53-13

CENAE-EP-GE

4 November 1999
Mr. Koenig/ll/78312

MEMORANDUM FOR Chief, Engineering Management Branch, ATTN: Ms. Brock

SUBJECT: Chemical Quality Assurance Report (CQAR) No. E0839-110399, Soil and Sediment Remediation Open Burning Grounds, Seneca Army Depot Activity, Romulus, New York

OB.

1. Enclosed is the transmittal for SAB.

2. The CENAE-EP-GE POC is Mark Koenig, 978-318-8312.

3. Copy furnished to the project chemist for preparation of the CDQAR.

Encl

PETER E. JACKSON, P.E.
Acting Chief, Geotechnical Engineering and
Water Management Branch

CF:
CENWO-HX-C (Dr. Georgian) (w/encl)
GWMB - (Mr. Koenig) (w/encl)
GWMB - (Ms. Wojtas) (w/encl)
ROY F. WESTON, INC. (Ms. Roy) (w/encl)
ROY F. WESTON, INC. (Mr. Kane) (w/encl)
GWMB Files - (disk Koenig – CQAR No. E0839-110399.cqa) (wo/encl)

SOIL AND SEDIMENT REMEDIATION OPEN BURNING GROUNDS
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

SAMPLING EVENTS: 14 JULY TO 28 AUGUST 1999

CHEMICAL QUALITY ASSURANCE REPORT
No. E0839-110399

CONTRACT No. DACW33-95-D-0004
DELIVERY ORDER No. 0013
DCN: SEDA-042399-AACN

PREPARED BY
THE
ENVIRONMENTAL ENGINEERING
AND
GEOLOGY SECTION
ENGINEERING/PLANNING DIVISION

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

NOVEMBER 3, 1999

SOIL AND SEDIMENT REMEDIATION OPEN BURNING GROUNDS
SENECA ARMY DEPOT ACTIVITY
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CONTRACT No. DACW33-95-D-0004
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CHEMICAL QUALITY ASSURANCE REPORT
No. E0839-110399

Executive Summary

Severn Trent Laboratories received and analyzed 15 shipments of QA samples from the Soil and Sediment Remediation Open Burning Grounds, Seneca Army Depot Activity, Romulus, New York, resulting in a total of 89 target analyte determinations. The shipments contained 39 QA soil samples. The shipments were received in good condition, except that the temperatures for six out of seven of the shipments that contained TCLP metals were received at temperatures greater than 4 degrees C. This would indicate a possible low bias to the TCLP metals and especially the mercury results. This data comparison uses data reports from Ecology and Environment, Inc., Analytical Services Center, 4493 Walden Avenue, Lancaster, New York, 14086, which were submitted by Roy F. Weston on 14 September 1999 and 18 October 1999. This CQAR was provided to the NAE project chemist for preparation of a CDQAR. The usability of this data should be assessed by the NAE project chemist relative to the specific DQO's for this project.

In 65 of these determinations, analytes were detected by one or both laboratories. Results from the analysis of QA samples were compared with results from analysis of the corresponding primary samples (Reference 4A). The primary and QA samples agreed overall in 60 (67.4%) of the comparisons. Primary and QA samples agreed quantitatively in 35 out of 65 (53.8%) of the comparisons. Quantitative agreement represents only those determinations where an analyte was detected by at least one laboratory. There were 24 major and six minor data discrepancies noted between results from the primary and QA samples. Refer to Table 1 for a QA split sample data comparison summary.

The QA laboratory's and the primary laboratory's QC samples contained all of the necessary information and a complete evaluation was performed, except that neither laboratory provided their QC metals data for laboratory duplicates. The evaluation of precision was based on the five sets of field duplicates that were sent to the QA laboratory and the primary laboratory's field duplicate information provided on the contractor's data review checklists.

The overall and quantitative data comparison for total lead agreed in 16 out of 25 of the cases (64.0%) and this was due to five major and four minor data discrepancies. The data

discrepancies that were noted between the QA and the primary laboratories were not biased high or low by one laboratory and exhibited normal variability. The QA laboratory reported results for three QA field duplicate samples that were confirmation samples for excavation. The following table compares the QA laboratory field duplicate results and RPD's:

	QA-Lab Results, mg/Kg lead		
Sample ID	**sample**	**duplicate**	**RPD**
CE-0G1B-S04-2 CE-0G1B-S04-4 (Field Dup)	1580 E	931 E	51.7
CE-0C1B-B01-2 CE-0C1B-B01-4 (Field Dup)	9230	14500	44.4
CE-0G1P-S17-2 CE-0G1P-S17-4 (Field Dup)	1720	380	127.6

The poor reproducibility exhibited between this small set of field duplicates indicates a strong possibility that the lead contamination is not homogeneous at the site. Weston has also indicated that approximately 40% of the primary laboratory's field duplicate results are greater than 50% RPD.

The TCLP metals agreed in 43 out of 64 of the cases for an overall agreement of 67.2% and quantitative agreement in 19 out of 40 of the cases (47.5%). The outages were due to 19 major and two minor discrepancies. All of the discrepancies occurred on the same three target analytes, barium, cadmium and lead. There were eleven QA splits TCLP metal samples analyzed by the QA laboratory. Eight of the samples were used in this comparison, two of the samples were field duplicates and one of the samples was received broken at the primary laboratory and could not be used in the comparison. The QA laboratory reported that seven out of the eight samples had major discrepancies for lead and in most cases the QA laboratory results were above the 5.0 mg/L TCLP regulatory levels for lead. What makes these discrepancies more serious, is the fact that the primary laboratory reported mostly non-detected results for their TCLP-lead results. Refer to section (3.), "Data comparison for TCLP metals by Method 1311/6010B", in the QA Findings for a table that summarizes all the major and minor data discrepancies.

The comparisons in this report are based on the QA and primary laboratory's reporting limits. The QA laboratory provided their Instrument Detection Limits (IDL's). The QA laboratory's metals reporting limits were as much as 100 times lower than the primary laboratory and did not exhibit comparable sensitivities. The QA laboratory qualifies metals data with a "B", if the value is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit (IDL), even when they are not performing CLP analyses.

In conclusion, the major discrepancies noted in the TCLP and total lead results could cause problems characterizing and disposing of the stockpile wastes according to the data quality objectives established for this project. It is not surprising that lead is inhomogeneous at the

Seneca Army Depot site and as a result it appears that most of the primary laboratory's total lead data is qualified as "J", estimated values. It is highly recommended that the primary laboratory's TCLP metals method and SOP be further evaluated to determine why they are not detecting lead in their TCLP extracts. A performance evaluation sample for TCLP metals is currently being sent to both laboratories for comparison and to help try to resolve these discrepancies. An onsite audit of the primary laboratory may be warranted to determine the nature of problem. Another recommendation is to send any remaining QA TCLP metals sample from the same containers, to a different Corps validated laboratory for confirmation.

QA analyses were performed by the Severn Trent Laboratories, 55 South Park Drive, Colchester, VT, 05446 (see Table 2 for analyses performed by the QA lab). The primary laboratory was Ecology and Environment, Inc., Analytical Service Center, 4493 Walden Avenue, Lancaster, New York, 14086.

Table 1
Quality Assurance Split Sample
Data Comparison Summary

Project: Soil and Sediment Remediation Open Burning Grounds, Seneca Army Depot Activity, Romulus, New York

		Overall Agreement (1)		**Quantitative Agreement (2)**	
Method	**Parameter**	**Number**	**Percent**	**Number**	**Percent**
6010B	Lead (Pb)	16/25	64.0	16/25	64.0
1311/6010B 7470B (Hg)	ICAP Metals Mercury (Hg)	43/64	67.2	19/40	47.5
Total		**60/89**	**67.4**	**35/65**	**53.8**

NOTES:

(1) Represents the number and percentage agreement of all determinations including analytes not detected by either laboratory.

(2) Represents the number and percentage agreement of only those determinations where an analyte was detected by at least one laboratory.

TABLE 2

QA ANALYSES PERFORMED

Sample ID	Matrix	Sample Date	ANALYSIS
CE-0H1B-B02-2	Soil	7-16-99	6010B-Lead (Pb)
SP-00S1-003-2	Soil	7-14-99	1311/6010B/7470A-TCLP Metals, Hg-CV
SP-00S1-014-2	Soil	"	"
SP-00S1-014-4	Soil	"	"
CE-0G1B-SO4-2	Soil	7-23-99	6010B-Lead (Pb)
CE-0G1B-SO4-4	Soil	"	"
CE-OE1B-B01-2	Soil	"	"
SP-00S1-025-2	Soil	7-29-99	1311/6010B/7470A-TCLP Metals, Hg-CV
CE-0C1B-B01-2	Soil	7-30-99	6010B-Lead (Pb)
CE-0C1B-B04-4	Soil	"	"
CE-0G1P-S11-2	Soil	"	"
CE-0G1P-S17-2	Soil	"	"
CE-0G1P-S-17-4	Soil	"	"
SP-00S1-034-2	Soil	8-2-99	1311/6010B/7470A-TCLP Metals, Hg-CV
SP-00S1-034-4	Soil	"	"
CE-0A1P-S02-2	Soil	8-4-99	6010B-Lead (Pb)
CE-0G1P-S02-2	Soil	"	"
SP-00S1-044-2	Soil	8-6-99	1311/6010B/7470A-TCLP Metals, Hg-CV
SP-00S1-053-2	Soil	8-10-99	1311/6010B/7470A-TCLP Metals, Hg-CV
CE-0J1P-B02-2	Soil	8-12-99	6010B-Lead (Pb)
CE-0J1P-B10-2	Soil	"	"
CE-0J1P-S07-2	Soil	"	"
CE-0J1P-S17-2	Soil	"	"
CE-0G1B-B09-2	Soil	"	"
SP-00S1-057-2	Soil	8-13-99	1311/6010B/7470A-TCLP Metals, Hg-CV
CE-0RB1-S01-2	Soil	8-17-99	6010B-Lead (Pb)
CE-0RE1-S04-2	Soil	"	"
CE-0RC1-B04-2	Soil	8-18-99	6010B-Lead (Pb)
CE-0RC1-S02-2	Soil	"	"
CE-0RC1-S11-2	Soil	"	"
CE-0RD1-S01-2	Soil	8-19-99	6010B-Lead (Pb)
CE-0RC1-S21-2	Soil	"	"
CE-0C1P-S10-2	Soil	"	"
CE-0RG1-S02-2	Soil	8-20-99	6010B-Lead (Pb)
SP-00S1-067-2	Soil	"	1311/6010B/7470A-TCLP Metals, Hg-CV
SP-00S1-077-2	Soil	"	"
CE-0H1P-B02-2	Soil	8-25-99	6010B-Lead (Pb)

TABLE 2-Continued

QA ANALYSES PERFORMED

Sample ID	Matrix	Sample Date	ANALYSIS
CE-0B1P-S07-2	Soil	8-25-99	6010B-Lead (Pb)
CE-0D1P-B01-2	Soil	8-27-99	6010B-Lead (Pb)

SOIL AND SEDIMENT REMEDIATION OPEN BURNING GROUNDS
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

CHEMICAL QUALITY ASSURANCE REPORT
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QA Findings

1. QA sample shipping and chain-of-custody deficiencies.

Severn Trent Laboratories, Colchester, Vermont, received 15 shipments containing 39 QA soil samples. The following table summarizes the dates the shipments were received, the analyses performed and the cooler temperatures. Proper sample handling protocols were followed for these shipments, except several of the shipments containing TCLP-metals had temperatures greater than 4 degrees C. Sample shipments for lead only should not be significantly effected by temperatures exceeding 4 degrees C.

Date Received	Analysis	Cooler Temperature (C)
7-17-99	Lead (Pb)-only	13
7-15-99	TCLP-metals	11*
7-24-99	Lead (Pb)-only	2
7-31-99	Lead (Pb)-only	20
7-30-99	TCLP-metals	22*
8-3-99	TCLP-metals	5*
8-6-99	Lead (Pb)-only	5
8-7-99	TCLP-metals	5*
8-11-99	TCLP-metals	5*
8-14-99	TCLP-metals + Pb	15 *+ 6
8-19-99	Lead (Pb)-only	3
8-20-99	Lead (Pb)-only	4
8-21-99	TCLP-metals + Pb	3
8-30-99	Lead (Pb)-only	20
8-28-99	Lead (Pb)-only	5

*= Elevated temperatures indicate a possible low bias to the mercury results.

Copies of the chain-of-custody form documents and the cooler receipt forms are appended to this report for reference.

2. Data comparison for total Lead by Method 6010B.

There were 25 total Lead determinations. In all these determinations, target analytes

were detected by one or both laboratories. There was overall agreement in 16 (64.0%) of the cases and quantitative agreement in 16 out of 25 (64.0%) of the cases. Five major and four minor data discrepancies were noted.

The following table summarizes the samples containing major and minor discrepancies:

		Results, mg/Kg, Pb		
Sample ID	**Date**	**QA-Lab, STL**	**Primary-Lab, E+E**	**Discrepancy**
CE-0G1P-S11-2	7-30-99	18.5	38	Minor
CE-0G1P-S17-2	7-30-99	1720	639	Minor
CE-A1P-S02-2	8-4-99	1760 E	178	Major
CE-0G1P-S22-2	8-4-99	1530 E	566	Minor
CE-0G1B-B09-2	8-12-99	625 E	3960	Major
CE-0J1P-B02-2	8-12-99	632 E	155	Major
CE-0RC1-S11-2	8-18-99	654 E	175	Major
CE-0C1P-S10-2	8-19-99	445	61.4	Major
CE-0RD1-S01-2	8-19-99	52.0	20.3	Minor

2a. Batch QC Evaluation for the QA Laboratory.

Holding Times: All of the samples were analyzed within the method prescribed holding times.

Method Blanks: Results of all the method blanks associated with the QA split samples showed no contamination above the laboratory's reporting limit.

Laboratory Control Samples: All of the LCS recoveries were within the QA laboratory's acceptance limits. The spiking levels, percent recoveries, and the QC limits were appropriately indicated in the report.

Matrix Spike/Matrix Spike Duplicate (MS/MSDs): The QA laboratory was not requested to perform MS/MSD on any samples. No evaluation of accuracy or precision based on matrix effects could be made.

Laboratory Duplicate: The QA laboratory does not provide the laboratory duplicate results that are performed with their respective analytical batches. Laboratory duplicates could be a sample from another project and have a different matrix. No evaluation of precision could be made.

2b. Batch QC Evaluation for the Primary Laboratory.

Holding Times: All of the samples were analyzed within the method prescribed holding times.

Method Blanks: The method blank results for all the samples showed no contamination above the laboratory's reporting limit.

Laboratory Control Sample (LCS): The primary laboratory reported that all of the LCS's were within the acceptance limits for accuracy, except for the LCS sample date 8-13-99 in which Lead (85-115) was recovered at 70%. The spiking levels, percent recoveries and the QC limits were appropriately indicated in the reports.

Matrix Spike/Matrix Spike Duplicate (MS/MSD): The primary laboratory reported that the MS/MSD recoveries in most cases could not be calculated because the samples had high levels of Lead relative to the spike amount. The primary laboratory did not provide the acceptance limits for accuracy and precision for the MS/MSD's in their reports.

Laboratory Duplicate: The primary laboratory did not provide the laboratory duplicate results that were performed with their respective analytical batches. The primary laboratory as indicated on Weston's data submittals and data review checklists did not always perform laboratory duplicates. Weston estimated the majority of the total Lead results due to the poor reproducibility between the field duplicate analyzed by the primary laboratory. The qualifier, J1, was used for all Lead results in any given analytical batch when the field duplicate results differed by > 50% RPD.

3. Data comparison for TCLP metals by Method 1311, 6010B and Mercury by 7470A.

There were 64 TCLP metals determinations. In 40 of these determinations, target analytes were detected by one or both laboratories. There was overall agreement in 43 (67.2%) of the cases and quantitative agreement in 19 out of 40 (47.5%) of the cases. There were 19 major and two minor data discrepancies noted.

The following table summarizes the 19 major and two minor discrepancies:

			Results, mg/L		
Sample ID	**Date**	**Metal**	**QA-Lab**	**Primary-Lab**	**Discrepancy**
SP-00S1-003-2	7-14-99	Ba	17.4	4.08	Major
"	"	Cd	0.0466	< 0.015	Major
"	"	Pb	13.0	< 0.15	Major
SP-00S1-014-2	7-14-99	Ba	2.8	0.702	Major
"	"	Cd	0.0959	< 0.015	Major
"	"	Pb	3.050	< 0.15	Major
SP-00S1-034-2	8-2-99	Ba	6.07	0.708	Major
"	"	Cd	0.0311	< 0.015	Minor
"	"	Pb	12.5	< 0.15	Major
SP-00S1-044-2	8-6-99	Ba	8.89	2.58	Major
"	"	Cd	0.0487	< 0.015	Major
"	"	Pb	5.70	< 0.15	Major

Sample ID	Date	Metal	Results, mg/L-continued QA-Lab	Primary-Lab	Discrepancy
SP-00S1-053-2	8-10-99	Ba	11.00	4.18	Minor
"	"	Cd	0.0596	< 0.015	Major
"	"	Pb	35.2	0.0807	Major
SP-00S1-057-2	8-13-99	Ba	8.65	1.92	Major
"	"	Cd	0.0596	< 0.015	Major
"	"	Pb	27.2	< 0.15	Major
SP-00S1-067-2	8-20-99	Ba	6.52	0.728	Major
"	"	Cd	0.046	< 0.015	Major
"	"	Pb	16.7	< 0.15	Major

3a. Batch QC Evaluation for the QA laboratory.

Holding Times: All of the samples were analyzed within the method prescribed holding times.

Method Blanks: Results of all the method blanks associated with the QA split samples showed no contamination above the laboratory's reporting limit.

Laboratory Control Samples: All of the LCS recoveries were within the QA laboratory's acceptance limits. The spiking levels, percent recoveries, and the QC limits were appropriately indicated in the report.

Matrix Spike/Matrix Spike Duplicate (MS/MSDs): The QA laboratory was not requested to perform MS/MSD on any samples. No evaluation of accuracy or precision based on matrix effects could be made.

Laboratory Duplicate: The QA laboratory does not provide the laboratory duplicate results that are performed with their respective analytical batches. Laboratory duplicates could be a sample from another project and have a different matrix. No evaluation of precision could be made.

3b. Batch QC Evaluation for the Primary Laboratory.

Holding Times: All of the samples were analyzed within the method prescribed holding times.

Method Blanks: The method blank results for all the samples showed no contamination above the laboratory's reporting limit.

Laboratory Control Sample (LCS): The primary laboratory reported that all of the LCS's were within the acceptance limits for accuracy. The spiking levels, percent recoveries and the QC limits were appropriately indicated in the reports.

Matrix Spike/Matrix Spike Duplicates (MS/MSDs): The primary laboratory reported that all the MS/MSD's were within the acceptance limits for accuracy (50-150%) and precision (20%RPD) for all of the TCLP metals.

Laboratory Duplicates: The primary laboratory duplicate results that were performed with their respective analytical batches were not provided with the initial data submittals. Weston's data submittals and data review checklists indicated that the primary laboratory did not always perform laboratory duplicates. Precision was evaluated by the field duplicate results that were analyzed by the primary laboratory. Since most of the TCLP metals were not detected, the RPD's were 0%.

4. References.

a. Data Reports for Soil and Sediment Remediation Open Burning Grounds, Seneca Army Depot Activity, Romulus, New York, prepared by Ecology and Environment, Inc., Analytical Service center, 4493 Walden Avenue, Lancaster, New York, 14086 and submitted by Roy F. Weston, Inc., One Wall Street, Manchester, New Hampshire, 03101-1501, dated 14 September 1999 and 18 October 1999.

b. EM 200-1-6, Chemical Quality Assurance for Hazardous, Toxic and Radioactive Waste (HTRW) Projects, dated 10 October 1997.

c. Shell for Analytical Chemistry Requirements, Version 1.0, USACE, 2 November 1998.

APPENDIX A
KEY TO COMMENTS ON DATA COMPARISON TABLES

0 - Data agrees if any one of the following apply:

- both values are less than respective detection limit (N<MDL)
- N_1<MDL_1 and N_2>MDL_2 but <MDL_1*
- both values are above respective detection limit (N>MDL) and difference between two values satisfies conditions below

For **all** analyses in a **water** matrix and for **metals** analysis in **soil**:
≤2X difference

For **all** other analyses:
≤4X difference

1 - Minor contamination by laboratory contaminant
2 - Not tested by both laboratories
3 - Minor data discrepancy, disagreement not serious, if any one of the following apply:

- N_1<MDL_1 and N_2>MDL_2 and the difference between values N_2 * does not exceed the upper limit (described below) defining a minor data discrepancy
- both values are above respective detection limit (N>MDL*) and conditions described below apply to the difference between the two values

For **all** analyses in a **water** matrix and for **metals** analysis in **soil**:
2X<difference≤3X

For **all** other **soil** analyses:
4X<difference≤5X

4 - Major data discrepancy, disagreement serious, if any one of the following apply:

- N_1<MDL_1 and N_2>MDL_2 and the difference between values N_2 and MDL_1* exceeds the limit (described below) defining a major data discrepancy
- both values are above respective detection limit (N>MDL*) and conditions described below apply to the difference between the two values

For **all** analyses in a **water** matrix and for **metals** analysis in **soil**:
>3X difference

For **all** other **soil** analyses:
>5X difference

MDL = Method Detection Limit
N = Analytical result
* - not all < values are MDLs. Values which are not MDLs will be noted.

Key to data qualifiers:

B - detected in method blank
DO - Diluted out
J - estimated value, above MDL but below practical quantitation limit
NA - Not analyzed
ND - Not detected
NR - Not reported

APPENDIX B

DATA COMPARISON TABLES

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	391038	CONTRACTORS SAMPLE No.:	9907102-05A
QA FIELD ID:	CE-0H1B-B02-2	CONTRACTORS FIELD ID:	CE-0H1B-B02-0
QA ANALYSIS DATE:	7/26/99	CONTRACTOR'S ANALYSIS DATE:	7/20/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	95.5	% SOLIDS:	94.7

MATERIAL DESCRIPTION: EDIMENT
DATE SAMPLED: 7/16/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		199 E		367	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	391666	CONTRACTORS SAMPLE No.:	9907162-07A
QA FIELD ID:	CE-0G1B-S04-2	CONTRACTORS FIELD ID:	CE-0G1B-S04-0
QA ANALYSIS DATE:	7/29/99	CONTRACTOR'S ANALYSIS DATE:	7/27/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	91.8	% SOLIDS:	90.42

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/23/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		1580 E		811	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	391667	CONTRACTORS SAMPLE No.:	NA
QA FIELD ID:	CE-0G1B-S04-4	CONTRACTORS FIELD ID:	NA
QA ANALYSIS DATE:	7/29/99	CONTRACTOR'S ANALYSIS DATE:	7/27/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	88.8	% SOLIDS:	NA

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/23/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		931 E		NA	

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	391668	CONTRACTORS SAMPLE No.:	9907162-18A
QA FIELD ID:	CE-0E1B-B01-2	CONTRACTORS FIELD ID:	CE-0E1B-B01-0
QA ANALYSIS DATE:	7/29/99	CONTRACTOR'S ANALYSIS DATE:	7/27/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	95.6	% SOLIDS:	91.06

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/23/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		1090 E		1020	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392379	CONTRACTORS SAMPLE No.:	9908001-34A
QA FIELD ID:	CE-0C1B-B01-2	CONTRACTORS FIELD ID:	CE-0C1B-B01-0
QA ANALYSIS DATE:	8/6/99	CONTRACTOR'S ANALYSIS DATE:	8/4/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	90.5	% SOLIDS:	92.06

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/30/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		9230		7830 E*	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed
E*=Value above quanitation range.

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392383	CONTRACTORS SAMPLE No.:	NA
QA FIELD ID:	CE-0C1B-B01-4	CONTRACTORS FIELD ID:	NA
QA ANALYSIS DATE:	8/6/99	CONTRACTOR'S ANALYSIS DATE:	NA
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	90.7	% SOLIDS:	NA

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/30/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		14500		NA	

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed
E*=Value above quanitation range.

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392380	CONTRACTORS SAMPLE No.:	9908001-30A
QA FIELD ID:	CE-0G1P-S11-2	CONTRACTORS FIELD ID:	CE-0G1P-S11-0
QA ANALYSIS DATE:	8/6/99	CONTRACTOR'S ANALYSIS DATE:	8/4/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	83.6	% SOLIDS:	82.1

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/30/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		18.5		38	3

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392381	CONTRACTORS SAMPLE No.:	9908001-01A
QA FIELD ID:	CE-0G1P-S17-2	CONTRACTORS FIELD ID:	CE-0G1P-S17-0
QA ANALYSIS DATE:	8/6/99	CONTRACTOR'S ANALYSIS DATE:	8/3/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	92.9	% SOLIDS:	93.79

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/30/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		1720		639	3

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392382	CONTRACTORS SAMPLE No.:	NA
QA FIELD ID:	CE-0G1P-S17-4	CONTRACTORS FIELD ID:	NA
QA ANALYSIS DATE:	8/6/99	CONTRACTOR'S ANALYSIS DATE:	NA
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	93.7	% SOLIDS:	NA

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 7/30/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		380		NA	

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392735	CONTRACTORS SAMPLE No.:	9908043-05A
QA FIELD ID:	CE-0A1P-S02-2	CONTRACTORS FIELD ID:	CE-0A1P-S02-0
QA ANALYSIS DATE:	8/17/99	CONTRACTOR'S ANALYSIS DATE:	8/10/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	94.6	% SOLIDS:	74.50

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/4/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		1760 E		178	4

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392736	CONTRACTORS SAMPLE No.:	9908043-25A
QA FIELD ID:	CE-0G1P-S22-2	CONTRACTORS FIELD ID:	CE-0G1P-S22-0
QA ANALYSIS DATE:	8/17/99	CONTRACTOR'S ANALYSIS DATE:	8/10/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	94.7	% SOLIDS:	94.17

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/4/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		1530 E		566	3

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	393739	CONTRACTORS SAMPLE No.:	9908139-44A
QA FIELD ID:	CE-0G1B-B09-2	CONTRACTORS FIELD ID:	CE-0G1B-B09-0
QA ANALYSIS DATE:	8/26/99	CONTRACTOR'S ANALYSIS DATE:	8/17/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	95.0	% SOLIDS:	94.15

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/12/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		625 E		3960	4

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	393735	CONTRACTORS SAMPLE No.:	9908139-03A
QA FIELD ID:	CE-0J1P-B02-2	CONTRACTORS FIELD ID:	CE-0J1P-B02-0
QA ANALYSIS DATE:	8/26/99	CONTRACTOR'S ANALYSIS DATE:	8/16/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	96.5	% SOLIDS:	96.93

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/12/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		632 E		155	4

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	393736	CONTRACTORS SAMPLE No.:	9908139-12A
QA FIELD ID:	CE-0J1P-B10-2	CONTRACTORS FIELD ID:	CE-0J1P-B10-0
QA ANALYSIS DATE:	8/26/99	CONTRACTOR'S ANALYSIS DATE:	8/16/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	91.4	% SOLIDS:	94.40

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/12/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		I64 E		I49	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	393737	CONTRACTORS SAMPLE No.:	9908139-23A
QA FIELD ID:	CE-0J1P-S07-2	CONTRACTORS FIELD ID:	CE-0J1P-S07-0
QA ANALYSIS DATE:	8/26/99	CONTRACTOR'S ANALYSIS DATE:	8/17/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	86.0	% SOLIDS:	89.00

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/12/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		768 E		605	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	393738	CONTRACTORS SAMPLE No.:	9908139-34A
QA FIELD ID:	CE-0J1P-S17-2	CONTRACTORS FIELD ID:	CE-0J1P-S17-0
QA ANALYSIS DATE:	8/26/99	CONTRACTOR'S ANALYSIS DATE:	8/17/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	92.1	% SOLIDS:	93.18

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/12/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		415 E		411	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394198	CONTRACTORS SAMPLE No.:	9908165-03A
QA FIELD ID:	CE-0RB1-SO1-2	CONTRACTORS FIELD ID:	CE-0RB1-SO1-0
QA ANALYSIS DATE:	8/27/99	CONTRACTOR'S ANALYSIS DATE:	8/23/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	96.3	% SOLIDS:	93.18

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/17/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		22.3 E		29	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394199	CONTRACTORS SAMPLE No.:	9908165-14A
QA FIELD ID:	CE-0RE1-SO4-2	CONTRACTORS FIELD ID:	CE-0RE1-SO4-0
QA ANALYSIS DATE:	8/27/99	CONTRACTOR'S ANALYSIS DATE:	8/23/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	93.8	% SOLIDS:	97.15

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/17/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		238 E		293	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394358	CONTRACTORS SAMPLE No.:	9908179-05A
QA FIELD ID:	CE-0RC1-BO4-2	CONTRACTORS FIELD ID:	CE-0RC1-BO4-0
QA ANALYSIS DATE:	8/27/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	98.3	% SOLIDS:	98.18

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/18/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		2440 E		2360	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394359	CONTRACTORS SAMPLE No.:	9908179-14A
QA FIELD ID:	CE-0RC1-S02-2	CONTRACTORS FIELD ID:	CE-0RC1-S02-0
QA ANALYSIS DATE:	8/27/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	95.7	% SOLIDS:	96.03

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/18/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		240 E		381	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394360	CONTRACTORS SAMPLE No.:	9908179-23A
QA FIELD ID:	CE-0RC1-S11-2	CONTRACTORS FIELD ID:	CE-0RC1-S11-0
QA ANALYSIS DATE:	8/27/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	98.6	% SOLIDS:	98.09

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/18/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		654 E		175	4

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394393	CONTRACTORS SAMPLE No.:	9908190-23A
QA FIELD ID:	CE-0C1P-S10-2	CONTRACTORS FIELD ID:	CE-0C1P-S10-0
QA ANALYSIS DATE:	9/8/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	86.1	% SOLIDS:	87.10

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/19/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		445		61.4	4

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394392	CONTRACTORS SAMPLE No.:	9908190-15A
QA FIELD ID:	CE-0RC1-S21-2	CONTRACTORS FIELD ID:	CE-0RC1-S21-0
QA ANALYSIS DATE:	9/8/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	94.0	% SOLIDS:	91.24

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/19/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		6480		4380	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394391	CONTRACTORS SAMPLE No.:	9908190-04A
QA FIELD ID:	CE-0RD1-S01-2	CONTRACTORS FIELD ID:	CE-0RD1-S01-0
QA ANALYSIS DATE:	9/8/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	94.8	% SOLIDS:	93.40

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/19/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		52.0		20.3	3

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394394	CONTRACTORS SAMPLE No.:	9908191-04A
QA FIELD ID:	CE-0RG1-S02-2	CONTRACTORS FIELD ID:	CE-0RG1-S02-0
QA ANALYSIS DATE:	9/8/99	CONTRACTOR'S ANALYSIS DATE:	8/25/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	94.0	% SOLIDS:	87.70

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/20/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		15.0	< 15.7		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394984	CONTRACTORS SAMPLE No.:	9908251-14A
QA FIELD ID:	CE-0B1P-S07-2	CONTRACTORS FIELD ID:	CE-0B1P-S07-0
QA ANALYSIS DATE:	9/2/99	CONTRACTOR'S ANALYSIS DATE:	8/31/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	94.7	% SOLIDS:	95.29

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/25/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		99.8		123.0	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394983	CONTRACTORS SAMPLE No.:	9908251-03A
QA FIELD ID:	CE-0H1P-B02-2	CONTRACTORS FIELD ID:	CE-0H1P-B02-0
QA ANALYSIS DATE:	9/2/99	CONTRACTOR'S ANALYSIS DATE:	8/31/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	81.3	% SOLIDS:	95.29

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/25/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		6.3		< 17.5	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394952	CONTRACTORS SAMPLE No.:	9908258-03A
QA FIELD ID:	CE-0D1P-B01-2	CONTRACTORS FIELD ID:	CE-0D1P-B01-0
QA ANALYSIS DATE:	9/2/99	CONTRACTOR'S ANALYSIS DATE:	8/31/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	3050B	DIGESTION METHOD:	3050B
ANALYSIS METHOD:	6010B	ANALYSIS METHOD:	6010B
%SOLIDS:	95.1	% SOLIDS:	94.80

MATERIAL DESCRIPTION: SOIL
DATE SAMPLED: 8/27/99
UNITS: mg/Kg

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Lead		26.4 E		36.2	0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	390894	CONTRACTORS SAMPLE No.:	9907086-04A
QA FIELD ID:	SP-00S1-003-2	CONTRACTORS FIELD ID:	SP-00S1-003-0
QA ANALYSIS DATE:	7/27/99	CONTRACTOR'S ANALYSIS DATE:	7/19/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 7/14/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		< 0.3		0
Barium		17.4		4.08	4
Cadmium		0.0466	< 0.015		4
Chromium	< 0.0008		< 0.03		0
Lead		13.0	<0.15		4
Mercury (7-28-99)	< 0.010		< 0.02		0
Selenium		0.0039 B	< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	390896	CONTRACTORS SAMPLE No.:	9907086-16A
QA FIELD ID:	SP-00S1-014-2	CONTRACTORS FIELD ID:	SP-00S1-014-0
QA ANALYSIS DATE:	7/27/99	CONTRACTOR'S ANALYSIS DATE:	7/19/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 7/14/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		< 0.3		0
Barium		2.8		0.702	4
Cadmium		0.0959	< 0.015		4
Chromium		0.001 B	< 0.03		0
Lead		3.050	<0.15		4
Mercury (7-28-99)	< 0.010		< 0.02		0
Selenium	< 0.0029		< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	390897	CONTRACTORS SAMPLE No.:	9907086-16A
QA FIELD ID:	SP-00S1-014-4	CONTRACTORS FIELD ID:	SP-00S1-014-0
QA ANALYSIS DATE:	7/27/99	CONTRACTOR'S ANALYSIS DATE:	7/19/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 7/14/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		NA		
Barium		2.680	NA		
Cadmium		0.0608	NA		
Chromium		0.0029 B	NA		
Lead		3.350	NA		
Mercury (7-28-99)	< 0.010		NA		
Selenium	< 0.0029		NA		
Silver	< 0.0015		NA		

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392228	CONTRACTORS SAMPLE No.:	9907197-06A
QA FIELD ID:	SP-00S1-025-2	CONTRACTORS FIELD ID:	SP-00S1-025-0
QA ANALYSIS DATE:	8/12/99	CONTRACTOR'S ANALYSIS DATE:	8/2/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 7/29/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		< 0.3		0
Barium		15.1		12.9	0
Cadmium		0.0902		0.0653	0
Chromium	< 0.0013		< 0.03		0
Lead		34.5		27.7	0
Mercury (8-11-99)	< 0.010		< 0.02 (8-2-99)		0
Selenium		0.0057	< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392401	CONTRACTORS SAMPLE No.:	9908008-04A
QA FIELD ID:	SP-00S1-034-2	CONTRACTORS FIELD ID:	SP-00S1-034-0
QA ANALYSIS DATE:	8/17/99	CONTRACTOR'S ANALYSIS DATE:	8/5/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/2/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		< 0.3		0
Barium		6.07		0.708	4
Cadmium		0.0311	< 0.015		3
Chromium		0.0021 B	< 0.03		0
Lead		12.5	< 0.15		4
Mercury (8-17-99)	< 0.010		< 0.02 (8-5-99)		0
Selenium		0.0058	< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392403	CONTRACTORS SAMPLE No.:	NA
QA FIELD ID:	SP-00S1-034-4	CONTRACTORS FIELD ID:	NA
QA ANALYSIS DATE:	8/17/99	CONTRACTOR'S ANALYSIS DATE:	NA
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/2/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		NA		
Barium		5.47	NA		
Cadmium		0.0301	NA		
Chromium		0.0030 B	NA		
Lead		6.93	NA		
Mercury (8-17-99)	< 0.010		NA		
Selenium	< 0.0029		NA		
Silver		0.0015 B	NA		

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392799	CONTRACTORS SAMPLE No.:	9908057-09A
QA FIELD ID:	SP-00S1-044-2	CONTRACTORS FIELD ID:	SP-00S1-044-0
QA ANALYSIS DATE:	8/17/99	CONTRACTOR'S ANALYSIS DATE:	8/10/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/6/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic		0.0054	< 0.3		0
Barium		8.98		2.58	4
Cadmium		0.0487	< 0.015		4
Chromium		0.0041 B	< 0.03		0
Lead		5.70	< 0.15		4
Mercury (8-17-99)	< 0.010		< 0.02		0
Selenium		0.0068	< 0.3		0
Silver		0.0018 B	< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	392976	CONTRACTORS SAMPLE No.:	9908086-03A
QA FIELD ID:	SP-00S1-053-2	CONTRACTORS FIELD ID:	SP-00S1-053-0
QA ANALYSIS DATE:	8/18/99	CONTRACTOR'S ANALYSIS DATE:	8/13/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/10/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0052		< 0.3		0
Barium		11.00		4.18	3
Cadmium		0.0596	< 0.015		4
Chromium		0.0037 B	< 0.03		0
Lead		35.2		0.0807	4
Mercury (8-17-99)	< 0.010		< 0.02		0
Selenium		0.0045 B	< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	393734	CONTRACTORS SAMPLE No.:	9908138-03A
QA FIELD ID:	SP-00S1-057-2	CONTRACTORS FIELD ID:	SP-00S1-057-0
QA ANALYSIS DATE:	8/26/99	CONTRACTOR'S ANALYSIS DATE:	8/18/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/13/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		< 0.3		0
Barium		8.65		1.92	4
Cadmium		0.0596	< 0.015		4
Chromium		0.0149	< 0.03		0
Lead		27.2	< 0.15		4
Mercury (8-26-99)		0.010 B	< 0.02 (8-17-99)		0
Selenium		0.0081	< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394397	CONTRACTORS SAMPLE No.:	9908191-11A
QA FIELD ID:	SP-00S1-067-2	CONTRACTORS FIELD ID:	SP-00S1-067-0
QA ANALYSIS DATE:	9/1/99	CONTRACTOR'S ANALYSIS DATE:	8/24/99
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/20/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		< 0.3		0
Barium		6.52		0.728	4
Cadmium		0.046	< 0.015		4
Chromium		0.0155	< 0.03		0
Lead		16.7	< 0.15		4
Mercury (8-26-99)	< 0.010		< 0.02 (8-25-99)		0
Selenium		0.016	< 0.3		0
Silver	< 0.0015		< 0.03		0

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
NA=Not analyzed

COMPARISON OF QA & CONTRACTOR RESULTS
PROJECT: SENECA ARMY DEPOT, ROMULUS, NY

QA SAMPLE No.:	394399	CONTRACTORS SAMPLE No.:	*NA
QA FIELD ID:	SP-00S1-077-2	CONTRACTORS FIELD ID:	SP-00S1-077-0
QA ANALYSIS DATE:	9/1/99	CONTRACTOR'S ANALYSIS DATE:	*NA=sample received broken
QA LABORATORY:	STL, VT	CONTRACTOR'S LABORATORY:	Ecology and Environment, Inc.
DIGESTION METHOD:	1311/3010A	DIGESTION METHOD:	1311/3010A
ANALYSIS METHOD:	6010B, Hg-7470A	ANALYSIS METHOD:	6010B, Hg-7040A
%SOLIDS:	NA	% SOLIDS:	NA

MATERIAL DESCRIPTION: TCLP-SOIL EXTRACT
DATE SAMPLED: 8/20/99
UNITS: mg/L

PARAMETER	QA LAB LRL	RESULTS QA LAB	CONTRACTOR LRL	RESULTS CONTRACTOR	COMPARISON CODE
Arsenic	< 0.0025		*NA		
Barium		8.00	*NA		
Cadmium		0.0439	*NA		
Chromium		0.0206	*NA		
Lead		38.2	*NA		
Mercury (8-26-99)	< 0.010		*NA		
Selenium		0.0173	*NA		
Silver	< 0.0015		*NA		

SEE APPENDIX A FOR KEY TO COMMENTS

B=Result is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
J =Estimated Result. Result is less than the Reporting Limit.
E (ICP)=The reported value is estimated because of the presence of an interference.
*NA=Not analyzed, sample received broken.

APPENDIX C

SAMPLE RECEIPT & CUSTODY DOCUMENTATION

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
GRH E0839	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston, Inc.

PROJECT MANAGER: Chris Kane

OFFICE No: (603) 656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: (607) 869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 4oz CG

REQUESTED ANALYSIS: Lead (total)

TURNAROUND TIME
24-HOUR ☐ RUSH
48-HOUR ☐
1-WEEK ☐
STANDARD ☐
RUSH _____ days
OTHER 3 DAY

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC:
Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
7/16/99	10:05	CE-OH1B-B02-2	SS		O	1				

0004

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Ste Kirejczyk	7/16/99 1309				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
		Thil Brite	7-17-99 1100		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

YES NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES NO

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

ICE MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 13°C

DATE AND TIME COOLER RECEIVED: 7/17/99 1100

DO SAMPLES APPEAR TO BE INTACT: YES NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	NO
EXTRACTABLES	YES	NO
UNPRES VOA	YES	NO

RADIATION SCREEN RESULTS <0.05 MR/HR YES NO

0030

COOLER RECEIPT Contractor Cooler _____

LIMS# 74412 QA Lab Cooler # _____

Number of Coolers 1

PROJECT: E0839 Date received: 7-17-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 7-17-99 1100
by (print) Frank Bassett (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . (YES) NO
If YES, enter carrier name & air bill number here: FED EX 804831464559

2. Were custody seals on outside of cooler? . . . . . YES NO
How many & where 1, seal date: 7-16-99 seal name _____

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . (YES) NO

4. Did you screen copies for radioactivity using the Geiger counter (YES) NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? . (YES) NO

7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . (YES) NO

9. If required, was enough ice used? . . Type of ice: 13°C . YES (NO)

10. Have designated person initial here to acknowledge receipt of cooler: FnB (date) 7-17-99

B. LOG-IN PHASE: Date samples were logged-in: 7-20-99
by (print) Frank Bassett (sign) [signature]

11. Describe type of packing in cooler: Bubble wrap

12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO

13. Did all bottles arrive unbroken & were labels in good condition? . (YES) NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . (YES) NO

15. Did all bottle labels agree with custody papers? . . . . . (YES) NO

16. Were correct containers used for the tests indicated? . . . . . (YES) NO

17. Were correct preservatives added to samples? . . . . . (YES) NO

18. Was a sufficient amount of sample sent for tests indicated? . . . (YES) NO

19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ . . . YES ~~NO~~ N/A

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date) _____

FIGURE 1

0029

~~0028~~ 9/1/99

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: 0004
Lab:

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
A II F0839	Seneca Army Depot Activity	N.Y

CLIENT: CENAN - Roy F. Weston, Inc

PROJECT MANAGER: Chris Kaye

OFFICE No: (603) 656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: (607) 869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 8 oz CG

REQUESTED ANALYSIS: TCLP Metals

TURNAROUND TIME
- 24-HOUR
- 48-HOUR
- 1-WEEK
- STANDARD
- RUSH ____ days
- OTHER 3 DAY

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	TCLP Metals	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
7/14/99	0917	SP-0051-003-2	SS		C	1	X				
7/14/99	1057	SP-0051-014-2	SS		C	1	X				
7/14/99	1057	SP-0051-014-4	SS		D	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Steve Kirejczyk	7/14/99 12:23pm				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
			7/15/99 0930		

Temperature Blank Info.
Enclosed: Yes No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

ICE (MELTED ICE) PACKS NONE

COOLER TEMPERATURE (degrees c): 11°C

DATE AND TIME COOLER RECEIVED: 7/15/99 0930

DO SAMPLES APPEAR TO BE INTACT: YES NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM YES NO

EXTRACTABLES YES NO

UNPRES VOA YES NO

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

CHAIN OF CUSTODY RECORD

ASC analytical services center

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Cooler No: 4000
Lab:

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E08039	SENECA ARMY DEPOT ACTIVITY	NY

CLIENT: CENAN - ROY F WESTON INC

PROJECT MANAGER: CHRIS KANE

OFFICE No: 603-656-5428

FIELD TEAM LEADER: STEVE KIREJCZYK

PHONE No: 607-869-1475

SAMPLERS: (PRINT) STEVE KIREJCZYK

CONTAINER TYPE AND PRESERVATIVE: 4oz CG

REQUESTED ANALYSIS: LEAD (TOTAL)

TURNAROUND TIME
24-HOUR ☐ RUSH
48-HOUR ☐
1-WEEK ☐
STANDARD ☐
RUSH ____ days
OTHER STD

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC:
Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	LEAD (TOTAL)	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
7/23/99	0916	CE-Φ01B-SΦ4-2	SS		O	1	X				
7/23/99	0916	CE-Φ01B-SΦ4-4	SS		D	1	X				
7/23/99	1140	CE-ΦE1B-BΦ1-2	SS		O	1	X				
~~7/23/99~~	1142	CE-ΦE1B-BΦ2-Φ									
~~7/23/99~~	1142	CE-ΦE1B-SΦ1-Φ									

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
	7/23/99 1631				
Relinquished By: (Signature)	**Date/Time:**	**Received By: (Signature)**	**Date/Time:**	**BL/Airbill Number:**	
			7/24/99 1110		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. / /

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 2°C

DATE AND TIME COOLER RECEIVED: 7-24-99 1110

DO SAMPLES APPEAR TO BE INTACT: YES NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	NO
EXTRACTABLES	YES	NO
UNPRES VOA	YES	NO

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT Contractor Cooler_____

LIMS#_____ QA Lab Cooler #_____

PROJECT: E0839 SENECA ARMY DEPOT Number of Coolers 1

Date received: 7/24/99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 7/24/99
by (print) DON DAWICKE (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . YES NO
If YES, enter carrier name & air bill number here: UPS NUMBER COULD NOT BE DETERMINED

2. Were custody seals on outside of cooler? . . . . . YES NO
How many & where _____, seal date: _____ seal name_____

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . YES NO

4. Did you screen copies for radioactivity using the Geiger counter YES NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? . YES NO

7. Did you sign custody papers in the appropriate place? . . . . . YES NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . YES NO

9. If required, was enough ice used? . . Type of ice: CUBES . YES NO

10. Have designated person initial here to acknowledge receipt of cooler: DS (date) 7/24/99

B. LOG-IN PHASE: Date samples were logged-in: 7/26/99
by (print) DON DAWICKE (sign) [signature]

11. Describe type of packing in cooler: BUBBLE WRAP

12. Were all bottles sealed in separate plastic bags? . . . . . YES NO

13. Did all bottles arrive unbroken & were labels in good condition? . YES NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . YES NO

15. Did all bottle labels agree with custody papers? . . . . . YES NO

16. Were correct containers used for the tests indicated? . . . . . YES NO

17. Were correct preservatives added to samples? . . . . . YES NO

18. Was a sufficient amount of sample sent for tests indicated? . . YES NO

19. Were bubbles absent in VOA samples? If NO, list by QA#:_____. . . YES NO NA

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

CHAIN OF CUSTODY RECORD

ASC analytical services center

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Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____
0004

Page: ____ of ____

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot Activity	N. Y.

CLIENT: CENAN - Roy F. Weston, Inc.

PROJECT MANAGER: Chris Kane

OFFICE No: (603) 656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: (607) 869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 402

REQUESTED ANALYSIS: Total Lead

TURNAROUND TIME: 24-HOUR ☐ 48-HOUR ☐ 1-WEEK ☐ STANDARD ☐ (RUSH) RUSH _____ days OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
7/30/99	8:13	CE-OGIB-B01-2	SS		O	1				
7/30/99	928	CE-OGIP-SS11-2	SS		O	1				
7/30/99	1104	CE-OGIP-SS17-2	SS		O	1				
7/30/99	1104	CE-OGIP-SS17-4	SS		D	1				QA Dup
7/30/99	8:13	CE-OGIB-B01-4								

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
[signature]	1:49 pm 7/30/99				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
		[signature]	7/31/99	1100	

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: 7-31-99 Time: 1100
Temperature: 20 °C

Distribution: White - Lab original Yellow - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. / /

WHAT TYPE OF COOLING WAS UTILIZED?

ICE (MELTED ICE) PACKS NONE

COOLER TEMPERATURE (degrees c): 20°

DATE AND TIME COOLER RECEIVED: 7/31/99 1108

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	~~NO~~

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT Contractor Cooler_____

LIMS# 74631 QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 Date received: 7-31-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler ~~was opened~~: 7-31-99
by (print) Frank Bezzeth (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . YES NO
   If YES, enter carrier name & air bill number here: FED Ex 8145-4284-5245
2. Were custody seals on outside of cooler? . . . . . YES NO
   How many & where 1, seal date: 7-30-99 seal name_____
3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . YES NO
4. Did you screen copies for radioactivity using the Geiger counter YES NO
5. Were custody papers in a plastic bag & taped inside to the lid? . . YES NO
6. Were custody papers filled out properly (ink, signed, etc.)? . YES NO
7. Did you sign custody papers in the appropriate place? . . . . . YES NO
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . YES NO
9. If required, was enough ice used? . . Type of ice: 20°C . YES NO
10. Have designated person initial here to acknowledge receipt of cooler: F-M-B (date) 7-31-99

B. LOG-IN PHASE: Date samples were logged-in: 8-3-99
by (print) Frank Bezzeth (sign) [signature]

11. Describe type of packing in cooler: Bubble wrap
12. Were all bottles sealed in separate plastic bags? . . . . . YES NO
13. Did all bottles arrive unbroken & were labels in good condition? . YES NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . YES NO
15. Did all bottle labels agree with custody papers? . . . . . YES NO
16. Were correct containers used for the tests indicated? . . . . . YES NO
17. Were correct preservatives added to samples? . . . . . YES NO
18. Was a sufficient amount of sample sent for tests indicated? . . . YES NO
19. Were bubbles absent in VOA samples? If NO, list by QA#:_____ . . . ~~YES~~ NO
20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO
21. Who was called? _____ By whom? B-B (date) 8-2-99

Cooler Temp.

FIGURE 1

CHAIN OF CUSTODY RECORD

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Where Scientific Excellence and Efficiency Meet

Cooler No: 0004
Lab:

Page: ____ of ____

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot	NY

CLIENT: CENAN - Roy F. Weston, Inc.

PROJECT MANAGER: Chris Kane — OFFICE No: (603) 656-5428

FIELD TEAM LEADER: Steve Kireszczyk — PHONE No: (607) 869-1475

SAMPLERS: (PRINT) Steve Kireszczyk

CONTAINER TYPE AND PRESERVATIVE: 8oz CG

REQUESTED ANALYSIS: TCLP Metals

TURNAROUND TIME
- 24-HOUR ☐ RUSH
- 48-HOUR ☐
- 1-WEEK ☐
- STANDARD ☐
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
7/29/99	1017	SP-0051-025-[illegible]	SS		D	1				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:	Temperature Blank Info. Enclosed: (Yes) No
[signature]	7/29/99 1354					(FOR LAB USE ONLY) Date: _____ Time: _____
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:		Temperature: _____ °C
		[signature]	7/30/99 1015			

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

YES (NO)

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES NO

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

ICE (MELTED ICE) PACKS NONE

COOLER TEMPERATURE (degrees c): 22

DATE AND TIME COOLER RECEIVED: 7/30/99 1016

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	NO
EXTRACTABLES	YES	NO
UNPRES VOA	YES	NO

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT Contractor Cooler_____

LIMS#_____ QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 SENECA ARMY DEPOT Date received: 7/30/99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 7/30/99
by (print) DON DAWICKI (sign) _____

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . (YES) NO
If YES, enter carrier name & air bill number here: FED EX NUMBER COULD NOT BE READ

2. Were custody seals on outside of cooler? . . . . . YES (NO)
How many & where _____, seal date: _____ seal name_____

3. Were custody seals unbroken and intact at the date and time of Arrival? . .
. . . . . YES NO (NA)

4. Did you screen copies for radioactivity using the Geiger counter (YES) NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? . (YES) NO

7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . (YES) NO

9. If required, was enough ice used? . . Type of ice: MELTED . YES (NO)

10. Have designated person initial here to acknowledge receipt of cooler: DS (date) 7/30/99

B. LOG-IN PHASE: Date samples were logged-in: 8/1/99
by (print) DON DAWICKI (sign) _____

11. Describe type of packing in cooler: BUBBLE WRAP

12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO

13. Did all bottles arrive unbroken & were labels in good condition? . (YES) NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . (YES) NO

15. Did all bottle labels agree with custody papers? . . . . . YES (NO)

16. Were correct containers used for the tests indicated? . . . . . (YES) NO

17. Were correct preservatives added to samples? . . . . . (YES) NO

18. Was a sufficient amount of sample sent for tests indicated? . . (YES) NO

19. Were bubbles absent in VOA samples? If NO, list by QA#: ____ . . . YES NO (NA)

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES (NO)

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

4 ID ON CONTAINER IS SP-0051-025-2 ID ON COC IS SP-0051-025-1. USED ID ON CONTAINER FOR LOG IN

C:\DATA\CAMPAVE\LTM0598.LAB May 27, 1998

COOLER TEMP 22 24°C DS 8/1/99

CHAIN OF CUSTODY RECORD

ASC analytical services center

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Cooler No: _____
Lab: _____

0004

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot	N.Y.

CLIENT: CENAN - Roy F. Weston

PROJECT MANAGER: Chris Kane — OFFICE No: (603) 656-5488

FIELD TEAM LEADER: Steve Kirejczyk — PHONE No: (607)869-1420

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 8oz. Cl

REQUESTED ANALYSIS: TCL & Metals

TURNAROUND TIME: 24-HOUR ☐ 48-HOUR ☐ 1-WEEK ☐ STANDARD ☐ RUSH ☐ (RUSH) _____ days OTHER Standard

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	TCL & Metals	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8/2/99	1105	SP-0051-034-2	SS		D	1	X				
8/2/99	1105	SP-0051-034-4	SS		D	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Steve Kirejczyk	1205 8/2/99				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
		[signature]	8-3-99	0930	

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: White - Lab original Yellow - Field team leader

0881207

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 5°

DATE AND TIME COOLER RECEIVED: 8/3/99 0930

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	(NO)

0036

COOLER RECEIPT Contractor Cooler_____

LIMS# 74649 QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 Date received: 8-3-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was ~~opened~~: 8-3-99 0930
by (print) Frank Bassetti (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . (YES) NO
If YES, enter carrier name & air bill number here: FedEx 8145-4284-5793

2. Were custody seals on outside of cooler? . . . . . (YES) NO
How many & where 1, seal date: 8-2-99 seal name_____

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . (YES) NO

4. Did you screen copies for radioactivity using the Geiger counter (YES) NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? . (YES) NO

7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . (YES) NO

9. If required, was enough ice used? . . Type of ice: 5°C . (YES) NO

10. Have designated person initial here to acknowledge receipt of cooler: FMD (date) 8-3-99

B. LOG-IN PHASE: Date samples were logged-in: 8-4-99
by (print) Frank Bassetti (sign) [signature]

11. Describe type of packing in cooler: Bubble Wrap

12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO

13. Did all bottles arrive unbroken & were labels in good condition? . (YES) NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . (YES) NO

15. Did all bottle labels agree with custody papers? . . . . . (YES) NO

16. Were correct containers used for the tests indicated? . . . . . (YES) NO

17. Were correct preservatives added to samples? . . . . . (YES) NO

18. Was a sufficient amount of sample sent for tests indicated? . . . (YES) NO

19. Were bubbles absent in VOA samples? If NO, list by QA#:_____ . . . ~~YES~~ NO

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

CHAIN OF CUSTODY RECORD

ASC analytical services center

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Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____
0004

Page: ____ of ____

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E8039	SENECA ARMY DEPOT ACTIVITY	NY

CLIENT: CENAN - ROY F. WESTON INC

PROJECT MANAGER: CHRIS KANE

OFFICE No: 603-656-5428

FIELD TEAM LEADER: STEVE KIREJCZYK

PHONE No: 607-869-1475

SAMPLERS: (PRINT)

CONTAINER TYPE AND PRESERVATIVE: 4oz CG

REQUESTED ANALYSIS: total LEAD

TURNAROUND TIME
- 24-HOUR ☐ R
- 48-HOUR ☐ U
- 1-WEEK ☐ S
- STANDARD ☑ H
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC:
Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	REQUESTED ANALYSIS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-5-99	505	CE-OA1P-502-2	SS		O	1	X				
8-5-99	614	CE-OG1P-522-2	SS		O	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Steve Kirejczyk	8/5/99 1000				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
		[signature]	8-6-99 0930		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 5°

DATE AND TIME COOLER RECEIVED: 8.6.99 0930

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	(NO)

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT Contractor Cooler_____

LIMS# 74715 QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 Date received: 8-6-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-6-99 0930
by (print) Frank Bessette (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . YES NO
If YES, enter carrier name & air bill number here: FED Ex 8145-4284-5304

2. Were custody seals on outside of cooler? . . . . . YES NO
How many & where 1, seal date: 8-5-99 seal name_____

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . YES NO

4. Did you screen copies for radioactivity using the Geiger counter YES NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? . YES NO

7. Did you sign custody papers in the appropriate place? . . . . . YES NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . YES NO

9. If required, was enough ice used? . . Type of ice: C° . YES NO

10. Have designated person initial here to acknowledge receipt of cooler: [initials] (date) 8-6-99

B. LOG-IN PHASE: Date samples were logged-in: 8-9-99
by (print) Frank Bessette (sign) [signature]

11. Describe type of packing in cooler: Bubble wrap

12. Were all bottles sealed in separate plastic bags? . . . . . YES NO

13. Did all bottles arrive unbroken & were labels in good condition? . YES NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . YES NO

15. Did all bottle labels agree with custody papers? . . . . . YES NO

16. Were correct containers used for the tests indicated? . . . . . YES NO

17. Were correct preservatives added to samples? . . . . . YES NO

18. Was a sufficient amount of sample sent for tests indicated? . . . YES NO

19. Were bubbles absent in VOA samples? If NO, list by QA#:_____ . . . YES ~~NO~~

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

Page: ____ of ____

PROJECT No:	SITE NAME:	LOCATION: (Include State)
1.5029	Seneca Army Depot	NY

CLIENT: FEMA Roy F Weston Inc

PROJECT MANAGER: Iris Kara

OFFICE No: (603) 641-5425

FIELD TEAM LEADER: Steve Kwieczyk

PHONE No: (607)589-1172

SAMPLERS: (PRINT) Steve Kwieczyk

CONTAINER TYPE AND PRESERVATIVE: 8 oz. G

REQUESTED ANALYSIS: TCL + Metals

TURNAROUND TIME
- 24-HOUR
- 48-HOUR
- 1-WEEK
- STANDARD
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC:
Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8/7/99		SD 05 - 0440	SS		G	1				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Steve Kwiecz	8/6/99 1345				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
			8/7/99 1130		

Temperature Blank Info.
Enclosed: Yes No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881007

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. 1 /

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 5°C

DATE AND TIME COOLER RECEIVED: 8-7-99 1130

DO SAMPLES APPEAR TO BE INTACT: YES NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM YES NO

EXTRACTABLES YES NO

UNPRES VOA YES NO

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT Contractor Cooler_____

LIMS#_____ QA Lab Cooler #_____

E0839 Number of Coolers 1

PROJECT: SENECA ARMY DEPOT Date received: 8/7/99 8/10/99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8/7/99
by (print) DOS DAWICKE (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)?. . . . . (YES) NO
   If YES, enter carrier name & air bill number here: 8125 4284 5337

2. Were custody seals on outside of cooler?. . . . . (YES) NO
   How many & where _____, seal date: _____ seal name_____

3. Were custody seals unbroken and intact at the date and time of Arrival?. .
   . . . . . (YES) NO

4. Did you screen copies for radioactivity using the Geiger counter (YES) NO

5. Were custody papers in a plastic bag & taped inside to the lid?.. (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? . (YES) NO

7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO

8. Was project identifiable from custody papers? If YES, enter
   project name at the top of this form. . . . . (YES) NO

9. If required, was enough ice used? . . Type of ice: CUBED . (YES) NO

10. Have designated person initial here to acknowledge receipt of
    cooler: DOS (date) 8/7/99

B. LOG-IN PHASE: Date samples were logged-in: 8/10/99
by (print) DOS DAWICKE (sign) [signature]

11. Describe type of packing in cooler: BUBBLE WRAP

12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO

13. Did all bottles arrive unbroken & were labels in good condition? (YES) NO

14. Were all bottle labels complete (ID, date, time, signature, preservative,
    etc.)?. . . . . (YES) NO

15. Did all bottle labels agree with custody papers?. . . . . (YES) NO

16. Were correct containers used for the tests indicated? . . . . . (YES) NO

17. Were correct preservatives added to samples?. . . . . YES NO (NA)

18. Was a sufficient amount of sample sent for tests indicated? . . . (YES) NO

19. Were bubbles absent in VOA samples? If NO, list by QA#:____. . . YES NO (NA)

20. Was the project manager called and status discussed? If YES, give
    details on the back of this form. . . . . YES (NO)

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

Page: ____ of ____

PROJECT No:	SITE NAME:	LOCATION: (Include State)
	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston Inc.

PROJECT MANAGER: Chris Kane

OFFICE No: 603-656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: 607-869-1475

SAMPLERS: (PRINT)

CONTAINER TYPE AND PRESERVATIVE: 8oz CG

REQUESTED ANALYSIS: TCLP METALS

TURNAROUND TIME
24-HOUR ☐ RUSH
48-HOUR ☐
1-WEEK ☐
STANDARD ☐
RUSH ___ days
OTHER ___

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC:
Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	TCLP METALS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-10-99	11:10	SP-0051-053-2	SS		D	1	X				

0004

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Ste Kirejczyk	8/10/99 1156 hrs				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
	8-11-99 0930	Ted Pombo			

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

COOLER RECEIPT Contractor Cooler_____

LIMS# 74757 QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 Date received: 8-11-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-11-99 0930
by (print) Frank DeSetti (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)?. . . . . (YES) NO
   If YES, enter carrier name & air bill number here: FED EX 8145-9284-3473
2. Were custody seals on outside of cooler?. . . . . (YES) NO
   How many & where 2, seal date: 8-10-99 seal name_____
3. Were custody seals unbroken and intact at the date and time of Arrival?. . . . . (YES) NO
4. Did you screen copies for radioactivity using the Geiger counter (YES) NO
5. Were custody papers in a plastic bag & taped inside to the lid?.. (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? . (YES) NO
7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . (YES) NO
9. If required, was enough ice used? . . Type of ice: 5°C . (YES) NO
10. Have designated person initial here to acknowledge receipt of cooler: FDS (date) 8-11-99

B. LOG-IN PHASE: Date samples were logged-in: 8-11-99
by (print) Frank DeSetti (sign) [signature]

11. Describe type of packing in cooler: Bubble wrap
12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition?. (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)?. . . . . (YES) NO
15. Did all bottle labels agree with custody papers?. . . . . (YES) NO
16. Were correct containers used for the tests indicated? . . . . . (YES) NO
17. Were correct preservatives added to samples?. . . . . (YES) NO
18. Was a sufficient amount of sample sent for tests indicated? . . . (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#:_____. . . ~~YES NO~~
20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO
21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 5°

DATE AND TIME COOLER RECEIVED: 8/11/99 0930

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	(NO)

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

9006

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
QA E0839	SENECA ARMY DEPOT ACTIVITY	NY

CLIENT: CENAN - Roy F. WESTON INC

PROJECT MANAGER: CHRIS KANE — OFFICE No: 603-656-5428

FIELD TEAM LEADER: STEVE KIRejczyk — PHONE No: 607-869-5428

SAMPLERS: (PRINT)

CONTAINER TYPE AND PRESERVATIVE: 4 oz CG

REQUESTED ANALYSIS: total LEAD

TURNAROUND TIME
- 24-HOUR ☐ RUSH
- 48-HOUR ☐
- 1-WEEK ☐
- STANDARD ☑
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	total LEAD	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-12-99	1334	CE-OJIP-B02-2	SS		1	0	X				
8-12-99	1405	CE-OJIP-B10-2	SS		1	0	X				
8-12-99	1420	CE-OJIP-S07-2	SS		1	0	X				
8-12-99	1437	CE-OJIP-S17-2	SS		1	0	X				
8-12-99	1511	CE-OGIB-B09-2	SS		1	0	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Calvin J. Clinton	8-13-99				
Relinquished By: (Signature)	Date/Time: 8-1	Received By: (Signature)	Date/Time: 8-14-99 1200	BL/Airbill Number:	

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: White - Lab original Yellow - Field team leader

0881297

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

Page: 1 of 1

0004

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston Inc.

PROJECT MANAGER: Chris Kane — OFFICE No: 603-656-5428

FIELD TEAM LEADER: Steve Kirejczyk — PHONE No: 607-869-1475

SAMPLERS: (PRINT)

CONTAINER TYPE AND PRESERVATIVE: 8oz CG

REQUESTED ANALYSIS: TCLP Metals

TURNAROUND TIME
- 24-HOUR ☐ RUSH
- 48-HOUR ☐ RUSH
- 1-WEEK ☐ RUSH
- STANDARD ☑
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	TCLP Metals	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8/13/99	1040	SP-0051-057-2	SS		O	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
[signature]	8/13/99				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
		[signature]	8-14-99 1200		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. — —

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 6°

DATE AND TIME COOLER RECEIVED: 8.14.99 1210c

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	(NO)

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. — —

WHAT TYPE OF COOLING WAS UTILIZED?

ICE (MELTED ICE) PACKS NONE

COOLER TEMPERATURE (degrees c): 15°

DATE AND TIME COOLER RECEIVED: 8.14.99 1200

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	(NO)

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT

Contractor Cooler_____

LIMS# 74799

QA Lab Cooler #_____

Number of Coolers 2

PROJECT: E0839

Date received: 8-14-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-14-99 1200
by (print) Frank Bessette (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . YES NO
   If YES, enter carrier name & air bill number here: FED EX 8145-4284-3495

2. Were custody seals on outside of cooler? . . . . . YES NO
   How many & where 2, seal date: 8-13-99 seal name /

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . YES NO

4. Did you screen copies for radioactivity using the Geiger counter YES NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? . YES NO

7. Did you sign custody papers in the appropriate place? . . . . . YES NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . YES NO

9. If required, was enough ice used? . . Type of ice: 15°C . YES NO

10. Have designated person initial here to acknowledge receipt of cooler: FB (date) 8-14-99

B. LOG-IN PHASE: Date samples were logged-in: 8-16-99
by (print) Frank Bessette (sign) [signature]

11. Describe type of packing in cooler: Bubble wrap

12. Were all bottles sealed in separate plastic bags? . . . . . YES NO

13. Did all bottles arrive unbroken & were labels in good condition? . YES NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . YES NO

15. Did all bottle labels agree with custody papers? . . . . . YES NO

16. Were correct containers used for the tests indicated? . . . . . YES NO

17. Were correct preservatives added to samples? . . . . . YES NO

18. Was a sufficient amount of sample sent for tests indicated? . . . YES NO

19. Were bubbles absent in VOA samples? If NO, list by QA#:_____. . . YES ~~NO~~

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot	NY

CLIENT: CENAN - Roy F. Weston, Inc.

PROJECT MANAGER: Chris Kane — OFFICE No: (603) 656-5428

FIELD TEAM LEADER: Steve Kirejczyk — PHONE No: (607) 869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 4/02 C6

REQUESTED ANALYSIS: Total Lead

TURNAROUND TIME
- 24-HOUR ☐ RUSH
- 48-HOUR ☐ RUSH
- 1-WEEK ☐ RUSH
- STANDARD ☑
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	Total Lead	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8/17	1655	CE-ORB1-S01-2	SS		O	1	X				
8/17	1704	CE-OREI-S04-2	SS		O	1	X				

0004

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
St Kund	8/18/94 0855				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
			8-19-94 0930		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

COOLER RECEIPT Contractor Cooler_____

LIMS# 74839 QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 Date received: 8-19-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-19-99 0930
by (print) Frank Bessette (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . YES NO
If YES, enter carrier name & air bill number here: FED EX 8145-5309-2023

2. Were custody seals on outside of cooler? . . . . . YES NO
How many & where 1, seal date: 8-18-99 seal name /

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . YES NO

4. Did you screen copies for radioactivity using the Geiger counter YES NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? . YES NO

7. Did you sign custody papers in the appropriate place? . . . . . YES NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . YES NO

9. If required, was enough ice used? . . Type of ice: 3# . YES NO

10. Have designated person initial here to acknowledge receipt of cooler: FB (date) 8-19-99

B. LOG-IN PHASE: Date samples were logged-in: 8-19-99
by (print) Frank Bessette (sign) [signature]

11. Describe type of packing in cooler: Bubble wrap

12. Were all bottles sealed in separate plastic bags? . . . . . YES NO

13. Did all bottles arrive unbroken & were labels in good condition? . YES NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . YES NO

15. Did all bottle labels agree with custody papers? . . . . . YES NO

16. Were correct containers used for the tests indicated? . . . . . YES NO

17. Were correct preservatives added to samples? . . . . . YES NO

18. Was a sufficient amount of sample sent for tests indicated? . . . YES NO

19. Were bubbles absent in VOA samples? If NO, list by QA#: _____ . . . YES NO

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

Page: 1 of 1

PROJECT No: QA E0839 ~~FO~~ 839	SITE NAME: Seneca Army Depot Activity	LOCATION: (Include State) NY
CLIENT: CENAN - Roy F. Weston Inc		
PROJECT MANAGER: Chris Kane	OFFICE No: 603-656-5428	
FIELD TEAM LEADER: Steve Kirejczyk	PHONE No: 607-869-1475	
SAMPLERS: (PRINT) Steve Kirejczyk		

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	CONTAINER TYPE AND PRESERVATIVE: 4 oz CG / REQUESTED ANALYSIS: Total Lead	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-18-99	4:35	CE-ORC1-B04-2	SS		0	1	X				
8-18-99	4:56	CE-ORC1-S02-2	SS		0	1	X				
8-18-99	5:16	CE-ORC1-S11-2	SS		0	1	X				

TURNAROUND TIME
- 24-HOUR ☐ RUSH
- 48-HOUR ☐
- 1-WEEK ☐
- STANDARD ☑
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

Relinquished By: (Signature)	Date/Time: 8/19/99 9:53	Received By: (Signature)	Date/Time:	Ship Via:	Date:
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time: 8-20-99 0930	BL/Airbill Number:	

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: White - Lab original Yellow - Field team leader

0004

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. — —

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 4°

DATE AND TIME COOLER RECEIVED: 8-20-99 0930

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	(NO)
EXTRACTABLES	YES	(NO)
UNPRES VOA	YES	(NO)

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

COOLER RECEIPT Contractor Cooler_____

LIMS# 74863 QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 Date received: 8-20-99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8-20-99 0930
by (print) Frank Bessett (sign) [signature]

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . . (YES) NO
   If YES, enter carrier name & air bill number here: FEDEX 8145-5308-6056

2. Were custody seals on outside of cooler? . . . . . (YES) NO
   How many & where 2, seal date: 8-19-99 seal name_____

3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . (YES) NO

4. Did you screen copies for radioactivity using the Geiger counter (YES) NO

5. Were custody papers in a plastic bag & taped inside to the lid? . . (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? . (YES) NO

7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . (YES) NO

9. If required, was enough ice used? . . Type of ice: 4°C . (YES) NO

10. Have designated person initial here to acknowledge receipt of cooler: MB (date) 8-20-99

B. LOG-IN PHASE: Date samples were logged-in: 8-21-99
by (print) Frank Bessett (sign) [signature]

11. Describe type of packing in cooler: [signature] Bubble wrap

12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO

13. Did all bottles arrive unbroken & were labels in good condition? . (YES) NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . (YES) NO

15. Did all bottle labels agree with custody papers? . . . . . (YES) NO

16. Were correct containers used for the tests indicated? . . . . . (YES) NO

17. Were correct preservatives added to samples? . . . . . (YES) NO

18. Was a sufficient amount of sample sent for tests indicated? . . . (YES) NO

19. Were bubbles absent in VOA samples? If NO, list by QA#:_____ . . . ~~YES~~ ~~NO~~

20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES NO

21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

Roy F. Weston, Inc.
Post Gate #2 Rt 96A
Seneca Army Depot Activity
Romulus, NY 14541
ph(607) 869-1475
fax(607) 869-5492

FACSIMILE TRANSMITTAL

TO: Mark Koenig — TELECOPY # (978) 318-8123
TELEPHONE # (978) 318-8312

FROM: Steve Kireszczyk
TOTAL PAGES: 3 (including cover sheet)
ORIGINAL WILL FOLLOW: ☐ Yes ☐ No — DATE: 8/24/99
COMMENTS:

Mark, These are C.O.C's From Aug 19+20

The First C.O.C has a correction on it.

the 1st sample should be CE-ORG1-SD2-3

And it should be Analyzed For Total Lead. The other 2 samples are correct and are sampled for TCLP Metals. Any Questions Please call.

– Steve

U.S. ARMY CORPS
OF ENGINEERS
NEW ENGLAND DISTRICT

GEOTECHNICAL & WATER MANAGEMENT BRANCH

FAX #: (978) 318-8663
Trouble #: (978) 318-8160

FACSIMILE TRANSMITTAL HEADER SHEET		
Name	Office	Telephone #
TO: Ron Pencowski	STL	802-655-1203
FROM: Mark Koenig	CENAE	978-318-8312
DATE: 8-25-99	Number of Pages: 3	FAX #: 802-655-1248

MESSAGE:

Ron,
Corrections for Seneca Army Depot
sample date 8-20-99 time "848".

Thanks
Mark

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: _____
Lab: _____

0005

Page: ____ of ____

PROJECT No:	SITE NAME:	LOCATION: (Include State)
ED839	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston Inc.

PROJECT MANAGER: Chris Kane

OFFICE No: 603-656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: 607-869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 8oz CG

REQUESTED ANALYSIS: TCLP Metals

TURNAROUND TIME: 24-HOUR ☐ RUSH; 48-HOUR ☐; 1-WEEK ☐; STANDARD ☑; RUSH _____ days; OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	TCLP Metals	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-20-99	848	CE-OG1-S02-2	SS		0	1	X				
8-20-99	9:26	SP-0051-067-2	SS		0	1	X				
8-20-99	9:54	SP-0051-077-2	SS		0	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
[signature]	8/20/99 3:24				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
		[signature]	8/21/99	1115	

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

CHAIN OF CUSTODY RECORD

ASC analytical services center
Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: ______
Lab: ______

Page: ____ of ____

PROJECT No: E0839
SITE NAME: Seneca Army Depot Activity
LOCATION: (Include State) NY
CLIENT: CENAN. Roy F. Weston Inc.
PROJECT MANAGER: Chris Kane
OFFICE No: 603-656-5428
FIELD TEAM LEADER: Steve Kiretczyk
PHONE No: 607-869-1475
SAMPLERS: (PRINT) Steve Kiretczyk

CONTAINER TYPE AND PRESERVATIVE: 8oz CG

REQUESTED ANALYSIS: ~~TCLP Metals~~; Total Lead

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	~~TCLP Metals~~	Total Lead	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-20-99	848	~~CEYOGI-SO2-2~~ ORBI	SS		O	1	~~X~~	X				
8-20-99	926	SP-0051-067-2	SS		O	1	X					
8-20-99	954	SP-0051-077-2	SS		O	1	X					

TURNAROUND TIME
- 24-HOUR ☐
- 48-HOUR ☐
- 1-WEEK ☐
- STANDARD ☑
- RUSH ______ days
- OTHER ______

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
[signature]	8/20/99 3:24				
Relinquished By: (Signature)	**Date/Time:**	**Received By: (Signature)**	**Date/Time:**	**BL/Airbill Number:**	

Temperature Blank Info.
Enclosed: (Yes) No
(FOR LAB USE ONLY)
Date: ______ Time: ______
Temperature: ______ °C

Distribution: White - Lab original Yellow - Field team leader

0001297

8000

CHAIN OF CUSTODY RECORD

ASC analytical services center

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4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
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Cooler No: 0004
Lab:

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
QA E0839	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston Inc.

PROJECT MANAGER: Chris Kane — OFFICE No: 603-656-5428

FIELD TEAM LEADER: Steve Kirejczyk — PHONE No: 607-869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 4oz CG

REQUESTED ANALYSIS: total LEAD

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8-19-99	2:42	CE-ORD1-S01-2	SS		0	1				
8-19-99	3:13	CE-ORC1-S21-2	SS		0	1				
8-19-99	3:33	CE-OC1P-S10-2	SS		0	1				

TURNAROUND TIME
- 24-HOUR
- 48-HOUR
- 1-WEEK
- STANDARD
- RUSH — 2 days
- OTHER

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
St Kirejczyk	8/20/99 12:10				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	BL/Airbill Number:	
			8/21/99 1115		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: White - Lab original Yellow - Field team leader

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

YES NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES NO

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

ICE MELTED ICE PACKS NONE

COOLER TEMPERATURE (degrees c): 3°C

DATE AND TIME COOLER RECEIVED: 8/21/99 1115

DO SAMPLES APPEAR TO BE INTACT: YES NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	NO
EXTRACTABLES	YES	NO
UNPRES VOA	YES	NO

RADIATION SCREEN RESULTS <0.05 MR/HR YES NO

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
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Cooler No: _____
Lab: 0004

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston Inc

PROJECT MANAGER: Chris Kane

OFFICE No: 603-656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: 607-869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 4oz Cl

REQUESTED ANALYSIS: Total Lead

TURNAROUND TIME
- 24-HOUR ☐ RUSH
- 48-HOUR ☐
- 1-WEEK ☐
- STANDARD ☑
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	Total Lead	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8/25	1642	CE-OHIP-B02-2	SS		0	1	X				
8/25	1704	CE-OBIP-S07-2	SS		0	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:
[signature]	8/26/99 1400				
Relinquished By: (Signature)	**Date/Time:**	**Received By: (Signature)**	**Date/Time:**	**BL/Airbill Number:**	
		[signature]	8-30-99 0915		

Temperature Blank Info.
Enclosed: (Yes) No

(FOR LAB USE ONLY)
Date: _____ Time: _____
Temperature: _____ °C

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. 1 1

WHAT TYPE OF COOLING WAS UTILIZED?

ICE (MELTED ICE) PACKS NONE

COOLER TEMPERATURE (degrees c): 20°C

DATE AND TIME COOLER RECEIVED: 8-30-99 0915

DO SAMPLES APPEAR TO BE INTACT: YES (NO)

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM YES (NO)

EXTRACTABLES YES (NO)

UNPRES VOA YES (NO)

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

CHAIN OF CUSTODY RECORD

ASC analytical services center

Ecology and Environment, Inc., Analytical Services Center
4493 Walden Avenue, Lancaster, New York, 14086, Tel: 716/685-8080, Fax 716/685-0852
Where Scientific Excellence and Efficiency Meet

Cooler No: 0004
Lab:

Page: 1 of 1

PROJECT No:	SITE NAME:	LOCATION: (Include State)
E0839	Seneca Army Depot Activity	NY

CLIENT: CENAN - Roy F. Weston Inc.

PROJECT MANAGER: Chris Kane

OFFICE No: 603-656-5428

FIELD TEAM LEADER: Steve Kirejczyk

PHONE No: 607-869-1475

SAMPLERS: (PRINT) Steve Kirejczyk

CONTAINER TYPE AND PRESERVATIVE: 40zcc

REQUESTED ANALYSIS: Total Lead

TURNAROUND TIME
- 24-HOUR
- 48-HOUR
- 1-WEEK
- STANDARD
- RUSH _____ days
- OTHER _____

(FOR LAB USE ONLY)
Lab Job No:
Report type:
Batch QC: Yes No

DATE	TIME	SAMPLE ID	SAMPLE MATRIX	CHECK FOR MS/MSD	SAMPLE TYPE	No. OF CONTAINERS	Total Lead	OVA/HNU READINGS (PPM)	BEGINNING DEPTH (FEET BGS)	ENDING DEPTH (FEET BGS)	REMARKS
8/27	0800	CE-ODIP-BOL-2	SS		D	1	X				

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Date/Time:	Ship Via:	Date:	Temperature Blank Info. Enclosed: Yes No
	8/27/99 1301					
Relinquished By: (Signature)	**Date/Time:**	**Received By: (Signature)**	**Date/Time:**	**BL/Airbill Number:**		(FOR LAB USE ONLY) Date: _____ Time: _____ Temperature: _____ °C
			8/28/99 1030			

Distribution: **White** - Lab original **Yellow** - Field team leader

0881297

** COOLER RECEIPT CHECKLIST **

WERE CUSTODY SEALS PRESENT ON THE COOLERS?

(YES) NO

IF SO, WERE THERE CUSTODY SEAL NUMBERS?

YES (NO)

LIST THE CUSTODY SEAL NUMBERS. _____ _____

WHAT TYPE OF COOLING WAS UTILIZED?

(ICE) (MELTED ICE) PACKS NONE

COOLER TEMPERATURE (degrees c): 5°

DATE AND TIME COOLER RECEIVED: 8.28.99 1030

DO SAMPLES APPEAR TO BE INTACT: (YES) NO

DO ANY SAMPLES HAVE SHORT HOLDING TIMES?
(less than seven days)

WET CHEM	YES	NO
EXTRACTABLES	YES	NO
UNPRES VOA	YES	NO

RADIATION SCREEN RESULTS <0.05 MR/HR (YES) NO

0032

COOLER RECEIPT Contractor Cooler_____

LIMS#_____ QA Lab Cooler #_____

Number of Coolers 1

PROJECT: E0839 SENECA ARMY Date received: 8/28/99

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 8/28/99
by (print) DON DAWICKI (sign) _____

1. Did cooler come with a shipping slip (air bill, etc.)? . . . . (YES) NO
   If YES, enter carrier name & air bill number here: FEDEX 8145 5308 6104
2. Were custody seals on outside of cooler? . . . . . (YES) NO
   How many & where _____, seal date: _____ seal name_____
3. Were custody seals unbroken and intact at the date and time of Arrival? . . . . . (YES) NO
4. Did you screen copies for radioactivity using the Geiger counter (YES) NO
5. Were custody papers in a plastic bag & taped inside to the lid? (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? (YES) NO
7. Did you sign custody papers in the appropriate place? . . . . . (YES) NO
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form. . . . . (YES) NO
9. If required, was enough ice used? . . Type of ice: (CUBED) (YES) NO
10. Have designated person initial here to acknowledge receipt of cooler: DS (date) 8/28/99

B. LOG-IN PHASE: Date samples were logged-in: 8/30/99
by (print) DON DAWICKI (sign) _____

11. Describe type of packing in cooler: BUBBLE WRAP
12. Were all bottles sealed in separate plastic bags? . . . . . (YES) NO
13. Did all bottles arrive unbroken & were labels in good condition? (YES) NO
14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? . . . . . (YES) NO
15. Did all bottle labels agree with custody papers? . . . . . (YES) NO
16. Were correct containers used for the tests indicated? . . . . . (YES) NO
17. Were correct preservatives added to samples? . . . . . YES NO (NA)
18. Was a sufficient amount of sample sent for tests indicated? . . (YES) NO
19. Were bubbles absent in VOA samples? If NO, list by QA#:_____. . . YES NO (NA)
20. Was the project manager called and status discussed? If YES, give details on the back of this form. . . . . YES (NO)
21. Who was called? _____ By whom? _____ (date)_____

FIGURE 1

Roy F. Weston, Inc.
1 Wall Street
Manchester, NH 03101-1501
603-656-5400 • Fax 603-656-5401
www.rfweston.com

27 January 2000

U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751
Attention: Ms. Marie Wojtas

Work Order No. 03886-118-013

Re: Contract No. DACW-33-95-D0004
Seneca Army Depot Remediation Project
Romulus, New York
Stockpile Sampling Log Sheets
DCN: SEDA-012700-AARO

Dear Ms. Wojtas:

As discussed at the conference call held on 14 January 2000 with CENAE and CENAN, Roy F. Weston, Inc. (WESTON®) is forwarding the Sample Collection Log Sheets for samples collected from the Case I and Case II soil stockpiles between 14 July 1999 and 19 January 2000 at the Seneca Army Depot located in Romulus, NY.

Should you require any additional information or have any questions on the information supplied please feel free to contact me at (603) 656-5428.

Very truly yours:
ROY F. WESTON, INC.

Chris Kane
Project Manager

Encl.
Cc: T. Battaglia (CENAN-PE)
R. Battaglia (CENAN-PM)
M. Brock (CENAE-PE)
W. Ebersbach (CENAN-COR)
M. Koenig (CENAE)
M. McCarley (WESTON/Site File)
R. Rico (WESTON)
A. Nash (WESTON DCN)

Daily Sample Collection Log Sheet

Date: 7/14/99

Time: _____

Crew Members Present:	Function:
S. Kurecezyk	Field Leader
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAY

Number of Samples Taken Today: 16

Sample Location: Eastern Stockpile

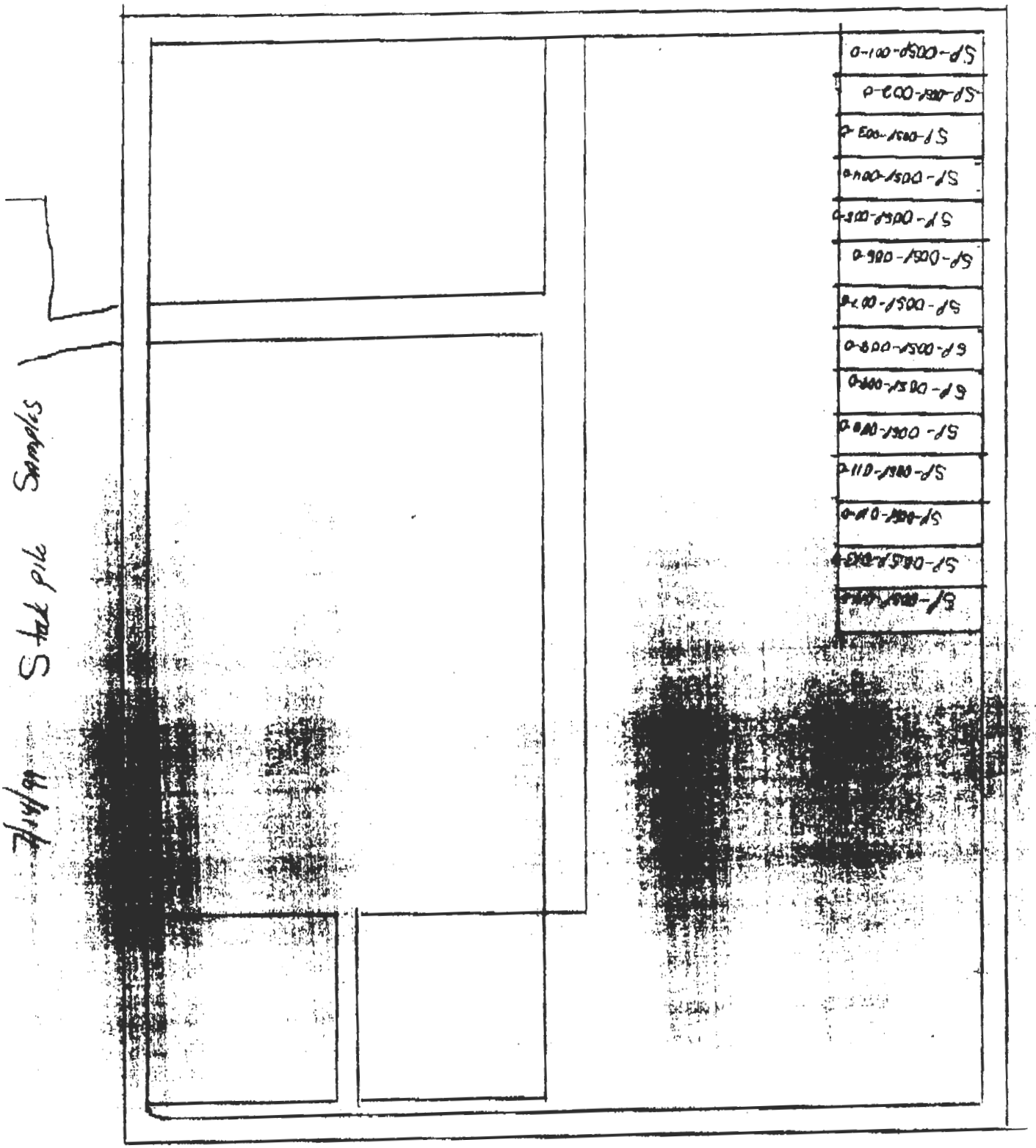
Weather: Sunny 85° Breezy

Sample ID's:

MS/MSD	SP-0051-001-0	SP-0051-010-0	
	SP-0051-002-0	SP-0051-011-0	
	SP-0051-002-1	SP-0051-012-0	
(QA)	SP-0051-003-0 (-2)	SP-0051-012-1	
	SP-0051-004-0	SP-0051-013-0	
	SP-0051-005-0	SP-0051-014-0	
	SP-0051-006-0	(014-2 -4 QA)	
	SP-0051-007-0		
	SP-0051-008-0		
	SP-0051-009-0		

Soil Discription:

Fine Clay, no rocks Dry



Daily Sample Collection Log Sheet

Date: 7/22/99

Time: _____

Crew Members Present:	Function:
S. Kjerfve	Field Leader
R. Libera	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: SAP

Number of Samples Taken Today: 6

Sample Location: NE Stockpile Area

Weather: 86° Sunny

Sample ID's:

SP-00S1-015-0		
SP-00S1-016-0		
SP-00S1-017-0		
SP-00S1-018-0		
SP-00S1-019-0		
SP-00S1-020-0		

Soil Discription:

Soil was dry clay + sand. A little tough digging

Daily Sample Collection Log Sheet

Date: 7/29/99

Time: _____

Crew Members Present:	Function:
S. Kireczyk	Field Leader
E. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Method: In SAP

Number of Samples Taken Today: 12

Sample Location: North Stockpile

Weather: 92° Sunny Humid

Sample ID's:

	SP-0051-021-0	SP-0051-030-0	
	SP-0051-021-1	SP-0051-031-0	
	SP-0051-022-0		
	SP-0051-023-0		
MS/MSD	SP-0051-024-0		
QC	SP-0051-025-0		
	SP-0051-026-0		
	SP-0051-027-0		
	SP-0051-028-0		
	SP-0051-029-0		

Soil Discription:

Soil is clay/Sand. Very Fine

Daily Sample Collection Log Sheet

Date: 8/2/99

Time: _____

Crew Members Present:	Function:
S. Kirszyk	Field Leader
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 6

Sample Location: North Stockpile

Weather: 80° Sunny Breezy

Sample ID's:

	SP-0051-032-0		
	SP-0051-033-0		
	SP-0051-032-1		
QA	SP-0051-034-0		
	SP-0051-035-0		
	SP-0051-036-0		

Soil Discription:

Fine Loose Clay/Sand. Very Packed in Some Spots

Daily Sample Collection Log Sheet

Date: 8/6/99

Time: _____

Crew Members Present:	Function:
S. Kireycyk	Field Leader
R. Liberno	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 16

Sample Location: Stockpile Area

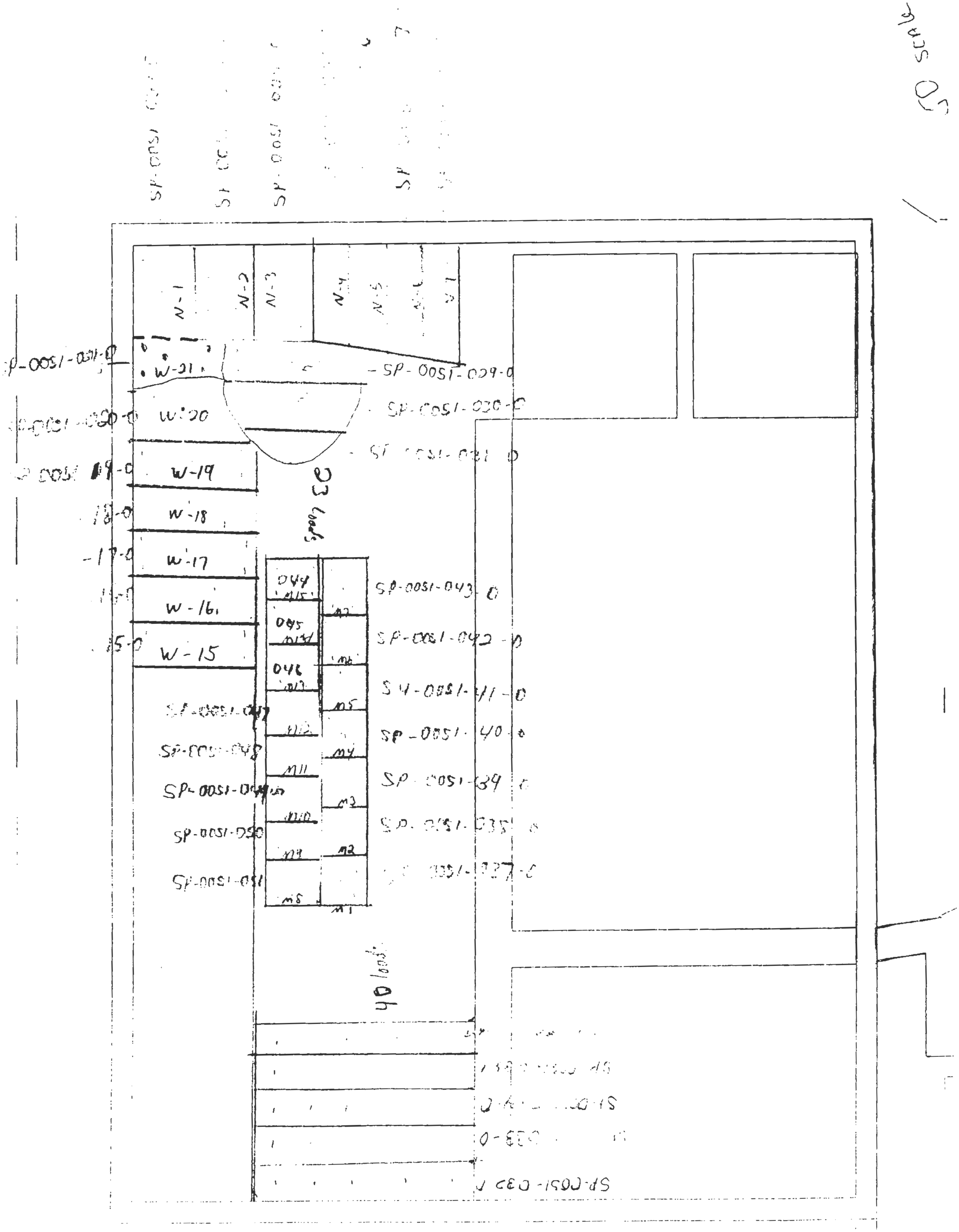
Weather: 75° Sunny

Sample ID's:

	SP-0051-037-0	SP-0051-046-0	
	SP-0051-038-0	SP-0051-047-0	
	SP-0051-039-0	SP-0051-048-0	
	SP-0051-040-0	SP-0051-049-0	
MS/MSD	SP-0051-041-0	SP-0051-050-0	
	SP-0051-042-0	SP-0051-051-0	
	SP-0051-041-1		
	SP-0051-043-0		
QA	SP-0051-044-0		
	SP-0051-045-0		

Soil Discription:

Clay/Sand Mixture compacted Scooping out in Chunks. Once crushed + Mixed → Fine


N-1
N-2
N-3
N-4
N-5
W-21
SP-0051-029-0
W-20
SP-0051-020-0
SP-0051-030-0
W-19
W-18
W-17
W-16
W-15
044
045
046
SP-0051-043-0
SP-0051-042-0
SP-0051-40-0
SP-0051-048
SP-0051-050
SP-0051-051
40 loads

Daily Sample Collection Log Sheet

Date: 9/10/99

Time: _____

Crew Members Present:	Function:
S. Kirgan	Field Leader
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCL & Metals Method: In SAP

Number of Samples Taken Today: 5

Sample Location: Stockpile

Weather: 70° Cloudy

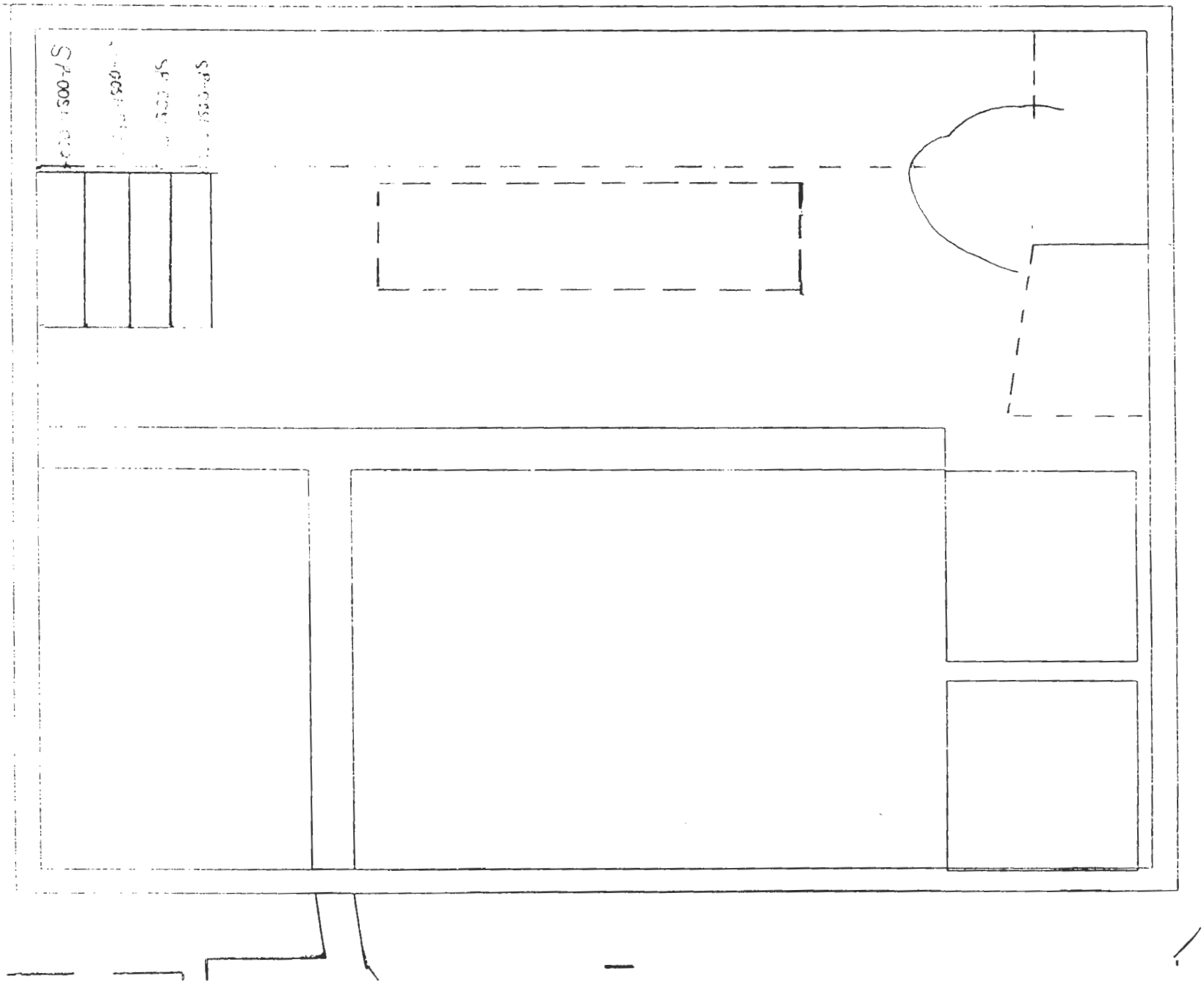
Sample ID's:

	SP-0051-052-0		
	SP-0051-052-1		
QA	SP-0051-053-0		
	SP-0051-054-0		
	SP-0051-055-0		

Soil Discription:

Fine Clay/Sand Mixture

Sampling 8/10/99



Daily Sample Collection Log Sheet

Date: 3/13/97

Time: _____

Crew Members Present:	Function:
S. Kuntz	Field Leader
R. Libero	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 10

Sample Location: Stockpile

Weather: 85° Cloudy, Windy, Rain

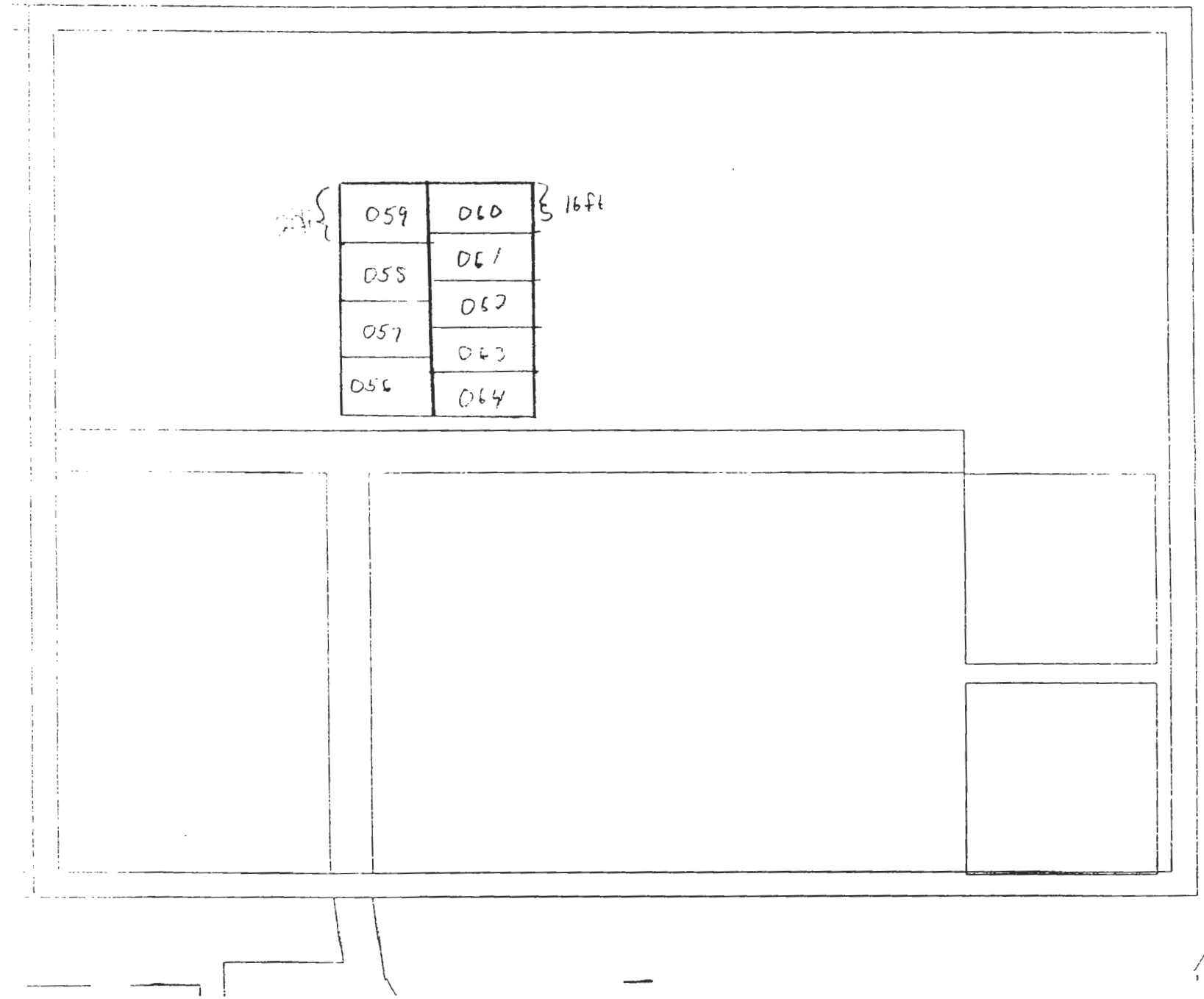
Sample ID's:

SP-0051-056-0
QA SP-0051-057-0
SP-0051-056-1
SP-0051-058-0
SP-0051-059-0
SP-0051-060-0
SP-0051-061-0
SP-0051-062-0
SP-0051-063-0
SP-0051-064-0

Soil Discription:

Fine/Lumpy Due to Dryness Clay/Sand Mix

Samples 8/13/99



Daily Sample Collection Log Sheet

Date: 9/10/99

Time: _____

Crew Members Present:	Function:
S. Kirsczyk	Field Leader
L. Liberti	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 19

Sample Location: Stockpile

Weather: 78° Cloudy Rain Showers

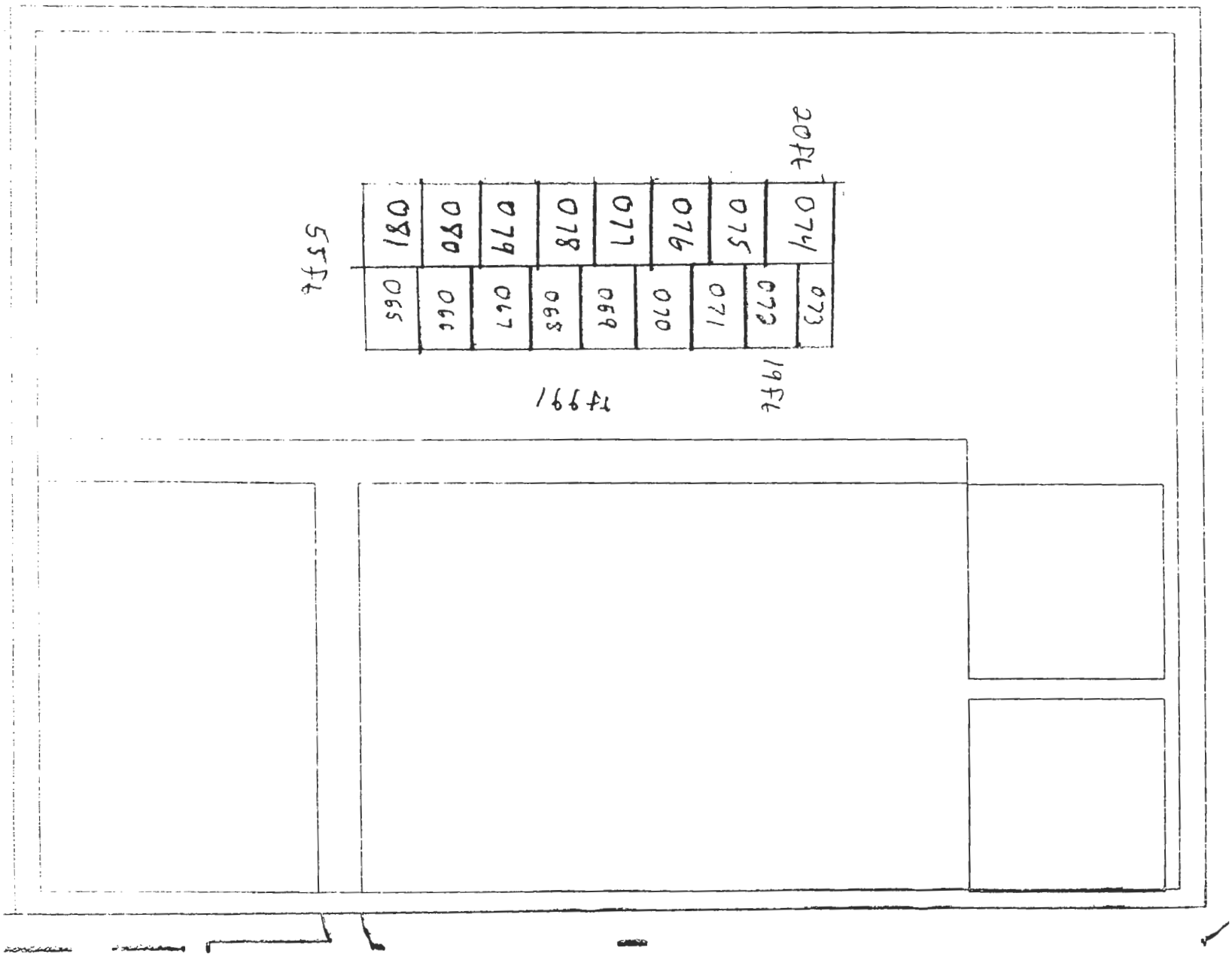
Sample ID's:

SP-0051-065-0	SP-0051-074-0		
SP-0051-065-1	SP-0051-075-0		
SP-0051-066-0	SP-0051-076-0		
QA SP-0051-067-0	QA SP-0051-077-0	C-0 broken during shipment according to tracking report	
SP-0051-068-0	SP-0051-075-1		
SP-0051-069-0	SP-0051-078-0		
SP-0051-070-0	MS/MSD SP-0051-079-0		
SP-0051-071-0	SP-0051-080-0		
SP-0051-072-0	SP-0051-081-0		
SP-0051-073-0			

Soil Discription:

Fine Clay/Sand Mixture

Sampling 5/30/99



Daily Sample Collection Log Sheet

Date: 9/30/99

Time: _____

Crew Members Present:	Function:
S. Kingsold	Field Leader
R. Ibarra	Laborer

Sample is Being Analyzed for:

Analysis: TCLP/Metals Method: in SAP

Number of Samples Taken Today: 20

Sample Location: Central Stockpile

Weather: 75° Sunny Breezy

Sample ID's:

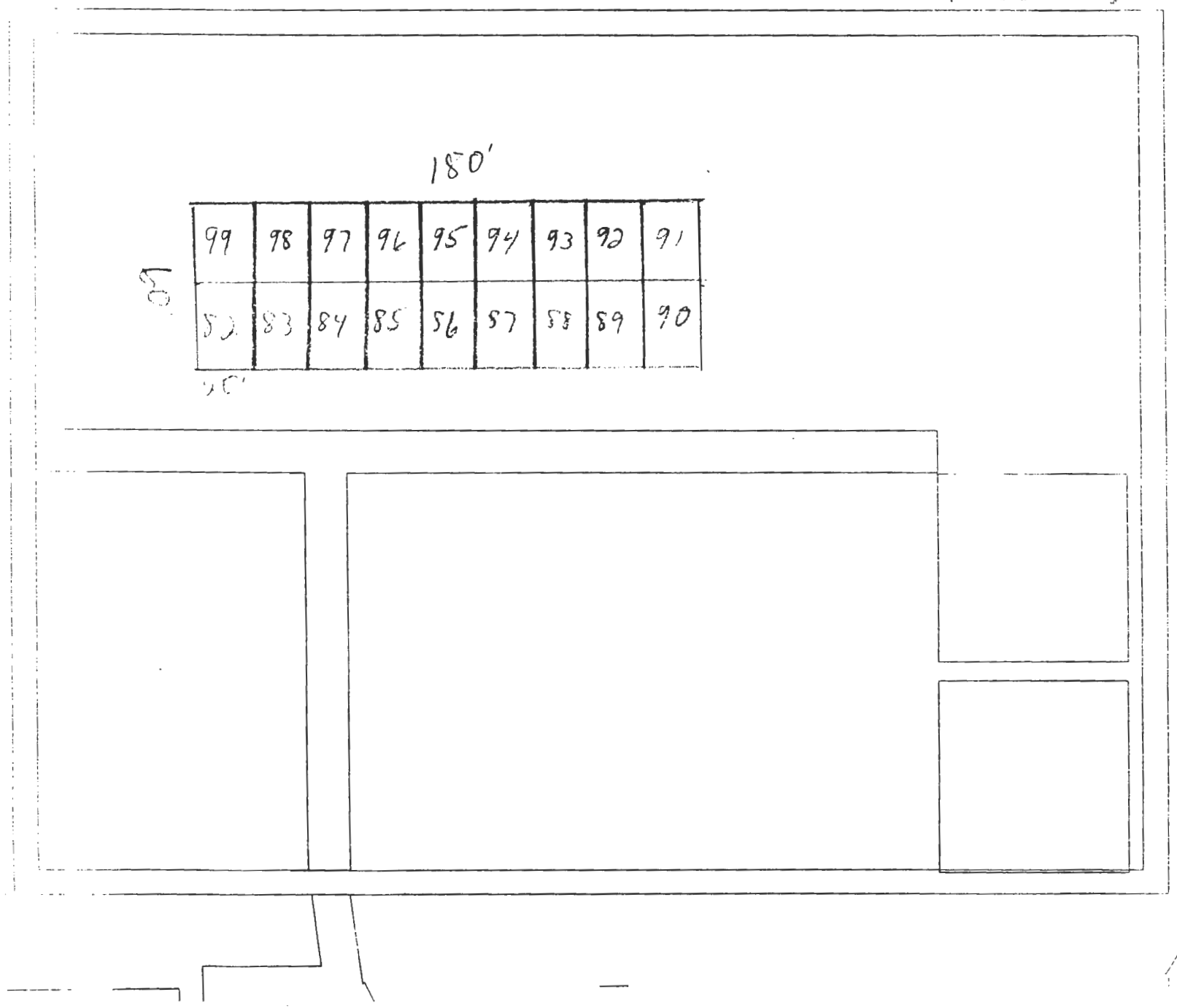
	SP-0051-082-0	SP-0051-091-0	
	SP-0051-082-1	SP-0051-091-1	
	SP-0051-083-0	SP-0051-092-0	
	SP-0051-084-0	SP-0051-093-0	
	SP-0051-085-0	SP-0051-094-0	
QA	SP-0051-086-0	SP-0051-095-0	
	SP-0051-087-0	SP-0051-096-0	
MS/MSD	SP-0051-088-0	SP-0051-097-0	
	SP-0051-089-0	SP-0051-098-0	
	SP-0051-090-0	SP-0051-099-0	

Soil Discription:

Fine Loose Clay/Sand Mixture

Samples taken on 8/30/99

SP-0051-082-0; SP-0051-[illegible]



Daily Sample Collection Log Sheet

Date: 9/7/99

Time: _____

Crew Members Present:	Function:
S. Kriegel	Field Leader
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCL/Metals Method: In SAP

Number of Samples Taken Today: 16

Sample Location: Stockpile

Weather: 85° Cloudy Rain

Sample ID's:

SP-0051-100-0	SP-0051-109-0	
SP-0051-100-1	SP-0051-110-0	
(QA) SP-0051-101-0	SP-0051-111-0	
MS/MSD SP-0051-102-0	SP-0051-111-1	
SP-0051-103-0	SP-0051-112-0 (QA)	
SP-0051-104-0	SP-0051-113-0	
SP-0051-105-0		
SP-0051-106-0		
SP-0051-107-0		
SP-0051-108-0		

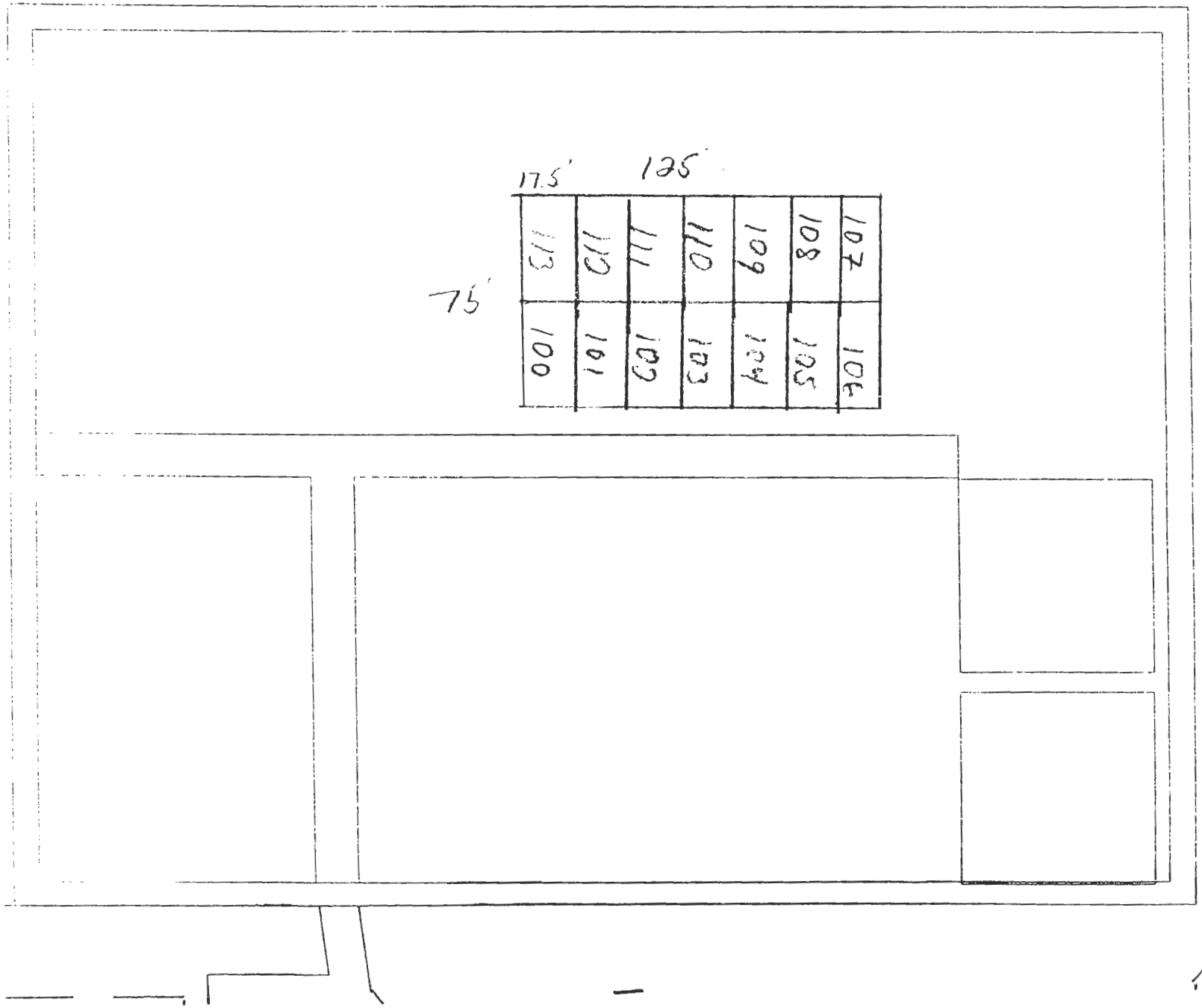
Soil Discription:

Clay/Sand

Sampling 9/7/99

SP-0051-100

SP-0051-



Daily Sample Collection Log Sheet

Date: 9/15/09

Time: _____

Crew Members Present:	Function:
S. Kireczyk	Field Leade
R. Liberto	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: in SAP

Number of Samples Taken Today: 20

Sample Location: Stockpile

Weather: 72° Clear

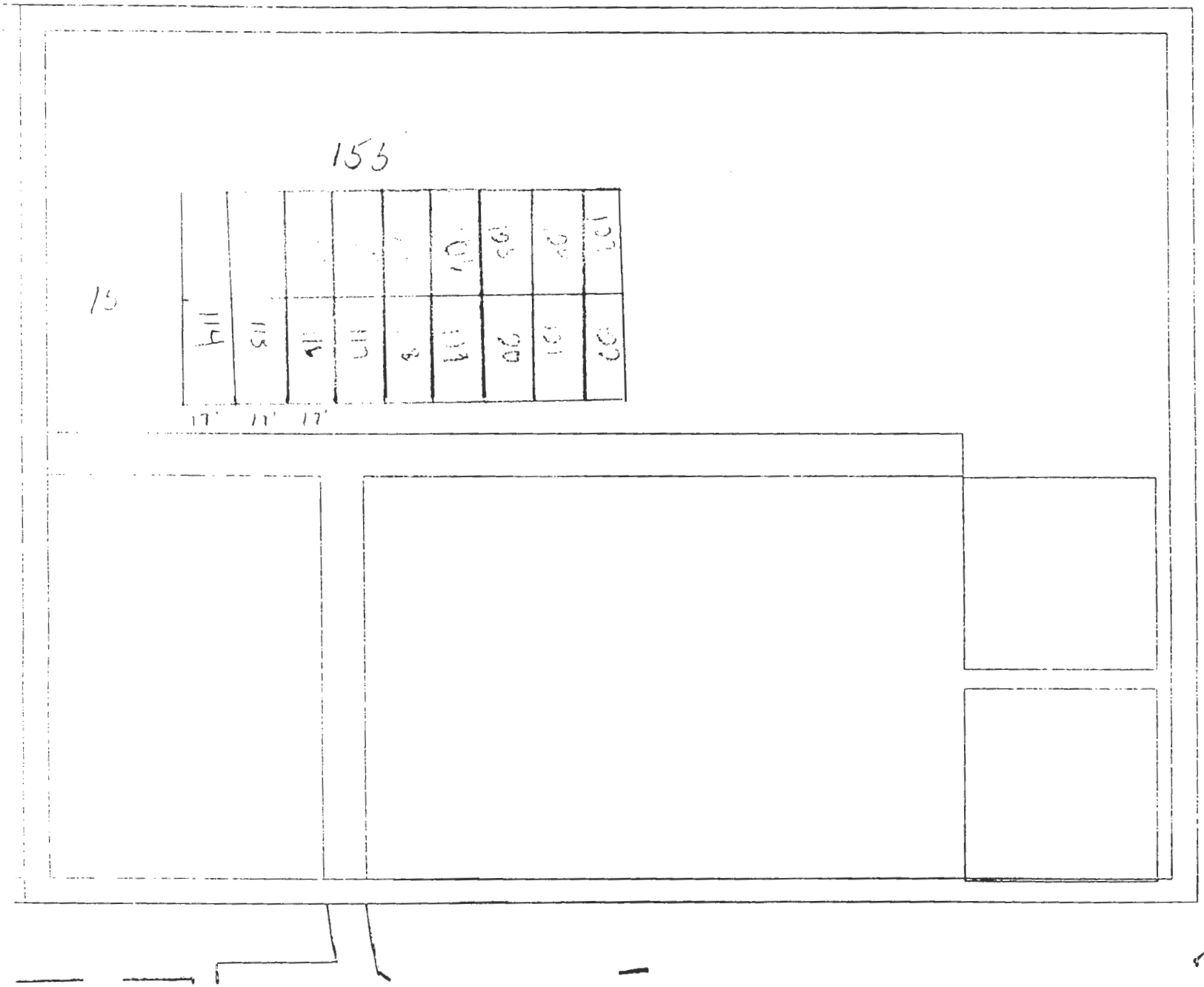
Sample ID's:

SP-0051-114-0	SP-0051-123-0	
SP-0051-115-0	SP-0051-124-0	
SP-0051-116-0	SP-0051-125-0	
SP-0051-117-0	SP-0051-126-0	
SP-0051-118-0	SP-0051-127-0	
SP-0051-119-0	SP-0051-128-0	
SP-0051-120-0	SP-0051-129-0	
SP-0051-120-01	SP-0051-130-0	
SP-0051-121-0 (QA)	SP-0051-130-1	
MS/MSD SP-0051-122-0	SP-0051-131-0 (QA)	

Soil Discription:

Clay/ Sand

Sampling 9/16/97



Daily Sample Collection Log Sheet

Date: 9/24/99

Time: _____

Crew Members Present:	Function:
S. Kirejczyk	Field Leader
R. Liberio	Laborer
D. Roy	QC Officer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 11

Sample Location: Stockpile

Weather: 70° Clear

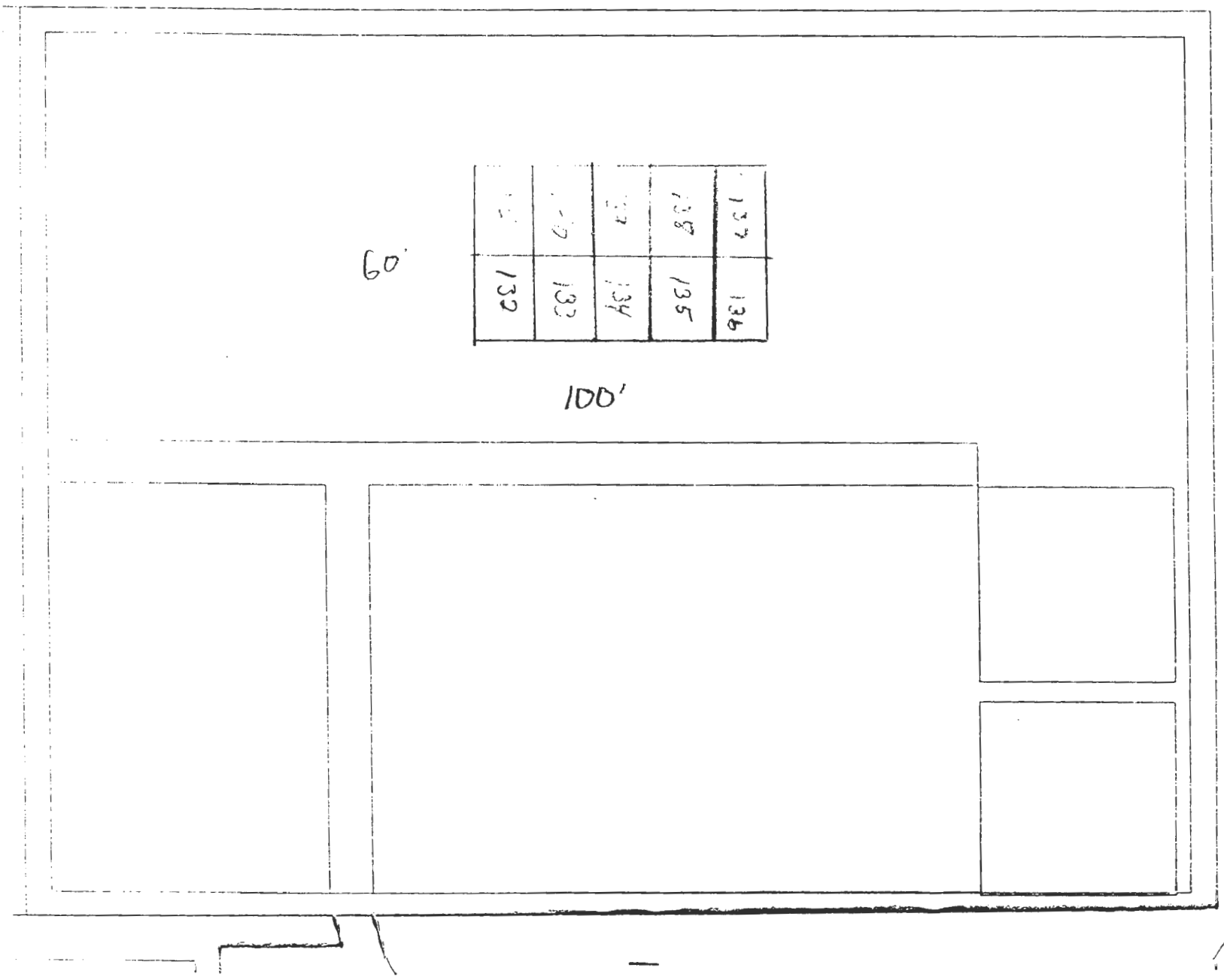
Sample ID's:

SP-0051-132-0	SP-0051-141-1	
SP-0051-133-0		
SP-0051-134-0		
SP-0051-135-0		
SP-0051-136-0		
SP-0051-137-0		
SP-0051-138-0		
SP-0051-139-0		
SP-0051-140-0		
SP-0051-141-0		

Soil Discription:

Clay/Sand mixture

Sample 9/24/84



Daily Sample Collection Log Sheet

Date: 10/12/99

Time: _____

Crew Members Present:	Function:
S. Kilczyk	Field Leader
K. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: in SAP

Number of Samples Taken Today: 14

Sample Location: Stockpile

Weather: 65° Sunny

Sample ID's:

	SP-0051-142-0	SP-0051-151-0	
	SP-0051-142-1	SP-0051-152-0	
QA	SP-0051-143-0	SP-0051-152-1	
MS/MSD	SP-0051-144-0	QA SP-0051-153-0	
	SP-0051-145-0		
	SP-0051-146-0		
	SP-0051-147-0		
	SP-0051-148-0		
	SP-0051-149-0		
	SP-0051-150-0		

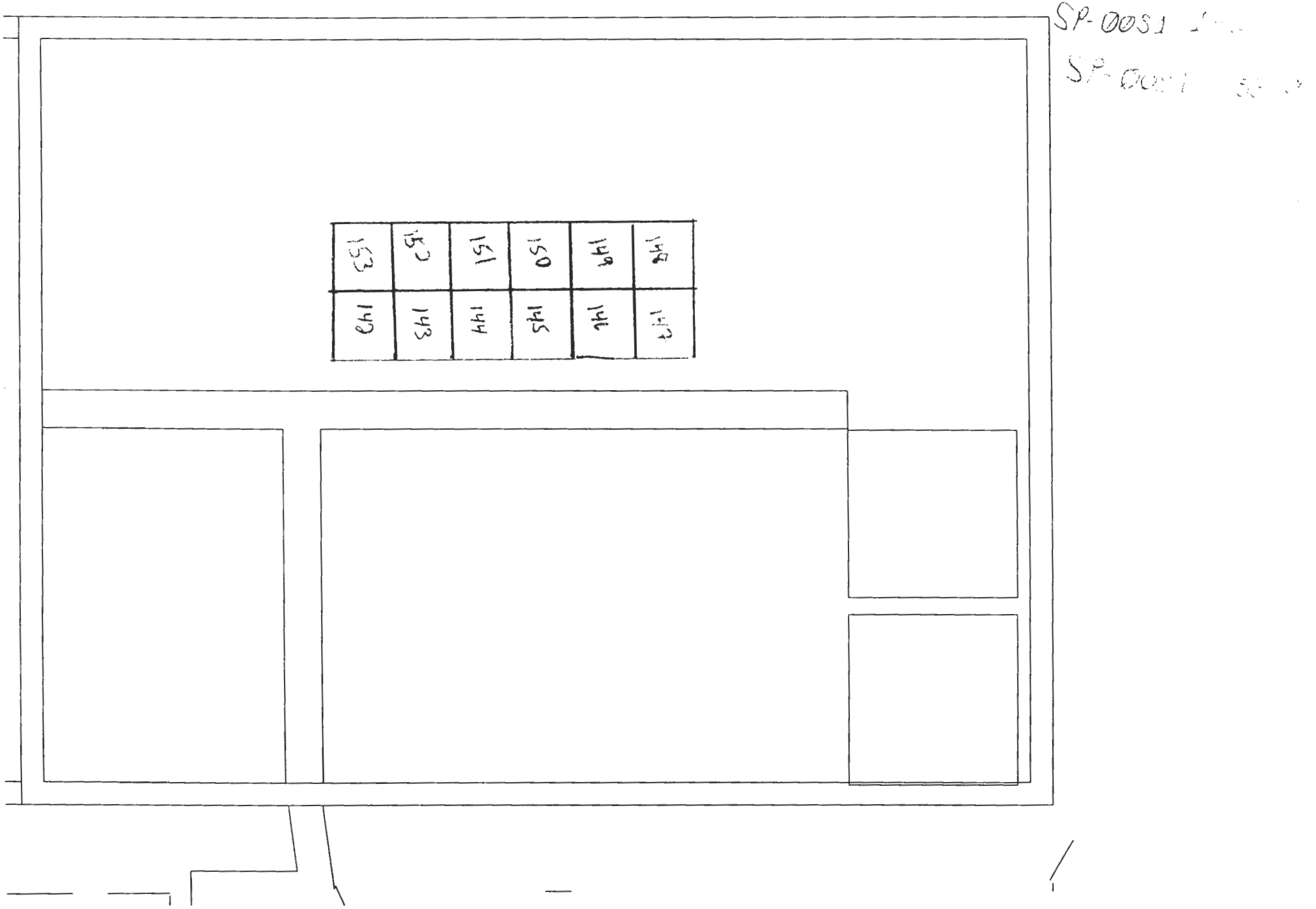
Soil Discription:

Clay/Sand Mixture

Sampling 10/12/99 Stockpile Samples

SP-0051

SP-0051



Daily Sample Collection Log Sheet

Date: 10/22/99

Time: _____

Crew Members Present:	Function:
S. Kiregczyk	Field Leader
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCL/Metals Method: in SAP

Number of Samples Taken Today: 33

Sample Location: _____

Weather: 58° ~~Cloudy~~ mix sun/clouds Windy 63°≈

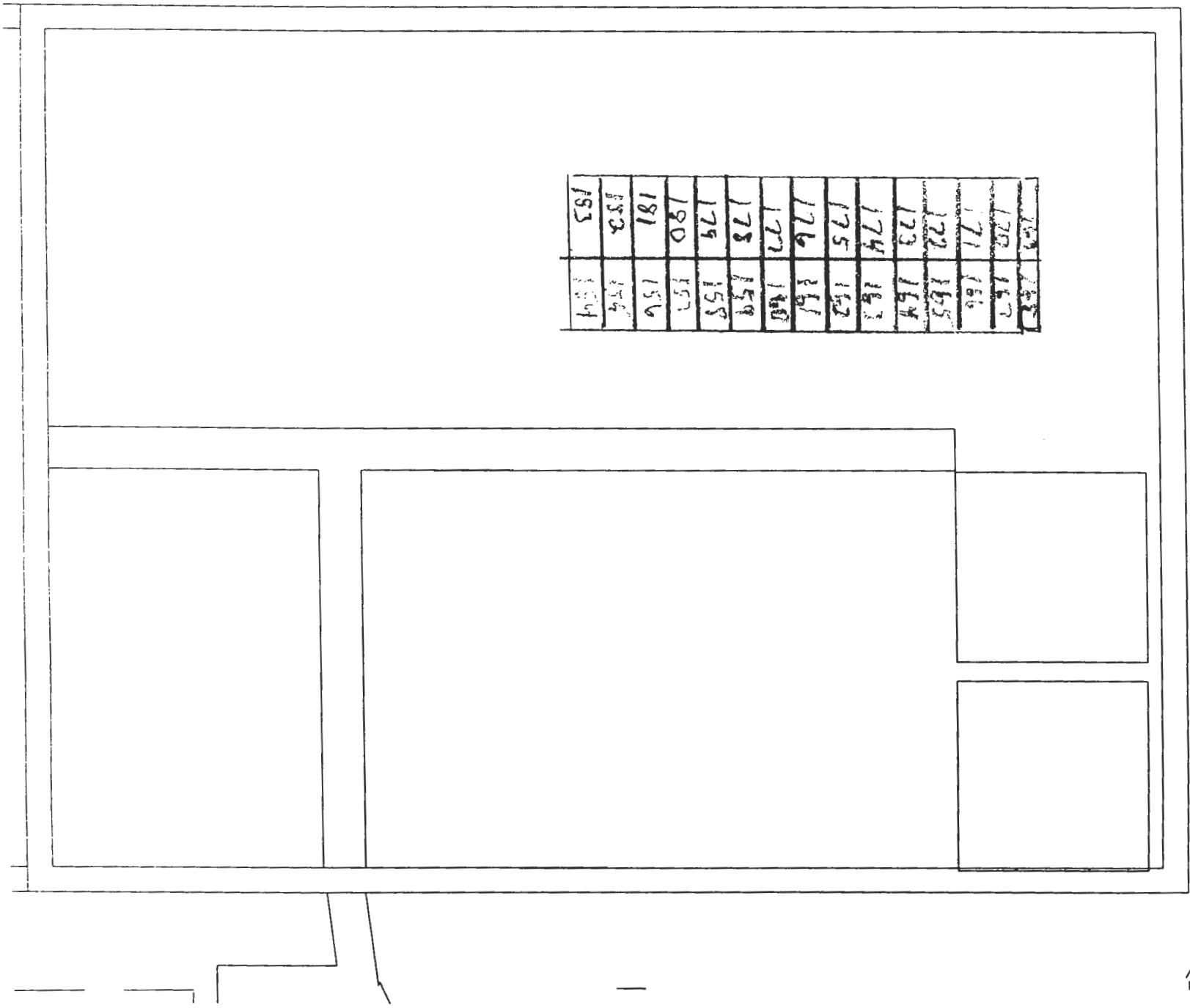
Sample ID's:

SP-0051-154-0
SP-0051-154-1
QA SP-0051-155-0
MS/MSD SP-0051-156-0
SP-0051-157-0
SP-0051-158-0
SP-0051-159-0
SP-0051-160-0
SP-0051-161-0
SP-0051-162-0
SP-0051-162-1
QA SP-0051-163-0
SP-0051-164-0
SP-0051-165-0
SP-0051-166-0
SP-0051-167-0
SP-0051-168-0
SP-0051-169-0
SP-0051-170-0
SP-0051-171-0
SP-0051-172-0
SP-0051-173-0
SP-0051-173-1
QA SP-0051-174-0
SP-0051-175-0
SP-0051-176-0
SP-0051-177-0
SP-0051-178-0
SP-0051-179-0
SP-0051-180-0
SP-0051-181-0
SP-0051-182-0
SP-0051-183-0

Soil Discription:

Clay/ Sand Loose Mixture

Sampling 10/23/89



Daily Sample Collection Log Sheet

Date: 10/29/99

Time: _____

Crew Members Present:	Function:
S. Kirejczyk	Field Leader
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCL/Metals Method: In SAP

Number of Samples Taken Today: 13

Sample Location: Stockpile

Weather: 67° Sunny

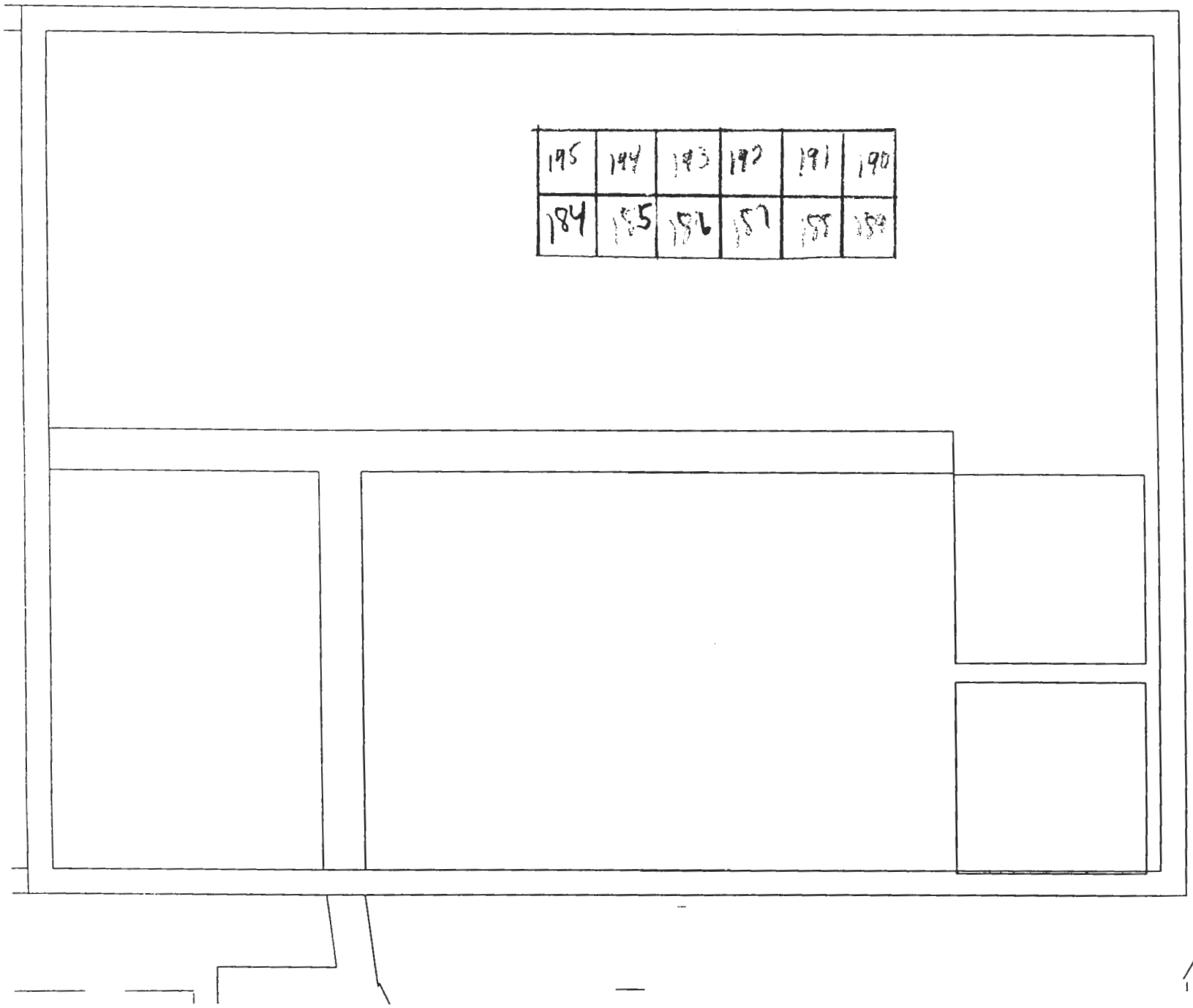
Sample ID's:

SP-0051-184-0	SP-0051-193-0	
SP-0051-185-0	SP-0051-194-0	
SP-0051-184-1	SP-0051-195-0	
SP-0051-186-0		
(QA) SP-0051-187-0		
MS/MSD SP-0051-188-0		
SP-0051-189-0		
SP-0051-190-0		
SP-0051-191-0		
SP-0051-192-0		

Soil Discription:

Fine Clay / Sand Clumpy due to A little Dampness

October



Daily Sample Collection Log Sheet

Date: 11/10/99

Time: _____

Crew Members Present:	Function:
S. Kirejczyk	Field Leader
R. Liberto	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 19

Sample Location: Center + South East Stockpile

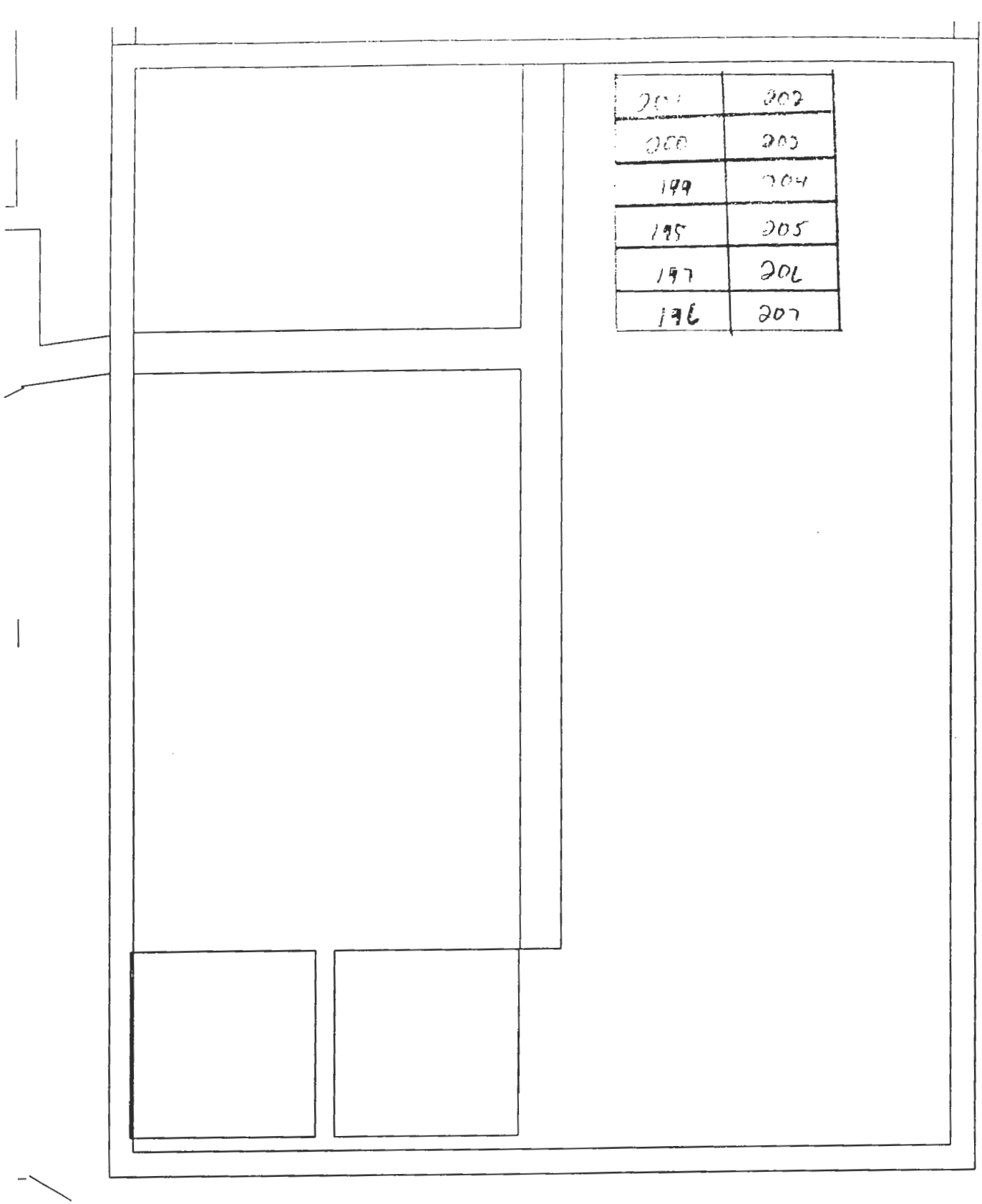
Weather: 65° Sunny in Morning Rain PM

Sample ID's:

SP-0050-001-0	SP-0051-199-0	
SP-0050-002-0	SP-0051-200-0	
SP-0050-003-0	SP-0051-201-0	
SP-0050-004-0	SP-0051-202-0	
SP-0050-005-0	SP-0051-203-0	
SP-0050-006-0	SP-0051-204-0	
SP-0051-196-0	SP-0051-205-0	
SP-0051-196-1	SP-0051-206-0	
SP-0051-197-0	SP-0051-207-0	
SP-0051-198-0		

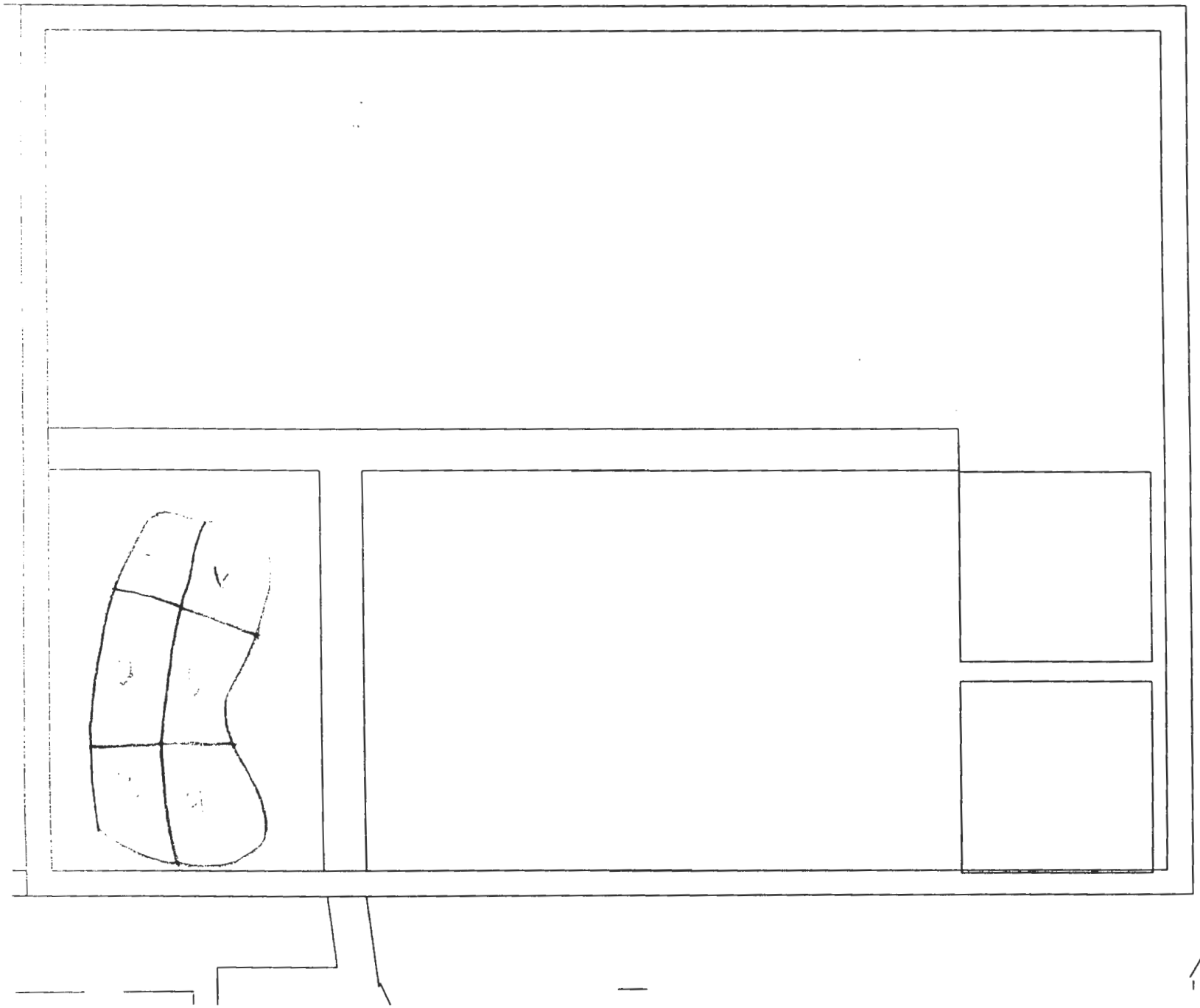
Soil Discription:

Creek Sample Saturated + very rocky
Soil Sample Clay/Sand mixture Clumps from cold.



11/10/99

Creek
Stockpile 11/10/94



Daily Sample Collection Log Sheet

Date: 11/12/99

Time: _____

Crew Members Present:	Function:
S. Kinyon	Field Lead
R. Libano	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 9

Sample Location: Center Stockpile

Weather: 46° Cloudy

Sample ID's:

	SP-0051-208-0		
	SP-0051-208-1		
QA	SP-0051-209-0		
	SP-0051-210-0		
	SP-0051-211-0		
	SP-0051-212-0		
	SP-0051-213-0		
	SP-0051-214-0		
	SP-0051-215-0		

Soil Discription:

Damp Clay/Sand Mixture

212
211
213
210
214
209
215
208

Daily Sample Collection Log Sheet

Date: 11/17/99

Time: _____

Crew Members Present:	Function:
S. Kirkpatrick	Field Geol.
K Liberg	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 16

Sample Location: Middle Stockpile

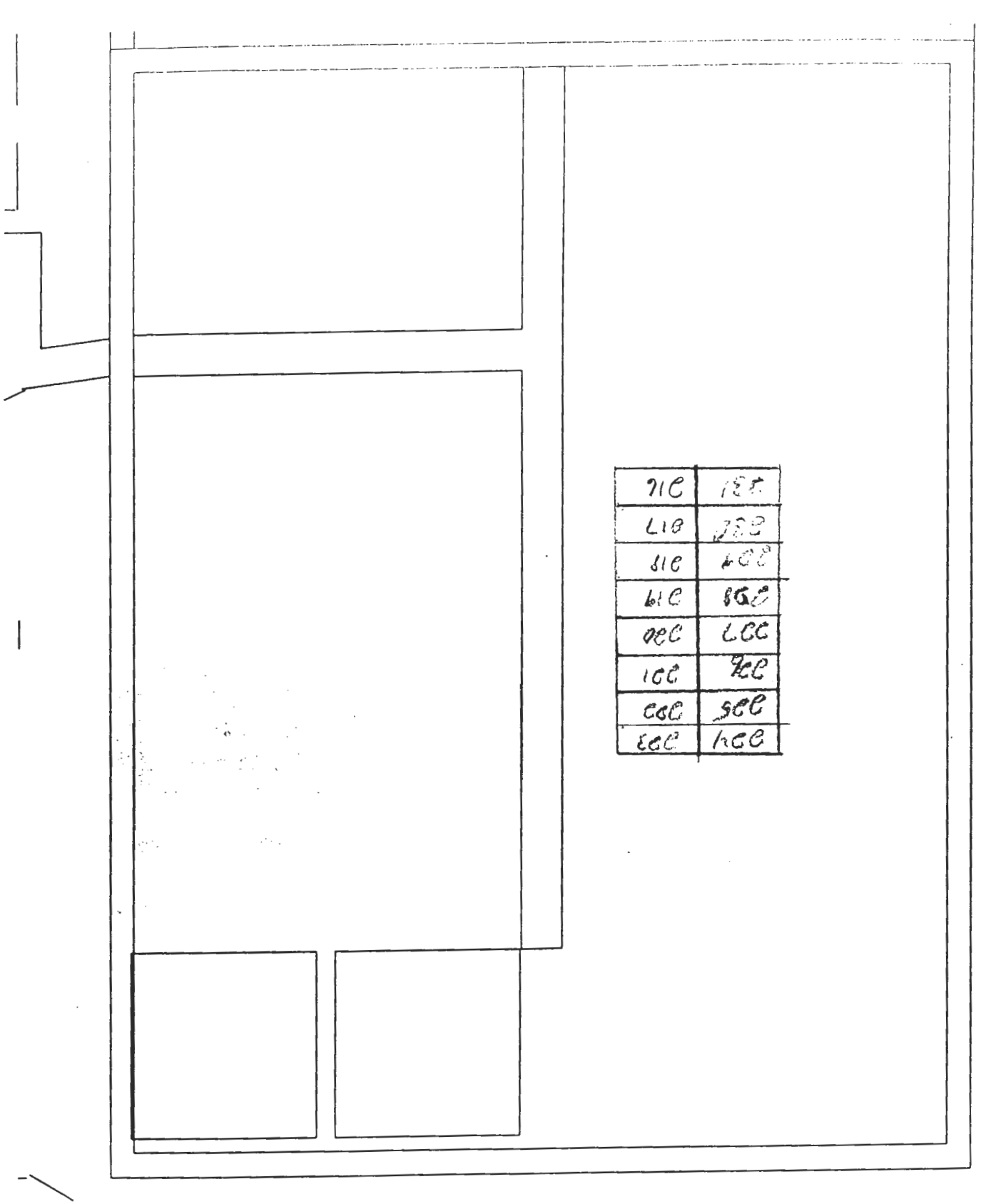
Weather: 38° light Snow Flurries

Sample ID's:

SP-0051-216-0	SP-0051-226-0	
SP-0051-217-0	SP-0051-227-0	
SP-0051-218-0	SP-0051-228-0	
SP-0051-219-0	SP-0051-229-0	
SP-0051-220-0	SP-0051-230-0	
SP-0051-221-0	SP-0051-231-0	
SP-0051-222-0		
SP-0051-223-0		
SP-0051-224-0		
SP-0051-225-0		

Soil Discription:

Clay/Silt. Clumpy due to dump + freezing Weather



71C	1ET
L1B	2EE
81C	4CE
61C	8GE
0EC	LCC
1CC	ZE
C8C	9EE
CEC	1CE

Daily Sample Collection Log Sheet

Date: 11/23/99

Time: _____

Crew Members Present:	Function:
S. Kinet Cook	Field Lead
R. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: In SAP

Number of Samples Taken Today: 7

Sample Location: Center Stockpile

Weather: 65° Sunny Clear

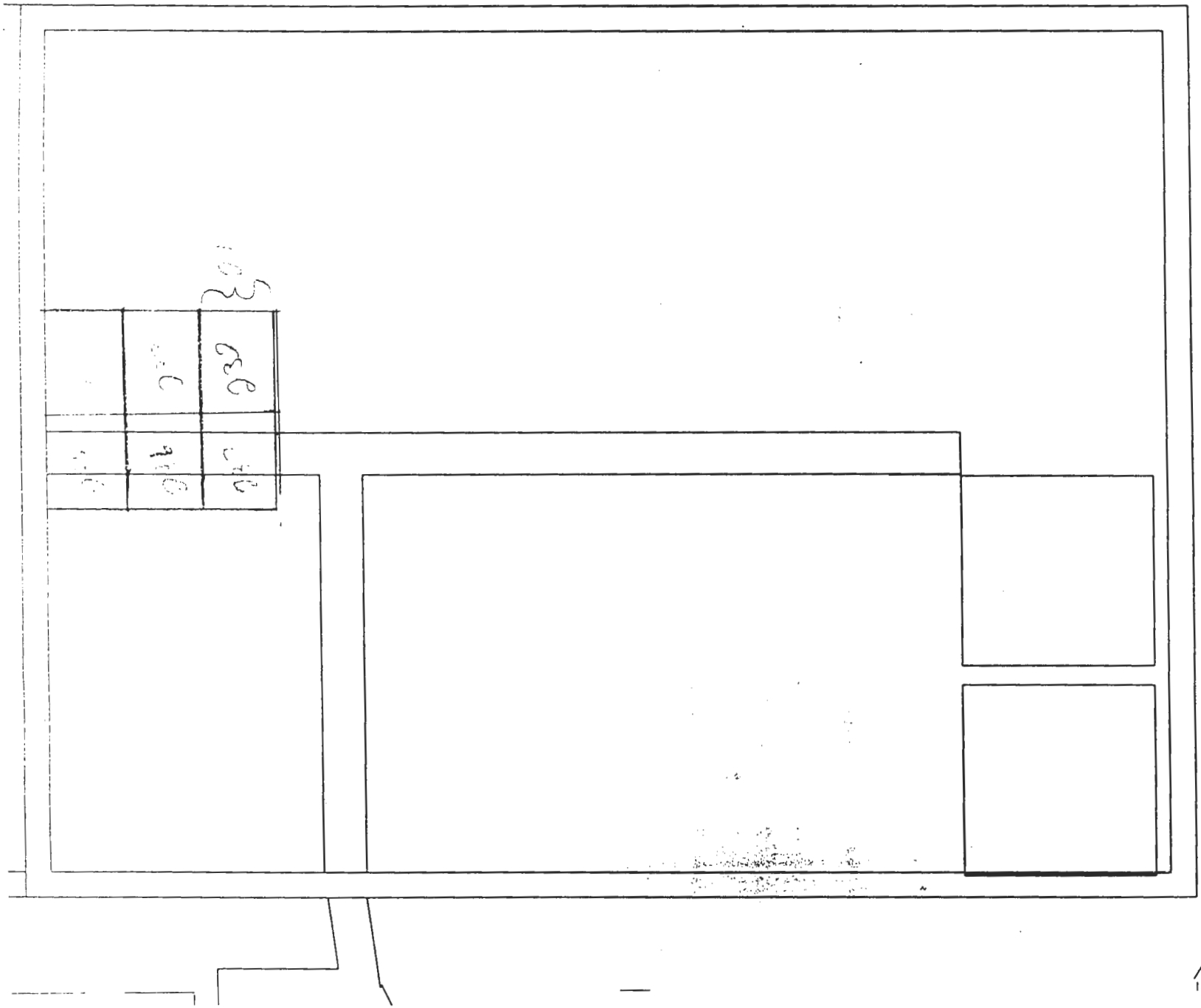
Sample ID's:

SP-0051-232
SP-0051-233-1
QA ~~MS/MSD~~ SP-0051-233-0 (QA)
~~MS/MSD~~ ~~QA~~ SP-0051-234-0
SP-0051-235-0
SP-0051-236-0
SP-0051-237-0

Soil Discription:

Clumpy Frozen Clay/Sand Mixture

11/23/99



Daily Sample Collection Log Sheet

Date: 12/21

Time: _____

Crew Members Present:	Function:
S. Kirejczyk	Field Leader
L. Liberio	Laborer

Sample is Being Analyzed for:

Analysis: Full TCLP Method: in SAP

Number of Samples Taken Today: 10

Sample Location: Stockpile

Weather: Cloudy + Cold 30°

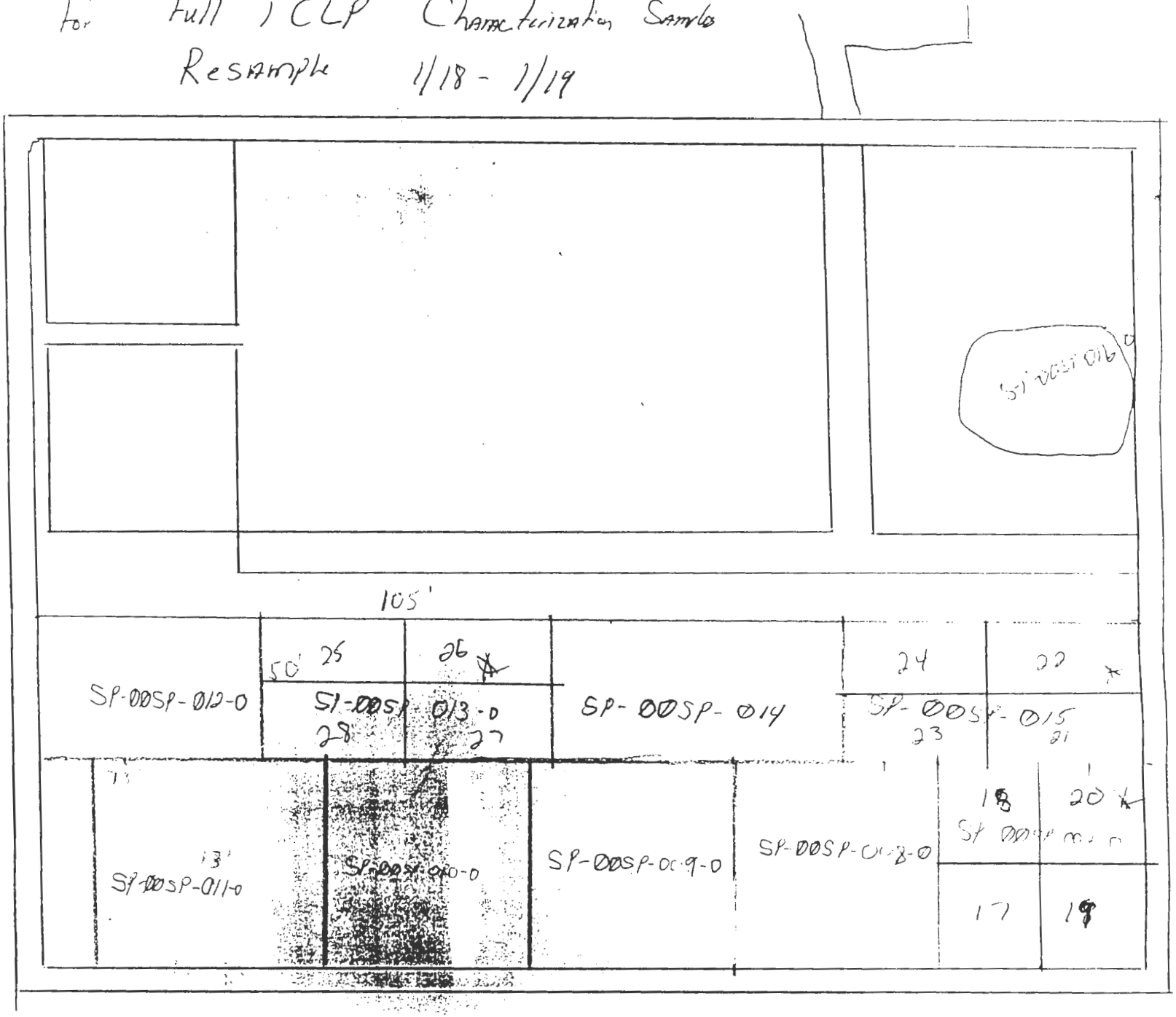
Sample ID's:

	SP-00SP-007-0		
	SP-00SP-008-0		
	SP-00SP-009-0		
	SP-00SP-010-0		
	SP-00SP-011-0		
	SP-00SP-012-0		
	SP-00SP-013-0		
	SP-00SP-014-0		
QA	SP-00SP-015-0		
	SP-00SP-016-0		

Soil Discription:

Lumpy + moist Clay/Sand

Samples For Full TCLP Characterization Sample
Resample 1/18 - 1/19



Daily Sample Collection Log Sheet

Date: 1/18/00

Time: _____

Crew Members Present:	Function:
S. Kirejczyk	Field Leader
E. Citaldi	QA/ Help

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: SW

Number of Samples Taken Today: 5

Sample Location: Stockpile

Weather: Clear Cold No Wind 10°

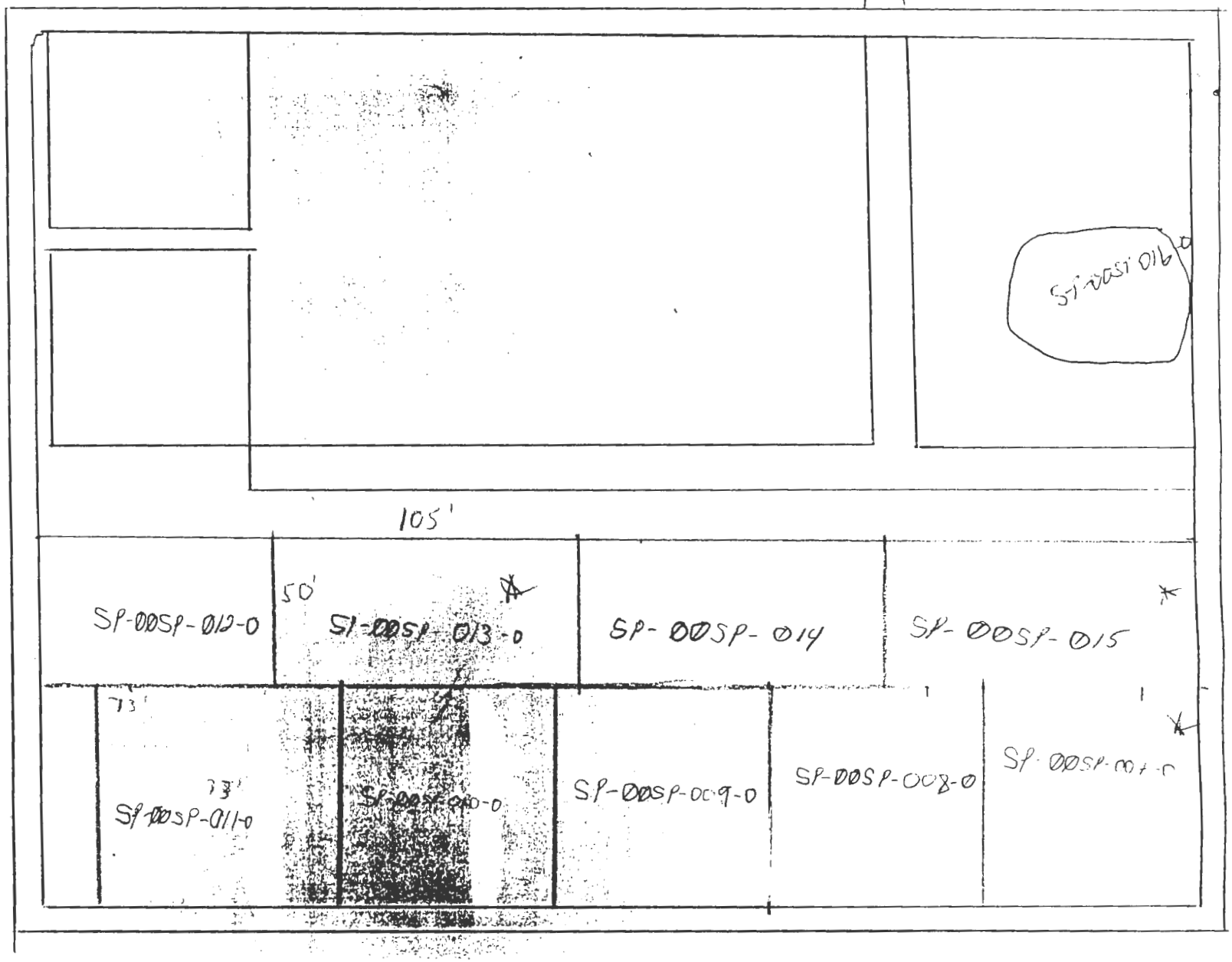
Sample ID's:

QA	SP-00SP-017-0		
QA	SP-00SP-018-0		
QA	SP-00SP-019-0		
QA	SP-00SP-020-0		
QA	SP-00SP-021-0		
QA	SP-00SP-022-0		

Soil Discription:

Frozen Clay/Sand

Samples For Full TCLP Characterization Samples



Daily Sample Collection Log Sheet

Date: 1/19/00

Time: _____

Crew Members Present:	Function:
S. Kirejczyk	Field Leader
B. Liberio	Laborer
E. Cifaldi	QA

Sample is Being Analyzed for:

Analysis: TCLP Metals Method: SAP

Number of Samples Taken Today: 10

Sample Location: Stockpile

Weather: Cloudy, Cold, Snow, 20°

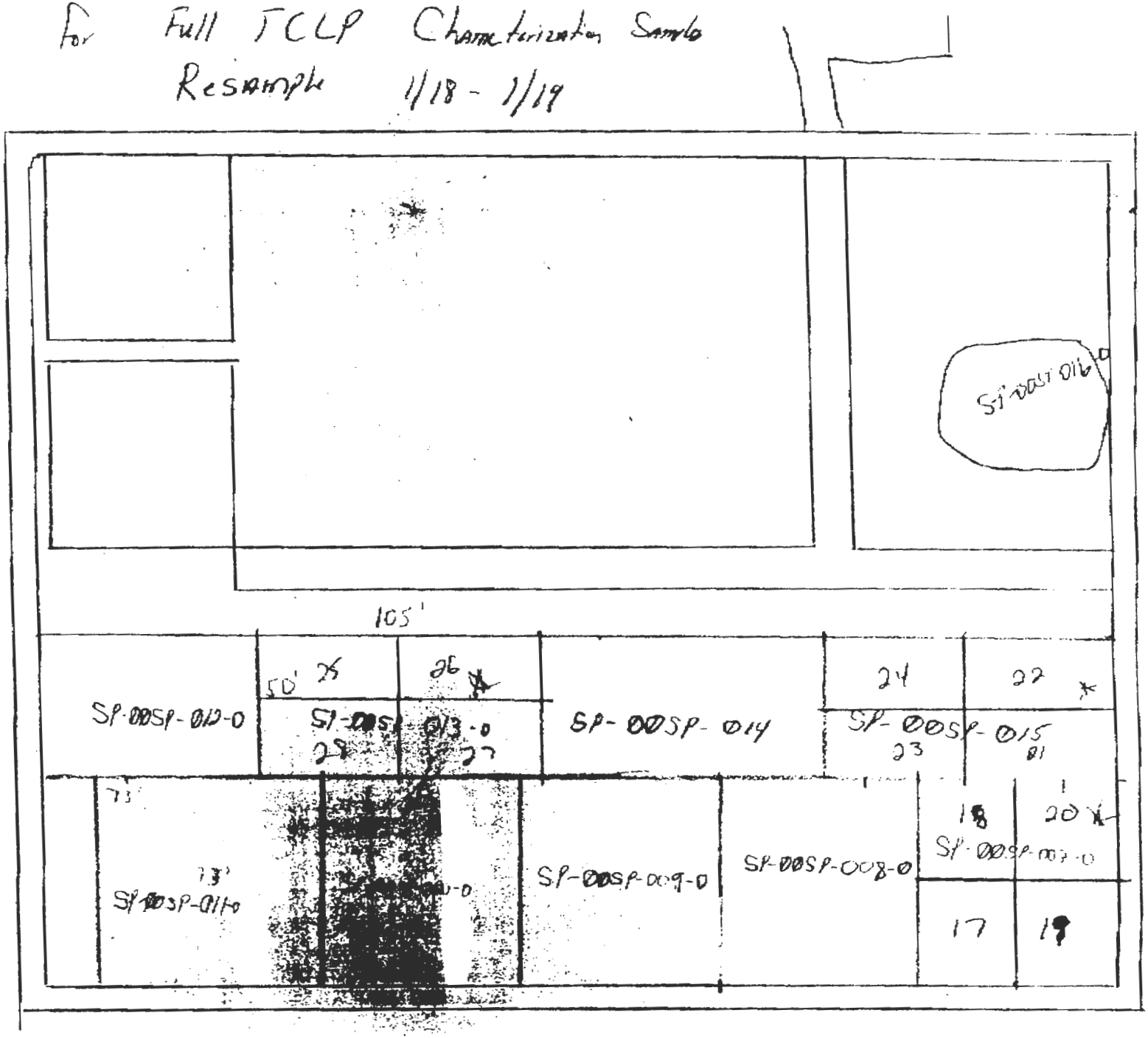
Sample ID's: (SP)

	~~QA SP-0051-022-0~~		
Dup	QA SP-0051-023-0		
	QA SP-0051-024-0		
	QA SP-0051-025-0		
MS/MSD	QA SP-0051-026-0		
	QA SP-0051-027-0		
	QA SP-0051-028-0		
	SP-0051-238-0		
	SP-0051-239-0		
	SP-0051-240-0		

Soil Discription:

Frozen Clay/Sand Mixture

Samples for Full TCLP Characterization Sample
Resample 1/18 - 1/19



Roy F. Weston, Inc.
1 Wall Street
Manchester, NH 03101-1501
603-656-5400 • Fax 603-656-5401
www.rfweston.com

21 July 2000

Ecology and Environment, Inc.
Analytical Services Center
4493 Walden Avenue
Lancaster, New York 14086

Attention: Ms. Colleen C. Mullaney-Westfall

Re: Seneca Army Depot Activity
Laboratory Services (P.O. No. 99294L)

Dear Ms. Mullaney-Westfall:

Roy F. Weston, Inc. (WESTON®) is in receipt of Ecology and Environment, Inc.'s letter dated 29 June 2000. This letter is provided in order to respond to the items addressed in E & E's letter. Laboratory Services provided by E & E to date, have been performed as stated in the subcontract, however, all services relating to TCLP analysis have been descoped due to discrepancies in E & E's data. A separate letter will be forwarded to E & E by 28 July 2000 to clarify our position on the data discrepancies in order to resolve issues relating to remitted payments and outstanding invoices.

No additional samples have been submitted to E & E since all current activities at the site involve analysis for TCLP metals. In addition, future analytical services at the Seneca Army Depot may be required by E & E, however, this effort depends on our current schedule, scope of activities, and resolution status.

WESTON looks forward to resolving the invoicing issues with E & E as soon as possible. Please call me at (603) 656-5428 if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Christopher G. Kane
Project Manager

Cc: T. Bogalin (E & E)
M. Kenney (E & E)
M. Wojtas (CENAE)
M. Koenig (CENAE)
D. Quigley (WESTON)
M. McCarley (Site)

G:PROJECTS\03886118\013\LETTERS\E&EINV2

ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

August 14, 2000

Christopher Kane, Project Manager
Roy F. Weston, Inc.
One Wall Street
Manchester, NH 03101-1501

Re: Seneca Army Depot Site
Laboratory Services (your P.O. No. 99294L)

Dear Mr. Kane:

Ecology & Environment, Inc. (E & E) is in receipt of your letter dated July 28, 2000, responding to E & E's letter of June 29, 2000, regarding outstanding invoices and Roy F. Weston, Inc.'s (Weston) apparent partial termination of E & E subcontract No. 99294L. E & E understands that Weston's response letter is now making a claim against E & E, but still not providing notice of terminating E & E as required under our contract. E & E cannot respond to Weston's claims without further evaluation of the issues.

E & E again requests requisite information in order to fully evaluate the argument Weston has set forth. Additionally, E & E contends that Weston has not addressed Weston's breach of this subcontract. Weston has not adequately explained why it has not paid E & E for all services rendered, even though it has essentially, though not formally, terminated E & E, for what Weston now appears to be arguing is cause, without proper notice, nor an opportunity to cure. E & E does not agree that Weston has cause for terminating E & E.

E & E has continuously cooperated and provided information to Weston regarding this matter, while Weston has repeatedly withheld requested information or has provided only partial disclosure. For instance, on December 2, 1999, the Corps and Weston, represented by David Lubianez and Bob Bentley respectively, performed an audit of TCLP and total lead analysis. No negative findings were indicated in the audit debriefing and Mr. Bentley was complementary of E& E's documentation, knowledge and staff expertise. Additionally, Weston continued to forward samples to E & E for analysis for about one month after the Audit, confirming E & E's understanding that the audit revealed that E & E was in full compliance with the required analytical method.

Although E & E has requested a copy of the U.S. Army Corp of Engineers and Weston Audit, Weston has not provided it.

Weston has not delivered upon reasonable request copies of STL's and ESS's split sample analysis results and lab audits, if any, despite E & E's cooperation in providing all information requested. E & E has diligently attempted to resolve this matter, while Weston has ceased forwarding work to E & E without proper notice, sufficient justification or full payment for services rendered.

Kindly now forward the following documentation to me by August 31, 2000, so that E & E may appropriately comment on Weston's claims and fully analyze the merits of Weston's apparent partial termination of TCLP services.

1) A copy of the audit report prepared by Mr. Robert Bentley (Analytical Balance for Weston) and Mr. David Lubianez (USACE) from their audit of E & E's laboratory on December 2, 1999. (A copy of the audit report was requested by E & E at the debrief held that day and has not been received to date.)

2) Likewise, a response as to whether the QA and third party laboratories (STL and ESS) were audited regarding the TCLP issue. If the response is affirmative for one or both, a copy of the audit report(s) is requested. If the response is negative for one or both, please provide an explanation as to why an audit was not deemed necessary.

3) Weston's letter provides selected data from the samples split between E & E and STL; and mentions (but does not provide data from) samples split between E & E and ESS. We request a full tabulation of <u>all</u> split samples for <u>all</u> data including qualifiers: this would include samples split two ways (i.e., between E & E and STL; between STL and ESS; and between E & E and ESS) and samples split three ways.

4) A copy of the performance evaluation "true values" for the QA sample "QC-00SP-001-0" shipped to E & E on 11/5/99, accompanied by a table listing results obtained by E&E, STL and ESS for this sample.

5) A copy of the standard operating procedure (SOP) for the splitting of samples between E & E and STL and/or ESS as followed at the Seneca Army Depot Activity.

6) A copy of ESS and STL's SOP for performing the TCLP extraction as written in EPA Method 1311 for comparison to E & E's SOP which has been previously provided to Weston. Actual copies of the TCLP extraction prep logs from STL and ESS for samples that were analyzed by all three labs is also requested. Information on extraction fluid used, pH of fluid, elapsed time of extraction, etc. can then be compared.

Only with this information can E & E properly evaluate Weston's position and offer a prudent response. Weston argues that E & E's data are somehow flawed because they did not agree with two other laboratories' data on similar samples. This is despite the fact that E & E 's analytical procedures were opened fully to Weston and the Corps who found no shortcomings or failures to comply with regulatory analytical methods. E & E has not been advised of any similar scrutiny of procedures at the other laboratories. Weston's decision to dismiss E & E's data, at very considerable cost to us, is not justified by the facts available to us. We request the opportunity to evaluate properly and fully the data against which our data are being compared.

Please do not hesitate to contact me with any questions you may have at (716) 684-8060, ext. 2750. Thank you for your anticipated cooperation in resolving this matter.

Very truly yours,
Ecology & Environment, Inc.

Colleen C. Mullaney-Westfall

Cc: Dominic Mattioni, Weston
Diane Quigley, Weston
Robert Bently, Weston
R. Rico, Weston
Tom Battaglia, CENAN
William Ebersbach, CENAN
Michelle Brock, CENAE
Mark Koenig, CENAE
Tony Bogolin, E & E

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28 July 2000

Ecology and Environment, Inc.
Analytical Services Center
4493 Walden Avenue
Lancaster, New York 14086

Attention: Ms. Colleen C. Mullaney-Westfall

Re: Seneca Army Depot Activity
Laboratory Services (P.O. No. 99294L)

Dear Ms. Mullaney-Westfall:

Pursuant to Ecology and Environment, Inc.'s (E & E's) letter dated 29 June 2000 and Roy F. Weston, Inc.'s (WESTON's) response letter dated 21 July 2000, WESTON is summarizing the E & E TCLP metals data discrepancies in order to resolve the current invoicing issues. Background information regarding the discrepancies, a data summary, a list of cost/schedule impacts, and a course of action are detailed below in order to clarify WESTON's position on the subject matter:

Background:

WESTON has used the TCLP metals data received from Ecology and Environment, Inc. from July 1999 through December 1999 to segregate 200 cy stockpiles into two larger separate stockpiles (for soil segregation and characterization purposes), depending on the concentrations of the TCLP metals sample results. Based on this data, all of the soil passing the hazardous characteristic criteria for metals is placed into one stockpile while soil failing the hazardous characteristic criteria for metals is placed into another stockpile. Through December 1999, WESTON stockpiled approximately 25,000 cy of non-hazardous soil and 9,000 cy of hazardous soil based on data received by E & E for TCLP metals (for data received between July 1999 and December 1999). Based on a review of E & E's data in comparison to QA and third party laboratory TCLP metals data, it was necessary for WESTON to reject all of E & E TCLP metals data (due to the significant amount of discrepancies) and was required to resample the entire volume of stockpiled soils over again. Due to this extensive resampling effort, the project schedule was delayed by over 2 months and WESTON incurred additional direct costs (laboratory analytical) and indirect costs (equipment and labor) to the project. A summary of the data and cost impacts is provided in the following paragraphs.

Data Summary:

WESTON collected and analyzed over 290 TCLP metals samples for stockpile segregation purposes between July 99 and December 99 and approximately 10 full TCLP samples for waste characterization in December 1999. Inconsistencies in the data were first evident upon review of

the first 3 sampling events occurring between 14 July 1999 and 29 July 1999. A total of 16 samples with high total lead concentrations between 784 mg/kg and 5870 mg/kg resulted in non-detects for TCLP lead for samples collected on 14 July 1999 while a total of 4 samples with total lead concentrations of between 1780 mg/kg and 4550 mg/kg resulted in TCLP lead concentrations between 5.59 mg/l and 27.7 mg/l for samples collected on 19 July 1999. E & E provided no explanation in the data gap in order to clarify the discrepancies in total lead and TCLP lead. At this point, WESTON notified the USACE of the discrepancies and requested results of QA samples that had been sent to STL in Vermont.

In reviewing E & E's TCLP metals data with the USACE QA laboratory (STL) data, major and minor discrepancies were reported in almost every data set. As an example, in eleven QA samples, all barium and lead results between E & E and STL resulted in major or minor discrepancies, i.e., STL's results were extremely higher in all cases. In most cases, E & E did not even detect TCLP lead or low concentrations of barium with respect to STL's concentrations. In 7 of the 11 cases, TCLP lead data as reported by STL was over the 5-mg/l regulatory criteria that determined whether the soil would be stockpiled as non-hazardous or hazardous. Since the accuracy of the data for TCLP metals is a critical factor in determining the criteria for offsite disposal, and the data as reported by E & E contained discrepancies (in every sample), it was necessary for WESTON to recharacterize the stockpile over again.

TABLE 1

SAMPLE ID	DATE	METAL	PRIMARY LAB (E & E) (mg/l)	QA LAB (mg/l)	DISCREPANCY
SP-00S1-003	7-14-99	Ba	4.08	17.4	Major
		Cd	<.015	.0466	Major
		Pb	<.15	13.0	Major
SP-00S1-014	7-14-99	Ba	.702	2.8	Major
		Cd	<.015	.0959	Major
		Pb	<.15	3.050	Major
SP-00S1-034	8-2-99	Ba	.708	6.07	Major
		Cd	<.015	.0311	Minor
		Pb	<.15	12.5	Major
SP-00S1-044	8-6-99	Ba	2.58	8.89	Major
		Cd	<.015	.0487	Major
		Pb	<.15	5.7	Major
SP-00S1-053	8-10-99	Ba	4.18	11.00	Minor
		Cd	<.015	.0596	Major
		Pb	<.15	35.2	Major
SP-00S1-057	8-13-99	Ba	1.92	8.65	Major
		Cd	<.015	.0596	Major
		Pb	<.15	27.2	Major
SP-00S1-067	8-10-99	Ba	.728	6.52	Major
		Cd	<.015	.046	Major
		Pb	<.15	16.7	Major
SP-00S1-101	9-7-99	Ba	.573	24.4	Major

		Pb	<.15	3.66	Major
SP-00S1-112	9-7-99	Ba	.888	4.35	Major
		Pb	<.15	2.28	Major
SP-00S1-121	9-15-99	Ba	1.25	6.19	Major
		Pb	<.15	6.85	Major
SP-00S1-131	9-15-99	Ba	1.5	5.05	Major
		Pb	<.15	3.88	Major
		Hg	.0236	<.01	Minor

Following a review of the characterization data, E & E's results were either found to be extremely low or non-detect in all 10 samples for lead and barium (see ID No.'s SP-00SP-007 through SP-00SP-016 in Table 2). Due to the continuing trend in the data (E & E consistently reporting significantly lower results), all 10 samples were submitted to STL and ESS for reanalysis. Results from both STL (QA lab) and ESS (third party lab) were extremely higher for lead and barium and in most cases were compatible to each other while the E & E data failed to meet the comparison criteria with STL. WESTON realizes that some variability in data exists between STL and ESS either because of matrix non-homogeneity or method variability. However the variances were for lead only, were never in one direction, and were minor only. The fact that all three TCLP metals (barium, cadmium and lead) failed comparison criteria consistently, indicates a serious extraction problem at E & E.

TABLE 2

SAMPLE ID	DATE	METAL	PRIMARY LAB (E & E) (mg/l)	QA LAB (mg/l)	DISCREPANCY
SP-00SP-007	12/21/99	Pb	<.15	9.03	Major
		Ba	.368	7.03	Major
		Cd	<.015	.05	Major
SP-00SP-008	12/21/99	Pb	<.15	12.3	Major
		Ba	.660	6.23	Major
		Cd	<.015	.03	Minor
SP-00SP-009	12/21/99	Pb	<.15	3.88	Major
		Ba	.74	8.42	Major
		Cd	<.015	.03	Minor
SP-00SP-010	12/21/99	Pb	<.15	2.26	Major
		Ba	1.04	9.89	Major
		Cd	<.015	.03	Minor
SP-00SP-011	12/21/99	Pb	<.15	1.63	Major
		Ba	.54	10.8	Major
		Cd	<.015	.03	Minor
SP-00SP-012	12/21/99	Pb	<.15	.5	Major
		Ba	.302	6.8	Major
SP-00SP-013	12/21/99	Pb	<.15	10.7	Major
		Ba	.287	4.9	Major

		Cd	.015	.04	Minor
SP-00SP-014	12/21/99	Pb	<.15	15.5	Major
		Ba	.477	6.2	Major
SP-00SP-015	12/21/99	Pb	<.15	6.37	Major
		Ba	.278	3.62	Major
SP-00SP-016	12/21/99	Pb	<.15	1.28	Major
		Ba	.227	3.11	Major

Due to the discrepancies in E & E's TCLP data (consistently low and/or non-detect results with a variance of greater than 300% vs. QA lab data), Weston has had to resample approximately 25,000 cy of soil that was originally segregated and characterized as "non-hazardous" based on E & E TCLP metals data. As a result, the schedule for Transportation and Disposal of soil was delayed by over 2 months. In addition, WESTON has had to incur multiple direct and indirect costs as a result of the data discrepancies and invalid data. The cost impacts are described below:

Direct Costs:

1) Invalid E & E TCLP metals analytical data (over 300 TCLP metals samples)
2) Additional analytical costs for a separate laboratory to perform re-analysis of TCLP metals samples

Indirect Costs:

3) Two separate conference calls held with USACE
4) WESTON and USACE performed audit of E & E
5) Field costs associated with moving 25,000 cy of soil that was characterized (based on biased low invalid E & E TCLP metals data), additional soils handling for sample collection, additional stockpile segregation based on valid ESS and QA lab data.
6) Shipping costs associated with additional QA data (independent of USACE analytical costs)

In summary, the discrepancies in TCLP metals data for samples submitted to E & E to date has resulted in the data being rejected due to the extremely low bias and variance as compared with QA data. Neither WESTON or its client have been able to use the TCLP metals data produced by E & E. In addition, the resampling effort has caused WESTON to incur a number of direct and indirect costs (beyond the primary analytical costs) as a result of the E & E discrepancies (see list of costs above). In accordance with Section 17 (Data Validity) of the Subcontract Agreement, WESTON requests a credit for all outstanding TCLP metals invoices. In addition, multiple TCLP metals invoices have already been paid in full and remitted to E & E prior to the receipt of the QA data. WESTON also requests full reimbursement of laboratory analytical costs for TCLP metals samples that have been invoiced and paid in full by WESTON. The purchase order unit rate for TCLP metals analysis ($125 ea.) will be utilized in calculating the credit and reimbursement totals.

All remaining invoices for analytical services performed by E & E will be processed as soon as the issue is resolved and all credits and/or reimbursement amounts are received. Please submit a payment schedule with the laboratory order number, invoice number and credit/reimbursement amount for review and approval within 15 days.

WESTON looks forward to resolving this matter in a timely manner. Please call me at (603) 656-5428 if you have questions pertaining to this issue.

Very truly yours,

ROY F. WESTON, INC.

Christopher Kane
Project Manager

Cc: T. Bogalin (E & E)
T. Battalia (CENAN)
B. Ebersbach (CENAN)
M. Brock (CENAE)
M. Koenig (CENAE)
R. Bentley (WESTON)
D. Mattioni (WESTON)
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9 October 2000

Ms. Colleen Mullaney-Westfall
Ecology and Environment, Inc.
Buffalo Corporate Center
368 Pleasant View Drive
Lancaster, NY 14086

Re: Seneca Army Depot Site
Laboratory Services (P.O. No. 99294L)

Dear Ms. Mullaney-Westfall:

This letter is being submitted in response to your letter, dated 14 August 2000, regarding Roy F. Weston, Inc.'s (WESTON®) outstanding invoices and WESTON's request for credit/reimbursement for TCLP metals sample analyses that failed to meet laboratory acceptance criteria with the U.S. Army Corps of Engineers, New England District's (CENAE) Quality Assurance (QA) Laboratory for the Seneca project. WESTON's position regarding this matter stands as stated in the 28 July 2000 letter, however, additional information is being forwarded as requested per your letter dated 14 August 2000 to clarify and resolve all outstanding issues.

WESTON's actions to date have been performed in accordance with the terms of the subcontract agreement dated 4 December 1998 under P.O. No. 99294L and does not agree with E & E's contention that there has been a breach on WESTON's behalf. The following paragraphs address E & E's 2nd paragraph of the 14 August 2000 letter.

The action by WESTON and its client to reject the TCLP metals data and seek reimbursement and credit for analytical costs associated with TCLP metals analysis was made following a thorough review of QC and QA sample data, PE sample results, audit findings, and laboratory SOP's. However the outlining factor was that E & E could not produce valid data in accordance with the Scope of Work or Item 17 of the subcontract agreement (Data Validity) or correct the deficiencies in accordance with Item 7 (Standard of Care). Justification for this action is summarized in both the 28 July 2000 letter and this letter. WESTON discontinued sending samples to E & E for the remaining TCLP metals analysis in order to avoid additional cost and schedule impacts associated with continued sampling, analysis, and reporting of invalid data. The primary reason for this action was to maintain accurate reporting and valid data for the project. As a result, WESTON forwarded samples to a qualified laboratory for TCLP metals analysis. No other samples were submitted to E & E for other scoped parameters between January 2000 and July 2000 since the majority of parameters sampled for and analyzed onsite were for TCLP metals. The site has been shut down since August 2000. As such,

WESTON has not generated additional samples for analysis. Since the subcontract was based on Firm Fixed Unit Pricing. WESTON is under no minimum or maximum guarantees relating to analytical services.

The laboratory services for TCLP metals analysis were descoped by WESTON as a necessary action since E & E could not produce valid data. Although WESTON has not terminated E & E. the TCLP metals data generated by E & E are invalid and as such are unacceptable. WESTON has therefore requested reimbursement and/or credit for all TCLP metals analysis.

E & E contends that WESTON has an outstanding balance of $26.972 for laboratory analytical services and that full payment has not been received. WESTON has not submitted payment to E & E since the balance owed to WESTON considering credits due for the invalid TCLP metals analysis and the reimbursable amount due for TCLP metals invoicing amounts (already received by E & E) is significantly more than the current balance owed to E & E. WESTON will forward payment to E & E (if applicable) once all invoicing amounts relating to the TCLP metals issue are resolved. Per the subcontract agreement, payment for services rendered does not constitute acceptance of data.

The following paragraph is provided to address E & E's 3rd paragraph of the 14 August 2000 letter. WESTON has been cooperative and has provided E & E every opportunity to investigate the situation. The audit. PE samples, and split samples were suggested methods chosen by WESTON and the CENAE to resolve the issue. Furthermore. the performance of the audit or the respective results concluded from the audit do not exonerate E & E from reporting valid data. WESTON continued to submit samples to E & E following the audit in order to determine if the accuracy of the data increased.

Following the audit. WESTON continued to monitor E & E's, STL's and ESS's procedures and in recognizing the ambiguity in EPA Method 1311 and the minor variances in all three laboratories' SOPs, WESTON enforced some controls on the analyses. WESTON mandated to ESS and STL that TCLP Fluid #1 be prepared daily. pH be recorded upon preparation and only adjusted at the initial preparation, and that tumbling times be restricted to 18 hours ± ½ hour. This was to ensure future results from ESS and STL laboratories were of the same quality. Mr. Tony Bogalin of E & E was notified of these controls to assist E &E in determining why the results for barium, lead. and cadmium were so low in comparison to ESS and STL.

The following responses are provided to address comments issued in your letter dated 14 August 2000.

1. A copy of WESTON's audit report that was prepared by Mr. Robert Bentley for the E & E audit is provided in **Attachment 1**. WESTON and the CENAE were pro-

active in performing the audit (at a substantial cost) in order to identify potential causes for the E & E data discrepancies. However, at the time of the audit, WESTON had not determined the cause (nor had a cause been identified by E & E) of the discrepancies and therefore had not instructed Mr. Bentley on any one area of concentration for the audit. Although the audit assisted WESTON and E & E in eliminating some questions, other potential causes were noted in the report, i.e., differences in sampling, extraction or digestion as opposed to instrumental analysis for the discrepancies. Please review audit report for further information.

2. WESTON performed an audit of ESS' laboratory and CENAE QA Chemist (Mr. Mark Koenig), performed an audit of its QA laboratory (STL of Vermont). Observations and conclusions drawn from these audits were similar to those noted in Mr. Bentley's audit report for E & E. However, WESTON did not receive a written copy of the CENAE audit of STL and due to client/vendor confidentiality, will not submit a copy of the ESS' audit report.

3. Following the inconclusive audits, WESTON and the CENAE further explored possible rationales for the discrepancies and agreed to split eleven scoped characterization samples for TCLP metals three ways. Table 2 in **Attachment 2** (previously submitted to E & E in our letter dated 28 July 2000), illustrates the results of these 11 samples (excluding one duplicate sample) obtained by E & E and STL. WESTON has revised this table to reflect E & E, STL, and ESS split sample data and has included this table for E & E's review as requested.

   After reviewing the results, it was evident to WESTON and CENAE that E & E was experiencing a problem in the TCLP extraction procedure because of the extremely low results (and high variability) for the same 11 samples for three compounds (barium, lead, and cadmium). Although ESS and STL's split results differ slightly, the amount of variability can be explained by sampling, sample homogeneity, and/or matrix differences.

   Mr. Tony Bogalin was contacted by WESTON's Chemist Ms. Diane Quigley and informed of the three-way split sample results. He was also informed that WESTON, due to time and budget constraints of the project, would begin using ESS exclusively for TCLP metals analyses until E & E investigated their TCLP extraction procedure. After several days, WESTON contacted Mr. Bogalin to inquire about E & E's findings. Mr. Bogalin confirmed WESTON's conclusion that the problem may lie in the preparation of TCLP extraction Fluid #1. WESTON understands that E & E switched from a laboratory prepared extraction fluid (No. 1) to a manufactured prepared fluid and that better results may have been achieved using this extraction fluid. Mr. Bogalin stated he would submit E & E findings and internal testing results to WESTON as soon as the results were finalized. These findings were never submitted to WESTON.

WESTON is under project deadlines and client obligations to submit results that are of the highest quality. These standards are set forth by the client, in this case, CENAE. If the sample results do not meet QA criteria such as relative percent difference as stated in the Scope of Work (Exhibit I-Validity), the sample data is deemed invalid and therefore is typically not accepted. A comparison of these results and their comparability were presented in Table I of the letter dated 28 July 2000. In this case, E & E was provided the benefit of the doubt and WESTON incurred additional costs by sending samples to a second laboratory prior to drawing any conclusions.

4. Included as **Attachment 3** are E & E's results and the true values of the Performance Evaluation (PE) sample. Included as **Attachment 4** are ESS' and STL results and the true values of the PE sample. As shown, E & E failed for three compounds: lead (a contaminant of concern) cadmium, and silver. ESS met all QC criteria. WESTON was informed by the USACE that STL met all QC criteria for all compounds.

   Based on the PE results, the extremely high variability between the QA sample data vs. E & E data, and the results of the three-way split samples, WESTON could not utilize any of E & E's TCLP metals data (July 1999-Dec. 1999).

5. WESTON's Sampling and Analytical Plan (April 1999) summarizes protocols for the collection, preparation, shipping, and laboratory analysis of soil samples for the Seneca Army Depot Project. This SAP has been approved by the CENAE, USEPA, and NYSDEC and was prepared in accordance with but not limited to the following technical documents which define among other items split/duplicate/grab/composite, etc. sampling protocols:

   USACE. 1994. *USACE Requirements for the Preparation of Sampling and Analysis Plans*, EM-200-1-3.

   USACE. 1996. *Engineering and Design, Chemical Quality Management for Hazardous Waste Remedial Activities*, ER-1110-1-263.

   These documents are not included with this transmittal but are accessible for review via the Internet. A separate email **(Attachment 5)** is included that references the specific procedures used at the Seneca Army Depot site for the collection of stockpiled soil samples. Split samples are collected via the same procedure except that the soil for the QA sample(s) and/or third party sample(s) is transferred and proportioned into two or more sample containers simultaneously from the original container to ensure samples are representative and homogeneous.

6. WESTON can assure E & E that the Standard Operating Procedures for all three laboratories were scrutinized by WESTON and/or the CENAE prior to making any

decisions. Other parameters that have been reviewed include the extraction preparation logs, fluid preparation logs and all laboratory procedures. As stated previously, WESTON is bound by client/vendor confidentiality and cannot submit standard operating procedures or documentation provided by other laboratories.

In summary, WESTON does not feel that it has in any way breached its subcontract agreement with E & E. In addition, our basis for rejecting E & E's TCLP metals data, requesting credit for all outstanding TCLP Metals analysis, and for requesting reimbursement of all previously remitted invoice amounts for TCLP metals analysis is justified based on the technical information and supporting data presented to date by WESTON. The action by WESTON to descope the balance of the TCLP metals analysis was necessary in order to avoid additional cost and schedule impacts associated with the reporting of invalid data. Furthermore, the nature of the Firm Fixed Unit Price bid structure (Attachment II of the Subcontract) does not commit WESTON in any way to guarantee performance of the quantities listed in the original bid.

E & E committed to provide high quality analytical services to WESTON and the CENAE upon inception of the project. In addition, E & E assured WESTON that based upon its commitment to excellence, that data quality, timeliness, and completeness expectations would be achieved. It is unfortunate that the data submitted by E & E for TCLP metals did not meet data quality objectives and therefore could not be accepted. However, WESTON will not take responsibility for the analytical costs associated with the invalid data and is requesting full reimbursement and/or credit (for all TCLP metals analysis performed to date) as previously requested per letter dated 28 July 2000. Please review the technical information and data provided and respond no later than 30 October 2000.

Please contact me at (603) 656-5428 if you have any questions.

Very truly yours,

Roy F. WESTON, INC.

Christopher G. Kane
Project Manager

CGK/DQ
Attachments

cc: T. Bogalin (E & E)
T. Battaglia (CENAN)
B. Ebersbach (CENAN)
M. Brock (CENAE)
M. Wojtas (CENAE)
M. Wojtas (CENAE)
M. Koenig (CENAE)
D. Quigley (WESTON)
D. Mattioni (WESTON)
P. Bishop (WESTON)

ATTACHMENT 1

MEMORANDUM

To: Chris Kane, Diane Quigley
From: Bob Bentley
Date: 9 December 1999
Subject: Audit of Ecology & Environment

On 2 December 1999, I traveled to Ecology & Environment's (E&E) Analytical Services Center in Lancaster, NY to perform an audit. This audit was performed to assure that the results being generated, in particular for the Toxicity Characteristic Leaching Procedure (TCLP) and total lead, were scientifically defensible. The particular reason for this audit was due to discrepancies in reported results found between Weston's contractor, E&E, and the Army Corps of Engineers (ACOE) quality assurance lab (STL).

Upon arrival, I met David Lubianicz of the New England Office of the Corps. We then met with the following representatives of E&E - Tony Bogolin, Program Manager, Gary Hahn, Laboratory Director, Joseph Forti, General Manager and Raymond Piccone, Quality Assurance Coordinator.

It was explained to the staff that this audit included a very generalized review of the laboratory's procedures, and a more specific review of the TCLP extraction procedures, the metals digestion procedures and the instrumental analysis procedures of these samples. No attention was given to organic analyses. Prior to my arrival, I had selectively chosen certain "problem" TCLP and total lead samples for specific review. They were also chosen specifically to span the range of analysis dates associated with this program. The program manager took these sample numbers and retrieved all of the raw data associated with them. During the rest of the audit, we specifically selected these samples for further scrutiny. The samples selected were:

Weston Sample #	E&E sample #	Date Analyzed (E&E)	Reason for selection
SP-00S1-101-0	9909055-03A	09/13/99	TCLP - Ba, Cd, Pb results much lower than STL
SP-00S1-034-0	9908008-04A	08/05/99	TCLP - Ba, Cd, Pb results much lower than STL

Weston Sample #	E&E sample #	Date Analyzed (E&E)	Reason for selection
SP-00S1-003-0	9907086-04A	07/19/99	TCLP - Ba, Cd, Pb results much lower than STL
CE-0G1B-B09-2	990813-44A	08/17/99	Pb only - E&E result 3960, STL- 625
CE-0C1P-S10-0	9908190-23A	08/25/99	Pb only - E&E result 61.4, STL- 445

Subsequent to the general questions being answered, we proceeded to the laboratory, and the TCLP extraction area.

Notes taken during the audit and transcribed after the audit follow. (TCLP logbook pages are attached). The bottles used in the TCLP extraction at E&E are Teflon lined polyethylene. These bottles, we were told, are used one time only, and then discarded.

Item	Comments
Extraction fluid [4.93 ± 0.05 - #1; 2.88 ± 0.05 - #2]	Fluid # 1 was used for all samples. pH of fluid was checked upon make-up and immediately prior to use. pHs were fine. Amounts of reagents appear correct for the fluid prep.
Amount of extraction fluid?	2 liters used for each sample.
Extraction apparatus	
* Rotations 30 ± 2 rpm?	Visually checked (counted) with every set-up.
Particle size reduction? {if no, must be capable of fitting thru a 9.5 mm {0.375"} sieve}	No particle size reduction performed. All soils were noted as relatively homogeneous. Only one set reviewed was noted as clay or indicated any potential for non-homogeneity. This was for sample 9908190-23 which was a clay sample. (Note that this was not run for TCLP.)
Extraction - 18 ± 2 hours?	Yes. Time on and off noted. All times were found to be appropriate.
pH initially	In almost all instances, the pH was found to be in the 7.8-8.5 range.

Item	Comments
pH of extract at end of tumbling?	In almost all instances, the pH was found to be 6.4-7.8.
Post extraction - acidified to pH <2.0?	Yes - consistently acidified to pH in the 1.9-2.0 range.
Filters? pore size = 0.6-0.8 μm?	Environmental Express, 0.7 μm filters - bought already acid washed.
TCLP blank?	Done.

The TCLP extract was digested using a 3010A digestion procedure. Hot plate temperature was noted as 90-95° F for all digestions. The color of all extracts was noted as clear initially, and clear at the end of the digestion.

In terms of instrumentation, the laboratory uses both axial and radial ICP. For the TCLP digestates, the laboratory used the Perkin Elmer Optima 3000XL, which was an axial instrument. This was not done to attain lower detection limits, as the lab was acutely aware of the reporting limits (which were significantly higher than the limits of detection on either an axial or radial ICP). Discussions with the analyst indicated that all appropriate procedures were employed, and that no corrections were made other than those prescribed by the manufacturer were employed.

Review of the raw data yielded no problems with the calculations.

In conclusion, we were unable to determine any cogent reason as to why the significant differences between E&E and STL exist. It is recommended that a formal audit of STL be performed so that all procedures will be compared. It should be noted that E&E offered to "trade" extracts and/or digestates with the Corp's lab. It is not my feeling that this will yield answers to the questions since both Dave and I concurred that the discrepancies were more likely due to a difference in sampling, extraction or digestion as opposed to instrumental analysis.

My transcribed notes are included as the "Audit Notes" attachment. In addition, copies of any of the pertinent SOPs are attached.

Audit notes

Ecology & Environment Audit
2 December 1999
by R. E. Bentley

General Facility

Organization and Personnel

Do personnel assigned to the project have the appropriate educational background (or experience) to accomplish the objectives of the program? . . . . . Yes - they also have a formal training program in place.

Is there a training program for personnel? . . . . . above

Is the organization adequately staffed to meet the project commitments in a timely manner? . . . . Yes

Does the lab QA/QC Officer report to senior management? . . . . . Yes

Was the lab QA/QC Officer available during the audit? . . . . . Yes

Was the program manager available during the evaluation? . . . . . Yes

Sample Receipt and Storage Area

Is a sample custodian designated? . . . . . Yes

Are written SOP's developed for receipt and storage of samples? . . . . . Yes

Are samples stored so as to maintain their preservation? . . . . . Yes

Are volatile samples stored separately from semi-volatile samples? . . . . . NA

Are facilities adequate for the storage of samples? . . . . . Yes

Is the temperature(s) of the cold storage area(s) recorded daily (are excursions noted)? . . . . . Yes, actually twice daily.

Is this being reviewed periodically by a supervisor (or the QC Unit)? . . . . . Yes

Is the sample storage area secure? . . . . . Yes

Sample Preparation Area/Facilities

Is the laboratory maintained in a clean and organized manner? . . . . . Yes

Does the lab appear to have adequate workspace (~120 sq. ft/analyst)? . . . . . Yes

Are the toxic chemical handling areas either a stainless steel bench or an impervious material covered with absorbent paper? . . . . . Yes - where appropriate, they have disposal drums in the particular area.

Are contamination-free work areas provided for the handling of toxic materials? . . . . . Yes

Are exhaust hoods provided for contamination free work? . . . . . Yes

Are these hoods periodically checked and recorded? . . . . . not reviewed

Are chemical waste disposal policies/procedures well-defined and followed by the laboratory? . . . . . Yes

Are voltage control devices on major instrumentation? . . . . . Yes

Does the laboratory have a source of distilled/demineralized water (and is the conductivity checked routinely)? . . . . . Yes[a]

Is the analytical balance located away from draft and areas subject to rapid temperature fluctuations? . . . . . Yes (of those checked)

Is the balance maintained by a certified technician? . . . . . Yes - annually

Is the balance routinely calibrated? . . . . . Yes - daily or as needed

Are pH and ion selective meters properly maintained and recorded? . . . . . Yes

Are reagents dated upon receipt? . . . . . Yes

Are reagents verified prior to use? . . . . . not specifically reviewed

Are reference materials properly labeled? . . . . . Yes

Are spiking/calibration standard logbooks properly maintained? . . . . . Yes

Are logbooks maintained? . . . . . Yes

Are standards stored separately from sample extracts? . . . . . Yes

Are volatile and semi-volatile compounds properly segregated? . . . . . NA

Are SOP's readily available to laboratory personnel? . . . . . Yes - by means of an extranet

Is the laboratory secure? . . . . . Yes

Instrumentation

Are instrument operating manuals available? . . . . . Yes

Are there service contracts on instrumentation (and is a record maintained of the service)? . . Yes

Are in-house replacement parts available? . . . . . Yes

Have the instruments been modified in any way? . . . . . No

Is a split/splitless capillary injector in place? . . . . . NA

Data Handling and Review

Are computer programs validated prior to use? . . . . . Yes
Security for LIMS reviewed with
David Dros of E&E - seems secure

Do analysts/technicians record data in a neat and accurate manner? . . . . . Yes

Has the analyst/technician obliterated entries (through crossouts or whiteout)? . . . . . No

Are data calculations spot checked by a second person (what percentage)? . . . . . Yes
based on their system - ~100%

Is raw data being archived and documented properly? . . . . . Yes

Do supervisory personnel review the data or QC results? . . . . . Yes

Are in-house QC charts maintained and available for on-site inspection? . . . . . Not really

Do records indicate that appropriate corrective action has been taken when analytical results fail to meet the QC criteria? . . . . . Yes

QC Manual Checklist

Does the laboratory have a project specific QC Manual? . . . . . Yes

Does the manual address the following:

- personnel.....
- facilities and equipment.....
- operation of instruments.....
- documentation of procedures.....
- preventative maintenance.....
- reliability of data.....
- data validation.....
- feedback and corrective actions.....
- record-keeping.....
- internal audits..... . . . . Yes to all

Summary

Do responses to the evaluation indicate that project/supervisory personnel are aware of QA/QC and it's application to the project? . . . . . Yes

Is a positive emphasis placed on QA/QC? . . . . . Yes

Have the responses been open and direct? . . . . . Yes

Has the attitude been cooperative? . . . . . Yes

Is the proper emphasis placed on quality assurance? . . . . . Yes

Footnotes:

[a] Type II water is being used. Conductivity parameters checked indicate that it is consistently below 1 μmhos/cm.

ATTACHMENT 2

Table 2

Sample ID	Sample Date	Metal	E&E Data (mg/L)	STL QA Data (mg/L)	ESS Data (mg/L)
SP-00SP-007-0	12/21/99	As	<0.3	<0.01	<0.1
		Ba	0.368	7.03	6.5
		Cd	<0.015	0.05	0.02
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	9.03	2.2
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.01
SP-00SP-008-0	12/21/99	As	<0.3	<0.01	<0.1
		Ba	0.66	6.23	7.5
		Cd	<0.015	0.03	0.06
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	12.3	7.1
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.01
SP-00SP-009-0	12/21/99	As	<0.3	<0.01	<0.1
		Ba	0.74	8.42	5.8
		Cd	<0.015	0.03	0.02
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	3.88	0.6
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.01
SP-00SP-010-0	12/21/99	As	<0.03	<0.01	<0.1
		Ba	1.04	9.89	11.8
		Cd	<0.015	0.03	0.03
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	2.26	4.1
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.01
SP-00SP-010-1(dup)	12/21/99	Ba	0.636	9.86	12.5
		Cd	<0.015	0.03	0.02
		Pb	<0.15	3.33	3.2
SP-00SP-011-0	12/21/99	Ba	0.54	10.8	6.5
		Cd	<0.015	0.03	0.02
		Pb	<0.15	1.63	1
SP-00SP-012-0	12/21/99	Ba	0.302	6.8	5.0
		Cd	<0.015	0.01	<0.01
		Pb	<0.15	0.5	<0.10
SP-00SP-013-0	12/21/99	Ba	0.287	4.9	3.6
		Cd	<0.015	0.04	<0.01
		Pb	<0.15	0.5	7.6
SP-00SP-014-0	12/21/99	As	<0.3	<0.01	<0.05

Table 2

Sample ID	Sample Date	Metal	E&E Data (mg/L)	STL QA Data (mg/L)	ESS Data (mg/L)
		Ba	0.477	6.2	4.9
		Cd	<0.015	0.02	<0.01
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	15.5	7.6
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.005
SP-00SP-015-0	12/21/99	As	<0.3	<0.01	<0.1
		Ba	0.278	3.62	2.8
		Cd	<0.015	0.01	<0.01
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	6.37	2.7
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.01
SP-00SP-016-0	12/21/99	As	<0.3	<0.01	<0.1
		Ba	0.227	3.11	2.3
		Cd	<0.015	0.01	<0.01
		Cr	<0.03	<0.01	<0.05
		Pb	<0.15	1.28	0.4
		Hg	NR	NR	<0.0005
		Se	<0.3	<0.01	<0.1
		Ag	<0.03	<0.01	<0.01
SP-00SP-017-0	12/21/99	As	NR	<0.01	<0.1
		Ba	NR	4.25	3.6
		Cd	NR	0.017	<0.01
		Cr	NR	<0.01	<0.05
		Pb	NR	6.46	1.6
		Hg	NR	NR	<0.0005
		Se	NR	<0.005	<0.1
		Ag	NR	<0.01	<0.01

ATTACHMENT 3

Ecology and Environment, Inc.
Analytical Services Center
93 Walden Avenue
Lancaster, New York 14086
NYS ELAP ID#: 10486
Phone: (716) 685-8080

Laboratory Results

CLIENT: Roy F. Weston, Inc.
Client Sample ID: QC-00SP-001-0
Lab Order: 9911060
Alt. Client ID:
Project: Seneca Army Depot Activity
Collection Date: 11/5/99 8:00:00 AM
Lab ID: 9911060-03A **Sample Type:** SAMP **Matrix:** SOIL **% Moist:**

Analyte		Result	Q	Limit	Units	DF	Date Analyzed	Run Batch ID	Analyst
TCLP METALS ANALYSIS BY METHOD 6010B									
1_1311_6010B_L									
Arsenic	✓	1.20		0.3	mg/L	1	11/12/99 12:48:01 PM	OPTIMA_991112B	TS
Barium	✓	2.26		0.06	mg/L	1			
Cadmium	✓	0.764		0.015	mg/L	1			
Chromium	✓	4.09		0.03	mg/L	1			
Lead	✓	0.400		0.15	mg/L	1			
Selenium	✓	1.40	H	0.2	mg/L	1			
Silver	✓	1.00		0.03	mg/L	1			

Definitions:
ND - Not Detected at the Reporting Limit
J - Analyte detected below Reporting Limits
B - Analyte detected in the associated Method Blank
H - Value exceeds Maximum Contaminant Level
* - Recovery outside limits
R - RPD outside recovery limits
E - Value above quantitation range
Sur - Denotes Surrogate Compound
M - Matrix Spike recovery outside limits
Q - Qualifier
Limit - Reporting Limit

Labs Version #: 1.1.1.0Dev - 11/12/99 6:00:00 PM

ENVIRONMENTAL
RESOURCE ASSOCIATES
ARVADA, COLORADO 1-800-372-0122

Certification

TCLP Metals in Soil

Quality Control Standards

Catalog No. 544

Lot No. 85005

Parameter	Certified Value	Performance Acceptance Limits™
	mg/L	mg/L
Antimony	1.33	0.930 - 1.74
Arsenic	1.03	0.806 - 1.26
Barium	2.32	1.75 - 2.90
Beryllium	0.130	0.0952 - 0.165
Cadmium	0.615	0.496 - 0.734
Chromium	4.68	3.24 - 6.11
Lead	0.195	0.0856 - 0.305
Mercury	0.0332	0.0151 - 0.0513
Nickel	1.46	1.17 - 1.75
Selenium	1.16	0.825 - 1.50
Silver	0.736	0.477 - 0.995
Zinc	1.24	0.768 - 1.71

The ***TCLP Metals in Soil Certified Values*** apply to the TCLP extract and not the soil itself. The certified values are based on the mean recoveries obtained by multiple laboratories performing the TCLP extraction and analyzing the extracts by ICP and atomic absorption methodologies.

The ***Performance Acceptance Limits (PALs™)*** are listed as guidelines for acceptable analytical results given the limitations of the TCLP extraction procedure and USEPA analytical methodologies commonly used to determine these parameters. If your result falls outside of the PALs™, ERA recommends that you investigate possible sources of error in your preparation and/or analytical procedures. For further thechnical assistance, call ERA at 1-800-372-0122.

ATTACHMENT 4

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

TCLP Metals

Client Name: R.F. Weston
Client Project ID: Seneca Army Depot
Client Sample ID: QA-00SP-003-01
Date Sampled: 03/10/2000
Percent Solid: N/A
TCLP Extraction Date: 03/13/2020

ESS Project ID: 00030133
ESS Sample ID: 00030133-01
Units: mg/L
ICP1 Dilution: 1
Mercury Dilution: 200

Test Name	Result	MRL	TCLP Limit	Date Analyzed	Analyst	Method
Arsenic	**0.07**	0.05	5	03/16/00	ML	1311/6010
Barium	**2.6**	0.2	100	03/16/00	ML	1311/6010
Cadmium	**0.375**	0.005	1	03/16/00	ML	1311/6010
Chromium	**0.6**	0.05	5	03/16/00	ML	1311/6010
Lead	**0.86**	0.05	5	03/16/00	ML	1311/6010
Mercury	**1.14**	0.1	0.2	03/15/00	SAM	1311/7470
Selenium	**0.17**	0.05	1	03/16/00	ML	1311/6010
Silver	**0.412**	0.005	5	03/16/00	ML	1311/6010

MRL = Method Reporting Limit. ND = Not Detected above MRL.

Approved By: LAB Date: 3/16/00

185 Frances Avenue, Cranston, RI 02910-2211 Tel.: 401-461-7181 Fax: 401-461-4486 http://www.thielsch.com

ENVIRONMENTAL
RESOURCE ASSOCIATES
ARVADA, COLORADO 1-800-372-0122

Certification

TCLP Metals in Soil

Quality Control Standards

Catalog No. 544

Lot No. 85007

Parameter	Certified Value	Performance Acceptance Limits™
	mg/L	mg/L
Antimony	0.245	0.172 - 0.318
Arsenic	0.0592	0.0324 - 0.0860
Barium	3.07	2.34 - 3.81
Beryllium	0.134	0.0985 - 0.170
Cadmium	0.477	0.316 - 0.638
Chromium	0.894	0.570 - 1.22
Lead	1.12	0.626 - 1.61
Mercury	1.34	0.626 - 2.05
Nickel	0.424	0.302 - 0.546
Selenium	0.202	0.103 - 0.302
Silver	0.438	0.268 - 0.609
Zinc	1.53	0.734 - 2.32

The ***TCLP Metals in Soil Certified Values*** apply to the TCLP extract and not the soil itself. The certified values are based on the mean recoveries obtained by multiple laboratories performing the TCLP extraction and analyzing the extracts by ICP and atomic absorption methodologies.

The ***Performance Acceptance Limits (PALs™)*** are listed as guidelines for acceptable analytical results given the limitations of the TCLP extraction procedure and USEPA analytical methodologies commonly used to determine these parameters. If your result falls outside of the PALs™, ERA recommends that you investigate possible sources of error in your preparation and/or analytical procedures. For further thechnical assistance, call ERA at 1-800-372-0122.

TCLP Metals in Soil Lot No. 85007

Data Comparison Performance Evaluation TCLP Metals in Soil
Seneca Army Depot Activity
March 17, 2000
Sample ID; QA-00SP-004-0

Metal	Certified Value mg/L	QC Limits (mg/L)	STL Results(mg/L)	In/Out	ESS Results(mg/L)	In/Out
Arsenic	**0.0592**	**(0.0324 - 0.0860)**	0.038	In	0.07	In
Barium	**3.07**	**(2.34 - 3.81)**	2.5	In	2.6	In
Cadmium	**0.477**	**(0.316 - 6.38)**	0.44	In	0.375	In
Chromium	**0.894**	**(0.570 - 1.22)**	0.60	In	0.6	In
Lead	**1.12**	**(0.626 - 1.61)**	1.1	In	0.86	In
Mercury	**1.34**	**(0.626 - 2.05)**	0.98	In	1.14	In
Selenium	**0.202**	**(0.103 - 0.302)**	0.13	In	0.17	In
Silver	**0.436**	**(0.268 - 0.609)**	0.37	In	0.412	In

ATTACHMENT 5

Quigley, Diane

From: Kirejczyk, Steven
Sent: Wednesday, January 12, 2000 11:51 AM
To: Kane, Christopher G.
Cc: Quigley, Diane; McCarley, Mike
Subject: Sampling Procedure

Chris here is my procedure for sampling the stockpile for TCLP Metals you asked for.

Once I know where the sample locations are going to be located, I begin digging the five composite locations. I dig each area to a depth of 18 inches. At the 18 inch mark, I dig two to three scoops at that location and place it in a stainless steel bowl which has been properly decontaminated. Once I have done this at each of the five locations, I bring the bowl with the soil to the back of the site pickup truck. There, I mix and stir the soil for anywhere between 8 and 12 minutes to insure that a homogeneous mixture is achieved. Sometimes a sample will take a little longer to homogenize because the soil could be hard and lumpy. This happens from either the soil freezing or the soil being to dry.

After the soil has been thoroughly mixed, I then place the soil in the appropriate sampling jars. The sampling jars are packed to the top to insure the correct volume for the analysis to be run. After the cap is placed on the jar, I put the pre-printed label on the jar to insure that none of the samples get mixed up. The jar is then placed back into the box from which it came, and after the sampling event, brought up to the site office where it is then packed.

The left over soil in the stainless steel sampling bowls is put back where it came from in the stockpile. The bowls are then placed in a plastic trash bag and left in the exclusion zone for decontamination.

I have a laborer which helps me in this process. His job is to help me move sandbags, tarps, and any other objects which may be in our way. He is always under my supervision and does his job to my expectations.

ecology and environment, inc.
International Specialists in the Environment
BUFFALO CORPORATE CENTER
368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

December 13, 2000

Christopher Kane, Project Manager
Roy F. Weston, Inc.
One Wall Street
Manchester, NH 03101-1501

Re: Seneca Army Depot Site
Laboratory Services (your P.O. No. 99294L)

Dear Mr. Kane:

Ecology & Environment, Inc. (E & E) is in receipt of your letter and attachments dated October 9, 2000, responding to E & E's letter of August 14, 2000, requesting documents pertaining to the above referenced matter. E & E understands that Weston's response letter continues to make a claim against E & E and that Weston does not believe it has terminated E & E. E & E still cannot fully respond to Weston's claims without further documentation that has been requested of Weston, but not yet provided to E & E. E & E contends that the documents that Weston has provided do not support Weston's claims. Weston has consistently not addressed E & E's claims that Weston did not follow the terms and conditions of the contract in handling this matter. In order to attempt to resolve this matter, Weston must openly address each of these issues.

E & E again requests requisite information (see E & E letter dated August 14, 2000) in order to fully evaluate the argument Weston has set forth. Additionally, E & E contends that Weston has not addressed Weston's breach of this subcontract. Weston insists that it has not terminated E & E even though it hired a third lab to finish the TCLP analysis and there is no other analytical work to be performed. Weston's argument that the contract does not provide for guaranteed quantities of work is irrelevant. Weston hired a third lab to re-do and complete the work that Weston hired E & E to do. Weston effectively terminated E & E. For the sake of argument only, even if Weston has not terminated E & E and just chose to go to a third lab for convenience, Weston is obligated to pay E & E for the work it has performed under the contract terms, especially in light of the fact that Weston never provided proper notice of its intent pursuant to the terms of the contract and that Weston has not demonstrated that E & E's data is invalid.

Although, it is Weston's prerogative whether it utilizes E & E's data, Weston must prove that E & E's data was invalid in order not to pay for E & E's services. E & E can only conclude from Weston's actions that Weston began to question E & E's data when it found E & E's results were, more often than not, non-hazardous, even though results for

total lead were high. Pursuant to a conversation between Chris Kane and Andy Clifton in or about November 15, 1999, E & E believes that Weston began to question E & E's results for TCLP because Weston believed that the low values for TCLP lead were inconsistent with the high values for total lead that E & E was reporting. At that time, Mr. Clifton pointed out to Mr. Kane that there were many situations under which a high total lead value would not translate to a high TCLP value and that E & E's results for TCLP and total lead were in no way inconsistent. Under this false premise, and also because of occasional differences between E & E results and those of the QA lab (STL), Weston audited E & E's laboratory. Although the audit of E & E's TCLP analytical practices confirmed that E & E was performing within the prescribed TCLP method (EPA Method 1311), Weston went to ESS, a third lab, to find the results it subjectively deemed desirable. Further, despite requests by E & E, Weston has not provided a copy of the Audit performed upon this third lab to confirm their practices were within the prescribed method. In fact, Weston admittedly requested that the QA lab and the third lab revise their analytical practices and never asked E & E to revise its analytical methods (See Weston letter dated October 9, 2000, p. 2, paragraph 5). The standard for determining the validity of data is whether the prescribed method was followed in reaching the results. There is no other criterion to determine the validity of data. E & E's practices were audited and found to be within the prescribed method, thus E & E's data is valid.

E & E specifically takes issue with a number of points and statements in Weston's October 9, 2000, as set forth below:

- Paragraph 1 and the last paragraph of the letter states that E & E "failed to meet laboratory acceptance criteria" and "data quality objectives." E & E's review of the Scope Of Work (SOW), including Exhibit 1, found only QA/QC criteria for data generated by the subcontracted lab (E & E). The analytical quality control results were within acceptance limits for matrix spikes, laboratory control samples, method blanks, etc with only minor exceptions.

- Likewise, Paragraph 3 of the letter suggests that E & E could not produce valid data in accordance with subcontract Item 17 "Data Validity" or correct deficiencies per Item 7 "Standard of Care." Again, upon E & E's review of the Items 7 and 17, E & E found each item states that data validity is determined on the "basis of the Quality Assurance/Quality Control requirements contained in the scope of work herein." The SOW includes only laboratory generated requirements, which E & E met. Pursuant to the subcontract terms, "Standard of Care" requires the analysis be performed "in accordance with generally accepted analytical methods and protocols for laboratory analyses." Both E & E's review and the audit performed by Mr. Robert Bentley on Weston's behalf found no deviations from EPA TCLP Method 1311. If Weston has specific evidence of E & E's deviation from generally accepted analytical methods and protocols please provide such evidence. Also, kindly provide E & E with specific reference to subcontract or SOW terms that list the requirements which Weston contends E & E "failed to meet," as well as, specific explanations of how E & E allegedly did not met those requirements.

- Page 2, paragraph 5, indicates "minor differences" and "ambiguity" between the three labs in performing method 1311. As Standard Operating Procedures (SOPs) were not provided for the other two labs, E & E cannot review the differences to determine what significance they may have in the sample results. E & E's contention, supported by theory, and some experiments is that very minor variations in pH, tumbling time, etc may produce varying results.

- In regard to page 3, item 2, the audit report states that "a very generalized review of the laboratory's procedures, and a more specific review of the TCLP extraction procedures, the metals digestion procedures and the instrumental analysis procedures" was performed. This is counter to Weston's statement that there was no "one area of concentration for the audit". The "other potential causes" listed in Mr. Bentley's audit report were related to differences between the STL's and E & E's extraction or digestion or field sampling protocols, not to specific causes found at E & E during his audit.

- In regard to Page 4, item 3, the only QA relative percent difference criteria mentioned in Exhibit 1 is for laboratory acceptance criteria for MS/MSDs, blank spikes and sample duplicates, which when performed by E & E were within E & E limits.

- In regard to Page 4, item 4, the PE sample analyzed by E & E and by STL and ESS were from different lots nearly five months apart. Comparisons drawn between labs would hold more relevance if the same lot had been analyzed by all three labs. Nevertheless, E & E's exceedances for the PE sample were all slightly high which is in contrast to Weston's position from the beginning - that E & E consistently underreported TCLP metals results. Was a PE sample analyzed by STL at the same time and from the same lot as E & E? If so, E & E requests those results, as well. If not, E & E requests an explanation as to why this was not done, in light of Weston's concerns over E & E's data at that time.

It is not enough for Weston to say that E & E's analytical results were invalid because not enough samples were found to be hazardous, and therefore the results were invalid, in order to justify Weston's position that: Weston can hire a third lab that allegedly gave Weston the results it desired; Weston does not have to pay E & E for results that Weston deems undesirable; and Weston can charge E & E to pay for the third lab's services that meet Weston's subjective needs. Weston's limited disclosure reveals nothing to justify Weston's hiring a third lab in the first place, nor does it justify hiring the third lab to complete the TCLP analysis for the above referenced site. Weston's disclosure only raises more questions.

E & E contends that the nature of the soil at the Seneca Army Depot site is such that if the TCLP method is not performed exactly the same by each lab, data produced by each lab may not be comparable. It is possible that minor variations within the prescribed method may produce varying results. Specifically, the soil contains anions (probably sulfate) which precipitate insoluble salts with lead and barium. The precipitated salts are

then filtered out of the TCLP extract prior to analysis resulting in low TCLP values even though there may be high levels of lead and barium in the soil. The precipitation of lead and barium sulfate is highly dependent on pH. If the pH of the extraction fluid is not correct, vastly different results would be expected.

In order to assess this theory E & E performed a series of experiments with site samples, at E & E's expense. Extraction fluid was prepared by E & E and also purchased from the Environmental Express Company. Extraction fluid with no sample added as well as extraction fluid with field sample added was spiked with lead prior to TCLP extraction in accordance with EPA TCLP Method 1311. The results of the experiments are summarized below.

Fluid	Sample no.	Spike amount mg/L	Result mg/L	% recovery
E & E-1	None	5	4.4	88
Purchased-1	None	5	4.7	94
E & E-1	OB-00SP-005-0	None	0.04	NA
E & E-1	OB-00SP-005-0	5	0.1	2
Purchased-1	OB-00SP-005-0	None	0.05	NA
Purchased-1	OB-00SP-005-0	5	.17	3.4

As can be seen by the data, acceptable recovery of a 5 mg/L spike was obtained from both purchased and prepared extraction fluid processed through the entire TCLP procedure. When the same fluids were spiked in the presence of soil from the Seneca Army Depot site little or no lead was recovered.

Based on this data, it is E & E's contention that the data produced by both ESS and STL was biased high. The reason for a high bias could have been improper pH of the extraction fluid, tumbling times longer than 18 hours, or an improper or defective filter, which allowed the lead sulfate to pass through. In fact, Weston's October 9, 2000 letter indicated that in response to data audits, Weston had to mandate ESS and STL to prepare extraction fluids daily, record the pH and adjust it only at preparation. Weston also mandated that tumbling time be restricted to 18 +/- 0.5 hours. These deviations from method requirements by the other two laboratories could account for differences in results.

It must also be recognized that the TCLP test is intended to be simply a pass/fail test. Analytical results are compared to a regulatory limit and are either above it or below it. Any observed disparities in the amount of barium and cadmium in the extracts are meaningless since all values are less than the regulatory limit. All results for these two

metals presented in Attachment 2 of Weston's October 9, 2000 letter show that the samples do not exhibit the toxicity characteristic for barium and cadmium.

The table in Attachment 2 of Weston's October 9, 2000 letter, also shows lead results for 12 samples, 11 of which were analyzed by all three laboratories. Of these 11, six showed complete agreement among the three laboratories as non-hazardous waste for lead. The other five were all two against one: twice where E & E was in the minority; twice where STL was in the minority; and once where ESS was in the minority. The twelfth sample, analyzed only by STL and ESS, was classed as a failure by STL and a pass by ESS. These results do not support Weston's argument that E & E was "wrong," while STL and ESS were "right."

The above discussion demonstrates a viable mechanism for lead to be precipitated from solution by sulfate and points out how this mechanism is very dependent on pH. E & E notes that after inspection of E & E's laboratory, there was no recommendation from Weston for significant changes to E & E's procedures. After inspection of ESS and STL facilities, Weston required them to make significant changes to their analytical procedures, as commented on above. Finally, the above evaluation of the sampling data demonstrates that when the test results are used for their express and only purpose, it is impossible to infer from the data that E & E is somehow "wrong" while other laboratories are "correct."

The validity of data is determined by method not the results. E & E has demonstrated that it was in compliance with the method. Weston, however, has not demonstrated to E & E whether the STL and ESS were in compliance with the prescribed method or that they were subject to audit, as was E & E.

E & E has continuously cooperated and provided information to Weston regarding this matter, while Weston has repeatedly withheld requested information or has provided only partial disclosure. Weston has just now only provided a fraction of the information that E & E reasonably requested in its August 14, 2000 letter. E & E understands the concern for confidentiality in this matter regarding vendor information. E & E is willing to sign a confidentiality agreement that would restrict E & E's use and disclosure of said vendor information to resolving this matter (A copy of a draft Confidentiality Agreement is enclosed for consideration and comment).

Furthermore, Item 3 of E & E's August 8, 2000 letter requested <u>all</u> split sample results. E & E's count of the number of TCLP samples submitted from the site from the period July 7, 1999 through December 21, 1999, is over 300. As conventional practice is to submit 10% of all samples to a split QA lab, over 30 samples should have been split with STL. Weston has also indicated that they split a higher proportion of samples as evidence of differences in results became apparent. Therefore, the number of split samples could be much higher than 30. To date, data for only 22 split samples have been disclosed to E & E, with 11 of those samples from December 21, 1999. Without all the split sample results, including ESS's, an appropriate evaluation of the data cannot be achieved.

Kindly now forward the following documentation to me by December 8, 2000, so that E & E may appropriately comment on Weston's claims:

1) A copy of the audit report(s) for STL and ESS is again requested.

2) Weston's letter provides selected data from the samples split between E & E and STL. There are no split samples provided for the three (3) month period between September 15, 1999 and December 21, 1999. E & E again requests a full tabulation of all split samples for all data including qualifiers: this would include samples split two ways (i.e., between E & E and STL; between STL and ESS; and between E & E and ESS) and samples split three ways.

3) A copy of the STL's performance evaluation "true values" for the QA sample "QC-00SP-001-0 ERA Lot No. 85005, Cat. No. 544" that was also shipped to E & E on November 5, 1999, if performed.

4) A copy of the standard operating procedure (SOP) for the splitting of samples between E & E and STL and/or ESS as followed at the Seneca Army Depot Activity.

5) A copy of ESS and STL's SOP for performing the TCLP extraction as written in EPA Method 1311 for comparison to E & E's SOP, which has been previously provided to Weston. Actual copies of the TCLP extraction prep logs from STL and ESS for all samples that were analyzed is also requested. Information on extraction fluid used, pH of fluid, elapsed time of extraction, etc. can then be compared.

Only with this information can E & E properly evaluate Weston's position and offer a prudent response. Weston argues that E & E's data are somehow flawed because they did not agree with two other laboratories' data on similar samples. This is despite the fact that E & E 's analytical procedures were opened fully to Weston and the Corps who found no shortcomings or failures to comply with regulatory analytical methods. E & E has not received confirmation of any similar scrutiny of procedures at the other laboratories. Weston's decision to dismiss E & E's data, at very considerable cost to E & E, is not justified by the facts available to E & E. Conclusively, E & E has found no specific subcontract requirement which E & E failed to meet for TCLP metals analysis. We request the opportunity to evaluate properly and fully the data against which our data are being compared.

Please do not hesitate to contact me with any questions you may have at (716) 684-8060, ext. 2750. Thank you for your anticipated cooperation in resolving this matter.

Very truly yours,
Ecology & Environment, Inc.

Colleen C. Mullaney-Westfall

Cc: Donald Bauer, Esq., Weston
Dominic Mattioni, Weston
Diane Quigley, Weston
Robert Bentley, Weston
R. Rico, Weston
Tom Battaglia, CENAN
William Ebersbach, CENAN
Michelle Brock, CENAE
Mark Koenig, CENAE
Tony Bogolin, E & E

CONFIDENTIALITY DISCLOSURE AGREEMENT

This Agreement, effective upon execution by both parties, is between Ecology and Environment, Inc. (E&E) and **Insert Name and Location Here**; WHEREAS the parties, for their mutual benefit desire that proprietary information relating to **Insert Subject Matter Here** be disclosed to each other. It is THEREFORE hereby agreed that:

Proprietary Information means all written information disclosed hereunder including orally disclosed information and that which is stated by the disclosing party to be considered as *Proprietary Information*, except any such information that was:

(a) in the possession of the receiving party before receiving it from the disclosing party,
(b) is or becomes part of the public knowledge or literature by acts other than those of the receiving party after receiving it,
(c) is or becomes available to the receiving party from a source other than the disclosing party,
(d) is or becomes available to a third party without restriction from the disclosing party, or
(e) is developed independently by an employee of the receiving party with no access to the received information.

A party receiving *Proprietary information* from the other shall treat it as confidential for a period of five years from the effective date hereof, and shall handle it with the same degree of care that it uses with its own proprietary information. In particular, during this period, the receiving party shall not (without written consent of the disclosing party):

(a) divulge any such information to any third party, or
(b) make any commercial use thereof.

No other rights or obligations are implied by this agreement. In particular, no license is granted or implied under any patent that many now or hereafter be licensable by either party.

If the above meets with your approval, please return one fully executed original of this agreement to the attention of Linda Zablotny-Hurst at the address below. If you have any questions, please contact Linda Zablotny-Hurst at 716-684-8060.

Ecology & Environment, Inc.
Corporate Headquarters
369 Pleasant View Drive
Lancaster, NY 14086

Insert Company Name and Address

_____	_____
Signature	Signature
_____	_____
Name	Name
_____	_____
Title	Title
_____	_____
Date	Date