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Sought
SF/Tech

United States Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, Illinois 60604
Office of Superfund
Remedial & Enforcement Response Branch

EPA

Facsimile Cover Sheet

TO: Paul Takacs, IEPA

Office phone: (217) 785-3912 FAX No. (217) 782-3258

From: Leah Evison

Office phone: (312) 886-4696
FAX: (312) 886-4071

Office code: SR-6J

Date: August 1, 1997

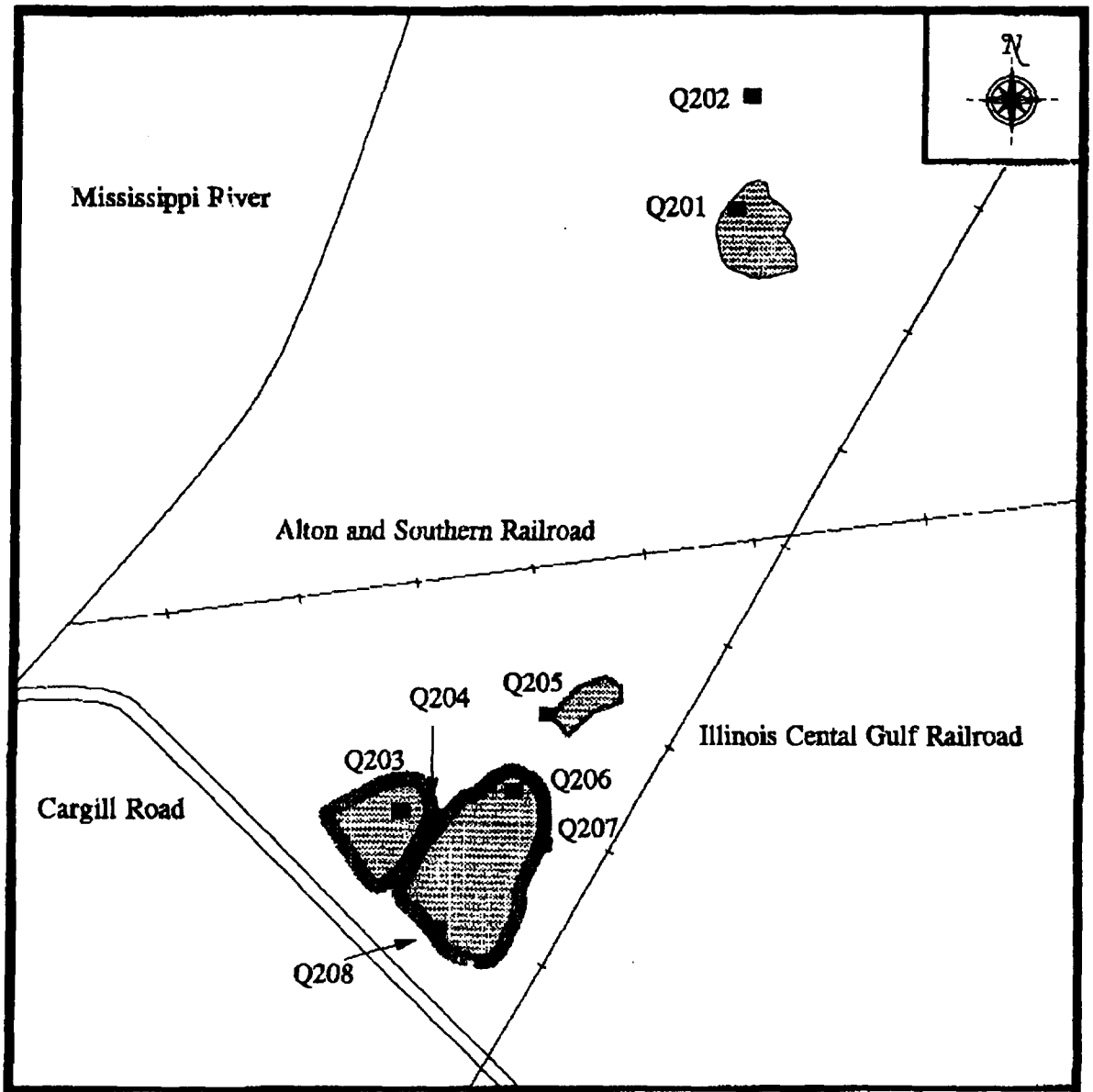
Number of pages, including cover: 31

Paul, here are the validated data for Site Q. I'll get you a copy of the whole removal/eco assessment report when we get it from E&E.

SCREENED
M M

ORIGINAL

AUG 0 1 1997
FAXED



Legend

- Sample Location
- Trees and Shrubs
- Wetland

ecology and environment, inc.
Superfund Technical Assessment and Response Team
Region V
33 North Dearborn Street, Chicago, Illinois 60602

TITLE: Sample Location Map	FIGURE #: 3-1
SITE: Sauget Area 2	SCALE: Not to Scale
CITY: Sauget STATE: Illinois	TDD: S05-9703-013
SOURCE: USGS Topographical Map, 7.5' Series Quadrangle: Cahokia, Illinois	DATE: 1980

ecology and environment, inc.
International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: May 16, 1997

TO: Damon Sinars, START Project Manager, E & E, Chicago, Illinois

FROM: Lisa Graczyk, START Chemist, E & E, Chicago, Illinois

THROUGH: Dave Hendren, START Analytical Services Manager, E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Review for Resource Conservation and Recovery Act (RCRA) Metals, Sauget Area 2, Sauget, St. Clair County, Illinois

REFERENCE: Project TDD S05-9703-013 Analytical TDD S05-9704-807
Project PAN 7M1301TEXX Analytical PAN 7AAG01TAXX

The data quality assurance (QA) review of eight sediment samples collected from the Sauget Area 2 site is complete. The samples were collected on April 17, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to E & E, Analytical Services Center, Lancaster, New York, for analyses. The laboratory analyses were performed according to the following U.S. EPA solid Waste 846 Methods: 3050A for sample digestion; 6010A for arsenic, barium, cadmium, chromium, lead, selenium and silver; and 7471A for mercury.

Sample Identification

START Identification No.	Laboratory Identification No.
Q201	65106
Q202	65107
Q203	65108
Q204	65109
Q205	65110
Q206	65111
Q207	65112
Q208	65113

recycled paper

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on April 17, 1997, and analyzed on May 1 and 2, 1997. This is within the six month holding time limit (28 days for mercury).

II. Calibration:

- Initial Calibration: Acceptable

  Recoveries for the initial calibration verification were within 90 to 110% (80 to 120% for mercury), as required.

- Continuing Calibration: Acceptable

  All analytes included in the continuing calibration verification standard were within 90 to 110% (80 to 120% for mercury), as required.

III. Blanks: Acceptable

Calibration and preparation blanks were analyzed with each analytical batch. No target analytes were detected in the blanks. At least one blank was analyzed for each 20 samples.

IV. Interference Check Samples (ICSs): Acceptable

ICSs were analyzed and recoveries were acceptable.

V. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use.

START - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q201

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9700.860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65106

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _69.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440 36-0	Antimony_		_		NR
7440-38-2	Arsenic__	6.9	_	E	P_
7440-39-3	Barium___	191	_	EN	P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	0.15	B		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	10.3	_	E	P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	28.7	_	E	P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.18	_		CV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	1.0	_		P_
7440-22-4	Silver___	0.36	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc____		_		NR
			_		
			_		

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

STATION LOCATION#: Q201

FORM 1 - IN ILM03.0

START - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q202

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9700.860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65107

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: 53.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	9.4		E	P
7440-39-3	Barium	232		EN	P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	4.4			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	15.9		E	P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	92.4		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	1.6			CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.9			P
7440-22-4	Silver	0.71	B		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

STATION_LOCATION#: __Q202

FORM I - IN ILM03.0

START - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q203

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:970^ 860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65108

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _64.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	4.7		E	P
7440-39-3	Barium__	135		EN	P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	1.2			P
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	11.0		E	P
7440-48-4	Cobalt__				NR
7440-50-8	Copper__				NR
7439-89-6	Iron__				NR
7439-92-1	Lead__	128		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.08			CV
7440-02-0	Nickel__				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	1.1			P
7440-22-4	Silver__	1.4	B		P
7440-23-5	Sodium__				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc__				NR

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

_____STATION_LOCATION#:__Q203_____

FORM I - IN ILM03.0

START - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q204

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9700.860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65109

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _80.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	32.9		E	P_
7440-39-3	Barium__	969		EN	P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	20.8			P
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	125		E	P
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	2450		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.42			CV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.62	U		P_
7440-22-4	Silver___	18.7			P
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR

Color Before: _____ Clarity Before; _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

STATION_LOCATION#: __Q204

FORM I - IN ILM03.0

START - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q205

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9700.860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65110

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _61.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	4.8		E	P_
7440-39-3	Barium__	128		EN	P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	5.0			P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	304		E	P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	162		E	P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.15			CV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	1.3			P_
7440-22-4	Silver___	0.40	U		P_
7440-23-5	Sodium___				NR
7440-28-[illegible]	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C _____ Artifacts: _____

Comments:

_____STATION_LOCATION#: __0205_____

FORM I - IN ILM03.0

START - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q206

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9700.860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65111

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _66.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	3.4		E	P
7440-39-3	Barium___	70.6		EN	P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	3.2			P
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	13.3		E	P
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	139		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.28			CV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.76	U		P
7440-22-4	Silver___	0.37	B		P
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

_____STATION_LOCATION#:__Q206_____

FORM I - IN ILM03.0

START - CHICAGO

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q207

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:970^ 860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65112

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _76.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	7.3		E	P
7440-39-3	Barium	169		EN	P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	0.67			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	17.4		E	P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	47.8		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	1.4			P
7440-22-4	Silver	0.32	B		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

STATION_LOCATION#: __Q207

FORM I - IN ILM03.0

START - CHICAGO

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Q208

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9700.860 SAS No.: _____ SDG No.: 65106_

Matrix (soil/water): SOIL_ Lab Sample ID: 65113

Level (low/med): LOW__ Date Received: 04/22/97

% Solids: _94.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	0.19	U	E	P
7440-39-3	Barium	416		EN	P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	139			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	3900		E	P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2300		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	12.2			CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	8.1			P
7440-22-4	Silver	0.80	B		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR

Color Before: _____ Clarity Before: _____ Texture: F_____

Color After: Y_____ Clarity After: C_____ Artifacts: _____

Comments:

STATION_LOCATION#:__Q208

FORM I - IN ILM03.0

ecology and environment, inc.
International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: May 19, 1997

TO: Damon Sinars, START Project Manager, E & E, Chicago, Illinois

FROM: Lisa Graczyk, START Chemist, E & E, Chicago, Illinois

THROUGH: Dave Hendren, START Analytical Services Manager, E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Polynuclear Aromatic Hydrocarbons (PAH), Sauget Area 2, Sauget, St. Clair County, Illinois

REFERENCE: Project TDD S05-9703-013 Analytical TDD S05-9704-807
Project PAN 7M1301TEXX Analytical PAN 7AAG01TAXX

The data quality assurance (QA) review of six sediment samples collected from the Sauget Area 2 site is complete. The samples were collected on April 17, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to E & E, Analytical Services Center, Lancaster, New York, for analyses. The laboratory analyses were performed according to the U.S. EPA solid Waste 846 Method 8270.

Sample Identification

START Identification No.	Laboratory Identification No.
Q201	65106
Q202	65107
Q203	65108
Q206	65111
Q207	65112
Q208	65113

recycled paper

Data Qualifications:

I. Sample Holding Time: Acceptable

The sample were collected on April 17, 1997. The samples were extracted on April 28, 1997 and analyzed on May 1, 1997. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning: Acceptable

GC/MS tuning to meet ion abundance criteria using decaflurotriphenylphosphine (DFTPP) were acceptable and samples were analyzed within 12 hours of DFTPP tuning.

III. Calibrations:

- Initial Calibration: Acceptable

A six-point initial calibration was performed prior to analysis. All target compounds had a relative response factor of at least 0.05. The percent relative standard deviations (%RSDs) between response factors were less than 30% for all target compounds.

- Continuing Calibration: Acceptable

The percent differences of the response factors were less than 25%, as required for target compounds.

IV. Blank: Acceptable

A method blank was analyzed with the samples. No target compounds were detected in the blank.

V. Internal Standards: Acceptable

The areas of the internal standards in the samples were within -50% to +100% of the associated calibration check standard. The retention time of the internal standard was within the 30-second control limit.

VI. Compound Identification: Acceptable

The mass spectrums and retention times of the detected compounds matched those of the standards.

VII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 4.0, BNAs by GC/MS Analysis. Based upon the information provided, the data are acceptable for use.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Q201

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9700.860 SAS No.: SDG No.: 65106

Matrix: (soil/water) SOIL Lab Sample ID: 65106

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B3174

Level: (low/med) LOW Date Received: 04/22/97

% Moisture: 30 decanted: (Y/N) N Date Extracted: 04/28/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/01/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	470	U
91-57-6	2-Methylnaphthalene	470	U
91-58-7	2-Chloronaphthalene	470	U
208-96-8	Acenaphthylene	470	U
83-32-9	Acenaphthene	470	U
86-73-7	Fluorene	470	U
85-01-8	Phenanthrene	110	J
120-12-7	Anthracene	470	U
206-44-0	Fluoranthene	250	J
129-00-0	Pyrene	230	J
56-55-3	Benzo(a)Anthracene	200	J
218-01-9	Chrysene	240	J
205-99-2	Benzo(b)Fluoranthene	340	J
207-08-9	Benzo(k)Fluoranthene	180	J
50-32-8	Benzo(a)Pyrene	170	J
193-39-5	Indeno(1,2,3-cd)Pyrene	100	J
53-70-3	Dibenz(a,h)Anthracene	470	U
191-24-2	Benzo(g,h,i)Perylene	120	J

FORM I SV-1 OLM03.1

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Q202

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9700.860 SAS No.: SDG No.: 65106

Matrix: (soil/water) SOIL Lab Sample ID: 65107

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B3164

Level: (low/med) LOW Date Received: 04/22/97

% Moisture: 46 decanted: (Y/N) N Date Extracted: 04/28/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/01/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	210	J
91-57-6	2-Methylnaphthalene	270	J
91-58-7	2-Chloronaphthalene	610	U
208-96-8	Acenaphthylene	610	U
83-32-9	Acenaphthene	90	J
86-73-7	Fluorene	94	J
85-01-8	Phenanthrene	790	
120-12-7	Anthracene	140	J
206-44-0	Fluroranthene	1800	
129-00-0	Pyrene	1900	
56-55-3	Benzo(a)Anthracene	1700	
218-01-9	Chrysene	2000	
205-99-2	Benzo(b)Fluoranthene	1800	
207-08-9	Benzo(k)Fluoranthene	1800	
50-32-8	Benzo(a)Pyrene	1600	
193-39-5	Indeno(1,2,3-cd)Pyrene	1100	
53-70-3	Dibenz(a,h)Anthracere	610	
191-24-2	Benzo(g,h,i)Perylene	1200	

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Q203

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9700.860 SAS No.: SDG No.: 65106

Matrix: (soil/water) SOIL Lab Sample ID: 65108

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B3165

Level: (low/med) LOW Date Received: 04/22/97

% Moisture: 36 decanted: (Y/N) N Date Extracted: 04/28/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/01/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	520	U
91-57-6	2-Methylnaphthalene	520	U
91-58-7	2-Chloronaphthalene	520	U
208-96-8	Acenaphthylene	520	U
83-32-9	Acenaphthene	520	U
86-73-7	Fluorene	520	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
206-44-0	Fluoranthene	73	J
129-00-0	Pyrene	75	J
56-55-3	Benzo(a)Anthracene	520	U
218-01-9	Chrysene	68	J
205-99-2	Benzo(b)Fluoranthene	280	J
207-08-9	Benzo(k)Fluoranthene	520	U
50-32-8	Benzo(a)Pyrene	57	J
193-39-5	Indeno(1,2,3-cd)Pyrene	520	U
53-70-3	Dibenz(a,h)Anthracene	520	U
191-24-2	Benzo(g,h,i)Perylene	520	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Q206

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9700.860 SAS No.: SDG No.: 65106

Matrix: (soil/water) SOIL Lab Sample ID: 65111

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B3177

Level: (low/med) LOW Date Received: 04/22/97

% Moisture: 34 decanted: (Y/N) N Date Extracted: 04/28/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/01/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	500	U
91-57-6	2-Methylnaphthalene	500	U
91-58-7	2-Chloronaphthalene	500	U
208-96-8	Acenaphthylene	500	U
83-32-9	Acenaphthene	500	U
86-73-7	Fluorene	500	U
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
206-44-0	Fluoranthene	72	J
129-00-0	Pyrene	64	J
56-55-3	Benzo(a)Anthracene	500	U
218-01-9	Chrysene	52	J
205-99-2	Benzo(b)Fluoranthene	250	J
207-08-9	Benzo(k)Fluoranthene	500	U
50-32-8	Benzo(a)Pyrene	500	U
193-39-5	Indeno(1,2,3-cd)Pyrene	500	U
53-70-3	Dibenz(a,h)Anthracene	500	U
191-24-2	Benzo(g,h,i)Perylene	500	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Q207

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9700.860 SAS No.: SDG No.: 65106

Matrix: (soil/water) SOIL Lab Sample ID: 65112

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B3178

Level: (low/med) LOW Date Received: 04/22/97

% Moisture: 24 decanted: (Y/N) N Date Extracted: 04/28/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/01/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	430	U
91-57-6	2-Methylnaphthalene	430	U
91-58-7	2-Chloronaphthalene	430	U
208-96-8	Acenaphthylene	430	U
83-32-9	Acenaphthene	430	U
86-73-7	Fluorene	430	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	49	J
56-55-3	Benzo(a)Anthracene	430	U
218-01-9	Chrysene	430	U
205-99-2	Benzo(b)Fluoranthene	210	J
207-08-9	Benzo(k)Fluoranthene	430	U
50-32-8	Benzo(a)Pyrene	430	U
193-39-5	Indeno(1,2,3-cd)Pyrene	430	U
53-70-3	Dibenz(a,h)Anthracene	430	U
191-24-2	Benzo(g,h,i)Perylene	430	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Q208

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9700.860 SAS No.: SDG No.: 65106

Matrix: (soil/water) SOIL Lab Sample ID: 65113

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B3180

Level: (low/med) LOW Date Received: 04/22/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 04/28/97

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/01/97

Injection Volume: 2.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	3500	J
91-57-6	2-Methylnaphthalene	11000	U
91-58-7	2-Chloronaphthalene	11000	U
208-96-8	Acenaphthylene	11000	U
83-32-9	Acenaphthene	11000	U
86-73-7	Fluorene	11000	U
85-01-8	Phenanthrene	11000	U
120-12-7	Anthracene	11000	U
206-44-0	Fluoranthene	11000	U
129-00-0	Pyrene	11000	U
56-55-3	Benzo(a)Anthracene	11000	U
218-01-9	Chrysene	11000	U
205-99-2	Benzo(b)Fluoranthene	11000	U
207-08-9	Benzo(k)Fluoranthene	11000	U
50-32-8	Benzo(a)Pyrene	11000	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11000	U
53-70-3	Dibenz(a,h)Anthracene	11000	U
191-24-2	Benzo(g,h,i)Perylene	11000	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.1

ecology and environment, inc.
International Specialists in the Environment

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M E M O R A N D U M

DATE: May 19, 1997

TO: Damon Sinars, START Project Manager, E & E, Chicago, Illinois

FROM: Lisa Graczyk, START Chemist, E & E, Chicago, Illinois

THROUGH: Dave Hendren, START Analytical Services Manager, E & E, Chicago, Illinois

SUBJECT: Data Quality Review for Polychlorinated Biphenyls (PCBs), Sauget Area 2, Sauget, St. Clair County, Illinois

REFERENCE: Project TDD S05-9703-013 Analytical TDD S05-9704-807
Project PAN 7M1301TEXX Analytical PAN 7AAG01TAXX

The data quality assurance (QA) review of eight sediment samples collected from the Sauget Area 2 site is complete. The samples were collected on April 17, 1997, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to E & E, Analytical Services Center, Lancaster, New York. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 8081.

Sample Identification

START Identification No.	Laboratory Identification No.
Q201	65106
Q202	65107
Q203	65108
Q204	65109
Q205	65110
Q206	65111
Q207	65112
Q208	65113

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on April 17, 1997, extracted on April 25, 1997, and analyzed on May 3 and 6, 1997. This is within the 14-day holding time limit, from collection to extraction, and 40-day limit from extraction to analysis.

II. Instrument Performance: Acceptable

The chromatographic resolution was adequate in the standard and sample chromatograms. Surrogate retention times were consistent in the samples and standards.

III. Calibrations:

- Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. The coefficient of determination averaged 0.995 or higher for PCB peaks in the initial calibration.

- Continuing Calibration: Acceptable

The percent differences of the response factors were less than 15%.

IV. Blank: Acceptable

A method blank was analyzed with the sample. No target compounds or contaminants were detected in the blank.

V. Compound Identification: Acceptable

Detected PCBs in the samples appeared to match the "fingerprint" pattern of the standard chromatograms and were confirmed on a second GC column.

VI. Additional QC Checks: Qualified

The surrogate recovery in sample Q202 was very low, 8.7%. Both the positive results and non-detects are to be flagged as estimated or "J". In samples Q201 and Q207, the surrogate recoveries were high, 342% and 181% respectively. Positive PCB results are to be flagged as estimated or "J" in these samples.

VII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 7.0, PCBs. Based upon the information provided, the data are acceptable for use with the above stated qualifications.

Data Qualifiers and Definitions:

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quality control criteria were not met.

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65106
SAMPLE ID CLIENT: Q201

%SOLIDS : 70 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.14
PCB-1254	0.72		0.14
PCB-1221	ND		0.28
PCB-1232	ND		0.14
PCB-1248	0.48		0.14
PCB-1260	0.61		0.14
PCB-1016	ND		0.14

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65107
SAMPLE ID CLIENT: Q202

%SOLIDS : 54 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.37
PCB-1254	1.7		0.37
PCB-1221	ND		0.74
PCB-1232	ND		0.37
PCB-1248	1.6		0.37
PCB-1260	0.76		0.37
PCB-1016	ND		0.37

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65109
SAMPLE ID CLIENT: Q204

%SOLIDS : 80 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.25
PCB-1254	1.8		0.25
PCB-1221	ND		0.50
PCB-1232	ND		0.25
PCB-1248	0.92		0.25
PCB-1260	1.1		0.25
PCB-1016	ND		0.25

QUALIFIERS: C = COMMENT
ND = NOT DETECTED
J = ESTIMATED VALUE
B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65110
SAMPLE ID CLIENT: Q205

%SOLIDS : 62 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.032
PCB-1254	0.034		0.032
PCB-1221	ND		0.064
PCB-1232	ND		0.032
PCB-1248	ND		0.032
PCB-1260	0.028	J	0.032
PCB-1016	ND		0.032

QUALIFIERS: C = COMMENT
ND = NOT DETECTED
J = ESTIMATED VALUE
B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65111
SAMPLE ID CLIENT: Q206

%SOLIDS : 66 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.61
PCB-1254	4.2		0.61
PCB-1221	ND		1.2
PCB-1232	ND		0.61
PCB-1248	2.6		0.61
PCB-1260	1.9		0.61
PCB-1016	ND		0.61

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE
ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65112
SAMPLE ID CLIENT: Q207

%SOLIDS : 76 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.26
PCB-1254	1.6		0.26
PCB-1221	ND		0.53
PCB-1232	ND		0.26
PCB-1248	ND		0.26
PCB-1260	1.8		0.26
PCB-1016	ND		0.26

QUALIFIERS: C = COMMENT
J = ESTIMATED VALUE
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE
ND = NOT DETECTED
B = ALSO PRESENT IN BLANK

TEST CODE :SPCB 1

JOB NUMBER :9700.860
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : START - CHICAGO
RESULTS IN DRY WEIGHT
TEST NAME : 8081 PCB
SAMPLE ID LAB : EE-97-65113
SAMPLE ID CLIENT: Q208

%SOLIDS : 94 %
UNITS : MG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		11
PCB-1254	ND		11
PCB-1221	ND		21
PCB-1232	ND		11
PCB-1248	120		11
PCB-1260	ND		11
PCB-1016	ND		11

QUALIFIERS: C = COMMENT
ND = NOT DETECTED
J = ESTIMATED VALUE
B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE