

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IV  
Environmental Services Division  
College Station Road, Athens, Ga. 30613

\*\*\*\*\*MEMORANDUM\*\*\*\*\*

DATE: 08/11/92

SUBJECT: Results of Metals Analysis;  
92-0629 HERCULES INC  
HATIESBURG MS  
CASE NO: 18341

FROM: Robert W. Knight *Say Bennett For*  
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOE SLYKERMAN

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

INORGANIC DATA QUALIFIERS REPORT

e Number: 18341  
 Project Number: 92-0629  
 Site: Hercules, Inc., Hattiesburg, MS

<u>Element</u>	<u>Flag</u>	<u>Samples Affected</u>	<u>Reason</u>
<u>A. Water</u>			
Sb, Pb, Mn, Ag, Zn	U	All positives > IDL, but < CRDL	Baseline instability
Al, Fe, Na	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Sb	J	All with Al or Fe concentrations in solution > 84, 000 ug/L	Suspected over correction as noted in the contractor ICS
Cu	JN	All positives with Fe concentrations in solution > 94,000 ug/L	Suspected positive interference as noted in the contractor ICS
Ag	J	All	Matrix spike recovery = 68%
Tl	J	All	Matrix spike recovery = 43.8%
Pb	J	All	Matrix duplicate RPD = 185.6%
All Metals	J	MDDC74	Sample improperly preserved
Cd	J	MDDC74	% RSD > 20% for ICP multiple exposures
<u>B. Soil</u>			
Sb, Pb, Mn, Ag, Zn	U	All positives > IDL, but < CRDL	Baseline instability
Al, Fe	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Sb	J	All with Al or Fe concentrations in solution > 160, 000 ug/L	Suspected over correction as noted in the contractor ICS
Cr	J R	All positives All negatives	Matrix spike recovery = -56.1% Matrix duplicate RPD = 180.6%
Mn	J R	All positives All negatives	Matrix spike recovery = -149.2% Matrix duplicate RPD = 99.5%
Zn	J R	All positives All negatives	Matrix spike recovery = -19.4% Matrix duplicate RPD = 156%
Al	J	All	Matrix duplicate RPD = 70.8%
Ba	J	All	Matrix duplicate RPD = 100.6%
Fe	J	All	Matrix duplicate RPD = 100.4%
Pb	J	All	Matrix duplicate RPD = 185.2%
Co	J	MDDC73	% RSD > 20% for ICP multiple exposures

INORGANIC DATA QUALIFIERS REPORT (continued)

Case Number: 18341  
Project Number: 92-0629  
Site: Hercules, Inc., Hattiesburg, MS

<u>Element</u>	<u>Flag</u>	<u>Samples Affected</u>	<u>Reason</u>
K	J	MDDC62	% RSD > 20% for ICP multiple exposures

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69710 SAMPLE TYPE: GROUNDWA

\*\*\* SOURCE: HERCULES INC

\*\*\* STATION ID: TB-01

\*\*\* CASE NUMBER: 18341

SAS NUMBER:

\*\*\* COLLECTED BY: C HELM

\*\*\* CITY: HATIESBURG

\*\*\* COLLECTION START: 06/24/92 0725 STOP: 00/00/00

\*\*\* MD NUMBER: DC60

ANALYTICAL RESULTS

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
120U	ALUMINIUM	2U	MANGANESE
14U	ANTIMONY	20U	MERCURY
4U	ARSENIC	8U	NICKEL
14U	BARIUM	400U	POTASSIUM
1U	BERYLLIUM	2U	SELENIUM
2U	CADMIUM	3UJ	SILVER
400U	CALCIUM	500U	SODIUM
3U	CHROMIUM	3UJ	THALLIUM
6U	COBALT	NA	TIN
6U	COPPER	4U	VANADIUM
40U	IRON	3U	ZINC
2UJ	LEAD		
390U	MAGNESIUM		

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\* FOOTNOTES \*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT

\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

\*NA-NOT ANALYZED

\*NAI-INTERFERENCES

\*J-ESTIMATED VALUE

\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69711 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: S5-01  
\*\*\* CASE NUMBER: 18341 SAS NUMBER:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/24/92 0855 STOP: 00/00/00  
\*\*\* MD NUMBER: DC61

ANALYTICAL RESULTS

MG/KG

ANALYTICAL RESULTS

3900J	ALUMINUM	230J	MANGANESE
8.5U	ANTIMONY	.17	MERCURY
3.7	ARSENIC	1.5U	NICKEL
88J	BARIIUM	140	POTASSIUM
.39	BERYLLIUM	1U	SELENIUM
.65U	CADMIUM	1.7U	SILVER
990	CALCIUM	180U	SODIUM
5.1J	CHROMIUM	.65U	THALLIUM
1.5	COBALT	NA	TIN
20	COPPER	15	VANADIUM
9000J	IRON	110J	ZINC
39J	LEAD	08	PERCENT MOISTURE
180	MAGNESIUM		

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT  
 \*\*\* PROJECT NO. 92-0629  
 \*\*\* SOURCE: HERCULES INC  
 \*\*\* STATION ID: SB-01  
 \*\*\* CASE NUMBER: 18341

SAMPLE NO. 69712 SAMPLE TYPE: SOIL  
 SAS NUMBER: 18341

PROG ELEM: NSF COLLECTED BY: C HELM  
 CITY: HATTIESBURG ST: MS  
 COLLECTION START: 06/24/92 0925 STOP: 00/00/00  
 MD NUMBER: DC62

\*\*\* ANALYTICAL RESULTS  
 MG/KG  
 1800J ALUMINUM  
 9.5U ANTIMONY  
 .98U ARSENIC  
 9.1J BARIUM  
 .24U BERYLLIUM  
 .73U CADMIUM  
 96 CALCIUM  
 4.6J CHROMIUM  
 1.2U COBALT  
 2.2U COPPER  
 1100J IRON  
 2.5J LEAD  
 84 MAGNESIUM

\*\*\* ANALYTICAL RESULTS  
 MG/KG  
 30J MANGANESE  
 .12U MERCURY  
 1.7U NICKEL  
 87J POTASSIUM  
 .49U SELENIUM  
 2U SILVER  
 210U SODIUM  
 .73U THALLIUM  
 NA TIN  
 4.1 VANADIUM  
 30J ZINC  
 18 PERCENT MOISTURE

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT  
 \*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629  
 \*\*\* SOURCE: HERCULES INC  
 \*\*\* STATION ID: TW-01  
 \*\*\* CASE NUMBER: 18341

\*\*\* SAMPLE NO. 69713 SAMPLE TYPE: GROUNDWA

\*\*\* PROG ELEM: NSF  
 \*\*\* CITY: HATTIESBURG  
 \*\*\* COLLECTION START: 06/24/92 1045 STOP: 00/00/00  
 \*\*\* MD NUMBER: DC63

SAS NUMBER:

ANALYTICAL RESULTS		ANALYTICAL RESULTS	
UG/L		UG/L	
36000	ALUMINIUM	300	MANGANESE
140	ANTIMONY	.45	MERCURY
40	ARSENIC	39	NICKEL
1800	BARIUM	3200	POTASSIUM
11	BERYLLIUM	200	SELENIUM
20	CADMIUM	300	SILVER
24000	CALCIUM	21000	SODIUM
94	CHROMIUM	300	THALLIUM
23	COBALT	NA	TIN
19	COPPER	160	VANADIUM
15000	IRON	160	ZINC
3800	LEAD		
9000	MAGNESIUM		

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*  
 \*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
 \*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

\*NA-NOT ANALYZED  
 \*NAI-INTERFERENCES  
 \*J-ESTIMATED VALUE  
 \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*R-RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629 \*\*\* SAMPLE NO. 69714 \*\*\* SAMPLE TYPE: SOIL \*\*\*  
\*\*\* SOURCE: HERCULES INC \*\*\*  
\*\*\* STATION ID: SD-01 \*\*\*  
\*\*\* CASE NUMBER: 18341 \*\*\* SAS NUMBER: \*\*\*  
\*\*\*  
\*\*\* PROG ELEM: NSF \*\*\* COLLECTED BY: C HELM \*\*\*  
\*\*\* CITY: HATTIESBURG \*\*\* ST: MS \*\*\*  
\*\*\* COLLECTION START: 06/24/92 1620 \*\*\* STOP: 00/00/00 \*\*\*  
\*\*\* MD NUMBER: DC64 \*\*\*

ANALYTICAL RESULTS

MG/KG  
2500J ALUMINIUM  
20U ANTIMONY  
2.7 ARSENIC  
82J BARIUM  
.39 BERYLLIUM  
880 CADMIUM  
83J CALCIUM  
6.8 CHROMIUM  
3.6 COBALT  
10000J COPPER  
350J IRON  
380 LEAD  
MAGNESIUM

ANALYTICAL RESULTS

MG/KG  
460J MANGANESE  
.13U MERCURY  
1.8U NICKEL  
240 POTASSIUM  
.52U SELENIUM  
2.1U SILVER  
220U SODIUM  
.78U THALLIUM  
NA TIN  
5.6 VANADIUM  
160J ZINC  
23 PERCENT MOISTURE

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.



SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT

PROJECT NO. 92-0629  
SOURCE: HERCULES INC  
STATION ID: SW-01  
CASE NUMBER: 18341

SAMPLE NO. 69715 SAMPLE TYPE: SURFACEWA

PROG ELEM: NSF  
CITY: HATTIESBURG  
COLLECTION START: 06/24/92 1610 STOP: 00/00/00  
MD NUMBER: DC65

COLLECTED BY: C HELM  
ST: MS

SAS NUMBER:

170U ALUMINUM  
14U ANTIMONY  
4U ARSENIC  
51 BARIUM  
1U BERYLLIUM  
2U CADMIUM  
10000 CALCIUM  
3U CHROMIUM  
6U COBALT  
6U COPPER  
350 IRON  
4J LEAD  
2000 MAGNESIUM

24 MANGANESE  
.20U MERCURY  
8U NICKEL  
2000 POTASSIUM  
2U SELENIUM  
3UJ SILVER  
14000 SODIUM  
3UJ THALLIUM  
NA TIN  
4U VANADIUM  
9U ZINC

ANALYTICAL RESULTS

ANALYTICAL RESULTS

UG/L

ANALYTICAL RESULTS

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629 \*\*\*  
 \*\*\* SOURCE: HERCULES INC \*\*\*  
 \*\*\* STATION ID: SW-2 \*\*\*  
 \*\*\* CASE NUMBER: 18341 \*\*\*  
 \*\*\* SAS NUMBER: \*\*\*  
 \*\*\* SAMPLE NO. 69716 \*\*\*  
 \*\*\* SAMPLE TYPE: SURFACEWA \*\*\*  
 \*\*\* PROG ELEM: NSF \*\*\*  
 \*\*\* CITY: HATTIESBURG \*\*\*  
 \*\*\* COLLECTION START: 06/24/92 \*\*\*  
 \*\*\* MD NUMBER: DC66 \*\*\*  
 \*\*\* STOP: 00/00/00 \*\*\*  
 \*\*\* COLLECTED BY: C HELM \*\*\*  
 \*\*\* ST: MS \*\*\*

ANALYTICAL RESULTS

UG/L  
 200U ALUMINIUM  
 14U ANTIMONY  
 4U ARSENIC  
 160 BARIUM  
 1U BERYLLIUM  
 2U CADMIUM  
 33000 CALCIUM  
 3U CHROMIUM  
 6U COBALT  
 7 COPPER  
 4800 IRON  
 3U LEAD  
 6500 MAGNESIUM

ANALYTICAL RESULTS

UG/L  
 1400 MANGANESE  
 .20U MERCURY  
 18 NICKEL  
 5000 POTASSIUM  
 2U SELENIUM  
 3UJ SILVER  
 29000 SODIUM  
 3UJ THALLIUM  
 NA TIN  
 4U VANADIUM  
 28 ZINC

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT

PROJECT NO. 92-0629  
SOURCE: HERCULES INC  
STATION ID: SD-02  
CASE NUMBER: 18341

SAMPLE NO. 69717  
SAMPLE TYPE: SOIL  
SAS NUMBER:

PROG ELEM: NSF  
CITY: HATIESBURG  
COLLECTION START: 06/24/92 1730  
MD NUMBER: DC67  
STOP: 00/00/00

COLLECTED BY: C HELM  
ST: MS

ANALYTICAL RESULTS

MG/KG  
1900J ALUMINUM  
11U ANTIMONY  
11 ARSENIC  
66J BARIUM  
.38 BERYLLIUM  
.85U CADMIUM  
1900 CALCIUM  
4.7J CHROMIUM  
1.4U COPPER  
3.8 COBALT  
24000J IRON  
11J LEAD  
320 MAGNESIUM

ANALYTICAL RESULTS

MG/KG  
290J MANGANESE  
.14U MERCURY  
2U NICKEL  
210 POTASSIUM  
.57U SELENIUM  
2.3U SILVER  
230 SODIUM  
.85U THALLIUM  
NA TIN  
11 VANADIUM  
19J ZINC  
29 PERCENT MOISTURE

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.  
\*NA-NOT ANALYZED  
\*NAI-INTERFERENCES  
\*J-ESTIMATED VALUE  
\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629  
 \*\*\* SOURCE: HERCULES INC  
 \*\*\* STATION ID: SD-03  
 \*\*\* CASE NUMBER: 18341

\*\*\* SAMPLE NO. 69718 SAMPLE TYPE: SOIL

SAS NUMBER:

\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
 \*\*\* CITY: HATIESBURG ST: MS  
 \*\*\* COLLECTION START: 06/24/92 1815 STOP: 00/00/00  
 \*\*\* MD NUMBER: DC68

ANALYTICAL RESULTS

MG/KG  
 20000J ALUMINUM  
 20U ANTIMONY  
 33 ARSENIC  
 100J BARIUM  
 1.4 BERYLLIUM  
 4600 CADMIUM  
 110J CALCIUM  
 27 CHROMIUM  
 95 COBALT  
 17000J COPPER  
 100J IRON  
 190 LEAD  
 MAGNESIUM

MG/KG

140J MANGANESE  
 .26 MERCURY  
 350 NICKEL  
 140 POTASSIUM  
 .58U SELENIUM  
 2.3U SILVER  
 240U SODIUM  
 .87U THALLIUM  
 NA TIN  
 14 VANADIUM  
 2400J ZINC  
 31 PERCENT MOISTURE

ANALYTICAL RESULTS

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*NA1-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: S5-02  
\*\*\* CASE NUMBER: 18341

\*\*\* SAMPLE NO. 69719 SAMPLE TYPE: SOIL

SAS NUMBER:

\*\*\* PROG ELEM: NSF  
\*\*\* CITY: HATIESBURG  
\*\*\* COLLECTION START: 06/24/92 1915 STOP: 00/00/00  
\*\*\* MD NUMBER: DC69

ANALYTICAL RESULTS

1700J ALUMINIUM  
9.3U ANTIMONY  
2.8 ARSENIC  
80J BARIUM  
24U BERYLLIUM  
2.4 CADMIUM  
3100 CALCIUM  
12J CHROMIUM  
260 COBALT  
820 COPPER  
9600J IRON  
370J LEAD  
1200 MAGNESIUM

MG/KG

170J MANGANESE  
.35 MERCURY  
460 NICKEL  
240 POTASSIUM  
.47U SELENIUM  
960 SILVER  
.71U SODIUM  
NA THALLIUM  
5.2 TIN  
390J VANADIUM  
16 ZINC  
PERCENT MOISTURE

ANALYTICAL RESULTS

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

08/10/92

METALS DATA REPORT  
 \*\*\* PROJECT NO. 92-0629  
 \*\*\* SOURCE: HERCULES INC  
 \*\*\* STATION ID: SS-03  
 \*\*\* CASE NUMBER: 18341  
 \*\*\* SAS NUMBER: 69720  
 \*\*\* SAMPLE NO. 69720  
 \*\*\* SAMPLE TYPE: SOIL  
 \*\*\* PROG ELEM: NSF  
 \*\*\* CITY: HATTIESBURG  
 \*\*\* COLLECTION START: 06/25/92  
 \*\*\* MD NUMBER: DC70  
 \*\*\* COLLECTED BY: C HELM  
 \*\*\* ST: MS  
 \*\*\* STOP: 00/00/00

ANALYTICAL RESULTS		ANALYTICAL RESULTS	
MG/KG		MG/KG	
4000J	ALUMINUM	92J	MANGANESE
10U	ANTIMONY	.13U	MERCURY
2U	ARSENIC	1.8U	NICKEL
26J	BARIUM	130	POTASSIUM
.26U	BERYLLIUM	.51U	SELENIUM
.77U	CADMIUM	2.1U	SILVER
1100	CALCIUM	220U	SODIUM
5.1J	CHROMIUM	.77U	THALLIUM
1.3U	COBALT	NA	TIN
7.1	COPPER	10	VANADIUM
5100J	IRON	16J	ZINC
22J	LEAD	22	PERCENT MOISTURE
240	MAGNESIUM		

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
 \*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

\*\*\*NA-NOT ANALYZED

\*\*\*NAI-INTERFERENCES

\*\*\*J-ESTIMATED VALUE

\*\*\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT  
\*\*\* PROJECT NO. 92-0629  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SS-04  
\*\*\* CASE NUMBER: 18341  
\*\*\* SAMPLE NO. 69721 SAMPLE TYPE: SOIL  
\*\*\* SAS NUMBER:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 0845 STOP: 00/00/00  
\*\*\* MD NUMBER: DC71

ANALYTICAL RESULTS		ANALYTICAL RESULTS	
MG/KG		MG/KG	
2300J	ALUMINUM	74J	MANGANESE
8.1U	ANTIMONY	.10U	MERCURY
2U	ARSENIC	1.5U	NICKEL
41J	BARIUM	150	POTASSIUM
.21U	BERYLLIUM	.42U	SELENIUM
.62U	CADMIUM	1.7U	SILVER
570	CALCIUM	180U	SODIUM
14J	CHROMIUM	.62U	THALLIUM
1U	COBALT	NA	TIN
11	COPPER	6.3	VANADIUM
3500J	IRON	11J	ZINC
20J	LEAD	04	PERCENT MOISTURE
120	MAGNESIUM		

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.  
\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL KNOWN TO BE GREATER THAN VALUE GIVEN

METALS DATA REPORT  
\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69722 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SS-05  
\*\*\* CASE NUMBER: 18341 SAS NUMBER:  
\*\*\*  
\*\*\* ANALYTICAL RESULTS  
\*\*\* ANALYTICAL RESULTS  
\*\*\*  
\*\*\* COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 0945 STOP: 00/00/00  
\*\*\* MD NUMBER: DC72  
\*\*\*

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4500J	ALUMINUM	300J	MANGANESE
8.4U	ANTIMONY	.11U	MERCURY
2U	ARSENIC	1.5U	NICKEL
27J	BARIIUM	120	POTASSIUM
.22U	BERYLLIUM	1U	SELENIUM
.65U	CADMIUM	1.7U	SILVER
230	CALCIUM	180U	SODIUM
4.5J	CHROMIUM	.65U	THALLIUM
3.2	COBALT	NA	TIN
3.3	COPPER	8.9	VANADIUM
3900J	IRON	11J	ZINC
14J	LEAD	08	PERCENT MOISTURE
160	MAGNESIUM		

\*\*\*REMARKS\*\*\*  
\*\*\*REMARKS\*\*\*

\*\*\* FOOTNOTES \*\*\*  
\*A-AVERAGE VALUE  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.  
\*NA-NOT ANALYZED  
\*NAI-INTERFERENCES  
\*J-ESTIMATED VALUE  
\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN



08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT  
\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69723 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SB-05  
\*\*\* CASE NUMBER: 18341 SAS NUMBER:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATIESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 0955 STOP: 00/00/00  
\*\*\* MD NUMBER: DC73  
\*\*\* ANALYTICAL RESULTS

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
6800J	ALUMINUM	80J	MANGANESE
9.5U	ANTIMONY	.12U	MERCURY
2U	ARSENIC	1.7U	NICKEL
26J	BARIUM	190	POTASSIUM
.26	BERYLLIUM	.49U	SELENIUM
.73U	CADMIUM	2U	SILVER
55	CALCIUM	1800	SODIUM
5.1J	CHROMIUM	.73U	THALLIUM
1.9J	COBALT	NA	TIN
3.1	COPPER	10	VANADIUM
6200J	IRON	8.7J	ZINC
21J	LEAD	18	PERCENT MOISTURE
260	MAGNESIUM		

\*\*\*REMARKS\*\*\*

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
\*K-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.  
\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT  
\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69724 SAMPLE TYPE: GROUNDWA  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: TW-05  
\*\*\* CASE NUMBER: 18341 SAS NUMBER:  
\*\*\* COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 1050 STOP: 00/00/00  
\*\*\* MD NUMBER: DC74

ANALYTICAL RESULTS

UG/L  
77000J ALUMINUM  
140J ANTIMONY  
40J ARSENIC  
3600J BARIUM  
21J BERYLLIUM  
3J CADMIUM  
45000J CALCIUM  
40J CHROMIUM  
59J COBALT  
140J COPPER  
47000J IRON  
380J LEAD  
17000J MAGNESIUM

ANALYTICAL RESULTS

UG/L  
4100J MANGANESE  
2.0J MERCURY  
53J NICKEL  
4400J POTASSIUM  
200J SELENIUM  
30J SILVER  
110000J SODIUM  
30J THALLIUM  
NA TIN  
100J VANADIUM  
170J ZINC

\*\*\*REMARKS\*\*\*  
SAMPLE IMPROPERLY PRESERVED

\*\*\*REMARKS\*\*\*

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAT-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT  
\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT

\*\*\* PROJECT NO. 92-0629 \*\*\* SAMPLE NO. 69725 \*\*\* SAMPLE TYPE: SOIL \*\*\*

\*\*\* SOURCE: HERCULES INC \*\*\*

\*\*\* STATION ID: SD-04 \*\*\*

\*\*\* CASE NUMBER: 18341 \*\*\* SAS NUMBER: \*\*\*

\*\*\* PROG ELEM: NSF \*\*\* COLLECTED BY: C HELM \*\*\*

\*\*\* CITY: HATIESBURG \*\*\* ST: MS \*\*\*

\*\*\* COLLECTION START: 06/25/92 1245 \*\*\* STOP: 00/00/00 \*\*\*

\*\*\* MD NUMBER: DC75 \*\*\*

ANALYTICAL RESULTS

ANALYTICAL RESULTS

MG/KG

2900J ALUMINUM

20U ANTIMONY

4U ARSENIC

18J BARIUM

34U BERYLLIUM

1U CADMIUM

680 CALCIUM

7.4J CHROMIUM

1.7U COBALT

27 COPPER

4300J IRON

30J LEAD

120 MAGNESIUM

MG/KG

13J MANGANESE

21 MERCURY

16 NICKEL

140 POTASSIUM

.68U SELENIUM

2.7U SILVER

290U SODIUM

1U THALLIUM

NA TIN

9.5 VANADIUM

110J ZINC

41 PERCENT MOISTURE

\*\*\* FOOTNOTES \*\*\*

\*A-AVERAGE VALUE

\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTIFICATION LIMIT

\*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

\*NA-NOT ANALYZED

\*NAT-INTERFERENCES

\*J-ESTIMATED VALUE

\*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL KNOWN TO BE GREATER THAN VALUE GIVEN

08/10/92

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT  
\*\*\* PROJECT NO. 92-0629  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: MW-81  
\*\*\* CASE NUMBER: 18341  
\*\*\* SAS NUMBER:  
\*\*\* SAMPLE NO. 69726 SAMPLE TYPE: GROUNDWA  
\*\*\* PROG ELEM: NSF  
\*\*\* CITY: HATIESBURG  
\*\*\* COLLECTION START: 06/25/92 1330 STOP: 00/00/00  
\*\*\* MD NUMBER: DC76  
\*\*\* COLLECTED BY: C HELM  
\*\*\* ST: MS

ANALYTICAL RESULTS

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
320U	ALUMINIUM	451	MANGANESE
14U	ANTIMONY	.20U	MERCURY
12	ARSENIC	8U	NICKEL
320	BARIUM	400	POTASSIUM
1U	BERYLLIUM	2U	SELENIUM
2U	CADMIUM	3UJ	SILVER
27000	CALCIUM	17000	SODIUM
3U	CHROMIUM	3UJ	THALLIUM
6U	COBALT	NA	TIN
7	COPPER	4U	VANADIUM
530	IRON	110	ZINC
6J	LEAD		
6200	MAGNESIUM		

\*\*\* FOOTNOTES \*\*\*  
 \*A-AVERAGE VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
 \*K-ACTUAL VALUE WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*NA-NOT ANALYZED  
 \*NAI-INTERFERENCES  
 \*J-ESTIMATED VALUE  
 \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IV  
Environmental Services Division  
College Station Road, Athens, Ga. 30613

\*\*\*\*\*MEMORANDUM\*\*\*\*\*

DATE: 08/01/92

SUBJECT: Results of Specified Analysis;  
92-0629 HERCULES INC  
HATIESBURG MS  
CASE NO: 18341

FROM: Robert W. Knight *Say Bennett/for*  
Chief, Laboratory Evaluation/Quality Assurance Section

TO: JOE SLYKERMAN

Attached are the results of analysis of samples collected as part of the subject project.

As a result of the Quality Assurance Review, certain data qualifiers may have been placed on the data. Attached is a DATA QUALIFIER REPORT which explains the reasons that these qualifiers were required.

If you have any questions please contact me.

ATTACHMENT

INORGANIC DATA QUALIFIERS REPORT

Case Number: 18341  
 Project Number: 92-0629  
 Site: Hercules, Inc., Hattiesburg, MS

<u>Element</u>	<u>Flag</u>	<u>Samples Affected</u>	<u>Reason</u>
<u>A. Water</u>			
Sb, Pb, Mn, Ag, Zn	U	All positives > IDL, but < CRDL	Baseline instability
Al, Fe, Na	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Sb	J	All with Al or Fe concentrations in solution > 84, 000 ug/L	Suspected over correction as noted in the contractor ICS
Cu	JN	All positives with Fe concentrations in solution > 94,000 ug/L	Suspected positive interference as noted in the contractor ICS
Ag	J	All	Matrix spike recovery = 68%
Tl	J	All	Matrix spike recovery = 43.8%
Pb	J	All	Matrix duplicate RPD = 185.6%
All Metals	J	MDDC74	Sample improperly preserved
Cd	J	MDDC74	% RSD > 20% for ICP multiple exposures
<u>B. Soil</u>			
Sb, Pb, Mn, Ag, Zn	U	All positives > IDL, but < CRDL	Baseline instability
Al, Fe	U	All positives > IDL, but < 10X contaminant level	Positives in blanks
Sb	J	All with Al or Fe concentrations in solution > 160, 000 ug/L	Suspected over correction as noted in the contractor ICS
Cr	J R	All positives All negatives	Matrix spike recovery = -56.1% Matrix duplicate RPD = 180.6%
Mn	J R	All positives All negatives	Matrix spike recovery = -149.2% Matrix duplicate RPD = 99.5%
Zn	J R	All positives All negatives	Matrix spike recovery = -19.4% Matrix duplicate RPD = 156%
Al	J	All	Matrix duplicate RPD = 70.8%
Ba	J	All	Matrix duplicate RPD = 100.6%
Fe	J	All	Matrix duplicate RPD = 100.4%
Pb	J	All	Matrix duplicate RPD = 185.2%
Co	J	MDDC73	% RSD > 20% for ICP multiple exposures

INORGANIC DATA QUALIFIERS REPORT (continued)

Number: 18341  
Project Number: 92-0629  
Site: Hercules, Inc., Hattiesburg, MS

<u>Element</u>	<u>Flag</u>	<u>Samples Affected</u>	<u>Reason</u>
K	J	MDDC62	% RSD > 20% for ICP multiple exposures

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* \*\* \*\* \*\* \*\*  
\*\* PROJECT NO. 92-0629 SAMPLE NO. 69710 \*\* \*\* \*\* \*\*  
\*\* SOURCE: HERCULES INC \*\* \*\* \*\* \*\*  
\*\* STATION ID: TB-01 \*\* \*\* \*\* \*\*  
\*\* CASE NO.: 18341 SAS NO.: \*\* \*\* \*\*  
\*\*\* \*\* \*\* \*\* \*\*

PROG ELEM: NSF COLLECTED BY: C HELM  
CITY: HATTIESBURG ST: MS  
COLLECTION START: 06/24/92 0725 STOP: 00/00/00  
D. NO.: DH60 MD NO: DC60

RESULTS UNITS PARAMETER  
100 UG/L CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.



SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69711 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SS-01  
\*\*\* CASE NO.: 18341  
\*\*\* SAS NO.:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/24/92 0855 STOP: 00/00/00  
\*\*\* D. NO.: DH61 MD NO: DC61

RESULTS UNITS PARAMETER  
.54U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTIFICATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69712 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SB-01  
\*\*\* CASE NO.: 18341 SAS NO.:  
\*\*\*  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/24/92 0925 STOP: 00/00/00  
\*\*\* D. NO.: DH62 MD NO: DC62  
\*\*\*

RESULTS UNITS PARAMETER  
.61U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69713 SAMPLE TYPE: GROUNDWA  
\*\* SOURCE: HERCULES INC  
\*\* STATION ID: TW-01  
\*\* CASE NO.: 18341 SAS NO.:  
\*\*\*

\*\*\* COLLECTED BY: C HELM  
\*\* CITY: HATTIESBURG ST: MS  
\*\* COLLECTION START: 06/24/92 1045 STOP: 00/00/00  
\*\* D. NO.: DH63 MD NO: DC63  
\*\*\*

RESULTS UNITS PARAMETER  
10U UG/L CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*N1-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69714 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SD-01  
\*\*\* CASE NO.: 18341 SAS NO.:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/24/92 1620 STOP: 00/00/00  
\*\*\* D. NO.: DH64 MD NO: DC64  
\*\*\*

RESULTS UNITS PARAMETER  
.65U MG/KG CYANIDE

\*\*\* FOOTNOTES \*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*N1-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
 EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69715 SAMPLE TYPE: SURFACEWA  
 \*\*\* SOURCE: HERCULES INC PROG ELEM: NSF COLLECTED BY: C HELM  
 \*\*\* STATION ID: SW-01 CITY: HATIESBURG ST: MS  
 \*\*\* CASE NO.: 18341 D. NO.: DH65 COLLECTION START: 06/24/92 STOP: 00/00/00  
 \*\*\* SAS NO.: MD NO: DC65

RESULTS UNITS PARAMETER  
 10U UG/L CYANIDE

\*\*\*FOOTNOTES\*\*\*  
 \*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\*  
\*\* PROJECT NO. 92-0629 SAMPLE NO. 69716 \*\*  
\*\* SOURCE: HERCULES INC \*\*  
\*\* STATION ID: SW-2 \*\*  
\*\* CASE NO.: 18341 SAS NO.: \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\* \*\*  
\*\*\* \*\*

PROG ELEM: NSF COLLECTED BY: C HELM  
CITY: HATTIESBURG ST: MS  
COLLECTION START: 06/24/92 1700 STOP: 00/00/00  
D. NO.: DH66 MD NO: DC66

RESULTS UNITS PARAMETER  
10U UG/L CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69717 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SD-02  
\*\*\* CASE NO.: 18341  
\*\*\* SAS NO.:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/24/92 1730 STOP: 00/00/00  
\*\*\* D. NO.: DH67 MD NO: DC67

RESULTS UNITS PARAMETER  
.71U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69718 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SD-03  
\*\*\* CASE NO.: 18341  
\*\*\* SAS NO.:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/24/92 1815 STOP: 00/00/00  
\*\*\* D. NO.: DH68 MD NO: DC68  
\*\*\*

RESULTS UNITS PARAMETER  
2.1 MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.



SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69719 SAMPLE TYPE: SOIL \*\*\*  
\*\*\* SOURCE: HERCULES INC \*\*\*  
\*\*\* STATION ID: 55-02 \*\*\*  
\*\*\* CASE NO.: 18341 SAS NO.: \*\*\*  
\*\*\*  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM \*\*\*  
\*\*\* CITY: HATIESBURG ST: MS \*\*\*  
\*\*\* COLLECTION START: 06/24/92 1915 STOP: 00/00/00 \*\*\*  
\*\*\* D. NO.: DH69 MD NO: DC69 \*\*\*

RESULTS UNITS PARAMETER  
.59U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*N1-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* \*\* \*\* \*\* \*\*  
PROJECT NO. 92-0629    SAMPLE NO. 69720    SAMPLE TYPE: SOIL  
SOURCE: HERCULES INC  
STATION ID: S5-03  
CASE NO.: 18341    SAS NO.:  
\*\*\* \*\* \*\* \*\* \*\*

PROG ELEM: NSF    COLLECTED BY: C HELM  
CITY: HATIESBURG    ST: MS  
COLLECTION START: 06/25/92    0725    STOP: 00/00/00  
D. NO.: DH70    MD NO: DC70

RESULTS    UNITS    PARAMETER  
          .64U    MG/KG    CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE    \*NA-NOT ANALYZED    \*NAI-INTERFERENCES    \*J-ESTIMATED VALUE    \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN    \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69721 \*\*\*  
\*\*\* SOURCE: HERCULES INC \*\*\*  
\*\*\* STATION ID: SS-04 \*\*\*  
\*\*\* CASE NO.: 18341 \*\*\*  
\*\*\* SAS NO.: \*\*\*  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM \*\*\*  
\*\*\* CITY: HATTIESBURG ST: MS \*\*\*  
\*\*\* COLLECTION START: 06/25/92 0845 STOP: 00/00/00 \*\*\*  
\*\*\* D. NO.: DH71 MD NO: DC71 \*\*\*

RESULTS UNITS PARAMETER  
.52U MG/KG CYANIDE

\*\*\* FOOTNOTES \*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* \*\* \*\* \*\* \*\*  
\*\* PROJECT NO. 92-0629 SAMPLE NO. 69722 SAMPLE TYPE: SOIL  
\*\* SOURCE: HERCULES INC  
\*\* STATION ID: 55-05  
\*\* CASE NO.: 18341 SAS NO.:  
\*\*\* \*\* \*\* \*\* \*\*

PROG ELEM: NSF COLLECTED BY: C HELM  
CITY: HATIESBURG ST: MS  
COLLECTION START: 06/25/92 STOP: 00/00/00  
D. NO.: DH72 MD NO: DC72

RESULTS UNITS PARAMETER  
.54U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*  
\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69723 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SB-05  
\*\*\* CASE NO.: 18341  
\*\*\* SAS NO.:  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 0955 STOP: 00/00/00  
\*\*\* D. NO.: DH73 MD NO: DC73

RESULTS UNITS PARAMETER  
.61U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69724 SAMPLE TYPE: GROUNDWA  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: TW-05  
\*\*\* CASE NO.: 18341 SAS NO.:  
\*\*\*  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 1050 STOP: 00/00/00  
\*\*\* D. NO.: DH74 MD NO: DC74  
\*\*\*

RESULTS UNITS PARAMETER  
100 UG/L CYANIDE

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69725 SAMPLE TYPE: SOIL  
\*\*\* SOURCE: HERCULES INC  
\*\*\* STATION ID: SD-04  
\*\*\* CASE NO.: 18341 SAS NO.:  
\*\*\*  
\*\*\* PROG ELEM: NSF COLLECTED BY: C HELM  
\*\*\* CITY: HATTIESBURG ST: MS  
\*\*\* COLLECTION START: 06/25/92 1245 STOP: 00/00/00  
\*\*\* D. NO.: DH75 MD NO: DC75  
\*\*\*

RESULTS UNITS PARAMETER  
.85U MG/KG CYANIDE

\*\*\*FOOTNOTES\*\*\*

\*A-AVERAGE VALUE \*NA-NOT ANALYZED \*NAI-INTERFERENCES \*J-ESTIMATED VALUE \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
\*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
\*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM  
EPA-REGION IV ESD, ATHENS, GA.

07/31/92

SPECIFIED ANALYSIS DATA REPORT

\*\*\* PROJECT NO. 92-0629 SAMPLE NO. 69726 SAMPLE TYPE: GROUNDWA  
 \*\* SOURCE: HERCULES INC  
 \*\* STATION ID: MW-81  
 \*\* CASE NO.: 18341  
 \*\* SAS NO.:  
 \*\* PROGRAM: NSF COLLECTED BY: C HELM  
 \*\* CITY: HATIESBURG ST: MS  
 \*\* COLLECTION START: 06/25/92 1330 STOP: 00/00/00  
 \*\* D. NO.: DH76 MD NO: DC76

RESULTS UNITS PARAMETER  
100 UG/L CYANIDE

\*\*\*FOOTNOTES\*\*\*  
 \*A-AVERAGE VALUE  
 \*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.  
 \*NA-NOT ANALYZED  
 \*NAI-INTERFERENCES  
 \*J-ESTIMATED VALUE  
 \*N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL  
 \*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN  
 \*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.