional = Some results were qualified because of problems associated with this QC parameter.

Unusable = All results are unusable because of major problems associated with this QC parameter.

1. **Holding Times:** Acceptable. All samples met contractual holding time criteria. Technical holding time criteria have not yet been established for soil samples. The laboratory reported a cooler temperature of 8°C, which is above the required 4°C (± 2°C). Since the temperature was not excessive, the sample results were not affected.

Case 28064 SDG MF00NH Site Falcon Refining Lab LIBRTY

2. **Calibrations:** Acceptable. All calibrations met contractual requirements. The CRDL standard recoveries indicated acceptable instrument performance near the CRDL's.

3. **Blanks:** Provisional. Preparation and calibration blanks met contractual requirements although the laboratory reported 18 analytes in the blanks. The reviewer qualified as high biased the sodium result for sample MF0-0PW and the following results as undetected because of laboratory blank concentrations:

   the antimony result for sample MF0-0PL;

   the arsenic results for samples MF0-0NH, MF0-0NR, MF0-0NT, MF0-0PK, MF0-0PP, and MF0-0PT;

   all detected beryllium results except the results for samples MF0-0NH and MF0-0NR;

   the cadmium results for samples MF0-0NP, MF0-0NT, MF0-0PW, MF0-0PX, MF0-0Q0, and MF0-0Q1;

   the mercury results for samples MF0-0NR, MF0-0NT, MF0-0PK, MF0-0PN, MF0-0PQ, MF0-0PS, MF0-0PT, MF0-0PW, MF0-0PX, MF0-0PZ, and MF0-0Q0;

   the sodium result for sample MF0-0PK; and

   the thallium results for samples MF0-0NR, MF0-0PL, and MF0-0PN.

4. **Pre-digestion/Pre-distillation Matrix Spike Recovery:** Provisional. The reviewer qualified the antimony results as estimated and biased low because the antimony matrix spike recovery was below the QC limit.

5. **Duplicate Analysis:** Acceptable. Laboratory duplicates met technical QC criteria.

6. **ICP Quality Control:**

   Serial Dilution: Provisional. The laboratory reported an outlying serial dilution difference for potassium, so the reviewer qualified as estimated the potassium results. The serial dilution result was lower than the undiluted result, indicating that matrix interference enhanced the signal for this analyte. Therefore, the reviewer also qualified the potassium results as high biased.

   Interference Check Sample (ICS): Acceptable. The reported ICS results indicated satisfactory interelement and

Case 28064 SDG MF00NH Site Falcon Refining Lab LIBRTY

6. **ICP Quality Control (cont.):** background corrections.

Coefficient of Variation: Provisional. The reviewer qualified as estimated the following results because replicate instrument readings were inconsistent:

the selenium results for samples MF0-0PL, MF0-0PM, and MF0-0PX, and

the thallium result for sample MF0-0PL.

7. **Furnace Atomic Absorption Quality Control:** Not Applicable.

8. **Laboratory Control Sample (LCS):** Acceptable. The laboratory reported acceptable LCS recoveries, indicating satisfactory sample preparation and analysis.

9. **Sample Verification:** Acceptable. The reviewer detected some reporting errors of which one affected a mercury sample result that was below the CRDL (see FAX Record Log). The laboratory miscalculated the mercury result reported on Form 1 for sample MF0-0PW (off by about 40%). The reviewer verified the sample weight and the raw data concentration, calculated the correct mercury result, and reported this concentration on the DST.

10. **Other QC:**

Field Duplicates: Provisional. Field duplicate results were consistent for samples MF0-0NL/MF0-0NK (SDG MF00NK), MF0-0PP/MF0-0PT, and MF0-0PX/MF0-0Q0. The reviewer qualified as estimated the chromium, copper, iron, manganese, and nickel results for samples MF0-0PL and MF0-0PM because field duplicate results were inconsistent.

11. **Overall Assessment:** Sample result qualifications are summarized below.

The reviewer qualified 1 antimony, 6 arsenic, 17 beryllium, 6 cadmium, 11 mercury, 2 sodium, and 3 thallium results because of laboratory blank effects.

The reviewer qualified all antimony and potassium results because of matrix related problems.

The reviewer qualified one thallium and three selenium results because of inconsistent instrument readings.

The reviewer qualified the chromium, copper, iron, manganese, and nickel results for two samples because of inconsistent field duplicate results.

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the inorganic data review process.

U Undetected at the laboratory reported detection limit (IDL).

L Reported concentration is between the IDL and the CRDL.

J Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, FAA spike recovery, etc.

R Result is unusable.

F A possibility of a false negative exists.

UC Reported concentration should be used as a raised detection limit because of apparent blank contamination.

^ High bias. Actual concentration may be lower than the concentration reported.

v Low bias. Actual concentration may be higher than the concentration reported.

Case No.: 28064 SDG: MF00NH Reviewer: S. Meekins

Laboratory: LIBRTY Matrix: Soil Units: mg/Kg

EPA Sample #=>	MF0-0NH	FLAG	MF0-0NL	FLAG	MF0-0NP	FLAG	MF0-0NR	FLAG	MF0-0NT	FLAG	MF0-0NW	FLAG	MF0-0PK	FLAG
ALUMINUM	5420		5290		5970		4860		2100		509		1360	
ANTIMONY	0.65	U Jv	0.54	U Jv	0.58	U Jv	0.52	U Jv	0.51	U Jv	0.52	U Jv	0.44	U Jv
ARSENIC	4.0	UC	3.0		2.8		0.83	LUC	2.1	LUC	0.57	U	1.9	LUC
BARIUM	138		160		88.6		57.7		464		106		95.6	
BERYLLIUM	0.23	L	0.24	LUC	0.28	LUC	0.35	L	0.16	LUC	0.049	U	0.11	LUC
CADMIUM	0.062	U	0.051	U	0.062	LUC	0.05	U	0.11	LUC	0.049	U	0.042	U
CALCIUM	13100		13900		6070		5320		28500		9750		23900	
CHROMIUM	5.4		5.1		5.3		3.8		3.6		1.4	L	2.1	L
COBALT	1.7	L	1.6	L	2.4	L	1.3	L	1.1	L	0.16	L	0.60	L
COPPER	5.3	L	4.3	L	3.6	L	1.8	L	5.4	L	1.9	L	1.7	L
IRON	4650		4400		4750		3620		3470		899		1710	
LEAD	7.3		7.6		5.4		5.1		6.0		2.3		4.4	
MAGNESIUM	25200		19600		18300		1170	L	1570		644	L	450	L
MANGANESE	352		292		286		87.7		66.0		12.1		42.8	
MERCURY	0.078	U	0.053	U	0.07	U	0.067	LUC	0.19	UC	0.064	U	0.048	LUC
NICKEL	3.9	L	3.5	L	3.9	L	2.5	L	2.5	L	0.67	L	1.9	L
POTASSIUM	1570	J^	1520	J^	1450	J^	886	LJ^	752	LJ^	295	LJ^	319	LJ^
SELENIUM	0.68	U	0.56	U	0.61	U	0.54	U	0.53	U	0.54	U	0.46	U
SILVER	0.19	U	0.15	U	0.17	U	0.15	U	0.14	U	0.15	U	0.12	U
SODIUM	4900		4080		3600		1190	LJ^	3040		3360		242	LUC
THALLIUM	1.0	U	0.96	L	0.93	L	1.2	LUC	0.78	U	0.79	U	0.67	U
VANADIUM	10.0	L	9.2	L	9.9	L	8.5	L	4.8	L	1.9	L	5.1	L
ZINC	28.2		36.4		18.9		9.8		31.0		14.2		7.5	
CYANIDE	0.070	U	0.076	L	0.061	U	0.057	U	0.058	U	0.054	U	0.072	L
% Solids:	64.3		71.9		71.3		77.6		75.6		78.5		94.4	

Case No.: 28064 SDG: MF00NH Reviewer: S. Meekins

Laboratory: LIBRTY Matrix: Soil Units: mg/Kg

EPA Sample #=>	MF0-0PL	FLAG	MF0-0PM	FLAG	MF0-0PN	FLAG	MF0-0PP	FLAG	MF0-0PQ	FLAG	MF0-0PR	FLAG	MF0-0PS	FLAG
ALUMINUM	1050		1250		2110		1260		2450		2210		4610	
ANTIMONY	1.3	LUCJv	0.48	U Jv	0.48	LJv	0.52	U Jv	0.46	U Jv	0.45	U Jv	1.2	LJv
ARSENIC	7.7		0.78	L	0.82	L	1.2	LUC	0.58	L	0.49	U	23.3	
BARIUM	44.5	L	23.2	L	80.0		69.3		80.9		15.6	L	129	
BERYLLIUM	0.078	LUC	0.079	LUC	0.14	LUC	0.083	LUC	0.16	LUC	0.11	LUC	0.15	LUC
CADMIUM	0.45	LJ^	0.046	U	0.044	U	0.05	U	0.044	U	0.042	U	1.3	
CALCIUM	16400		16000		17800		15100		24000		3990		28300	
CHROMIUM	83.2	J	2.0	LJ	3.1		2.6		2.4		2.6		67.5	
COBALT	3.9	L	0.44	L	0.97	L	0.63	L	0.84	L	0.46	L	6.6	L
COPPER	64.2	J	1.3	LJ	2.7	L	6.1	L	2.1	L	2.2	L	75.6	
IRON	36200	J	1320	J	3250		1710		1960		2000		85700	
LEAD	9.0		4.3		4.6		5.4		7.0		4.2		30.5	
MAGNESIUM	5410		6140		3330		5500		1600		5570		2570	
MANGANESE	271	J	101	J	155		125		59.0		74.8		434	
MERCURY	0.058	U	0.057	U	0.052	LUC	0.054	U	0.062	LUC	0.048	U	0.13	UC
NICKEL	57.5	J	1.5	LJ	2.0	L	1.3	L	1.4	L	1.1	L	49.7	
POTASSIUM	361	LJ^	374	LJ^	699	LJ^	456	LJ^	686	LJ^	726	LJ^	940	LJ^
SELENIUM	0.90	LJ	0.82	LJ	0.48	U	0.67	L	0.49	U	0.47	U	2.5	
SILVER	0.14	U	0.14	U	0.13	U	0.15	U	0.13	U	0.13	U	0.15	U
SODIUM	4360		3190		1990		2970		3160		7480		1250	LJ^
THALLIUM	3.7	UCJ	0.74	U	1.0	LUC	0.79	U	0.71	U	0.68	U	10.5	
VANADIUM	5.1	L	3.3	L	4.8	L	2.8	L	4.6	L	3.0	L	14.5	
ZINC	22.4		6.8		32.8		43.7		15.9		8.0		81.1	
CYANIDE	0.10	L	0.057	U	0.050	U	0.055	U	0.061	L	0.049	U	0.10	L
% Solids:	86.2		79.4		89.7		80.8		89.3		91.2		73.9	

Case No.: 28064 SDG: MF00NH Reviewer: S. Meekins

Laboratory: LIBRTY Matrix: Soil Units: mg/Kg

EPA Sample #=>	MF0-0PT	FLAG	MF0-0PW	FLAG	MF0-0PX	FLAG	MF0-0PZ	FLAG	MF0-0Q0	FLAG	MF0-0Q1	FLAG		FLAG
ALUMINUM	1280		5060		2540		1120		2450		708			
ANTIMONY	0.52	U Jv	0.60	U Jv	0.41	U Jv	0.87	LJv	0.49	LJv	0.43	U Jv		
ARSENIC	1.0	LUC	1.8	L	1.2	L	5.6		1.1	L	2.2			
BARIUM	69.1		136		62.2		47.2		49.2		989			
BERYLLIUM	0.079	LUC	0.29	LUC	0.16	LUC	0.073	LUC	0.17	LUC	0.076	LUC		
CADMIUM	0.05	U	0.07	LUC	0.17	LUC	0.79	L	0.24	LUC	0.35	LUC		
CALCIUM	15000		25500		13700		10100		12700		250000			
CHROMIUM	2.0	L	5.0		4.1		28.6		4.4		3.4			
COBALT	0.60	L	2.6	L	1.5	L	0.96	L	1.4	L	0.49	L		
COPPER	10.9		5.0	L	3.2	L	50.2		3.6	L	4.6	L		
IRON	2080		5230		2430		59200		2340		3310			
LEAD	9.1		9.2		19.0		31.3		25.1		21.0			
MAGNESIUM	5590		2240		2030		409	L	1980		2190			
MANGANESE	137		222		121		139		112		130			
MERCURY	0.055	LUC	0.069	LUC	0.064	LUC	0.061	LUC	0.072	LUC	1.2			
NICKEL	1.4	L	3.7	L	2.7	L	14.1		2.6	L	1.5	L		
POTASSIUM	458	LJ^	1460	J^	731	LJ^	874	LJ^	690	LJ^	305	LJ^		
SELENIUM	0.55	U	0.62	U	0.74	LJ	1.6		0.46	U	0.45	U		
SILVER	0.15	U	0.17	U	0.12	U	0.14	U	0.13	U	0.12	U		
SODIUM	3040		1500	J^	3580		3600		3660		2620			
THALLIUM	0.80	U	0.91	U	0.63	U	8.8		0.67	U	0.65	U		
VANADIUM	2.9	L	8.6	L	4.8	L	5.6	L	4.7	L	1.9	L		
ZINC	61.0		42.8		40.3		43.9		40.9		56.0			
CYANIDE	0.061	L	0.068	U	0.058	L	0.11	L	0.050	L	0.046	U		
% Solids:	80.4		65.2		94.4		87.6		94.9		97.2			

COMPLETED SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 28064 SDG No. MF00NH SDG Nos. To Follow _____ SAS No. _____ Date Rec 05/31/00

EPA Lab ID: LIBRTY

Lab Location: Cary, NC

Region: 6 Audit No.: 28064/MF00NH

Re_Submitted CSF? Yes _____ No X

Box No(s): 1

COMMENTS:

4. The laboratory did not record the sample tags on Form DC-2 and was notified about this omission.

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		
CHAIN-OF-CUSTODY RECORD(s)			
9. Signed?	X		
10. Dated?	X		
TRAFFIC REPORT(s) PACKING LIST(s)			
11. Signed?	X		
12. Dated?	X		
AIRBILLS/AIRBILL STICKER			
13. Present?	X		
14. Signed?			X
15. Dated?			X
SAMPLE TAGS			
16. Does DC-1 list tags as being included?	X		
17. Present?	X		
OTHER DOCUMENTS			
18. Complete?	X		
19. Legible?	X		
20. Original?		X	
20a. If "NO", does the copy indicate where original documents are located?	X		

Audited by: Sonya M. Meekins — Sonya Meekins / ESAT Data Reviewer — Date 06/25/00

Audited by: _____ — _____ — Date _____

Audited by: _____ — _____ — Date _____

Signature — Printed Name/Title

TO BE COMPLETED BY CEAT

Date Recvd by CEAT: _____ Date Entered: _____ Date Reviewed: _____

Entered by: _____ _____

Reviewed by: _____ _____

Signature — Printed Name/Title

DC-2__

In Reference to Case No(s):
28064 SDG: MF00NH (I2434)

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
FAX Record Log

Laboratory Name: LIBRTY
Lab Contact: Bob Meierer
Region: 6
Regional Contact: Mahmoud El-Feky - EPA
ESAT Data Reviewer: Sonya Meekins

FAX initiated by: _____Laboratory ___X___Region

In reference to data for the following fractions:

CSF Deliverables Metals

Summary of Questions/Issues:

A. CSF Deliverables

The SOW requires that all items/pages in the CSF be paginated (ILM04.0, Exhibit F, F-7, 2.7.11). However, this was not done for the bag containing the sample tags. In the future please paginate the sample tag bag and report the page number on Form DC-2-1, #28, 3rd item.

B. Metals

1. The SOW requires that the CCV concentration be different than the concentration used for the ICV (ILM04.0, Exhibit E, E-17, b, last sentence in 1st paragraph). However, this requirement was not met for the antimony CCV's. Please explain this contractual noncompliance.

2. According to the mercury analysis "X'd" on Form 14 (p. 65) for sample MF0-0PW and the corresponding result in the mercury raw data (p. 202), the mercury result reported on Form 1 (p. 28) was miscalculated. Using the sample weight of 0.25 grams (p. 59), %Solids of 65.2, an instrument reading of 0.1133 µg/L, the reviewer calculated a result of 0.069 mg/Kg. Please correct the mercury result on page 28 and resubmit this page.

NOTE: Any laboratory resubmission should be submitted either as an addendum to the original CSF with a revised Form DC-2 or submitted as a new CSF with a new Form DC-2 (ILM04.0, B-14), except those containing only replacement pages. Custody seals are required for all CSF resubmission shipments.

FAX COMMUNICATION LOG

Continuation Page 2
Laboratory/Contact Bob Meierer/LIBRTY
In Reference To Case No.: 28064 **SDG:** MF00NH

Please respond to the above items. Region 6 resubmissions may be included with CCS response or sent separately **within 4 days** (Summary of Changes ILM04.1, Page 1-5 of 12, Exhibit B, Section II) to:

Mr. Mahmoud El-Feky
U.S. EPA Region 6 Laboratory
10625 Fallstone Road
Houston, TX 77099

If you have any questions, please contact me at (713) 988-2128.

M. El-Feky
Signature

1-26-00
Date

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

EPA United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

28064

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		6	TNRCC	5/17/00	Airborne Express

Regional Information

Sampler (Name): Wesley Newberry

Airbill Number: 2952378531 ~~29537~~ MAC

Non-Superfund Program

Sampler Signature: [signature]

5. Ship To: Liberty Analytical, 501 Madison Ave, Cary, NC 27513, ATTN: Cathy Dorer

Site Name: Falcon Refining

City, State: Ingleside, TX

Site Spill ID:

3. Purpose*: Lead: [ ] SF [ ] PRP [ ] ST [X] FED; Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [X] ESI; Long-Term Action: [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
MF00MY	5	Low	Comp	6		X	X					6-188507-08	SE-1	5/16/00 1640	F02HD	WN	—
MF00N0	5	Low	Comp	6		X	X					6-188619-20	SE-3	5/16/00 1608	F02HF	WN	—
MF00N1	5	Low	Comp	6		X	X					6-188675-76	SE-4	5/16/00 1612	F02HG	WN	D(MF00N0)
MF00N2	5	Low	Comp	6		X	X					6-188757-58	SE-5	5/16/00 1628	F02HH	WN	—
MF00N3	5	Low	Comp	6		X	X					6-188715-16	SE-6	5/16/00 1621	F02HJ	WN	—
MF00NH	5	Low	Comp	6		X	X					6-188699-700	SE-20	5/17/00 1000	F02J0	MC	—
MF00NN	5	Low	Comp	6		X	X					6-188789-90	SE-25	5/16/00 1520	F02J5	MC	—
MF00NQ	5	Low	Grab	6		X	X					6-188555-56	SE-27	5/16/00 1545	F02J7	MC	—
MF00NR	5	Low	Comp	6		X	X					6-188595-96	SE-28	5/16/00 1606	F02J8	MC	—
MF00NT	5	Low	Comp	6		X	X					6-188659-60	SE-30	5/16/00 1555	F02JA	WN	—

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
	1 of 2	MF00MY; MF00NH	[signature]	

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5-17-00 1830				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

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EPA United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

Case No. 28064

Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		6	TNRCC	5/17/00	Airborne Express

Regional Information

Non-Superfund Program

Site Name: Falcon Refining

City, State: Ingleside, TX

Site Spill ID

Sampler (Name): Marshall Cedillote

Sampler Signature: Marshall Cedillote

Airbill Number: 2952378531

3. Purpose*
- Lead: SF, PRP, ST, [X] FED
- Early Action: CLEM, PA, REM, RI, SI, [X] ESI
- Long-Term Action: FS, RD, RA, O&M, NPLD

5. Ship To: Liberty Analytical, 501 Madison Ave, Cary, NC 27513
ATTN: Cathy Dover

6. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (specify in Column A)

7. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaOH
4. H_2SO_4
5. $K_2CR_2O_7$
6. Ice only
7. Other (specify in Column D)
N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval., — = Not a QC Sample)
MF00NW	5	Low	Comp	6		X	X					6-188579-40	SE-31	5/16/00 1515	F02JB	WN	—
MF00PK	5	Low	Grab	6		X	X					6-189015-16	SO-21'	5/16/00 1635	F02K2	MC	—
MF00PP	5	Low	Grab	6		X	X					6-188906-07	SO-25	5/16/00 1435	F02K6	MC	D(MF00PT)
MF00PT	5	Low	Grab	6		X	X					6-189007-08	SO-29	5/16/00 1440	F02KA	MC	—
MF00ML	4	Low	Grab	2,3		X	X					6-188749-50	FB-03	5/17/00 1550	F02H3	MC	B

Shipment for Case Complete? (Y/N) Y

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Sample(s) to be Used for Laboratory QC

Additional Sampler Signatures

Chain of Custody Seal Number(s)

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	5-17-00 1830				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

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EPA United States Environmental Protection Agency · Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

Case No. 28064

Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		6	TTVRCC	5/18/00	Airborne Express

ional Information

Sampler (Name): Wes Newberry

Airbill Number: 2952379533

-Superfund Program

Sampler Signature: [signature]

5. Ship To: Liberty Analytical, 501 Madison Ave., Cary, NC 27513, ATTN: Cathy Dover

Name: alcon Refining

State: gleside, TX

Site Spill ID

3. Purpose*: Lead [ ] SF [ ] PRP [ ] ST [X] FED; Early Action [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [X] ESI; Long-Term Action [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
F00P0	5	L	G	6		X	X					6-188579-580	SO-2	5/18/00/1122	F02JF	WN	—
F00P1	5	L	G	6		X	X					6-188603-604	SO-3	5/18/00/1033	F02JG	WN	—
F00P2	5	L	G	6		X	X					6-188643-644	SO-4	5/18/00/1127	F02JH	WN	D(MF00P0)
F00P5	5	L	G	6		X	X					6-188723-724	SO-7	5/18/00/0820	F02JL	WN	—
F00P6	5	L	G	6		X	X					6-188781-782	SO-8	5/18/00/0824	F02JM	WN	D(MF00P5)
F00P7	5	L	G	6		X	X					6-188806-807	SO-9	5/18/00/0850	F02JN	WN	—
F00PB	5	L	G	6		X	X					6-188922-923	SO-13	5/18/00/0918	F02JS	WN	—
F00PG	5	L	G	6		X	X					6-188858-859	SO-18	5/17/00/1038	F02JZ	WN	—
F00PL	5	L	G	6		X	X					6-189033-034	SO-22	5/17/00/0930	F02K3	WN	—
LF00PM	5	L	G	6		X	X					6-189051-052	SO-23	5/17/00/0935	F02K4	WN	D(MF00PL)

pment for Case mplete? (Y/N): N

Page 1 of 2

Sample(s) to be Used for Laboratory QC: MF00NM

Additional Sampler Signatures: Marshall [illegible]

Chain of Custody Seal Number(s):

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/18/00/1900				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

A21-012-13 REV.

TRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

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EPA United States Environmental Protection Agency Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

Case No. 28064

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		6	TNRCC	5/18/00	Airborne Express

Regional Information

Sampler (Name): Wes Newberry

Airbill Number: 2952379533

Non-Superfund Program: ~~Falcon Refining~~ op

Sampler Signature: [signature]

Site Name: Falcon Refining

City, State: Ingleside, TX

Site Spill ID:

3. Purpose*: Lead: SF, PRP, ST, FED; Early Action: CLEM, PA, REM, RI, SI, ESI; Long-Term Action: FS, RD, RA, O&M, NPLD

5. Ship To: Liberty Analytical, 501 Madison Ave., Cary, NC 27513

ATTN: Cathy Dover

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
MF00PN	5	L	G	6		X	X					6-189059-060	SO-24	5/17/00/1113	F02K5	WN	—
MF00PR	5	L	G	6		X	X					6-188962-963	SO-27	5/17/00/1358	F02K8	WN	—
MF00PS	5	L	G	6		X	X					6-188987-988	SO-28	5/17/00/1352	F02K9	WN	—
MF00NM	5	L	C	6		X	X					6-188691-692	SE-24	5/17/00/1218	F02J4	MC	—
MF00NP	5	L	C	6		X	X					6-188531-532	SE-26	5/17/00/0914	F02J6	MC	—
MF00Q1	5	L	G	6		X	X					6-189314-315	SO-36	5/18/00/1210	F02KG	WN	—

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
	2 of 2	MF00NM	[signature]	

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/18/00 1900				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

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EPA United States Environmental Protection Agency Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

Case No. 28064

Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		6	TTNRCC	5/18/00	Airborne Express

gional Information

Sampler (Name): Wes Newberry

Airbill Number: 2952379334

n-Superfund Program

Sampler Signature: [signature]

5. Ship To: Liberty Analytical, 501 Madison Ave, Cary, NC 27513, ATTN: Cathy Dover

e Name: Falcon Refining

y, State: gleside, TX

Site Spill ID

3. Purpose*: Lead [ ] SF [ ] PRP [ ] ST [X] FED; Early Action [ ] CLEAN [ ] PA [ ] REM [ ] RI [ ] SI [X] ESI; Long-Term Action [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
1F00P8	5	L	G	6		X	X					6-188765-766	SO-10	5/17/00/1336	F02JP	MC	—
F00P9	5	L	G	6		X	X					6-188736-737	SO-11	5/17/00/1355	F02JQ	MC	—
1F00PA	5	L	G	6		X	X					6-188898-899	SO-12	5/17/00/1414	F02JR	MC	—
1F00PC	5	L	G	6		X	X					6-188930-931	SO-14	5/17/00/1447	F02JT	MC	—
1F00PD	5	L	G	6		X	X					6-188814-815	SO-15	5/17/00/0912	F02JW	WN	—
1F00PE	5	L	G	6		X	X					6-188826-827	SO-16	5/17/00/1055	F02JX	WN	—
1F00PH	5	L	G	6		X	X					6-188882-883	SO-19	5/17/00/1537	F02KO	WN	—
1F00PQ	5	L	G	6		X	X					6-188946-947	SO-26	5/17/00/1555	F02K7	WN	—
1F00PW	5	L	G	6		X	X					6-188938-939	SO-30	5/17/00/1414	F02KB	WN	—
1F00PX	5	L	G	6		X	X					6-188954-955	SO-31	5/17/00/1502	F02KC	WN	—

ipment for Case omplete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
	1 of 2	MF00NK	Marshall Cochran	

CHAIN OF CUSTODY RECORD

elinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/18/2000				
elinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
elinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

STRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

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Original TKM SPG 14 FPDNR

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EPA United States Environmental Protection Agency Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

Case No. 28064

1. Project Code | Account Code
2. Region No. 6 | Sampling Co. TNRCC
4. Date Shipped 5/18/00 | Carrier Airborne Express
Regional Information
Sampler (Name) Marshall Cedillote
Airbill Number 2952379334
Non-Superfund Program
Sampler Signature Marshall Cedillote
5. Ship To Liberty Analytical 501 Madison Ave. Cary, NC 27513 ATTN: Cathy Dover
Site Name Falcon Refining
City, State Ingleside, TX | Site Spill ID
3. Purpose*: Lead [ ] SF [ ] PRP [ ] ST [X] FED; Early Action [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [X] ESI; Long-Term Action [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample)
MF00PZ	5	L	G	6		X	X					6-188978-979	SO-33	5/17/00/1512	F02KE	MC	—
MF00Q0	5	L	G	6		X	X					6-189307-308	SO-34	5/17/00/1507	F02KF	WN	D (MF00PY)
MF00NK	5	L	C	6		X	X					6-188571-572	SE-22	5/17/00/1131	F0252	MC	—
MF00NL	5	L	C	6		X	X					6-188627-628	SE-23	5/17/00/1138	F0253	MC	D (MF00NK)

Shipment for Case Complete? (Y/N) N | Page 2 of 2 | Sample(s) to be Used for Laboratory QC | Additional Sampler Signatures | Chain of Custody Seal Number(s)

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/18/00 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
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U. S. EPA - CLP

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00NH

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-1

Level (low/med): LOW Date Received: 05/19/00

% Solids: 64.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5420			P
7440-36-0	Antimony	0.65	U	N	P
7440-38-2	Arsenic	4.0			P
7440-39-3	Barium	138			P
7440-41-7	Beryllium	0.23	B		P
7440-43-9	Cadmium	0.062	U		P
7440-70-2	Calcium	13100			P
7440-47-3	Chromium	5.4			P
7440-48-4	Cobalt	1.7	B		P
7440-50-8	Copper	5.3	B		P
7439-89-6	Iron	4650			P
7439-92-1	Lead	7.3			P
7439-95-4	Magnesium	25200			P
7439-96-5	Manganese	352			P
7439-97-6	Mercury	0.078	U		CV
7440-02-0	Nickel	3.9	B		P
7440-09-7	Potassium	1570		E	P
7782-49-2	Selenium	0.68	U		P
7440-22-4	Silver	0.19	U		P
7440-23-5	Sodium	4900			P
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	10.0	B		P
7440-66-6	Zinc	28.2			P
	Cyanide	0.070	U		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

U. S. EPA - CLP

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00NL

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-19

Level (low/med): LOW Date Received: 05/19/00

% Solids: 71.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5290			P
7440-36-0	Antimony	0.54	U	N	P
7440-38-2	Arsenic	3.0			P
7440-39-3	Barium	160			P
7440-41-7	Beryllium	0.24	B		P
7440-43-9	Cadmium	0.051	U		P
7440-70-2	Calcium	13900			P
7440-47-3	Chromium	5.1			P
7440-48-4	Cobalt	1.6	B		P
7440-50-8	Copper	4.3	B		P
7439-89-6	Iron	4400			P
7439-92-1	Lead	7.6			P
7439-95-4	Magnesium	19600			P
7439-96-5	Manganese	292			P
7439-97-6	Mercury	0.053	U		CV
7440-02-0	Nickel	3.5	B		P
7440-09-7	Potassium	1520		E	P
7782-49-2	Selenium	0.56	U		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	4080			P
7440-28-0	Thallium	0.96	B		P
7440-62-2	Vanadium	9.2	B		P
7440-66-6	Zinc	36.4			P
	Cyanide	0.076	B		CA

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00NP

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-20

Level (low/med): LOW Date Received: 05/19/00

% Solids: 71.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5970			P
7440-36-0	Antimony	0.58	U	N	P
7440-38-2	Arsenic	2.8			P
7440-39-3	Barium	88.6			P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.062	B		P
7440-70-2	Calcium	6070			P
7440-47-3	Chromium	5.3			P
7440-48-4	Cobalt	2.4	B		P
7440-50-8	Copper	3.6	B		P
7439-89-6	Iron	4750			P
7439-92-1	Lead	5.4			P
7439-95-4	Magnesium	18300			P
7439-96-5	Manganese	286			P
7439-97-6	Mercury	0.07	U		CV
7440-02-0	Nickel	3.9	B		P
7440-09-7	Potassium	1450		E	P
7782-49-2	Selenium	0.61	U		P
7440-22-4	Silver	0.17	U		P
7440-23-5	Sodium	3600			P
7440-28-0	Thallium	0.93	B		P
7440-62-2	Vanadium	9.9	B		P
7440-66-6	Zinc	18.9			P
	Cyanide	0.061	U		CA

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00NR

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-2

Level (low/med): LOW Date Received: 05/19/00

% Solids: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4860			P
7440-36-0	Antimony	0.52	U	N	P
7440-38-2	Arsenic	0.83	B		P
7440-39-3	Barium	57.7			P
7440-41-7	Beryllium	0.35	B		P
7440-43-9	Cadmium	0.05	U		P
7440-70-2	Calcium	5320			P
7440-47-3	Chromium	3.8			P
7440-48-4	Cobalt	1.3	B		P
7440-50-8	Copper	1.8	B		P
7439-89-6	Iron	3620			P
7439-92-1	Lead	5.1			P
7439-95-4	Magnesium	1170	B		P
7439-96-5	Manganese	87.7			P
7439-97-6	Mercury	0.067	B		CV
7440-02-0	Nickel	2.5	B		P
7440-09-7	Potassium	886	B	E	P
7782-49-2	Selenium	0.54	U		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	1190	B		P
7440-28-0	Thallium	1.2	B		P
7440-62-2	Vanadium	8.5	B		P
7440-66-6	Zinc	9.8			P
	Cyanide	0.057	U		CA

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00NT

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-3

Level (low/med): LOW Date Received: 05/19/00

% Solids: 75.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2100			P
7440-36-0	Antimony	0.51	U	N	P
7440-38-2	Arsenic	2.1	B		P
7440-39-3	Barium	464			P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.11	B		P
7440-70-2	Calcium	28500			P
7440-47-3	Chromium	3.6			P
7440-48-4	Cobalt	1.1	B		P
7440-50-8	Copper	5.4	B		P
7439-89-6	Iron	3470			P
7439-92-1	Lead	6.0			P
7439-95-4	Magnesium	1570			P
7439-96-5	Manganese	66.0			P
7439-97-6	Mercury	0.19			CV
7440-02-0	Nickel	2.5	B		P
7440-09-7	Potassium	752	B	E	P
7782-49-2	Selenium	0.53	U		P
7440-22-4	Silver	0.14	U		P
7440-23-5	Sodium	3040			P
7440-28-0	Thallium	0.78	U		P
7440-62-2	Vanadium	4.8	B		P
7440-66-6	Zinc	31.0			P
	Cyanide	0.058	U		CA

Color Before: GRAY Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00NW

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-4

Level (low/med): LOW Date Received: 05/19/00

% Solids: 78.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	509			P
7440-36-0	Antimony	0.52	U	N	P
7440-38-2	Arsenic	0.57	U		P
7440-39-3	Barium	106			P
7440-41-7	Beryllium	0.049	U		P
7440-43-9	Cadmium	0.049	U		P
7440-70-2	Calcium	9750			P
7440-47-3	Chromium	1.4	B		P
7440-48-4	Cobalt	0.16	B		P
7440-50-8	Copper	1.9	B		P
7439-89-6	Iron	899			P
7439-92-1	Lead	2.3			P
7439-95-4	Magnesium	644	B		P
7439-96-5	Manganese	12.1			P
7439-97-6	Mercury	0.064	U		CV
7440-02-0	Nickel	0.67	B		P
7440-09-7	Potassium	295	B	E	P
7782-49-2	Selenium	0.54	U		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	3360			P
7440-28-0	Thallium	0.79	U		P
7440-62-2	Vanadium	1.9	B		P
7440-66-6	Zinc	14.2			P
	Cyanide	0.054	U		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PK

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-5

Level (low/med): LOW Date Received: 05/19/00

% Solids: 94.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1360			P
7440-36-0	Antimony	0.44	U	N	P
7440-38-2	Arsenic	1.9	B		P
7440-39-3	Barium	95.6			P
7440-41-7	Beryllium	0.11	B		P
7440-43-9	Cadmium	0.042	U		P
7440-70-2	Calcium	23900			P
7440-47-3	Chromium	2.1	B		P
7440-48-4	Cobalt	0.60	B		P
7440-50-8	Copper	1.7	B		P
7439-89-6	Iron	1710			P
7439-92-1	Lead	4.4			P
7439-95-4	Magnesium	450	B		P
7439-96-5	Manganese	42.8			P
7439-97-6	Mercury	0.048	B		CV
7440-02-0	Nickel	1.9	B		P
7440-09-7	Potassium	319	B	E	P
7782-49-2	Selenium	0.46	U		P
7440-22-4	Silver	0.12	U		P
7440-23-5	Sodium	242	B		P
7440-28-0	Thallium	0.67	U		P
7440-62-2	Vanadium	5.1	B		P
7440-66-6	Zinc	7.5			P
	Cyanide	0.072	B		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PL

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-8

Level (low/med): LOW Date Received: 05/19/00

% Solids: 86.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1050			P
7440-36-0	Antimony	1.3	B	N	P
7440-38-2	Arsenic	7.7			P
7440-39-3	Barium	44.5	B		P
7440-41-7	Beryllium	0.078	B		P
7440-43-9	Cadmium	0.45	B		P
7440-70-2	Calcium	16400			P
7440-47-3	Chromium	83.2			P
7440-48-4	Cobalt	3.9	B		P
7440-50-8	Copper	64.2			P
7439-89-6	Iron	36200			P
7439-92-1	Lead	9.0			P
7439-95-4	Magnesium	5410			P
7439-96-5	Manganese	271			P
7439-97-6	Mercury	0.058	U		CV
7440-02-0	Nickel	57.5			P
7440-09-7	Potassium	361	B	E	P
7782-49-2	Selenium	0.90	B		P
7440-22-4	Silver	0.14	U		P
7440-23-5	Sodium	4360			P
7440-28-0	Thallium	3.7			P
7440-62-2	Vanadium	5.1	B		P
7440-66-6	Zinc	22.4			P
	Cyanide	0.10	B		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PM

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-9

Level (low/med): LOW Date Received: 05/19/00

% Solids: 79.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1250			P
7440-36-0	Antimony	0.48	U	N	P
7440-38-2	Arsenic	0.78	B		P
7440-39-3	Barium	23.2	B		P
7440-41-7	Beryllium	0.079	B		P
7440-43-9	Cadmium	0.046	U		P
7440-70-2	Calcium	16000			P
7440-47-3	Chromium	2.0	B		P
7440-48-4	Cobalt	0.44	B		P
7440-50-8	Copper	1.3	B		P
7439-89-6	Iron	1320			P
7439-92-1	Lead	4.3			P
7439-95-4	Magnesium	6140			P
7439-96-5	Manganese	101			P
7439-97-6	Mercury	0.057	U		CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium	374	B	E	P
7782-49-2	Selenium	0.82	B		P
7440-22-4	Silver	0.14	U		P
7440-23-5	Sodium	3190			P
7440-28-0	Thallium	0.74	U		P
7440-62-2	Vanadium	3.3	B		P
7440-66-6	Zinc	6.8			P
	Cyanide	0.057	U		CA

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PN

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-10

Level (low/med): LOW Date Received: 05/19/00

% Solids: 89.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2110			P
7440-36-0	Antimony	0.48	B	N	P
7440-38-2	Arsenic	0.82	B		P
7440-39-3	Barium	80.0			P
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	0.044	U		P
7440-70-2	Calcium	17800			P
7440-47-3	Chromium	3.1			P
7440-48-4	Cobalt	0.97	B		P
7440-50-8	Copper	2.7	B		P
7439-89-6	Iron	3250			P
7439-92-1	Lead	4.6			P
7439-95-4	Magnesium	3330			P
7439-96-5	Manganese	155			P
7439-97-6	Mercury	0.052	B		CV
7440-02-0	Nickel	2.0	B		P
7440-09-7	Potassium	699	B	E	P
7782-49-2	Selenium	0.48	U		P
7440-22-4	Silver	0.13	U		P
7440-23-5	Sodium	1990			P
7440-28-0	Thallium	1.0	B		P
7440-62-2	Vanadium	4.8	B		P
7440-66-6	Zinc	32.8			P
	Cyanide	0.050	U		CA

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PP

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-6

Level (low/med): LOW Date Received: 05/19/00

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1260			P
7440-36-0	Antimony	0.52	U	N	P
7440-38-2	Arsenic	1.2	B		P
7440-39-3	Barium	69.3			P
7440-41-7	Beryllium	0.083	B		P
7440-43-9	Cadmium	0.05	U		P
7440-70-2	Calcium	15100			P
7440-47-3	Chromium	2.6			P
7440-48-4	Cobalt	0.63	B		P
7440-50-8	Copper	6.1	B		P
7439-89-6	Iron	1710			P
7439-92-1	Lead	5.4			P
7439-95-4	Magnesium	5500			P
7439-96-5	Manganese	125			P
7439-97-6	Mercury	0.054	U		CV
7440-02-0	Nickel	1.3	B		P
7440-09-7	Potassium	456	B	E	P
7782-49-2	Selenium	0.67	B		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	2970			P
7440-28-0	Thallium	0.79	U		P
7440-62-2	Vanadium	2.8	B		P
7440-66-6	Zinc	43.7			P
	Cyanide	0.055	U		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PQ

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-11

Level (low/med): LOW Date Received: 05/19/00

% Solids: 89.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2450			P
7440-36-0	Antimony	0.46	U	N	P
7440-38-2	Arsenic	0.58	B		P
7440-39-3	Barium	80.9			P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.044	U		P
7440-70-2	Calcium	24000			P
7440-47-3	Chromium	2.4			P
7440-48-4	Cobalt	0.84	B		P
7440-50-8	Copper	2.1	B		P
7439-89-6	Iron	1960			P
7439-92-1	Lead	7.0			P
7439-95-4	Magnesium	1600			P
7439-96-5	Manganese	59.0			P
7439-97-6	Mercury	0.062	B		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium	686	B	E	P
7782-49-2	Selenium	0.49	U		P
7440-22-4	Silver	0.13	U		P
7440-23-5	Sodium	3160			P
7440-28-0	Thallium	0.71	U		P
7440-62-2	Vanadium	4.6	B		P
7440-66-6	Zinc	15.9			P
	Cyanide	0.061	B		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PR

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-12

Level (low/med): LOW Date Received: 05/19/00

% Solids: 91.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2210			P
7440-36-0	Antimony	0.45	U	N	P
7440-38-2	Arsenic	0.49	U		P
7440-39-3	Barium	15.6	B		P
7440-41-7	Beryllium	0.11	B		P
7440-43-9	Cadmium	0.042	U		P
7440-70-2	Calcium	3990			P
7440-47-3	Chromium	2.6			P
7440-48-4	Cobalt	0.46	B		P
7440-50-8	Copper	2.2	B		P
7439-89-6	Iron	2000			P
7439-92-1	Lead	4.2			P
7439-95-4	Magnesium	5570			P
7439-96-5	Manganese	74.8			P
7439-97-6	Mercury	0.048	U		CV
7440-02-0	Nickel	1.1	B		P
7440-09-7	Potassium	726	B	E	P
7782-49-2	Selenium	0.47	U		P
7440-22-4	Silver	0.13	U		P
7440-23-5	Sodium	7480			P
7440-28-0	Thallium	0.68	U		P
7440-62-2	Vanadium	3.0	B		P
7440-66-6	Zinc	8.0			P
	Cyanide	0.049	U		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PS

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-13

Level (low/med): LOW Date Received: 05/19/00

% Solids: 73.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4610			P
7440-36-0	Antimony	1.2	B	N	P
7440-38-2	Arsenic	23.3			P
7440-39-3	Barium	129			P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	1.3			P
7440-70-2	Calcium	28300			P
7440-47-3	Chromium	67.5			P
7440-48-4	Cobalt	6.6	B		P
7440-50-8	Copper	75.6			P
7439-89-6	Iron	85700			P
7439-92-1	Lead	30.5			P
7439-95-4	Magnesium	2570			P
7439-96-5	Manganese	434			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	49.7			P
7440-09-7	Potassium	940	B	E	P
7782-49-2	Selenium	2.5			P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	1250	B		P
7440-28-0	Thallium	10.5			P
7440-62-2	Vanadium	14.5			P
7440-66-6	Zinc	81.1			P
	Cyanide	0.10	B		CA

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PT

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-7

Level (low/med): LOW Date Received: 05/19/00

% Solids: 80.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1280			P
7440-36-0	Antimony	0.52	U	N	P
7440-38-2	Arsenic	1.0	B		P
7440-39-3	Barium	69.1			P
7440-41-7	Beryllium	0.079	B		P
7440-43-9	Cadmium	0.05	U		P
7440-70-2	Calcium	15000			P
7440-47-3	Chromium	2.0	B		P
7440-48-4	Cobalt	0.60	B		P
7440-50-8	Copper	10.9			P
7439-89-6	Iron	2080			P
7439-92-1	Lead	9.1			P
7439-95-4	Magnesium	5590			P
7439-96-5	Manganese	137			P
7439-97-6	Mercury	0.055	B		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium	458	B	E	P
7782-49-2	Selenium	0.55	U		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	3040			P
7440-28-0	Thallium	0.80	U		P
7440-62-2	Vanadium	2.9	B		P
7440-66-6	Zinc	61.0			P
	Cyanide	0.061	B		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PW

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-14

Level (low/med): LOW Date Received: 05/19/00

% Solids: 65.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5060			P
7440-36-0	Antimony	0.60	U	N	P
7440-38-2	Arsenic	1.8	B		P
7440-39-3	Barium	136			P
7440-41-7	Beryllium	0.29	B		P
7440-43-9	Cadmium	0.07	B		P
7440-70-2	Calcium	25500			P
7440-47-3	Chromium	5.0			P
7440-48-4	Cobalt	2.6	B		P
7440-50-8	Copper	5.0	B		P
7439-89-6	Iron	5230			P
7439-92-1	Lead	9.2			P
7439-95-4	Magnesium	2240			P
7439-96-5	Manganese	222			P
7439-97-6	Mercury	0.048	B		CV
7440-02-0	Nickel	3.7	B		P
7440-09-7	Potassium	1460		E	P
7782-49-2	Selenium	0.62	U		P
7440-22-4	Silver	0.17	U		P
7440-23-5	Sodium	1500			P
7440-28-0	Thallium	0.91	U		P
7440-62-2	Vanadium	8.6	B		P
7440-66-6	Zinc	42.8			P
	Cyanide	0.068	U		CA

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PX

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-15

Level (low/med): LOW Date Received: 05/19/00

% Solids: 94.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2540			P
7440-36-0	Antimony	0.41	U	N	P
7440-38-2	Arsenic	1.2	B		P
7440-39-3	Barium	62.2			P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.17	B		P
7440-70-2	Calcium	13700			P
7440-47-3	Chromium	4.1			P
7440-48-4	Cobalt	1.5	B		P
7440-50-8	Copper	3.2	B		P
7439-89-6	Iron	2430			P
7439-92-1	Lead	19.0			P
7439-95-4	Magnesium	2030			P
7439-96-5	Manganese	121			P
7439-97-6	Mercury	0.064	B		CV
7440-02-0	Nickel	2.7	B		P
7440-09-7	Potassium	731	B	E	P
7782-49-2	Selenium	0.74	B		P
7440-22-4	Silver	0.12	U		P
7440-23-5	Sodium	3580			P
7440-28-0	Thallium	0.63	U		P
7440-62-2	Vanadium	4.8	B		P
7440-66-6	Zinc	40.3			P
	Cyanide	0.058	B		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00PZ

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-16

Level (low/med): LOW Date Received: 05/19/00

% Solids: 87.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1120			P
7440-36-0	Antimony	0.87	B	N	P
7440-38-2	Arsenic	5.6			P
7440-39-3	Barium	47.2			P
7440-41-7	Beryllium	0.073	B		P
7440-43-9	Cadmium	0.79	B		P
7440-70-2	Calcium	10100			P
7440-47-3	Chromium	28.6			P
7440-48-4	Cobalt	0.96	B		P
7440-50-8	Copper	50.2			P
7439-89-6	Iron	59200			P
7439-92-1	Lead	31.3			P
7439-95-4	Magnesium	409	B		P
7439-96-5	Manganese	139			P
7439-97-6	Mercury	0.061	B		CV
7440-02-0	Nickel	14.1			P
7440-09-7	Potassium	874	B	E	P
7782-49-2	Selenium	1.6			P
7440-22-4	Silver	0.14	U		P
7440-23-5	Sodium	3600			P
7440-28-0	Thallium	8.8			P
7440-62-2	Vanadium	5.6	B		P
7440-66-6	Zinc	43.9			P
	Cyanide	0.11	B		CA

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00Q0

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-17

Level (low/med): LOW Date Received: 05/19/00

% Solids: 94.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2450			P
7440-36-0	Antimony	0.49	B	N	P
7440-38-2	Arsenic	1.1	B		P
7440-39-3	Barium	49.2			P
7440-41-7	Beryllium	0.17	B		P
7440-43-9	Cadmium	0.24	B		P
7440-70-2	Calcium	12700			P
7440-47-3	Chromium	4.4			P
7440-48-4	Cobalt	1.4	B		P
7440-50-8	Copper	3.6	B		P
7439-89-6	Iron	2340			P
7439-92-1	Lead	25.1			P
7439-95-4	Magnesium	1980			P
7439-96-5	Manganese	112			P
7439-97-6	Mercury	0.072	B		CV
7440-02-0	Nickel	2.6	B		P
7440-09-7	Potassium	690	B	E	P
7782-49-2	Selenium	0.46	U		P
7440-22-4	Silver	0.13	U		P
7440-23-5	Sodium	3660			P
7440-28-0	Thallium	0.67	U		P
7440-62-2	Vanadium	4.7	B		P
7440-66-6	Zinc	40.9			P
	Cyanide	0.050	B		CA

Color Before: BROWN Clarity Before: _____ Texture: FINE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MF00Q1

Lab Name: COMPUCHEM Contract: 68W00082

Lab Code: LIBRTY Case No.: 28064 SAS No.: _____ SDG No.: MF00NH

Matrix (soil/water): SOIL Lab Sample ID: MF00NH-18

Level (low/med): LOW Date Received: 05/19/00

% Solids: 97.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	708			P
7440-36-0	Antimony	0.43	U	N	P
7440-38-2	Arsenic	2.2			P
7440-39-3	Barium	989			P
7440-41-7	Beryllium	0.076	B		P
7440-43-9	Cadmium	0.35	B		P
7440-70-2	Calcium	250000			P
7440-47-3	Chromium	3.4			P
7440-48-4	Cobalt	0.49	B		P
7440-50-8	Copper	4.6	B		P
7439-89-6	Iron	3310			P
7439-92-1	Lead	21.0			P
7439-95-4	Magnesium	2190			P
7439-96-5	Manganese	130			P
7439-97-6	Mercury	1.2			CV
7440-02-0	Nickel	1.5	B		P
7440-09-7	Potassium	305	B	E	P
7782-49-2	Selenium	0.45	U		P
7440-22-4	Silver	0.12	U		P
7440-23-5	Sodium	2620			P
7440-28-0	Thallium	0.65	U		P
7440-62-2	Vanadium	1.9	B		P
7440-66-6	Zinc	56.0			P
	Cyanide	0.046	U		CA

Color Before: TAN Clarity Before: _____ Texture: COARSE

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments: _____