



323621

**REFERENCE 25**



State of Ohio Environmental Protection Agency

**Northwest District Office**

347 North Dunbridge Road  
P.O. Box 466  
Bowling Green, Ohio 43402-0466  
(419) 352-8461 FAX (419) 352-8468

George V. Voinovich  
Governor

**LETTER OF REQUEST**

Re: Baker Woods Creosote  
Site Investigation  
Marion County

September 8, 1998

Manager  
U.S. Coast Guard  
Marine Safety Laboratory  
1082 Shennecossett Road  
Groton, CT 06340-6094

To whom it may concern:

On behalf of USEPA, I request analysis of the samples listed on the enclosed Chain of Custody Record to assist in the site investigation of the Baker Woods Creosote site. The Baker Woods Creosote site operated from the late 1800's to the mid 1900's. The FPN is 098029 and the OSC from USEPA is Mark Durno. If you have any questions pertaining to this request, Mr. Durno can be contacted by telephone at (216) 522-7260, or by letter at 25089 Center Ridge Road-Westlake, Ohio 44145-4114.

Contaminants resembling creosote are present in the sediments of small streams and a river near the site. The following samples were collected for analysis:

Two (2) samples were taken from the Baker Woods site: Sample BW01W is creosote mixed with some soil taken from a sump; Sample BW02S is weathered creosote mixed with soil and gravel taken from the ground surface.

One (1) sample was taken from Rockswale Ditch: Sample RD01 is sediment taken approximately 1/4 mile east of the confluence of the Little Scioto River.

Two (2) samples were taken from the Little Scioto River: Sample UPSLSR is sediment taken upstream of the confluence of Rockswale Ditch; Sample DNSLSR is sediment taken downstream of the confluence of Rockswale Ditch.

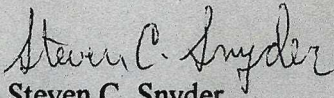
One (1) sample was taken from an unnamed tributary adjacent to Sawyer Ludwig Park: Sample SP01 is sediment taken approximately 1/8 mile west of Davids Street.

Manager  
September 8, 1998  
Page Two

The objective of this sampling and analysis is to determine if the contaminated sediments in the streams and river are a result of operations at the Baker Woods Creosote site. A comparison of the four (4) sediment samples to the two (2) samples obtained from the site is needed in order to accomplish this objective. It is understood that extreme weathering may inhibit the identification of these contaminants to the Baker Woods Creosote site.

Thank you in advance for your prompt attention to this matter. Results of the analysis can be forwarded to both my attention and Mr. Durno's attention. If you have any questions concerning the above, please contact me at your earliest convenience at (419) 373-3040.

Sincerely,



Steven C. Snyder  
Division of Emergency  
and Remedial Response

Encl: (1) Chain of Custody  
(6) Samples

pc: Mark Durno, USEPA w/o enclosures  
Karl Reinbold, DERR-SIFU w/o enclosures  
File, Baker Woods- General w/o enclosures

# Chain of Custody Record

OUA-4124

Client: **Ohio EPA** Project Manager: **Steven A. Snyder** Date: **9-8-98** Chain Of Custody Number: **1001**  
 Address: **347 N. Duxbridge Rd.** Telephone Number (Area Code)/Fax Number: **419-373-3040** Site Contact: **419-352-8468** Lab Number: **1001**  
 City: **Bowling Green** State: **OH** Zip Code: **43402** Carrier/Waybill Number: **8586256055** Page: **1** of **1**  
 Analysis

Project Name: **Baker Wood Creosote** Contract/Purchase Order/Quote No.: **FPN 098029**  
 Date: **8-27-98** Time: **1035** Sample Type: **Waste** Total Volume: **32.02** Containers Type: **glass** No.: **1** Preservative: **400** Condition on Receipt: **PROKEN**  
 Date: **8-27-98** Time: **1100** Sample Type: **Waste** Total Volume: **32.02** Containers Type: **glass** No.: **1** Preservative: **400** Condition on Receipt: **PROKEN**  
 Date: **09-02-98** Time: **0940** Sample Type: **Sed.** Total Volume: **16.02** Containers Type: **glass** No.: **1** Preservative: **400** Condition on Receipt: **PROKEN**  
 Date: **09-02-98** Time: **1000** Sample Type: **Sed.** Total Volume: **16.02** Containers Type: **glass** No.: **1** Preservative: **400** Condition on Receipt: **PROKEN**  
 Date: **09-02-98** Time: **1020** Sample Type: **Sed.** Total Volume: **16.02** Containers Type: **glass** No.: **1** Preservative: **400** Condition on Receipt: **PROKEN**  
 Date: **09-02-98** Time: **1110** Sample Type: **Sed.** Total Volume: **16.02** Containers Type: **glass** No.: **1** Preservative: **400** Condition on Receipt: **PROKEN**

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Preservative	Condition on Receipt
BW01W	8-27-98	1035	Waste	32.02	glass	1	400	PROKEN
BW02S	8-27-98	1100	Waste	32.02	glass	1	400	PROKEN
DNSLSR	09-02-98	0940	Sed.	16.02	glass	1	400	PROKEN
UPSLSR	09-02-98	1000	Sed.	16.02	glass	1	400	PROKEN
RD01	09-02-98	1020	Sed.	16.02	glass	1	400	PROKEN
SP02	09-02-98	1110	Sed.	16.02	glass	1	400	PROKEN

Special Instructions: **Fingerprinting**

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Turn Around Time Required:  Normal  Rush

OC Level:  I.  II.  III.

Sample Disposal:  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

1. Relinquished By: **Steven A. Snyder** Date: **9-8-98** Time: **1130**  
 2. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

1. Received By: **SMN** Date: **9-8-98** Time: **1348**  
 2. Received By: **SM** Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \_\_\_\_\_

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Baker Wood Creosote  
General File  
Marion County  
DERR

**From:** Steve Snyder  
**To:** Jeff Steers  
**Subject:** Baker Wood Creosote Fingerprinting

I spoke with Gary Moffit of the US Coast Guard Marine Lab today. Gary conducted the analysis of the samples I sent to the lab. All the samples from the Little Scioto River, Rockswale Ditch, and Baker Wood were confirmed as being either creosote material or contaminated with creosote. The sample from Sawyer Ludwig Park was not contaminated with creosote, but did contain a heavily weathered petroleum substance.

According to Gary, the samples from the Little Scioto and Rockswale Ditch can be correlated to the Baker Wood samples with considerable confidence. However, he indicated that he could not testify in court beyond doubt that the creosote in the river and ditch were from the Baker Wood site because of the inherent uncertainty in the analytical procedures and equipment. For our purposes, though, a correlation with confidence should be the information that Mark Dumo needs to address off site contamination in addition to the Baker Wood site itself. A summary report will be forthcoming from Gary.

According to Mark Dumo, a civil investigator will be in the Marion area over the next two weeks for PRP search purposes and access issues. Mark will also be in the area the week of October 26, 1998, to determine the need for additional assessment work. I believe E&E will be with him conducting nonintrusive geophysical screening in and around the site. I am still pushing for the installation of ground water wells at the site, since this media has not been screened to date. Mark could not promise wells in this initial investigation, but he said it would not be a problem down the road.

Steve

**CC:** Bill Batin, Karl Reinbold

Baker Wood Creosote  
General File  
Marion Co.  
DERR RECEIVED

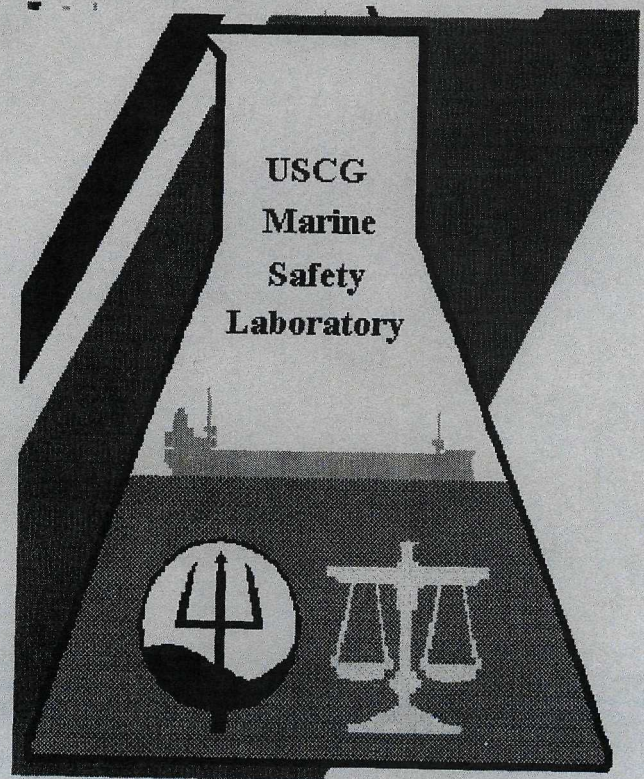
OCT 19 1998

OHIO E.P.A.  
N.W.D.O.

# Oil Sample Analysis Report

Ohio State E. P. A.  
Case Number

Marine Safety Laboratory  
Case Number 98-280



United States  
Coast Guard  
U.S. Department  
of Transportation



Manager  
U.S. Coast Guard  
Marine Safety Laboratory

1082 Shennecossett Road  
Groton, CT 06340-6094  
Phone: (860) 441-2645  
Fax: (860) 441-2641

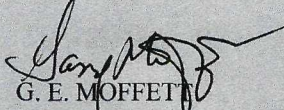
16400  
13-Oct-98

From: Manager, Marine Safety Laboratory

To: , Ohio State E. P. A.

Subj: Oil Sample Analysis Report, Ohio State E. P. A.  
Case # , MSL Case # 98-280

1. The laboratory analysis of this case has been completed and our report is forwarded. The technical data supporting the report (spectrograms and chromatograms) have been archived at our facility and are available upon request. We will maintain the oil samples in refrigerated storage pending final case disposition.
2. Questions concerning this report or the analytical methods used should be directed to the Supervisor of Analysis, G. E. Moffett.

  
G. E. MOFFETT  
By Direction

Encl: (1) MSL Report 98-280

UNITED STATES COAST GUARD MARINE SAFETY LABORATORY  
OIL IDENTIFICATION LABORATORY

OIL SPILL IDENTIFICATION REPORT

LABORATORY CASE NUMBER: 98-280

REQUESTOR: OHIO STATE E. P. A.

FPN: 09-8029

RECEIVED: 09SEP98 VIA: FEDERAL EXPRESS (# 8586256055)

NUMBER OF SAMPLES: SIX (06)

LAB NO. OF SPILLS: 98-280-1,2,3,4,5 AND 6

LAB NO. OF CREOSOTE STANDARD: I-001-CR

ANALYSIS METHODS:

GAS CHROMATOGRAPHY (GC)

GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS)

FLUORESCENCE SPECTROSCOPY (FL)

SPECIAL INSTRUCTIONS:

1. Perform comparison analyses between the two samples obtained from the Baker Woods site with the sediment samples provided.

RESULTS:

1. Samples 98-280-1,2,3,4,5 and 6 were specified to be representative of spilled oil. Analysis indicates:

a. Spill samples 98-280-1,2,3,4 and 5 are similar containing complex mixtures of polyaromatic hydrocarbons with characteristics resembling a creosote standard that was analyzed in conjunction with these spill samples. Differences noted are consistent with weathering.

b. Spill sample 98-280-6 contains a severely evaporatively weathered and slightly biodegraded heavy petroleum oil product with characteristics different from those for spilled oil samples 98-280-1,2,3,4 and 5. Significant differences were noted by GC-MS in the product distribution for fluorene and pyrene as well as the triterpane and hopane petroleum biomarkers between spill sample 98-280-6 and the other spill samples. Differences noted are not consistent with weathering of spilled oil.


CONCLUSIONS:

1. Spill samples 98-280-1,2,3,4 and 5 appear to be derived from a common source. GC-MS biomarker analysis revealed results for a creosote product that had undergone weathering to varying degrees. The proportion of the fluorene and pyrene compounds observed in these samples is indicative of exposure of the product to high temperatures during production which is consistent with creosote (coal tar) type products.

**CONTINUATION OF OIL SPILL IDENTIFICATION REPORT 98-280**

2. Spill sample 98-280-6 and spill samples 98-280-1,2,3,4 and 5 do not appear to be derived from a common source. Sample 98-280-6 is composed principally of a heavy fuel oil type product that has undergone significant evaporative and biological weathering. Differences noted are not solely attributable to weathering of spilled oil.

**SUPERVISOR OF ANALYSIS**

  
**GARY MOFFETT**  
**Chemist**

**DATE: 13OCT98**

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**United States Coast Guard  
Marine Safety Laboratory**

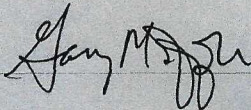
**Oil Spill Identification Analyses  
Cost Recovery Documentation**

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**Laboratory Case Number:** 98-280  
**Requestor:** Ohio State E. P. A.  
**Unit Case Number:**  
**Number of Samples:** 7  
**Cost Per Sample Prepared:** \$20.00  
**Total Costs of Sample Preparation:** \$140.00  
**Number of Analyses:** 18  
**Cost Per Sample Prepared:** \$86.00  
**Total Costs for Analysis:** \$1,548.00  
**TOTAL COSTS:** \$1,688.00

This documentation is provided for purposes of Phase IV - Documentation and Cost Recovery under the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300)

**Signature:** \_\_\_\_\_



**Date:** 14-Oct-98

**United States Coast Guard  
Marine Safety Laboratory**

Sample Check-in Log, MSL Case Number: 98-280

Requestor: Ohio State E. P. A.

Unit Case Number:

Federal Project Number 09-8029

Delivery Method: FEDERAL EXPRESS

Received Date: 09-Sep-98

Delivery Number: 8586256055

Priority: No      Rush: No      Comparison: No

Lab Number 98-280	Sample Descriptions from Sample Jars	Spill	Source
1	BAKER WOODS BW01W 27 AUG 98 1035	XX	
2	BAKER WOODS BW025 27 AUG 98 1100	XX	
3	ROCKSWALE DITCH RD01 02 SEP 98 1020	XX	
4	UPSLSR 02 SEP 98 1000	XX	
5	DNLSLR 02 SEP 98 1100	XX	
6	SAWYER PARK SP01 02 SEP 98 1110	XX	
7			
8			
9			
10			

Remarks: Sample 5 was received broken.

Samples checked in by:

*James F. [Signature]*

Date: 09 SEP 98

Sample Custodian:

*[Signature]*

Date: 10 SEP 98

Supervisor of Analysis:

*[Signature]*

Date: 13 Oct 98

UNITED STATES COAST GUARD  
MARINE SAFETY LABORATORIES  
OIL IDENTIFICATION LABORATORY

QUALITY CONTROL SHEET

MSL CASE NUMBER: 98-280

DATE PREPARED: 14 SEP 98

A Quality Control (QC) sample was analyzed along with the samples of the case.

- The Quality Control (QC) sample is a duplicate of sample 98-280-1.
- Due to limited sample quantity in all samples of the case, reference oil \_\_\_\_\_ from the MSL oil library was used for the Quality Control (QC) and Quality Control Match (QCM) samples.
- Infrared Spectroscopy was used as a screening method before final sample preparation. No QC sample was available during IR screening.

ANALYTICAL METHODS

	SAT	N/A
INFRARED SPECTROSCOPY (IR)		a
GAS CHROMATOGRAPHY (GC)	X	
FLUORESCENCE SPECTROSCOPY (FL)	X	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC-MS)	X	

The data and conclusions for the QC and QCM samples were identical: YES X NO \_\_\_\_\_

Comments: QC - SAT

SUPERVISOR OF ANALYSIS: [Signature]  
Revised 2/96

DATE: 13 Oct 98