State of Wisconsin - Department of Natural Resources
Substance Release Notification Report (SERTS)
Report created on 07/27/2012

SPILL ID# 20120322NO16-1 BRRTS# 04-16-559076

Incident Date & Time:	Reported Date & Time:	BRRTS No:	Spill ID:
03/22/2012 10:50	03/22/2012 10:59	04-16-559076	**20120322NO16-1**
DATCP Reported? No **DATCP Transferred? No**	**NFA Letter Sent?** No	**ERP Transferred?** No	**Incident Closed?** Yes : 07/27/2012

Location

Region:	County:	Municipality:
NO	Douglas	SUPERIOR, CITY OF

Facility/Property Name and Street Address:	Description:
CALUMET SUPERIOR LLC 2407 STINSON AVE	SLOP OIL LINE WEST OF TANK 34

Facility Type: Bulk Petroleum Storage (Tank Farm/Terminal/Refinery)

Lat/Long:	PLSS:	WTM:

Weather Conditions:

Responsible Parties

Name/Address (1):	Contact:	Other Contact:	Spill Packet:
CALUMET SUPERIOR LLC 2407 STINSON AVENUE SUPERIOR, WI 54880- (715) 398-8434 x Primary	PETER FREDMAN ENVIRONMENTAL ENGINEER (715) 398-8434 x primary		

Cause

LEAK IN SLOP OIL LINE

Cause Type: Equipment Failure

Substances

Name	Other / Comments	Amt Released	Amt Recovered	Type	Color	Odor
Crude Oil		75.0 Gal	75.0 Gal	LIQUID		

Environmental Impacts / Damages

Environmental Impacts:	Resource Damages:	Injuries:	Evacuation:
SOIL	No	No	No

Cleanup Actions

Method	Description
Excavation	

Cleanup Action Comments

Contractors Hired

Name	Description

Waste Destinations

Location	Description

Agencies Notified / On Scene

Agency	Notified	On Scene
DNR	X	

Additional Comments

SAGER SPOKE WITH PETER FREDMAN, CALUMET SUPERIOR, AT APPROXIMATELY 1355HRS ON 4/2/12. THE SPILL IS IN THE AREA OF MANY PRODUCT LINES. CALUMET IS HYDROEXCAVATING THE AREA OF THE SPILL. CALUMET WILL HAVE CONFIRMATION SAMPLES COLLECTED. SAGER RECEIVED A REPONSE REPORT ON JANUARY 5, 2012. CALUMET CONDUCTED ADDITIONAL EXCAVATION AND RESAMPLED THE EXCAVATION. SAGER RECEIVED THE LABORATORY ANALYTICAL RESULTS ON JULY 25, 2012.

Enforcement Action/Citation

Enforcement Action/Citation? No

Case Activity Reports:	

Person Reporting

Name	Representing / Address	Primary Phone	Secondary Phone
PETER FREDMAN	CALUMET SUPERIOR LLC	(715) 398-8434 x	

Contractors Hired

Name / Address	Zone Contractor Hired by DNR?
	No

Contacts

Role	Name	Office Phone	Date	Time
Prepared By:	JOHN SAGER	(715) 365-8959 x	07/27/2012	
Person Notified:	JOHN SAGER		03/22/2012	
Investigated By:			03/22/2012	
Incident Commander:				
Spill Coordinator:	JOHN SAGER, NO Region	(715) 365-8959 x	07/27/2012	

Electronic Attachments (list)

Name	Type

Sager, John E - DNR

From: Peter Fredman <Peter.Fredman@calumetspecialty.com>
Sent: Wednesday, July 25, 2012 3:46 PM
To: Sager, John E - DNR
Subject: Soil Sample Results - 3/22/12 Tank 34
Attachments: Tank 34 Slop Line Samples Round 2.pdf

John,
I finally have the sample results for the Slop oil line leak at Tank 34. Sorry it took so long to get these to you.
The excavation was under water for most of June.
Sample location is central South side if you still have your map.
Let me know if you have any questions.
Thanks,
Peter Fredman
Environmental Engineer
Phone: 715-398-8434
Fax: 715-398-8209

CALUMET
CALUMET SUPERIOR, LLC

Company Name/Address:

Calumet Specialty Products

2407 Stinson Avenue
Superior, WI 54880

Billing Information:

David Beattie
2407 Stinson Avenue

Superior, WI 54880

Report to: Peter Fredman

Email to: peter.fredman@clmt.com

Project Description: Slopline Leak

City/State Collected: Superior, WI

Phone: (715) 398-8455
FAX: (715) 398-8209

Client Project #:

ESC Key:

Collected by: (print) Matthew Unzaga

Site/Facility ID#:

P.O.#: 12100019

Collected by (signature):

Immediately Packed on Ice N ___ (Y)

Rush? (Lab MUST Be Notified)
___ Same Day..... 200%
___ Next Day..... 100%
___ Two Day..... 50%
Three Day..... 25%

Date Results Needed:

Email? __No__Yes
FAX? __No__Yes

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	DRO WM 60ml Amb/MeCl/Syr	PVOC GRO 60ml Amb/MeOH/Syr	TS 202 Clr-NoPres/PAH	Remarks/Contaminant	Sample # (lab only)
T34-SW-S-2ft	Grab	SS	2ft	7-19-12	1000	4	X	X	X		L586052-02
T34-BS-S-7ft	Grab	SS	7ft	7-19-12	1100	4	X	X	X		

B248

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
12065 Lebanon Road
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

CoCode: MUROILSW (lab use only)

Template/Prelogin

Shipped Via: FedEX

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	7-19-12	1200			OK TD
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C	Bottles Received: 8
					CoC Seals Intact ✓ Y ___ N ___ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7-20-12	Time: 0900
					pH Checked: NCF:

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Est. 1970

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

Report Summary

Tuesday July 24, 2012

Report Number: L586052
Samples Received: 07/20/12
Client Project:

Description: Slopline Leak

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: John Hawkins

John Hawkins , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

July 24,2012

ESC Sample # : L586052-01

Site ID :

Project # :

Date Received : July 20, 2012
Description : Slopline Leak

Sample ID : T34-SW-S-2 FT

Collected By : Matthew Unzeitig
Collection Date : 07/19/12 10:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	95.9	0.100	%	2540G	07/23/12	1
PVOCGRO						
Benzene	BDL	0.048	mg/kg	8021	07/21/12	91.5
Toluene	BDL	0.48	mg/kg	8021	07/21/12	91.5
Ethylbenzene	BDL	0.048	mg/kg	8021	07/21/12	91.5
m&p-Xylene	BDL	0.095	mg/kg	8021	07/21/12	91.5
o-Xylene	BDL	0.048	mg/kg	8021	07/21/12	91.5
Methyl tert-butyl ether	BDL	0.095	mg/kg	8021	07/21/12	91.5
Naphthalene	BDL	0.48	mg/kg	8021	07/21/12	91.5
1,3,5-Trimethylbenzene	BDL	0.095	mg/kg	8021	07/21/12	91.5
1,2,4-Trimethylbenzene	BDL	0.095	mg/kg	8021	07/21/12	91.5
Gasoline (C6-C10)	BDL	9.5	mg/kg	8015	07/21/12	91.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	102.		% Rec.	8021	07/21/12	91.5
TPH (GC/FID) High Fraction	19.	13.	mg/kg	DROWM/8015M	07/23/12	1.6
Surrogate recovery(%)						
Triacontane	75.7		% Rec.	DROWM/8015M	07/23/12	1.6
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.034	mg/kg	8270C	07/23/12	1
Acenaphthene	BDL	0.034	mg/kg	8270C	07/23/12	1
Acenaphthylene	BDL	0.034	mg/kg	8270C	07/23/12	1
Benzo(a)anthracene	BDL	0.034	mg/kg	8270C	07/23/12	1
Benzo(a)pyrene	BDL	0.034	mg/kg	8270C	07/23/12	1
Benzo(b)fluoranthene	BDL	0.034	mg/kg	8270C	07/23/12	1
Benzo(g,h,i)perylene	BDL	0.034	mg/kg	8270C	07/23/12	1
Benzo(k)fluoranthene	BDL	0.034	mg/kg	8270C	07/23/12	1
Chrysene	BDL	0.034	mg/kg	8270C	07/23/12	1
Dibenz(a,h)anthracene	BDL	0.034	mg/kg	8270C	07/23/12	1
Fluoranthene	BDL	0.034	mg/kg	8270C	07/23/12	1
Fluorene	BDL	0.034	mg/kg	8270C	07/23/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.034	mg/kg	8270C	07/23/12	1
Naphthalene	BDL	0.034	mg/kg	8270C	07/23/12	1
Phenanthrene	BDL	0.034	mg/kg	8270C	07/23/12	1
Pyrene	BDL	0.034	mg/kg	8270C	07/23/12	1
Surrogate Recovery						
Nitrobenzene-d5	73.6		% Rec.	8270C	07/23/12	1
2-Fluorobiphenyl	79.9		% Rec.	8270C	07/23/12	1
p-Terphenyl-d14	80.2		% Rec.	8270C	07/23/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 07/24/12 16:10 Printed: 07/24/12 16:10
L586052-01 (PVOCGRO) - Lowest possible dilution due to dilution factor.

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

July 24,2012

ESC Sample # : L586052-02

Date Received : July 20, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-S-7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 07/19/12 11:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	76.6	0.100	%	2540G	07/23/12	1
PVOCGRO						
Benzene	BDL	0.059	mg/kg	8021	07/21/12	91
Toluene	BDL	0.59	mg/kg	8021	07/21/12	91
Ethylbenzene	BDL	0.059	mg/kg	8021	07/21/12	91
m&p-Xylene	BDL	0.12	mg/kg	8021	07/21/12	91
o-Xylene	BDL	0.059	mg/kg	8021	07/21/12	91
Methyl tert-butyl ether	BDL	0.12	mg/kg	8021	07/21/12	91
Naphthalene	BDL	0.59	mg/kg	8021	07/21/12	91
1,3,5-Trimethylbenzene	BDL	0.12	mg/kg	8021	07/21/12	91
1,2,4-Trimethylbenzene	BDL	0.12	mg/kg	8021	07/21/12	91
Gasoline (C6-C10)	BDL	12.	mg/kg	8015	07/21/12	91
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	07/21/12	91
TPH (GC/FID) High Fraction	BDL	16.	mg/kg	DROWM/8015M	07/23/12	1.5
Surrogate recovery(%)						
Triacontane	73.9		% Rec.	DROWM/8015M	07/23/12	1.5
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.043	mg/kg	8270C	07/23/12	1
Acenaphthene	BDL	0.043	mg/kg	8270C	07/23/12	1
Acenaphthylene	BDL	0.043	mg/kg	8270C	07/23/12	1
Benzo(a)anthracene	BDL	0.043	mg/kg	8270C	07/23/12	1
Benzo(a)pyrene	BDL	0.043	mg/kg	8270C	07/23/12	1
Benzo(b)fluoranthene	BDL	0.043	mg/kg	8270C	07/23/12	1
Benzo(g,h,i)perylene	BDL	0.043	mg/kg	8270C	07/23/12	1
Benzo(k)fluoranthene	BDL	0.043	mg/kg	8270C	07/23/12	1
Chrysene	BDL	0.043	mg/kg	8270C	07/23/12	1
Dibenz(a,h)anthracene	BDL	0.043	mg/kg	8270C	07/23/12	1
Fluoranthene	BDL	0.043	mg/kg	8270C	07/23/12	1
Fluorene	BDL	0.043	mg/kg	8270C	07/23/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.043	mg/kg	8270C	07/23/12	1
Naphthalene	BDL	0.043	mg/kg	8270C	07/23/12	1
Phenanthrene	BDL	0.043	mg/kg	8270C	07/23/12	1
Pyrene	BDL	0.043	mg/kg	8270C	07/23/12	1
Surrogate Recovery						
Nitrobenzene-d5	63.1		% Rec.	8270C	07/23/12	1
2-Fluorobiphenyl	62.6		% Rec.	8270C	07/23/12	1
p-Terphenyl-d14	53.5		% Rec.	8270C	07/23/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 07/24/12 16:10 Printed: 07/24/12 16:10
L586052-02 (PVOCGRO) - Lowest possible dilution due to dilution factor.

Summary of Remarks For Samples Printed
07/24/12 at 16:10:54

TSR Signing Reports: 341
R4 - Rush: Three Day

Sample: L586052-01 Account: MUROILSWI Received: 07/20/12 09:00 Due Date: 07/25/12 00:00 RPT Date: 07/24/12 16:10

Sample: L586052-02 Account: MUROILSWI Received: 07/20/12 09:00 Due Date: 07/25/12 00:00 RPT Date: 07/24/12 16:10

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L586052

July 24, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,2,4-Trimethylbenzene	< .001	mg/kg			WG603760	07/21/12 22:37
1,3,5-Trimethylbenzene	< .001	mg/kg			WG603760	07/21/12 22:37
Benzene	< .0005	mg/kg			WG603760	07/21/12 22:37
Ethylbenzene	< .0005	mg/kg			WG603760	07/21/12 22:37
Gasoline (C6-C10)	< .1	mg/kg			WG603760	07/21/12 22:37
m&p-Xylene	< .001	mg/kg			WG603760	07/21/12 22:37
Methyl tert-butyl ether	< .001	mg/kg			WG603760	07/21/12 22:37
Naphthalene	< .005	mg/kg			WG603760	07/21/12 22:37
o-Xylene	< .0005	mg/kg			WG603760	07/21/12 22:37
Toluene	< .005	mg/kg			WG603760	07/21/12 22:37
a,a,a-Trifluorotoluene(PID)		% Rec.	101.7	80-120	WG603760	07/21/12 22:37
Total Solids	< .1	%			WG603368	07/23/12 09:27
Acenaphthene	< .033	mg/kg			WG603795	07/23/12 15:34
Acenaphthylene	< .033	mg/kg			WG603795	07/23/12 15:34
Anthracene	< .033	mg/kg			WG603795	07/23/12 15:34
Benzo(a)anthracene	< .033	mg/kg			WG603795	07/23/12 15:34
Benzo(a)pyrene	< .033	mg/kg			WG603795	07/23/12 15:34
Benzo(b)fluoranthene	< .033	mg/kg			WG603795	07/23/12 15:34
Benzo(g,h,i)perylene	< .033	mg/kg			WG603795	07/23/12 15:34
Benzo(k)fluoranthene	< .033	mg/kg			WG603795	07/23/12 15:34
Chrysene	< .033	mg/kg			WG603795	07/23/12 15:34
Dibenz(a,h)anthracene	< .033	mg/kg			WG603795	07/23/12 15:34
Fluoranthene	< .033	mg/kg			WG603795	07/23/12 15:34
Fluorene	< .033	mg/kg			WG603795	07/23/12 15:34
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG603795	07/23/12 15:34
Naphthalene	< .033	mg/kg			WG603795	07/23/12 15:34
Phenanthrene	< .033	mg/kg			WG603795	07/23/12 15:34
Pyrene	< .033	mg/kg			WG603795	07/23/12 15:34
2-Fluorobiphenyl		% Rec.	72.08	37-119	WG603795	07/23/12 15:34
Nitrobenzene-d5		% Rec.	69.51	20-114	WG603795	07/23/12 15:34
p-Terphenyl-d14		% Rec.	77.70	15-174	WG603795	07/23/12 15:34
TPH (GC/FID) High Fraction	< 4	ppm			WG603384	07/23/12 16:48
Triacontane		% Rec.	79.33	50-150	WG603384	07/23/12 16:48

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Total Solids	%	77.0	76.7	0.121	5	L586052-02	WG603368

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,2,4-Trimethylbenzene	mg/kg	.05	0.0548	110.	80-120	WG603760
1,3,5-Trimethylbenzene	mg/kg	.05	0.0536	107.	80-120	WG603760
Benzene	mg/kg	.05	0.0505	101.	76-113	WG603760
Ethylbenzene	mg/kg	.05	0.0506	101.	78-115	WG603760
Gasoline (C6-C10)	mg/kg	.5	0.484	96.8	80-120	WG603760
m&p-Xylene	mg/kg	.1	0.106	106.	81-120	WG603760
Methyl tert-butyl ether	mg/kg	.05	0.0453	90.7	37-145	WG603760
Naphthalene	mg/kg	.05	0.0590	118.	80-120	WG603760
o-Xylene	mg/kg	.05	0.0523	105.	79-115	WG603760
Toluene	mg/kg	.05	0.0514	103.	76-114	WG603760
a,a,a-Trifluorotoluene(PID)				103.1	80-120	WG603760

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L586052

July 24, 2012

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Total Solids	%	50	50.0	100.	85-115	WG603368
Acenaphthene	mg/kg	.167	0.116	69.5	55-96	WG603795
Acenaphthylene	mg/kg	.167	0.110	66.1	61-107	WG603795
Anthracene	mg/kg	.167	0.128	76.5	58-105	WG603795
Benzo(a)anthracene	mg/kg	.167	0.134	80.3	56-103	WG603795
Benzo(a)pyrene	mg/kg	.167	0.139	83.4	57-103	WG603795
Benzo(b)fluoranthene	mg/kg	.167	0.132	79.0	52-106	WG603795
Benzo(g,h,i)perylene	mg/kg	.167	0.138	82.5	47-112	WG603795
Benzo(k)fluoranthene	mg/kg	.167	0.134	80.5	53-104	WG603795
Chrysene	mg/kg	.167	0.133	79.5	55-102	WG603795
Dibenz(a,h)anthracene	mg/kg	.167	0.146	87.4	49-111	WG603795
Fluoranthene	mg/kg	.167	0.117	70.0	59-108	WG603795
Fluorene	mg/kg	.167	0.113	67.5	59-100	WG603795
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.141	84.2	50-110	WG603795
Naphthalene	mg/kg	.167	0.114	68.3	55-91	WG603795
Phenanthrene	mg/kg	.167	0.121	72.3	55-103	WG603795
Pyrene	mg/kg	.167	0.132	79.2	54-104	WG603795
2-Fluorobiphenyl				68.07	37-119	WG603795
Nitrobenzene-d5				68.74	20-114	WG603795
p-Terphenyl-d14				77.12	15-174	WG603795
TPH (GC/FID) High Fraction	mg/kg	40	30.8	77.0	70-120	WG603384
Triacontane				70.59	50-150	WG603384

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2,4-Trimethylbenzene	mg/kg	0.0537	0.0548	107.	80-120	2.05	20	WG603760
1,3,5-Trimethylbenzene	mg/kg	0.0527	0.0536	105.	80-120	1.61	20	WG603760
Benzene	mg/kg	0.0504	0.0505	101.	76-113	0.130	20	WG603760
Ethylbenzene	mg/kg	0.0500	0.0506	100.	78-115	1.05	20	WG603760
Gasoline (C6-C10)	mg/kg	0.534	0.484	107.	80-120	9.82	20	WG603760
m&p-Xylene	mg/kg	0.104	0.106	104.	81-120	2.09	20	WG603760
Methyl tert-butyl ether	mg/kg	0.0469	0.0453	94.0	37-145	3.47	24	WG603760
Naphthalene	mg/kg	0.0582	0.0590	116.	80-120	1.34	20	WG603760
o-Xylene	mg/kg	0.0522	0.0523	104.	79-115	0.350	20	WG603760
Toluene	mg/kg	0.0512	0.0514	102.	76-114	0.410	20	WG603760
a,a,a-Trifluorotoluene(PID)				102.0	80-120			WG603760
Acenaphthene	mg/kg	0.125	0.116	75.0	55-96	7.25	20	WG603795
Acenaphthylene	mg/kg	0.120	0.110	72.0	61-107	8.13	20	WG603795
Anthracene	mg/kg	0.131	0.128	78.0	58-105	2.31	20	WG603795
Benzo(a)anthracene	mg/kg	0.128	0.134	77.0	56-103	4.48	20	WG603795
Benzo(a)pyrene	mg/kg	0.129	0.139	77.0	57-103	7.47	20	WG603795
Benzo(b)fluoranthene	mg/kg	0.130	0.132	78.0	52-106	1.42	20	WG603795
Benzo(g,h,i)perylene	mg/kg	0.138	0.138	82.0	47-112	0.0677	20	WG603795
Benzo(k)fluoranthene	mg/kg	0.134	0.134	80.0	53-104	0.0679	20	WG603795
Chrysene	mg/kg	0.132	0.133	79.0	55-102	0.834	20	WG603795
Dibenz(a,h)anthracene	mg/kg	0.134	0.146	80.0	49-111	8.30	20	WG603795
Fluoranthene	mg/kg	0.120	0.117	72.0	59-108	2.92	20	WG603795
Fluorene	mg/kg	0.115	0.113	69.0	59-100	2.05	20	WG603795
Indeno(1,2,3-cd)pyrene	mg/kg	0.140	0.141	84.0	50-110	0.450	20	WG603795
Naphthalene	mg/kg	0.122	0.114	73.0	55-91	6.44	20	WG603795
Phenanthrene	mg/kg	0.122	0.121	73.0	55-103	0.731	20	WG603795
Pyrene	mg/kg	0.136	0.132	81.0	54-104	2.60	20	WG603795

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L586052

July 24, 2012

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
2-Fluorobiphenyl				70.18	37-119			
Nitrobenzene-d5				67.67	20-114			
p-Terphenyl-d14				78.60	15-174			
TPH (GC/FID) High Fraction	mg/kg	34.1	30.8	85.0	70-120	10.1	23	WG603384
Triacontane				103.9	50-150			WG603384

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/kg	2.82	0	.05	112.	80-120	L586084-01	WG603760
1,3,5-Trimethylbenzene	mg/kg	2.78	0	.05	110.	80-120	L586084-01	WG603760
Benzene	mg/kg	2.58	0	.05	102.	32-137	L586084-01	WG603760
Ethylbenzene	mg/kg	2.58	0	.05	102.	10-150	L586084-01	WG603760
Gasoline (C6-C10)	mg/kg	24.2	0	.5	96.0	80-120	L586084-01	WG603760
m&p-Xylene	mg/kg	5.46	0	.1	108.	14-141	L586084-01	WG603760
Methyl tert-butyl ether	mg/kg	2.10	0	.05	83.0	24-151	L586084-01	WG603760
Naphthalene	mg/kg	2.74	0	.05	109.	80-120	L586084-01	WG603760
o-Xylene	mg/kg	2.65	0	.05	105.	10-157	L586084-01	WG603760
Toluene	mg/kg	2.64	0	.05	104.	20-142	L586084-01	WG603760
a,a,a-Trifluorotoluene(PID)					105.2	80-120		WG603760
Acenaphthene	mg/kg	0.115	0	.167	68.8	30-132	L585930-05	WG603795
Acenaphthylene	mg/kg	0.111	0	.167	66.3	31-144	L585930-05	WG603795
Anthracene	mg/kg	0.111	0	.167	66.4	27-140	L585930-05	WG603795
Benzo(a)anthracene	mg/kg	0.132	0	.167	78.8	22-139	L585930-05	WG603795
Benzo(a)pyrene	mg/kg	0.129	0	.167	77.1	16-148	L585930-05	WG603795
Benzo(b)fluoranthene	mg/kg	0.132	0	.167	79.0	13-152	L585930-05	WG603795
Benzo(g,h,i)perylene	mg/kg	0.132	0	.167	78.9	10-137	L585930-05	WG603795
Benzo(k)fluoranthene	mg/kg	0.124	0	.167	74.5	15-152	L585930-05	WG603795
Chrysene	mg/kg	0.137	0	.167	81.9	20-139	L585930-05	WG603795
Dibenz(a,h)anthracene	mg/kg	0.141	0	.167	84.4	10-137	L585930-05	WG603795
Fluoranthene	mg/kg	0.112	0	.167	67.3	24-145	L585930-05	WG603795
Fluorene	mg/kg	0.107	0	.167	64.0	30-138	L585930-05	WG603795
Indeno(1,2,3-cd)pyrene	mg/kg	0.136	0	.167	81.5	10-139	L585930-05	WG603795
Naphthalene	mg/kg	0.112	0	.167	67.2	31-124	L585930-05	WG603795
Phenanthrene	mg/kg	0.111	0	.167	66.2	25-139	L585930-05	WG603795
Pyrene	mg/kg	0.133	0	.167	79.6	23-145	L585930-05	WG603795
2-Fluorobiphenyl					67.04	37-119		WG603795
Nitrobenzene-d5					60.67	20-114		WG603795
p-Terphenyl-d14					79.09	15-174		WG603795

Matrix Spike Duplicate

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/kg	2.84	2.82	112.	80-120	0.650	20	L586084-01	WG603760
1,3,5-Trimethylbenzene	mg/kg	2.78	2.78	110.	80-120	0.200	20	L586084-01	WG603760
Benzene	mg/kg	2.57	2.58	102.	32-137	0.510	39	L586084-01	WG603760
Ethylbenzene	mg/kg	2.59	2.58	103.	10-150	0.350	44	L586084-01	WG603760
Gasoline (C6-C10)	mg/kg	27.0	24.2	107.	80-120	10.8	20	L586084-01	WG603760
m&p-Xylene	mg/kg	5.44	5.46	108.	14-141	0.280	44	L586084-01	WG603760
Methyl tert-butyl ether	mg/kg	2.20	2.10	87.0	24-151	4.69	37	L586084-01	WG603760
Naphthalene	mg/kg	2.89	2.74	114.	80-120	5.06	20	L586084-01	WG603760
o-Xylene	mg/kg	2.67	2.65	106.	10-157	0.630	44	L586084-01	WG603760
Toluene	mg/kg	2.63	2.64	104.	20-142	0.300	42	L586084-01	WG603760
a,a,a-Trifluorotoluene(PID)				102.6	80-120				WG603760
Acenaphthene	mg/kg	0.115	0.115	68.6	30-132	0.228	21	L585930-05	WG603795

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L586052

July 24, 2012

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Acenaphthylene	mg/kg	0.109	0.111	65.1	31-144	1.83	24	L585930-05	WG603795
Anthracene	mg/kg	0.122	0.111	72.8	27-140	9.29	20	L585930-05	WG603795
Benzo(a)anthracene	mg/kg	0.124	0.132	74.5	22-139	5.59	22	L585930-05	WG603795
Benzo(a)pyrene	mg/kg	0.129	0.129	77.4	16-148	0.350	21	L585930-05	WG603795
Benzo(b)fluoranthene	mg/kg	0.138	0.132	82.4	13-152	4.20	24	L585930-05	WG603795
Benzo(g,h,i)perylene	mg/kg	0.129	0.132	77.4	10-137	1.89	32	L585930-05	WG603795
Benzo(k)fluoranthene	mg/kg	0.110	0.124	65.8	15-152	12.4	22	L585930-05	WG603795
Chrysene	mg/kg	0.120	0.137	71.8	20-139	13.2	23	L585930-05	WG603795
Dibenz(a,h)anthracene	mg/kg	0.131	0.141	78.7	10-137	6.94	29	L585930-05	WG603795
Fluoranthene	mg/kg	0.120	0.112	71.9	24-145	6.60	29	L585930-05	WG603795
Fluorene	mg/kg	0.116	0.107	69.6	30-138	8.50	22	L585930-05	WG603795
Indeno(1,2,3-cd)pyrene	mg/kg	0.132	0.136	79.1	10-139	3.01	32	L585930-05	WG603795
Naphthalene	mg/kg	0.109	0.112	65.2	31-124	3.03	25	L585930-05	WG603795
Phenanthrene	mg/kg	0.118	0.111	70.7	25-139	6.59	25	L585930-05	WG603795
Pyrene	mg/kg	0.125	0.133	74.6	23-145	6.49	30	L585930-05	WG603795
2-Fluorobiphenyl				67.76	37-119				WG603795
Nitrobenzene-d5				67.12	20-114				WG603795
p-Terphenyl-d14				75.48	15-174				WG603795

Batch number /Run number / Sample number cross reference

WG603760: R2266217: L586052-01 02
WG603368: R2267335: L586052-01 02
WG603795: R2269154: L586052-01 02
WG603384: R2270054: L586052-01 02

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L586052

July 24, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: May 31, 2012 FILE REF:

TO: Calumet Tank 34 slop line spill SERTS ID#:20120322NO16-1

FROM: John Sager

SUBJECT: Telephone call with Peter Fredman

I discussed the excavation sample results from the tank 34 slop line spill with Peter Fredman today. I told Peter that there should be further excavation to the south. I also told Peter that id after excavation the south wall samples were OK that we could close the spill leaving the 52ppb benzene in place.

Sager, John E - DNR

From: Peter Fredman <Peter.Fredman@calumetspecialty.com>
Sent: Thursday, May 17, 2012 3:16 PM
To: Sager, John E - DNR
Subject: Soil Sample Results
Attachments: Tank 34 Slop line Soil Samples.pdf

John,
We have reached a point in the excavation where we can no longer dig any deeper. The pipe rack support columns would be undermined if digging continued any more. On 5/4/12, 9 soil samples were collected from the excavation. The samples were collected from the North and South sidewalls along with East, West, and central locations at ground level. The results are attached. Please give me a call to discuss once you have had a chance to look them over. Let me know if you have any questions in the meantime.
Thanks,
Peter Fredman
Environmental Engineer
Phone: 715-398-8434
Fax: 715-398-8209

CALUMET
CALUMET SUPERIOR, LLC

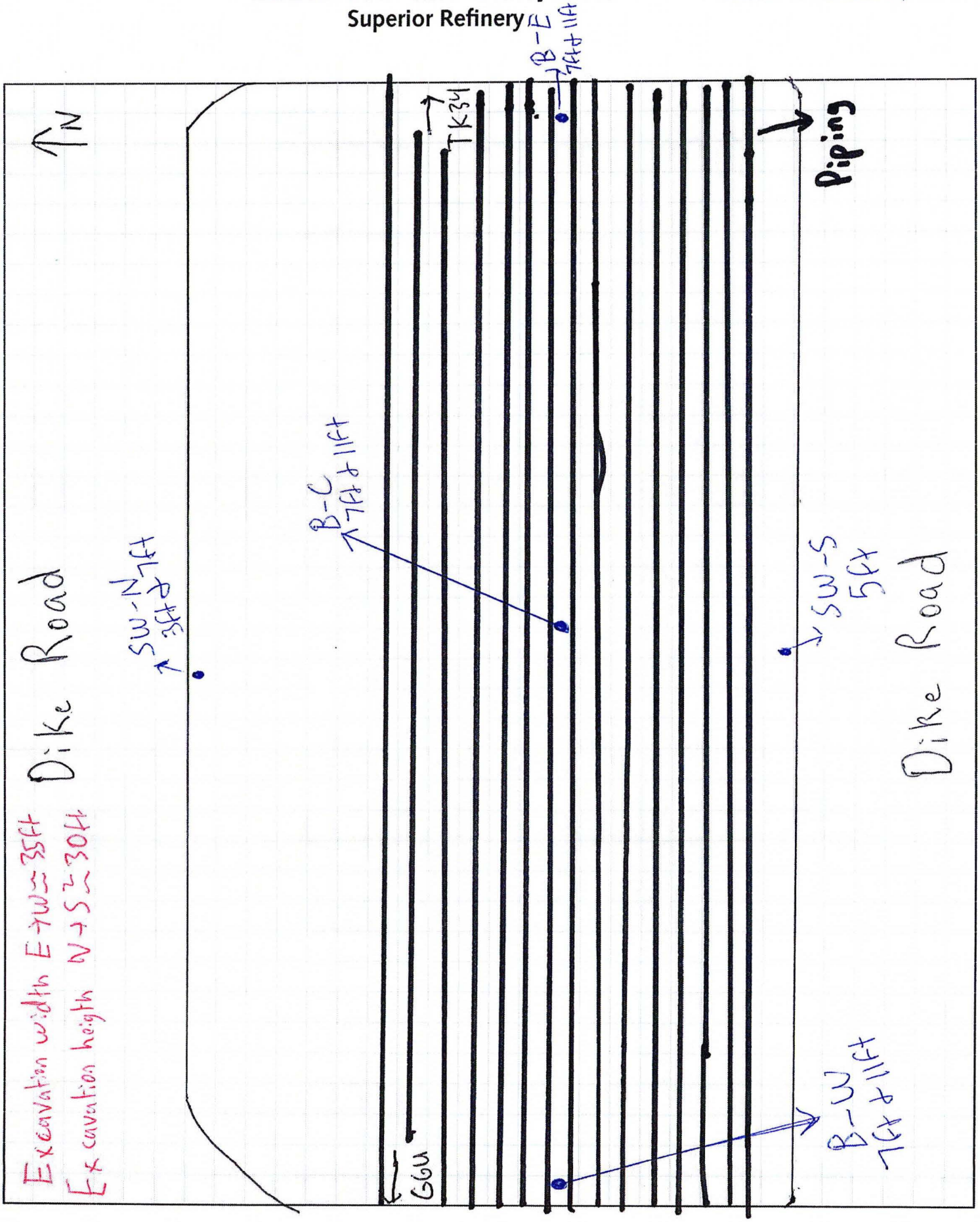
DATE: 2/10/16

SHEET 1 OF 1

BY: Peter Fredman

MURPHY OIL USA, INC.

Superior Refinery



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Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

Report Summary

Wednesday May 16, 2012

Report Number: L573636
Samples Received: 05/05/12
Client Project:

Description: Slopline Leak

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: John Hawkins

John Hawkins , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-01

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-SW-N 3 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 10:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	79.1	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.032	mg/kg	8021	05/09/12	50.5
Toluene	BDL	0.32	mg/kg	8021	05/09/12	50.5
Ethylbenzene	BDL	0.032	mg/kg	8021	05/09/12	50.5
m&p-Xylene	BDL	0.064	mg/kg	8021	05/09/12	50.5
o-Xylene	BDL	0.032	mg/kg	8021	05/09/12	50.5
Methyl tert-butyl ether	BDL	0.064	mg/kg	8021	05/09/12	50.5
Naphthalene	BDL	0.32	mg/kg	8021	05/09/12	50.5
1,3,5-Trimethylbenzene	BDL	0.064	mg/kg	8021	05/09/12	50.5
1,2,4-Trimethylbenzene	BDL	0.064	mg/kg	8021	05/09/12	50.5
Gasoline (C6-C10)	BDL	6.4	mg/kg	8015	05/09/12	50.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.7		% Rec.	8021	05/09/12	50.5
TPH (GC/FID) High Fraction	BDL	10.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	127.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.042	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.042	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.042	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.042	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.042	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	83.1		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	66.7		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	81.1		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 05/16/12 10:42 Printed: 05/16/12 11:32

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-02

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-SW-N 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 10:45

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	70.3	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Toluene	BDL	0.35	mg/kg	8021	05/09/12	49.5
Ethylbenzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
m&p-Xylene	BDL	0.070	mg/kg	8021	05/09/12	49.5
o-Xylene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Methyl tert-butyl ether	BDL	0.070	mg/kg	8021	05/09/12	49.5
Naphthalene	BDL	0.35	mg/kg	8021	05/09/12	49.5
1,3,5-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
1,2,4-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
Gasoline (C6-C10)	BDL	7.0	mg/kg	8015	05/09/12	49.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	05/09/12	49.5
TPH (GC/FID) High Fraction	BDL	12.	mg/kg	DROWM/8015M	05/11/12	1.03
Surrogate recovery(%)						
Triacontane	127.		% Rec.	DROWM/8015M	05/11/12	1.03
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.047	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.047	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.047	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	82.4		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	71.2		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	88.6		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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Est. 1970

REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-03

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-E 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 11:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	69.9	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.036	mg/kg	8021	05/09/12	50
Toluene	BDL	0.36	mg/kg	8021	05/09/12	50
Ethylbenzene	BDL	0.036	mg/kg	8021	05/09/12	50
m&p-Xylene	BDL	0.072	mg/kg	8021	05/09/12	50
o-Xylene	BDL	0.036	mg/kg	8021	05/09/12	50
Methyl tert-butyl ether	BDL	0.072	mg/kg	8021	05/09/12	50
Naphthalene	BDL	0.36	mg/kg	8021	05/09/12	50
1,3,5-Trimethylbenzene	BDL	0.072	mg/kg	8021	05/09/12	50
1,2,4-Trimethylbenzene	BDL	0.072	mg/kg	8021	05/09/12	50
Gasoline (C6-C10)	BDL	7.2	mg/kg	8015	05/09/12	50
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021	05/09/12	50
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	115.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.047	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.047	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.047	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	81.2		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	75.1		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	90.8		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-04

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-E 11 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 11:50

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	67.7	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.040	mg/kg	8021	05/09/12	54.5
Toluene	BDL	0.40	mg/kg	8021	05/09/12	54.5
Ethylbenzene	BDL	0.040	mg/kg	8021	05/09/12	54.5
m&p-Xylene	BDL	0.080	mg/kg	8021	05/09/12	54.5
o-Xylene	BDL	0.040	mg/kg	8021	05/09/12	54.5
Methyl tert-butyl ether	BDL	0.080	mg/kg	8021	05/09/12	54.5
Naphthalene	BDL	0.40	mg/kg	8021	05/09/12	54.5
1,3,5-Trimethylbenzene	BDL	0.080	mg/kg	8021	05/09/12	54.5
1,2,4-Trimethylbenzene	BDL	0.080	mg/kg	8021	05/09/12	54.5
Gasoline (C6-C10)	BDL	8.0	mg/kg	8015	05/09/12	54.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.3		% Rec.	8021	05/09/12	54.5
TPH (GC/FID) High Fraction	BDL	12.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	115.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.049	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.049	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.049	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.049	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.049	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	83.0		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	76.4		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	98.7		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-05

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-C 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 10:45

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	74.0	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.034	mg/kg	8021	05/09/12	50.5
Toluene	BDL	0.34	mg/kg	8021	05/09/12	50.5
Ethylbenzene	BDL	0.034	mg/kg	8021	05/09/12	50.5
m&p-Xylene	BDL	0.068	mg/kg	8021	05/09/12	50.5
o-Xylene	BDL	0.034	mg/kg	8021	05/09/12	50.5
Methyl tert-butyl ether	BDL	0.068	mg/kg	8021	05/09/12	50.5
Naphthalene	BDL	0.34	mg/kg	8021	05/09/12	50.5
1,3,5-Trimethylbenzene	BDL	0.068	mg/kg	8021	05/09/12	50.5
1,2,4-Trimethylbenzene	0.069	0.068	mg/kg	8021	05/09/12	50.5
Gasoline (C6-C10)	BDL	6.8	mg/kg	8015	05/09/12	50.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	98.8		% Rec.	8021	05/09/12	50.5
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	119.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.044	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.044	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.044	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.044	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.044	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.044	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.044	mg/kg	8270C	05/11/12	1
Pyrene	0.094	0.044	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	95.2		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	85.9		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	103.		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-06

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-C 11 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 12:45

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	70.4	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Toluene	BDL	0.35	mg/kg	8021	05/09/12	49.5
Ethylbenzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
m&p-Xylene	BDL	0.070	mg/kg	8021	05/09/12	49.5
o-Xylene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Methyl tert-butyl ether	BDL	0.070	mg/kg	8021	05/09/12	49.5
Naphthalene	BDL	0.35	mg/kg	8021	05/09/12	49.5
1,3,5-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
1,2,4-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
Gasoline (C6-C10)	BDL	7.0	mg/kg	8015	05/09/12	49.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.2		% Rec.	8021	05/09/12	49.5
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	119.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.047	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.047	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.047	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	83.4		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	69.3		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	94.9		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-07

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-W 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 13:30

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	73.7	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	0.052	0.034	mg/kg	8021	05/10/12	50.5
Toluene	BDL	0.34	mg/kg	8021	05/10/12	50.5
Ethylbenzene	0.096	0.034	mg/kg	8021	05/10/12	50.5
m&p-Xylene	BDL	0.068	mg/kg	8021	05/10/12	50.5
o-Xylene	0.076	0.034	mg/kg	8021	05/10/12	50.5
Methyl tert-butyl ether	BDL	0.068	mg/kg	8021	05/10/12	50.5
Naphthalene	BDL	0.34	mg/kg	8021	05/10/12	50.5
1,3,5-Trimethylbenzene	BDL	0.068	mg/kg	8021	05/10/12	50.5
1,2,4-Trimethylbenzene	0.13	0.068	mg/kg	8021	05/10/12	50.5
Gasoline (C6-C10)	BDL	6.8	mg/kg	8015	05/10/12	50.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.8		% Rec.	8021	05/10/12	50.5
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	111.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.045	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.045	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.045	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.045	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.045	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	86.7		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	66.0		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	98.8		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-08

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-W 11 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 13:50

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	69.4	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.036	mg/kg	8021	05/10/12	49.5
Toluene	BDL	0.36	mg/kg	8021	05/10/12	49.5
Ethylbenzene	BDL	0.036	mg/kg	8021	05/10/12	49.5
m&p-Xylene	BDL	0.071	mg/kg	8021	05/10/12	49.5
o-Xylene	BDL	0.036	mg/kg	8021	05/10/12	49.5
Methyl tert-butyl ether	BDL	0.071	mg/kg	8021	05/10/12	49.5
Naphthalene	BDL	0.36	mg/kg	8021	05/10/12	49.5
1,3,5-Trimethylbenzene	BDL	0.071	mg/kg	8021	05/10/12	49.5
1,2,4-Trimethylbenzene	BDL	0.071	mg/kg	8021	05/10/12	49.5
Gasoline (C6-C10)	BDL	7.1	mg/kg	8015	05/10/12	49.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021	05/10/12	49.5
TPH (GC/FID) High Fraction	BDL	12.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	120.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.048	mg/kg	8270C	05/14/12	1
Acenaphthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Acenaphthylene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(a)anthracene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(a)pyrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(b)fluoranthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(g,h,i)perylene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(k)fluoranthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Chrysene	BDL	0.048	mg/kg	8270C	05/14/12	1
Dibenz(a,h)anthracene	BDL	0.048	mg/kg	8270C	05/14/12	1
Fluoranthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Fluorene	BDL	0.048	mg/kg	8270C	05/14/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Naphthalene	BDL	0.048	mg/kg	8270C	05/14/12	1
Phenanthrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Pyrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Surrogate Recovery						
Nitrobenzene-d5	90.0		% Rec.	8270C	05/14/12	1
2-Fluorobiphenyl	87.8		% Rec.	8270C	05/14/12	1
p-Terphenyl-d14	112.		% Rec.	8270C	05/14/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 05/16/12 10:42 Printed: 05/16/12 11:32

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-09

Site ID :

Project # :

Date Received : May 05, 2012
Description : Slopline Leak

Sample ID : T34-SW-S 5 FT

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 12:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	66.3	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	0.28	0.042	mg/kg	8021	05/10/12	55.5
Toluene	BDL	0.42	mg/kg	8021	05/10/12	55.5
Ethylbenzene	3.9	0.042	mg/kg	8021	05/10/12	55.5
m&p-Xylene	1.2	0.084	mg/kg	8021	05/10/12	55.5
o-Xylene	0.18	0.042	mg/kg	8021	05/10/12	55.5
Methyl tert-butyl ether	BDL	0.084	mg/kg	8021	05/10/12	55.5
Naphthalene	18.	0.42	mg/kg	8021	05/10/12	55.5
1,3,5-Trimethylbenzene	0.51	0.084	mg/kg	8021	05/10/12	55.5
1,2,4-Trimethylbenzene	1.2	0.084	mg/kg	8021	05/10/12	55.5
Gasoline (C6-C10)	100	8.4	mg/kg	8015	05/10/12	55.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	05/10/12	55.5
TPH (GC/FID) High Fraction	24.	12.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	116.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.15	0.050	mg/kg	8270C	05/14/12	1
Acenaphthene	0.11	0.050	mg/kg	8270C	05/14/12	1
Acenaphthylene	BDL	0.050	mg/kg	8270C	05/14/12	1
Benzo(a)anthracene	0.093	0.050	mg/kg	8270C	05/14/12	1
Benzo(a)pyrene	BDL	0.050	mg/kg	8270C	05/14/12	1
Benzo(b)fluoranthene	0.12	0.050	mg/kg	8270C	05/14/12	1
Benzo(g,h,i)perylene	BDL	0.050	mg/kg	8270C	05/14/12	1
Benzo(k)fluoranthene	BDL	0.050	mg/kg	8270C	05/14/12	1
Chrysene	0.14	0.050	mg/kg	8270C	05/14/12	1
Dibenz(a,h)anthracene	BDL	0.050	mg/kg	8270C	05/14/12	1
Fluoranthene	0.39	0.050	mg/kg	8270C	05/14/12	1
Fluorene	0.16	0.050	mg/kg	8270C	05/14/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.050	mg/kg	8270C	05/14/12	1
Naphthalene	9.3	0.50	mg/kg	8270C	05/15/12	10
Phenanthrene	0.74	0.050	mg/kg	8270C	05/14/12	1
Pyrene	0.39	0.050	mg/kg	8270C	05/14/12	1
Surrogate Recovery						
Nitrobenzene-d5	114.		% Rec.	8270C	05/14/12	1
2-Fluorobiphenyl	98.2		% Rec.	8270C	05/14/12	1
p-Terphenyl-d14	126.		% Rec.	8270C	05/14/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 05/16/12 10:42 Printed: 05/16/12 11:32

Summary of Remarks For Samples Printed
05/16/12 at 11:32:10

TSR Signing Reports: 341
R5 - Desired TAT

Sample: L573636-01 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-02 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-03 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-04 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-05 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-06 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-07 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-08 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-09 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,2,4-Trimethylbenzene	< .001	mg/kg			WG591347	05/09/12 14:23
1,3,5-Trimethylbenzene	< .001	mg/kg			WG591347	05/09/12 14:23
Benzene	< .0005	mg/kg			WG591347	05/09/12 14:23
Ethylbenzene	< .0005	mg/kg			WG591347	05/09/12 14:23
Gasoline (C6-C10)	< .1	mg/kg			WG591347	05/09/12 14:23
m&p-Xylene	< .001	mg/kg			WG591347	05/09/12 14:23
Methyl tert-butyl ether	< .001	mg/kg			WG591347	05/09/12 14:23
Naphthalene	< .005	mg/kg			WG591347	05/09/12 14:23
o-Xylene	< .0005	mg/kg			WG591347	05/09/12 14:23
Toluene	< .005	mg/kg			WG591347	05/09/12 14:23
a,a,a-Trifluorotoluene(PID)		% Rec.	100.0	80-120	WG591347	05/09/12 14:23
Total Solids	< .1	%			WG591825	05/11/12 10:22
Total Solids	< .1	%			WG591826	05/11/12 10:58
Acenaphthene	< .033	mg/kg			WG591489	05/11/12 15:24
Acenaphthylene	< .033	mg/kg			WG591489	05/11/12 15:24
Anthracene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(a)anthracene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(a)pyrene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(b)fluoranthene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(g,h,i)perylene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(k)fluoranthene	< .033	mg/kg			WG591489	05/11/12 15:24
Chrysene	< .033	mg/kg			WG591489	05/11/12 15:24
Dibenz(a,h)anthracene	< .033	mg/kg			WG591489	05/11/12 15:24
Fluoranthene	< .033	mg/kg			WG591489	05/11/12 15:24
Fluorene	< .033	mg/kg			WG591489	05/11/12 15:24
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG591489	05/11/12 15:24
Naphthalene	< .033	mg/kg			WG591489	05/11/12 15:24
Phenanthrene	< .033	mg/kg			WG591489	05/11/12 15:24
Pyrene	< .033	mg/kg			WG591489	05/11/12 15:24
2-Fluorobiphenyl		% Rec.	74.83	37-119	WG591489	05/11/12 15:24
Nitrobenzene-d5		% Rec.	84.53	20-114	WG591489	05/11/12 15:24
p-Terphenyl-d14		% Rec.	97.71	15-174	WG591489	05/11/12 15:24
TPH (GC/FID) High Fraction	< 4	ppm			WG591359	05/11/12 13:55
Triacontane		% Rec.	123.1	50-150	WG591359	05/11/12 13:55
TPH (GC/FID) High Fraction	< 4	ppm			WG591760	05/11/12 19:23
Triacontane		% Rec.	121.1	50-150	WG591760	05/11/12 19:23
Acenaphthene	< .033	mg/kg			WG591756	05/13/12 09:55
Acenaphthylene	< .033	mg/kg			WG591756	05/13/12 09:55
Anthracene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(a)anthracene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(a)pyrene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(b)fluoranthene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(g,h,i)perylene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(k)fluoranthene	< .033	mg/kg			WG591756	05/13/12 09:55
Chrysene	< .033	mg/kg			WG591756	05/13/12 09:55
Dibenz(a,h)anthracene	< .033	mg/kg			WG591756	05/13/12 09:55
Fluoranthene	< .033	mg/kg			WG591756	05/13/12 09:55

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Fluorene	< .033	mg/kg			WG591756	05/13/12 09:55
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG591756	05/13/12 09:55
Naphthalene	< .033	mg/kg			WG591756	05/13/12 09:55
Phenanthrene	< .033	mg/kg			WG591756	05/13/12 09:55
Pyrene	< .033	mg/kg			WG591756	05/13/12 09:55
2-Fluorobiphenyl		% Rec.	78.72	37-119	WG591756	05/13/12 09:55
Nitrobenzene-d5		% Rec.	90.65	20-114	WG591756	05/13/12 09:55
p-Terphenyl-d14		% Rec.	91.08	15-174	WG591756	05/13/12 09:55

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Total Solids	%	70.0	70.4	0.0185	5	L573636-06	WG591825
Total Solids	%	89.0	89.1	0.191	5	L573643-07	WG591826

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,2,4-Trimethylbenzene	mg/kg	.05	0.0482	96.4	80-120	WG591347
1,3,5-Trimethylbenzene	mg/kg	.05	0.0487	97.4	80-120	WG591347
Benzene	mg/kg	.05	0.0463	92.6	76-113	WG591347
Ethylbenzene	mg/kg	.05	0.0451	90.2	78-115	WG591347
Gasoline (C6-C10)	mg/kg	.5	0.476	95.2	80-120	WG591347
m&p-Xylene	mg/kg	.1	0.0952	95.2	81-120	WG591347
Methyl tert-butyl ether	mg/kg	.05	0.0443	88.5	37-145	WG591347
Naphthalene	mg/kg	.05	0.0504	101.	80-120	WG591347
o-Xylene	mg/kg	.05	0.0469	93.7	79-115	WG591347
Toluene	mg/kg	.05	0.0466	93.2	76-114	WG591347
a,a,a-Trifluorotoluene(PID)				102.1	80-120	WG591347
Total Solids	%	50	49.9	99.7	85-115	WG591825
Total Solids	%	50	50.0	100.	85-115	WG591826
Acenaphthene	mg/kg	.167	0.136	81.2	55-96	WG591489
Acenaphthylene	mg/kg	.167	0.136	81.3	61-107	WG591489
Anthracene	mg/kg	.167	0.138	82.9	58-105	WG591489
Benzo(a)anthracene	mg/kg	.167	0.153	91.6	56-103	WG591489
Benzo(a)pyrene	mg/kg	.167	0.137	82.3	57-103	WG591489
Benzo(b)fluoranthene	mg/kg	.167	0.128	76.6	52-106	WG591489
Benzo(g,h,i)perylene	mg/kg	.167	0.145	86.6	47-112	WG591489
Benzo(k)fluoranthene	mg/kg	.167	0.148	88.7	53-104	WG591489
Chrysene	mg/kg	.167	0.143	85.4	55-102	WG591489
Dibenz(a,h)anthracene	mg/kg	.167	0.143	85.4	49-111	WG591489
Fluoranthene	mg/kg	.167	0.137	82.0	59-108	WG591489
Fluorene	mg/kg	.167	0.136	81.5	59-100	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.141	84.6	50-110	WG591489
Naphthalene	mg/kg	.167	0.126	75.2	55-91	WG591489
Phenanthrene	mg/kg	.167	0.143	85.5	55-103	WG591489
Pyrene	mg/kg	.167	0.146	87.4	54-104	WG591489
2-Fluorobiphenyl				77.97	37-119	WG591489
Nitrobenzene-d5				79.20	20-114	WG591489
p-Terphenyl-d14				88.51	15-174	WG591489

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
TPH (GC/FID) High Fraction	mg/kg	40	41.5	104.	70-120	WG591359
Triacontane				102.3	50-150	WG591359
TPH (GC/FID) High Fraction	mg/kg	40	31.2	78.1	70-120	WG591760
Triacontane				112.8	50-150	WG591760
Acenaphthene	mg/kg	.167	0.141	84.7	55-96	WG591756
Acenaphthylene	mg/kg	.167	0.139	83.1	61-107	WG591756
Anthracene	mg/kg	.167	0.146	87.6	58-105	WG591756
Benzo(a)anthracene	mg/kg	.167	0.149	89.2	56-103	WG591756
Benzo(a)pyrene	mg/kg	.167	0.151	90.5	57-103	WG591756
Benzo(b)fluoranthene	mg/kg	.167	0.136	81.7	52-106	WG591756
Benzo(g,h,i)perylene	mg/kg	.167	0.152	90.8	47-112	WG591756
Benzo(k)fluoranthene	mg/kg	.167	0.149	89.1	53-104	WG591756
Chrysene	mg/kg	.167	0.145	86.7	55-102	WG591756
Dibenz(a,h)anthracene	mg/kg	.167	0.142	85.1	49-111	WG591756
Fluoranthene	mg/kg	.167	0.149	89.5	59-108	WG591756
Fluorene	mg/kg	.167	0.142	85.3	59-100	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.154	91.9	50-110	WG591756
Naphthalene	mg/kg	.167	0.124	74.1	55-91	WG591756
Phenanthrene	mg/kg	.167	0.150	89.6	55-103	WG591756
Pyrene	mg/kg	.167	0.148	88.6	54-104	WG591756
2-Fluorobiphenyl				79.36	37-119	WG591756
Nitrobenzene-d5				86.84	20-114	WG591756
p-Terphenyl-d14				95.35	15-174	WG591756

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2,4-Trimethylbenzene	mg/kg	0.0456	0.0482	91.0	80-120	5.48	20	WG591347
1,3,5-Trimethylbenzene	mg/kg	0.0460	0.0487	92.0	80-120	5.56	20	WG591347
Benzene	mg/kg	0.0445	0.0463	89.0	76-113	3.95	20	WG591347
Ethylbenzene	mg/kg	0.0430	0.0451	86.0	78-115	4.62	20	WG591347
Gasoline (C6-C10)	mg/kg	0.483	0.476	97.0	80-120	1.44	20	WG591347
m&p-Xylene	mg/kg	0.0905	0.0952	90.0	81-120	5.13	20	WG591347
Methyl tert-butyl ether	mg/kg	0.0437	0.0443	87.0	37-145	1.27	24	WG591347
Naphthalene	mg/kg	0.0522	0.0504	104.	80-120	3.54	20	WG591347
o-Xylene	mg/kg	0.0453	0.0469	91.0	79-115	3.34	20	WG591347
Toluene	mg/kg	0.0448	0.0466	90.0	76-114	3.92	20	WG591347
a,a,a-Trifluorotoluene(PID)				101.0	80-120			WG591347
Acenaphthene	mg/kg	0.139	0.136	84.0	55-96	2.78	20	WG591489
Acenaphthylene	mg/kg	0.130	0.136	78.0	61-107	4.54	20	WG591489
Anthracene	mg/kg	0.141	0.138	84.0	58-105	1.78	20	WG591489
Benzo(a)anthracene	mg/kg	0.150	0.153	90.0	56-103	2.08	20	WG591489
Benzo(a)pyrene	mg/kg	0.142	0.137	85.0	57-103	3.42	20	WG591489
Benzo(b)fluoranthene	mg/kg	0.126	0.128	75.0	52-106	1.80	20	WG591489
Benzo(g,h,i)perylene	mg/kg	0.137	0.145	82.0	47-112	5.67	20	WG591489
Benzo(k)fluoranthene	mg/kg	0.146	0.148	87.0	53-104	1.72	20	WG591489
Chrysene	mg/kg	0.142	0.143	85.0	55-102	0.737	20	WG591489
Dibenz(a,h)anthracene	mg/kg	0.141	0.143	85.0	49-111	0.812	20	WG591489
Fluoranthene	mg/kg	0.147	0.137	88.0	59-108	6.81	20	WG591489
Fluorene	mg/kg	0.136	0.136	81.0	59-100	0.157	20	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	0.146	0.141	88.0	50-110	3.32	20	WG591489
Naphthalene	mg/kg	0.136	0.126	82.0	55-91	8.18	20	WG591489

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Laboratory Control Sample Result	Ref	%Rec	Limit	RPD	Limit	Batch
Phenanthrene	mg/kg	0.136	0.143	82.0	55-103	4.55	20	WG591489
Pyrene	mg/kg	0.139	0.146	83.0	54-104	4.79	20	WG591489
2-Fluorobiphenyl				77.40	37-119			WG591489
Nitrobenzene-d5				86.21	20-114			WG591489
p-Terphenyl-d14				98.01	15-174			WG591489
TPH (GC/FID) High Fraction	mg/kg	34.0	41.5	85.0	70-120	19.8	23	WG591359
Triacontane				109.7	50-150			WG591359
TPH (GC/FID) High Fraction	mg/kg	33.3	31.2	83.0	70-120	6.21	23	WG591760
Triacontane				115.8	50-150			WG591760
Acenaphthene	mg/kg	0.129	0.141	78.0	55-96	8.88	20	WG591756
Acenaphthylene	mg/kg	0.131	0.139	78.0	61-107	5.94	20	WG591756
Anthracene	mg/kg	0.148	0.146	89.0	58-105	1.31	20	WG591756
Benzo(a)anthracene	mg/kg	0.150	0.149	90.0	56-103	0.733	20	WG591756
Benzo(a)pyrene	mg/kg	0.147	0.151	88.0	57-103	2.53	20	WG591756
Benzo(b)fluoranthene	mg/kg	0.134	0.136	80.0	52-106	1.61	20	WG591756
Benzo(g,h,i)perylene	mg/kg	0.157	0.152	94.0	47-112	3.64	20	WG591756
Benzo(k)fluoranthene	mg/kg	0.164	0.149	98.0	53-104	9.54	20	WG591756
Chrysene	mg/kg	0.149	0.145	89.0	55-102	2.69	20	WG591756
Dibenz(a,h)anthracene	mg/kg	0.144	0.142	86.0	49-111	1.40	20	WG591756
Fluoranthene	mg/kg	0.153	0.149	91.0	59-108	2.09	20	WG591756
Fluorene	mg/kg	0.129	0.142	77.0	59-100	9.72	20	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	0.156	0.154	93.0	50-110	1.45	20	WG591756
Naphthalene	mg/kg	0.132	0.124	79.0	55-91	6.17	20	WG591756
Phenanthrene	mg/kg	0.145	0.150	87.0	55-103	2.90	20	WG591756
Pyrene	mg/kg	0.152	0.148	91.0	54-104	2.48	20	WG591756
2-Fluorobiphenyl				75.78	37-119			WG591756
Nitrobenzene-d5				91.23	20-114			WG591756
p-Terphenyl-d14				98.10	15-174			WG591756

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/kg	3.31	0	.05	94.6	80-120	L573618-01	WG591347
1,3,5-Trimethylbenzene	mg/kg	3.32	0	.05	94.8	80-120	L573618-01	WG591347
Benzene	mg/kg	3.18	0	.05	90.8	32-137	L573618-01	WG591347
Ethylbenzene	mg/kg	3.07	0	.05	87.6	10-150	L573618-01	WG591347
Gasoline (C6-C10)	mg/kg	35.1	0	.5	100.	80-120	L573618-01	WG591347
m&p-Xylene	mg/kg	6.54	0	.1	93.5	14-141	L573618-01	WG591347
Methyl tert-butyl ether	mg/kg	2.86	0	.05	81.6	24-151	L573618-01	WG591347
Naphthalene	mg/kg	3.45	0	.05	98.7	80-120	L573618-01	WG591347
o-Xylene	mg/kg	3.20	0	.05	91.4	10-157	L573618-01	WG591347
Toluene	mg/kg	3.24	0	.05	92.5	20-142	L573618-01	WG591347
a,a,a-Trifluorotoluene(PID)					102.2	80-120		WG591347
Acenaphthene	mg/kg	0.134	0	.167	80.3	30-132	L573626-02	WG591489
Acenaphthylene	mg/kg	0.132	0	.167	78.8	31-144	L573626-02	WG591489
Anthracene	mg/kg	0.123	0	.167	73.4	27-140	L573626-02	WG591489
Benzo(a)anthracene	mg/kg	0.111	0	.167	66.5	22-139	L573626-02	WG591489
Benzo(a)pyrene	mg/kg	0.0974	0	.167	58.3	16-148	L573626-02	WG591489
Benzo(b)fluoranthene	mg/kg	0.0931	0	.167	55.7	13-152	L573626-02	WG591489
Benzo(g,h,i)perylene	mg/kg	0.0955	0	.167	57.2	10-137	L573626-02	WG591489
Benzo(k)fluoranthene	mg/kg	0.104	0	.167	62.3	15-152	L573626-02	WG591489

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Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chrysene	mg/kg	0.111	0	.167	66.4	20-139	L573626-02	WG591489
Dibenz(a,h)anthracene	mg/kg	0.100	0	.167	60.1	10-137	L573626-02	WG591489
Fluoranthene	mg/kg	0.116	0	.167	69.6	24-145	L573626-02	WG591489
Fluorene	mg/kg	0.134	0	.167	80.3	30-138	L573626-02	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	0.0962	0	.167	57.6	10-139	L573626-02	WG591489
Naphthalene	mg/kg	0.139	0	.167	83.2	31-124	L573626-02	WG591489
Phenanthrene	mg/kg	0.121	0	.167	72.2	25-139	L573626-02	WG591489
Pyrene	mg/kg	0.127	0	.167	76.2	23-145	L573626-02	WG591489
2-Fluorobiphenyl					85.72	37-119		WG591489
Nitrobenzene-d5					94.77	20-114		WG591489
p-Terphenyl-d14					94.19	15-174		WG591489
Acenaphthene	mg/kg	0.174	0	.167	104.	30-132	L573684-05	WG591756
Acenaphthylene	mg/kg	0.172	0	.167	103.	31-144	L573684-05	WG591756
Anthracene	mg/kg	0.147	0	.167	87.8	27-140	L573684-05	WG591756
Benzo(a)anthracene	mg/kg	0.148	0	.167	88.6	22-139	L573684-05	WG591756
Benzo(a)pyrene	mg/kg	0.142	0.0380	.167	62.0	16-148	L573684-05	WG591756
Benzo(b)fluoranthene	mg/kg	0.143	0.0490	.167	56.5	13-152	L573684-05	WG591756
Benzo(g,h,i)perylene	mg/kg	0.0918	0	.167	55.0	10-137	L573684-05	WG591756
Benzo(k)fluoranthene	mg/kg	0.150	0	.167	89.7	15-152	L573684-05	WG591756
Chrysene	mg/kg	0.155	0.0400	.167	68.7	20-139	L573684-05	WG591756
Dibenz(a,h)anthracene	mg/kg	0.0871	0	.167	52.1	10-137	L573684-05	WG591756
Fluoranthene	mg/kg	0.197	0.0900	.167	64.0	24-145	L573684-05	WG591756
Fluorene	mg/kg	0.162	0	.167	97.2	30-138	L573684-05	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	0.100	0	.167	60.2	10-139	L573684-05	WG591756
Naphthalene	mg/kg	0.160	0	.167	95.7	31-124	L573684-05	WG591756
Phenanthrene	mg/kg	0.168	0	.167	101.	25-139	L573684-05	WG591756
Pyrene	mg/kg	0.186	0.0700	.167	69.8	23-145	L573684-05	WG591756
2-Fluorobiphenyl					98.11	37-119		WG591756
Nitrobenzene-d5					116.4*	20-114		WG591756
p-Terphenyl-d14					80.92	15-174		WG591756

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/kg	3.59	3.31	103.	80-120	8.16	20	L573618-01	WG591347
1,3,5-Trimethylbenzene	mg/kg	3.61	3.32	103.	80-120	8.47	20	L573618-01	WG591347
Benzene	mg/kg	3.41	3.18	97.5	32-137	7.13	39	L573618-01	WG591347
Ethylbenzene	mg/kg	3.33	3.07	95.0	10-150	8.17	44	L573618-01	WG591347
Gasoline (C6-C10)	mg/kg	33.9	35.1	97.0	80-120	3.38	20	L573618-01	WG591347
m&p-Xylene	mg/kg	7.05	6.54	101.	14-141	7.46	44	L573618-01	WG591347
Methyl tert-butyl ether	mg/kg	3.08	2.86	87.9	24-151	7.37	37	L573618-01	WG591347
Naphthalene	mg/kg	4.00	3.45	114.	80-120	14.6	20	L573618-01	WG591347
o-Xylene	mg/kg	3.46	3.20	98.8	10-157	7.78	44	L573618-01	WG591347
Toluene	mg/kg	3.48	3.24	99.5	20-142	7.30	42	L573618-01	WG591347
a,a,a-Trifluorotoluene(PID)				101.9	80-120				WG591347
Acenaphthene	mg/kg	0.137	0.134	82.0	30-132	2.05	21	L573626-02	WG591489
Acenaphthylene	mg/kg	0.141	0.132	84.2	31-144	6.56	24	L573626-02	WG591489
Anthracene	mg/kg	0.127	0.123	75.9	27-140	3.24	20	L573626-02	WG591489
Benzo(a)anthracene	mg/kg	0.106	0.111	63.4	22-139	4.74	22	L573626-02	WG591489
Benzo(a)pyrene	mg/kg	0.0965	0.0974	57.8	16-148	0.918	21	L573626-02	WG591489
Benzo(b)fluoranthene	mg/kg	0.0902	0.0931	54.0	13-152	3.13	24	L573626-02	WG591489
Benzo(g,h,i)perylene	mg/kg	0.0999	0.0955	59.8	10-137	4.53	32	L573626-02	WG591489
Benzo(k)fluoranthene	mg/kg	0.109	0.104	65.1	15-152	4.34	22	L573626-02	WG591489
Chrysene	mg/kg	0.114	0.111	68.0	20-139	2.39	23	L573626-02	WG591489
Dibenz(a,h)anthracene	mg/kg	0.0995	0.100	59.6	10-137	0.791	29	L573626-02	WG591489

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Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Fluoranthene	mg/kg	0.121	0.116	72.6	24-145	4.17	29	L573626-02	WG591489
Fluorene	mg/kg	0.133	0.134	79.9	30-138	0.459	22	L573626-02	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	0.101	0.0962	60.7	10-139	5.28	32	L573626-02	WG591489
Naphthalene	mg/kg	0.146	0.139	87.5	31-124	5.10	25	L573626-02	WG591489
Phenanthrene	mg/kg	0.136	0.121	81.3	25-139	11.9	25	L573626-02	WG591489
Pyrene	mg/kg	0.121	0.127	72.2	23-145	5.45	30	L573626-02	WG591489
2-Fluorobiphenyl				86.57	37-119				WG591489
Nitrobenzene-d5				100.9	20-114				WG591489
p-Terphenyl-d14				97.60	15-174				WG591489
Acenaphthene	mg/kg	0.165	0.174	98.9	30-132	5.38	21	L573684-05	WG591756
Acenaphthylene	mg/kg	0.165	0.172	98.5	31-144	4.46	24	L573684-05	WG591756
Anthracene	mg/kg	0.151	0.147	90.7	27-140	3.32	20	L573684-05	WG591756
Benzo(a)anthracene	mg/kg	0.163	0.148	97.7	22-139	9.80	22	L573684-05	WG591756
Benzo(a)pyrene	mg/kg	0.153	0.142	69.1	16-148	8.03	21	L573684-05	WG591756
Benzo(b)fluoranthene	mg/kg	0.162	0.143	67.4	13-152	11.9	24	L573684-05	WG591756
Benzo(g,h,i)perylene	mg/kg	0.0893	0.0918	53.4	10-137	2.82	32	L573684-05	WG591756
Benzo(k)fluoranthene	mg/kg	0.169	0.150	101.	15-152	11.8	22	L573684-05	WG591756
Chrysene	mg/kg	0.169	0.155	77.1	20-139	8.65	23	L573684-05	WG591756
Dibenz(a,h)anthracene	mg/kg	0.0936	0.0871	56.0	10-137	7.22	29	L573684-05	WG591756
Fluoranthene	mg/kg	0.254	0.197	98.2	24-145	25.3	29	L573684-05	WG591756
Fluorene	mg/kg	0.160	0.162	95.8	30-138	1.43	22	L573684-05	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	0.110	0.100	66.0	10-139	9.30	32	L573684-05	WG591756
Naphthalene	mg/kg	0.175	0.160	104.	31-124	8.85	25	L573684-05	WG591756
Phenanthrene	mg/kg	0.198	0.168	118.	25-139	16.1	25	L573684-05	WG591756
Pyrene	mg/kg	0.233	0.186	97.8	23-145	22.3	30	L573684-05	WG591756
2-Fluorobiphenyl				95.63	37-119				WG591756
Nitrobenzene-d5				114.0	20-114				WG591756
p-Terphenyl-d14				89.22	15-174				WG591756

Batch number /Run number / Sample number cross reference

WG591347: R2164015: L573636-01 02 03 04 05 06 07 08 09
WG591825: R2165494: L573636-01 02 03 04 05 06
WG591826: R2165495: L573636-07 08 09
WG591489: R2166514: L573636-01 02 03 04 05 06 07
WG591359: R2167934: L573636-01 02
WG591760: R2167935: L573636-03 04 05 06 07 08 09
WG591756: R2168033: L573636-08 09

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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Quality Assurance Report
Level II

L573636

May 16, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Calumet Specialty Products

2407 Stinson Avenue
Superior, WI 54880

Billing information:

1
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Analysis/Container/Preservative — H044

Chain of Custody
Page 1 of 10

ESC LAB SCIENCES
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Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

Report to: Peter Fredman

Email: Peter.Fredman@calumetspec

Project Description: Slop line leak

City/State Collected: Superior, WI

Phone: (715) 398-8455
FAX: (715) 398-8209

Client Project #:

Lab Project #: MUROILSWI-FREDMAN

Collected by (print): Matthew Unzeitig

Site/Facility ID#:

P.O.#: 12100019

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day.....100%
___ Two Day.....50%
___ Three Day.....25%

Date Results Needed

Email? ___No X Yes
FAX? ___No ___Yes

(lab use only)
Acctnum: MUROILSWI
Template/Prelogin: T78120/P389113
Cooler #: 4-5-12G
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	DROWM 60mlAmb/MeCl/Syr	MISC-SUB 4ozAmb-NoPres	Metals 2ozClr-NoPres	PVOCGRO 60mlAmb/MeOH/Syr	SV8270 4ozClr-NoPres	TS 2ozClr-NoPres /PAH	V8260/465 2ozClr-NoPres	V8260/465 60mlAmb/MeOH/Syr	Remarks/Contaminant	Sample # (lab only)
T34-SW-N-3ft	Grab	SS	3'	5-4-2012	1010	4	X			X		X				L573636-01
T34-SW-N-7ft	Grab	SS	7'	5-4-2012	1045	4	X			X		X				02
T34-B-E-7ft	Grab	SS	7'	5-4-2012	1110	4	X			X		X				03
T34-B-E-11ft	Grab	SS	11'	"	1150	4	X			X		X				04
T34-B-C-7ft	"	SS	7'	"	1015	4	X			X		X				05
T34-B-C-11ft	"	SS	11'	"	1245	4	X			X		X				06
T34-B-W-7ft	"	SS	7'	"	1330	4	X			X		X				07
T34-B-W-11ft	"	SS	11'	"	1350	4	X			X		X				08
T34-SW-S-5ft	"	SS	5'	"	1210	4	X			X		X				09

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

pH _____ Temp _____

Remarks:

Flow _____ Other _____

5274 8784 3041

	Date:	Time:			
Relinquished by: (Signature)	5-4-12	1430	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐	Condition: (lab use only) TEOK
Relinquished by: (Signature)	5-4-12	1505	Received by: (Signature)	Temp: 3.6°C Bottles Received: 36	COC Seal Intact: ___Y ___N ___NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 5-5-12 Time: 0900	pH Checked: NCF:

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Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

Report Summary

Wednesday May 16, 2012

Report Number: L573636
Samples Received: 05/05/12
Client Project:

Description: Slopline Leak

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: John Hawkins

John Hawkins , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-01

Site ID :

Project # :

Date Received : May 05, 2012
Description : Slopline Leak

Sample ID : T34-SW-N 3 FT

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 10:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	79.1	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.032	mg/kg	8021	05/09/12	50.5
Toluene	BDL	0.32	mg/kg	8021	05/09/12	50.5
Ethylbenzene	BDL	0.032	mg/kg	8021	05/09/12	50.5
m&p-Xylene	BDL	0.064	mg/kg	8021	05/09/12	50.5
o-Xylene	BDL	0.032	mg/kg	8021	05/09/12	50.5
Methyl tert-butyl ether	BDL	0.064	mg/kg	8021	05/09/12	50.5
Naphthalene	BDL	0.32	mg/kg	8021	05/09/12	50.5
1,3,5-Trimethylbenzene	BDL	0.064	mg/kg	8021	05/09/12	50.5
1,2,4-Trimethylbenzene	BDL	0.064	mg/kg	8021	05/09/12	50.5
Gasoline (C6-C10)	BDL	6.4	mg/kg	8015	05/09/12	50.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.7		% Rec.	8021	05/09/12	50.5
TPH (GC/FID) High Fraction	BDL	10.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	127.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.042	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.042	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.042	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.042	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.042	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.042	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.042	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.042	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	83.1		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	66.7		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	81.1		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 05/16/12 10:42 Printed: 05/16/12 11:32

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-02

Site ID :

Project # :

Date Received : May 05, 2012
Description : Slopline Leak

Sample ID : T34-SW-N 7 FT

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 10:45

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	70.3	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Toluene	BDL	0.35	mg/kg	8021	05/09/12	49.5
Ethylbenzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
m&p-Xylene	BDL	0.070	mg/kg	8021	05/09/12	49.5
o-Xylene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Methyl tert-butyl ether	BDL	0.070	mg/kg	8021	05/09/12	49.5
Naphthalene	BDL	0.35	mg/kg	8021	05/09/12	49.5
1,3,5-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
1,2,4-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
Gasoline (C6-C10)	BDL	7.0	mg/kg	8015	05/09/12	49.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	05/09/12	49.5
TPH (GC/FID) High Fraction	BDL	12.	mg/kg	DROWM/8015M	05/11/12	1.03
Surrogate recovery(%)						
Triacontane	127.		% Rec.	DROWM/8015M	05/11/12	1.03
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.047	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.047	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.047	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	82.4		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	71.2		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	88.6		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-03

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-E 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 11:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	69.9	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.036	mg/kg	8021	05/09/12	50
Toluene	BDL	0.36	mg/kg	8021	05/09/12	50
Ethylbenzene	BDL	0.036	mg/kg	8021	05/09/12	50
m&p-Xylene	BDL	0.072	mg/kg	8021	05/09/12	50
o-Xylene	BDL	0.036	mg/kg	8021	05/09/12	50
Methyl tert-butyl ether	BDL	0.072	mg/kg	8021	05/09/12	50
Naphthalene	BDL	0.36	mg/kg	8021	05/09/12	50
1,3,5-Trimethylbenzene	BDL	0.072	mg/kg	8021	05/09/12	50
1,2,4-Trimethylbenzene	BDL	0.072	mg/kg	8021	05/09/12	50
Gasoline (C6-C10)	BDL	7.2	mg/kg	8015	05/09/12	50
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021	05/09/12	50
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	115.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.047	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.047	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.047	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	81.2		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	75.1		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	90.8		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-04

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-E 11 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 11:50

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	67.7	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.040	mg/kg	8021	05/09/12	54.5
Toluene	BDL	0.40	mg/kg	8021	05/09/12	54.5
Ethylbenzene	BDL	0.040	mg/kg	8021	05/09/12	54.5
m&p-Xylene	BDL	0.080	mg/kg	8021	05/09/12	54.5
o-Xylene	BDL	0.040	mg/kg	8021	05/09/12	54.5
Methyl tert-butyl ether	BDL	0.080	mg/kg	8021	05/09/12	54.5
Naphthalene	BDL	0.40	mg/kg	8021	05/09/12	54.5
1,3,5-Trimethylbenzene	BDL	0.080	mg/kg	8021	05/09/12	54.5
1,2,4-Trimethylbenzene	BDL	0.080	mg/kg	8021	05/09/12	54.5
Gasoline (C6-C10)	BDL	8.0	mg/kg	8015	05/09/12	54.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.3		% Rec.	8021	05/09/12	54.5
TPH (GC/FID) High Fraction	BDL	12.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	115.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.049	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.049	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.049	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.049	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.049	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.049	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.049	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.049	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	83.0		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	76.4		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	98.7		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-05

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-C 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 10:45

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	74.0	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.034	mg/kg	8021	05/09/12	50.5
Toluene	BDL	0.34	mg/kg	8021	05/09/12	50.5
Ethylbenzene	BDL	0.034	mg/kg	8021	05/09/12	50.5
m&p-Xylene	BDL	0.068	mg/kg	8021	05/09/12	50.5
o-Xylene	BDL	0.034	mg/kg	8021	05/09/12	50.5
Methyl tert-butyl ether	BDL	0.068	mg/kg	8021	05/09/12	50.5
Naphthalene	BDL	0.34	mg/kg	8021	05/09/12	50.5
1,3,5-Trimethylbenzene	BDL	0.068	mg/kg	8021	05/09/12	50.5
1,2,4-Trimethylbenzene	0.069	0.068	mg/kg	8021	05/09/12	50.5
Gasoline (C6-C10)	BDL	6.8	mg/kg	8015	05/09/12	50.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	98.8		% Rec.	8021	05/09/12	50.5
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	119.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.044	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.044	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.044	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.044	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.044	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.044	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.044	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.044	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.044	mg/kg	8270C	05/11/12	1
Pyrene	0.094	0.044	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	95.2		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	85.9		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	103.		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-06

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-C 11 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 12:45

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	70.4	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Toluene	BDL	0.35	mg/kg	8021	05/09/12	49.5
Ethylbenzene	BDL	0.035	mg/kg	8021	05/09/12	49.5
m&p-Xylene	BDL	0.070	mg/kg	8021	05/09/12	49.5
o-Xylene	BDL	0.035	mg/kg	8021	05/09/12	49.5
Methyl tert-butyl ether	BDL	0.070	mg/kg	8021	05/09/12	49.5
Naphthalene	BDL	0.35	mg/kg	8021	05/09/12	49.5
1,3,5-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
1,2,4-Trimethylbenzene	BDL	0.070	mg/kg	8021	05/09/12	49.5
Gasoline (C6-C10)	BDL	7.0	mg/kg	8015	05/09/12	49.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.2		% Rec.	8021	05/09/12	49.5
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	119.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.047	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.047	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.047	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.047	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.047	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	83.4		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	69.3		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	94.9		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 05/16/12 10:42 Printed: 05/16/12 11:32

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Est. 1970

REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-07

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-W 7 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 13:30

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	73.7	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	0.052	0.034	mg/kg	8021	05/10/12	50.5
Toluene	BDL	0.34	mg/kg	8021	05/10/12	50.5
Ethylbenzene	0.096	0.034	mg/kg	8021	05/10/12	50.5
m&p-Xylene	BDL	0.068	mg/kg	8021	05/10/12	50.5
o-Xylene	0.076	0.034	mg/kg	8021	05/10/12	50.5
Methyl tert-butyl ether	BDL	0.068	mg/kg	8021	05/10/12	50.5
Naphthalene	BDL	0.34	mg/kg	8021	05/10/12	50.5
1,3,5-Trimethylbenzene	BDL	0.068	mg/kg	8021	05/10/12	50.5
1,2,4-Trimethylbenzene	0.13	0.068	mg/kg	8021	05/10/12	50.5
Gasoline (C6-C10)	BDL	6.8	mg/kg	8015	05/10/12	50.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	99.8		% Rec.	8021	05/10/12	50.5
TPH (GC/FID) High Fraction	BDL	11.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	111.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.045	mg/kg	8270C	05/11/12	1
Acenaphthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Acenaphthylene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(a)anthracene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(a)pyrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(b)fluoranthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(g,h,i)perylene	BDL	0.045	mg/kg	8270C	05/11/12	1
Benzo(k)fluoranthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Chrysene	BDL	0.045	mg/kg	8270C	05/11/12	1
Dibenz(a,h)anthracene	BDL	0.045	mg/kg	8270C	05/11/12	1
Fluoranthene	BDL	0.045	mg/kg	8270C	05/11/12	1
Fluorene	BDL	0.045	mg/kg	8270C	05/11/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Naphthalene	BDL	0.045	mg/kg	8270C	05/11/12	1
Phenanthrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Pyrene	BDL	0.045	mg/kg	8270C	05/11/12	1
Surrogate Recovery						
Nitrobenzene-d5	86.7		% Rec.	8270C	05/11/12	1
2-Fluorobiphenyl	66.0		% Rec.	8270C	05/11/12	1
p-Terphenyl-d14	98.8		% Rec.	8270C	05/11/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-08

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-B-W 11 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 13:50

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	69.4	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	BDL	0.036	mg/kg	8021	05/10/12	49.5
Toluene	BDL	0.36	mg/kg	8021	05/10/12	49.5
Ethylbenzene	BDL	0.036	mg/kg	8021	05/10/12	49.5
m&p-Xylene	BDL	0.071	mg/kg	8021	05/10/12	49.5
o-Xylene	BDL	0.036	mg/kg	8021	05/10/12	49.5
Methyl tert-butyl ether	BDL	0.071	mg/kg	8021	05/10/12	49.5
Naphthalene	BDL	0.36	mg/kg	8021	05/10/12	49.5
1,3,5-Trimethylbenzene	BDL	0.071	mg/kg	8021	05/10/12	49.5
1,2,4-Trimethylbenzene	BDL	0.071	mg/kg	8021	05/10/12	49.5
Gasoline (C6-C10)	BDL	7.1	mg/kg	8015	05/10/12	49.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021	05/10/12	49.5
TPH (GC/FID) High Fraction	BDL	12.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	120.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.048	mg/kg	8270C	05/14/12	1
Acenaphthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Acenaphthylene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(a)anthracene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(a)pyrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(b)fluoranthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(g,h,i)perylene	BDL	0.048	mg/kg	8270C	05/14/12	1
Benzo(k)fluoranthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Chrysene	BDL	0.048	mg/kg	8270C	05/14/12	1
Dibenz(a,h)anthracene	BDL	0.048	mg/kg	8270C	05/14/12	1
Fluoranthene	BDL	0.048	mg/kg	8270C	05/14/12	1
Fluorene	BDL	0.048	mg/kg	8270C	05/14/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Naphthalene	BDL	0.048	mg/kg	8270C	05/14/12	1
Phenanthrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Pyrene	BDL	0.048	mg/kg	8270C	05/14/12	1
Surrogate Recovery						
Nitrobenzene-d5	90.0		% Rec.	8270C	05/14/12	1
2-Fluorobiphenyl	87.8		% Rec.	8270C	05/14/12	1
p-Terphenyl-d14	112.		% Rec.	8270C	05/14/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

May 16,2012

ESC Sample # : L573636-09

Date Received : May 05, 2012
Description : Slopline Leak

Site ID :

Sample ID : T34-SW-S 5 FT

Project # :

Collected By : Matthew Unzeitig
Collection Date : 05/04/12 12:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	66.3	0.100	%	2540G	05/11/12	1
PVOCGRO						
Benzene	0.28	0.042	mg/kg	8021	05/10/12	55.5
Toluene	BDL	0.42	mg/kg	8021	05/10/12	55.5
Ethylbenzene	3.9	0.042	mg/kg	8021	05/10/12	55.5
m&p-Xylene	1.2	0.084	mg/kg	8021	05/10/12	55.5
o-Xylene	0.18	0.042	mg/kg	8021	05/10/12	55.5
Methyl tert-butyl ether	BDL	0.084	mg/kg	8021	05/10/12	55.5
Naphthalene	18.	0.42	mg/kg	8021	05/10/12	55.5
1,3,5-Trimethylbenzene	0.51	0.084	mg/kg	8021	05/10/12	55.5
1,2,4-Trimethylbenzene	1.2	0.084	mg/kg	8021	05/10/12	55.5
Gasoline (C6-C10)	100	8.4	mg/kg	8015	05/10/12	55.5
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	05/10/12	55.5
TPH (GC/FID) High Fraction	24.	12.	mg/kg	DROWM/8015M	05/11/12	1
Surrogate recovery(%)						
Triacontane	116.		% Rec.	DROWM/8015M	05/11/12	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.15	0.050	mg/kg	8270C	05/14/12	1
Acenaphthene	0.11	0.050	mg/kg	8270C	05/14/12	1
Acenaphthylene	BDL	0.050	mg/kg	8270C	05/14/12	1
Benzo(a)anthracene	0.093	0.050	mg/kg	8270C	05/14/12	1
Benzo(a)pyrene	BDL	0.050	mg/kg	8270C	05/14/12	1
Benzo(b)fluoranthene	0.12	0.050	mg/kg	8270C	05/14/12	1
Benzo(g,h,i)perylene	BDL	0.050	mg/kg	8270C	05/14/12	1
Benzo(k)fluoranthene	BDL	0.050	mg/kg	8270C	05/14/12	1
Chrysene	0.14	0.050	mg/kg	8270C	05/14/12	1
Dibenz(a,h)anthracene	BDL	0.050	mg/kg	8270C	05/14/12	1
Fluoranthene	0.39	0.050	mg/kg	8270C	05/14/12	1
Fluorene	0.16	0.050	mg/kg	8270C	05/14/12	1
Indeno(1,2,3-cd)pyrene	BDL	0.050	mg/kg	8270C	05/14/12	1
Naphthalene	9.3	0.50	mg/kg	8270C	05/15/12	10
Phenanthrene	0.74	0.050	mg/kg	8270C	05/14/12	1
Pyrene	0.39	0.050	mg/kg	8270C	05/14/12	1
Surrogate Recovery						
Nitrobenzene-d5	114.		% Rec.	8270C	05/14/12	1
2-Fluorobiphenyl	98.2		% Rec.	8270C	05/14/12	1
p-Terphenyl-d14	126.		% Rec.	8270C	05/14/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

The reported analytical results relate only to the sample submitted
Reported: 05/16/12 10:42 Printed: 05/16/12 11:32

Summary of Remarks For Samples Printed
05/16/12 at 11:32:10

TSR Signing Reports: 341
R5 - Desired TAT

Sample: L573636-01 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-02 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-03 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-04 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-05 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-06 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-07 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-08 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

Sample: L573636-09 Account: MUROILSWI Received: 05/05/12 09:00 Due Date: 05/11/12 00:00 RPT Date: 05/16/12 10:42

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,2,4-Trimethylbenzene	< .001	mg/kg			WG591347	05/09/12 14:23
1,3,5-Trimethylbenzene	< .001	mg/kg			WG591347	05/09/12 14:23
Benzene	< .0005	mg/kg			WG591347	05/09/12 14:23
Ethylbenzene	< .0005	mg/kg			WG591347	05/09/12 14:23
Gasoline (C6-C10)	< .1	mg/kg			WG591347	05/09/12 14:23
m&p-Xylene	< .001	mg/kg			WG591347	05/09/12 14:23
Methyl tert-butyl ether	< .001	mg/kg			WG591347	05/09/12 14:23
Naphthalene	< .005	mg/kg			WG591347	05/09/12 14:23
o-Xylene	< .0005	mg/kg			WG591347	05/09/12 14:23
Toluene	< .005	mg/kg			WG591347	05/09/12 14:23
a,a,a-Trifluorotoluene(PID)		% Rec.	100.0	80-120	WG591347	05/09/12 14:23
Total Solids	< .1	%			WG591825	05/11/12 10:22
Total Solids	< .1	%			WG591826	05/11/12 10:58
Acenaphthene	< .033	mg/kg			WG591489	05/11/12 15:24
Acenaphthylene	< .033	mg/kg			WG591489	05/11/12 15:24
Anthracene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(a)anthracene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(a)pyrene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(b)fluoranthene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(g,h,i)perylene	< .033	mg/kg			WG591489	05/11/12 15:24
Benzo(k)fluoranthene	< .033	mg/kg			WG591489	05/11/12 15:24
Chrysene	< .033	mg/kg			WG591489	05/11/12 15:24
Dibenz(a,h)anthracene	< .033	mg/kg			WG591489	05/11/12 15:24
Fluoranthene	< .033	mg/kg			WG591489	05/11/12 15:24
Fluorene	< .033	mg/kg			WG591489	05/11/12 15:24
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG591489	05/11/12 15:24
Naphthalene	< .033	mg/kg			WG591489	05/11/12 15:24
Phenanthrene	< .033	mg/kg			WG591489	05/11/12 15:24
Pyrene	< .033	mg/kg			WG591489	05/11/12 15:24
2-Fluorobiphenyl		% Rec.	74.83	37-119	WG591489	05/11/12 15:24
Nitrobenzene-d5		% Rec.	84.53	20-114	WG591489	05/11/12 15:24
p-Terphenyl-d14		% Rec.	97.71	15-174	WG591489	05/11/12 15:24
TPH (GC/FID) High Fraction	< 4	ppm			WG591359	05/11/12 13:55
Triacontane		% Rec.	123.1	50-150	WG591359	05/11/12 13:55
TPH (GC/FID) High Fraction	< 4	ppm			WG591760	05/11/12 19:23
Triacontane		% Rec.	121.1	50-150	WG591760	05/11/12 19:23
Acenaphthene	< .033	mg/kg			WG591756	05/13/12 09:55
Acenaphthylene	< .033	mg/kg			WG591756	05/13/12 09:55
Anthracene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(a)anthracene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(a)pyrene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(b)fluoranthene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(g,h,i)perylene	< .033	mg/kg			WG591756	05/13/12 09:55
Benzo(k)fluoranthene	< .033	mg/kg			WG591756	05/13/12 09:55
Chrysene	< .033	mg/kg			WG591756	05/13/12 09:55
Dibenz(a,h)anthracene	< .033	mg/kg			WG591756	05/13/12 09:55
Fluoranthene	< .033	mg/kg			WG591756	05/13/12 09:55

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Fluorene	< .033	mg/kg			WG591756	05/13/12 09:55
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG591756	05/13/12 09:55
Naphthalene	< .033	mg/kg			WG591756	05/13/12 09:55
Phenanthrene	< .033	mg/kg			WG591756	05/13/12 09:55
Pyrene	< .033	mg/kg			WG591756	05/13/12 09:55
2-Fluorobiphenyl		% Rec.	78.72	37-119	WG591756	05/13/12 09:55
Nitrobenzene-d5		% Rec.	90.65	20-114	WG591756	05/13/12 09:55
p-Terphenyl-d14		% Rec.	91.08	15-174	WG591756	05/13/12 09:55

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Total Solids	%	70.0	70.4	0.0185	5	L573636-06	WG591825
Total Solids	%	89.0	89.1	0.191	5	L573643-07	WG591826

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,2,4-Trimethylbenzene	mg/kg	.05	0.0482	96.4	80-120	WG591347
1,3,5-Trimethylbenzene	mg/kg	.05	0.0487	97.4	80-120	WG591347
Benzene	mg/kg	.05	0.0463	92.6	76-113	WG591347
Ethylbenzene	mg/kg	.05	0.0451	90.2	78-115	WG591347
Gasoline (C6-C10)	mg/kg	.5	0.476	95.2	80-120	WG591347
m&p-Xylene	mg/kg	.1	0.0952	95.2	81-120	WG591347
Methyl tert-butyl ether	mg/kg	.05	0.0443	88.5	37-145	WG591347
Naphthalene	mg/kg	.05	0.0504	101.	80-120	WG591347
o-Xylene	mg/kg	.05	0.0469	93.7	79-115	WG591347
Toluene	mg/kg	.05	0.0466	93.2	76-114	WG591347
a,a,a-Trifluorotoluene(PID)				102.1	80-120	WG591347
Total Solids	%	50	49.9	99.7	85-115	WG591825
Total Solids	%	50	50.0	100.	85-115	WG591826
Acenaphthene	mg/kg	.167	0.136	81.2	55-96	WG591489
Acenaphthylene	mg/kg	.167	0.136	81.3	61-107	WG591489
Anthracene	mg/kg	.167	0.138	82.9	58-105	WG591489
Benzo(a)anthracene	mg/kg	.167	0.153	91.6	56-103	WG591489
Benzo(a)pyrene	mg/kg	.167	0.137	82.3	57-103	WG591489
Benzo(b)fluoranthene	mg/kg	.167	0.128	76.6	52-106	WG591489
Benzo(g,h,i)perylene	mg/kg	.167	0.145	86.6	47-112	WG591489
Benzo(k)fluoranthene	mg/kg	.167	0.148	88.7	53-104	WG591489
Chrysene	mg/kg	.167	0.143	85.4	55-102	WG591489
Dibenz(a,h)anthracene	mg/kg	.167	0.143	85.4	49-111	WG591489
Fluoranthene	mg/kg	.167	0.137	82.0	59-108	WG591489
Fluorene	mg/kg	.167	0.136	81.5	59-100	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.141	84.6	50-110	WG591489
Naphthalene	mg/kg	.167	0.126	75.2	55-91	WG591489
Phenanthrene	mg/kg	.167	0.143	85.5	55-103	WG591489
Pyrene	mg/kg	.167	0.146	87.4	54-104	WG591489
2-Fluorobiphenyl				77.97	37-119	WG591489
Nitrobenzene-d5				79.20	20-114	WG591489
p-Terphenyl-d14				88.51	15-174	WG591489

* Performance of this Analyte is outside of established criteria.
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Est. 1970

Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
TPH (GC/FID) High Fraction	mg/kg	40	41.5	104.	70-120	WG591359
Triacontane				102.3	50-150	WG591359
TPH (GC/FID) High Fraction	mg/kg	40	31.2	78.1	70-120	WG591760
Triacontane				112.8	50-150	WG591760
Acenaphthene	mg/kg	.167	0.141	84.7	55-96	WG591756
Acenaphthylene	mg/kg	.167	0.139	83.1	61-107	WG591756
Anthracene	mg/kg	.167	0.146	87.6	58-105	WG591756
Benzo(a)anthracene	mg/kg	.167	0.149	89.2	56-103	WG591756
Benzo(a)pyrene	mg/kg	.167	0.151	90.5	57-103	WG591756
Benzo(b)fluoranthene	mg/kg	.167	0.136	81.7	52-106	WG591756
Benzo(g,h,i)perylene	mg/kg	.167	0.152	90.8	47-112	WG591756
Benzo(k)fluoranthene	mg/kg	.167	0.149	89.1	53-104	WG591756
Chrysene	mg/kg	.167	0.145	86.7	55-102	WG591756
Dibenz(a,h)anthracene	mg/kg	.167	0.142	85.1	49-111	WG591756
Fluoranthene	mg/kg	.167	0.149	89.5	59-108	WG591756
Fluorene	mg/kg	.167	0.142	85.3	59-100	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.154	91.9	50-110	WG591756
Naphthalene	mg/kg	.167	0.124	74.1	55-91	WG591756
Phenanthrene	mg/kg	.167	0.150	89.6	55-103	WG591756
Pyrene	mg/kg	.167	0.148	88.6	54-104	WG591756
2-Fluorobiphenyl				79.36	37-119	WG591756
Nitrobenzene-d5				86.84	20-114	WG591756
p-Terphenyl-d14				95.35	15-174	WG591756

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2,4-Trimethylbenzene	mg/kg	0.0456	0.0482	91.0	80-120	5.48	20	WG591347
1,3,5-Trimethylbenzene	mg/kg	0.0460	0.0487	92.0	80-120	5.56	20	WG591347
Benzene	mg/kg	0.0445	0.0463	89.0	76-113	3.95	20	WG591347
Ethylbenzene	mg/kg	0.0430	0.0451	86.0	78-115	4.62	20	WG591347
Gasoline (C6-C10)	mg/kg	0.483	0.476	97.0	80-120	1.44	20	WG591347
m&p-Xylene	mg/kg	0.0905	0.0952	90.0	81-120	5.13	20	WG591347
Methyl tert-butyl ether	mg/kg	0.0437	0.0443	87.0	37-145	1.27	24	WG591347
Naphthalene	mg/kg	0.0522	0.0504	104.	80-120	3.54	20	WG591347
o-Xylene	mg/kg	0.0453	0.0469	91.0	79-115	3.34	20	WG591347
Toluene	mg/kg	0.0448	0.0466	90.0	76-114	3.92	20	WG591347
a,a,a-Trifluorotoluene(PID)				101.0	80-120			WG591347
Acenaphthene	mg/kg	0.139	0.136	84.0	55-96	2.78	20	WG591489
Acenaphthylene	mg/kg	0.130	0.136	78.0	61-107	4.54	20	WG591489
Anthracene	mg/kg	0.141	0.138	84.0	58-105	1.78	20	WG591489
Benzo(a)anthracene	mg/kg	0.150	0.153	90.0	56-103	2.08	20	WG591489
Benzo(a)pyrene	mg/kg	0.142	0.137	85.0	57-103	3.42	20	WG591489
Benzo(b)fluoranthene	mg/kg	0.126	0.128	75.0	52-106	1.80	20	WG591489
Benzo(g,h,i)perylene	mg/kg	0.137	0.145	82.0	47-112	5.67	20	WG591489
Benzo(k)fluoranthene	mg/kg	0.146	0.148	87.0	53-104	1.72	20	WG591489
Chrysene	mg/kg	0.142	0.143	85.0	55-102	0.737	20	WG591489
Dibenz(a,h)anthracene	mg/kg	0.141	0.143	85.0	49-111	0.812	20	WG591489
Fluoranthene	mg/kg	0.147	0.137	88.0	59-108	6.81	20	WG591489
Fluorene	mg/kg	0.136	0.136	81.0	59-100	0.157	20	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	0.146	0.141	88.0	50-110	3.32	20	WG591489
Naphthalene	mg/kg	0.136	0.126	82.0	55-91	8.18	20	WG591489

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Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Laboratory Control Sample Result	Ref	%Rec	Limit	RPD	Limit	Batch
Phenanthrene	mg/kg	0.136	0.143	82.0	55-103	4.55	20	WG591489
Pyrene	mg/kg	0.139	0.146	83.0	54-104	4.79	20	WG591489
2-Fluorobiphenyl				77.40	37-119			WG591489
Nitrobenzene-d5				86.21	20-114			WG591489
p-Terphenyl-d14				98.01	15-174			WG591489
TPH (GC/FID) High Fraction	mg/kg	34.0	41.5	85.0	70-120	19.8	23	WG591359
Triacontane				109.7	50-150			WG591359
TPH (GC/FID) High Fraction	mg/kg	33.3	31.2	83.0	70-120	6.21	23	WG591760
Triacontane				115.8	50-150			WG591760
Acenaphthene	mg/kg	0.129	0.141	78.0	55-96	8.88	20	WG591756
Acenaphthylene	mg/kg	0.131	0.139	78.0	61-107	5.94	20	WG591756
Anthracene	mg/kg	0.148	0.146	89.0	58-105	1.31	20	WG591756
Benzo(a)anthracene	mg/kg	0.150	0.149	90.0	56-103	0.733	20	WG591756
Benzo(a)pyrene	mg/kg	0.147	0.151	88.0	57-103	2.53	20	WG591756
Benzo(b)fluoranthene	mg/kg	0.134	0.136	80.0	52-106	1.61	20	WG591756
Benzo(g,h,i)perylene	mg/kg	0.157	0.152	94.0	47-112	3.64	20	WG591756
Benzo(k)fluoranthene	mg/kg	0.164	0.149	98.0	53-104	9.54	20	WG591756
Chrysene	mg/kg	0.149	0.145	89.0	55-102	2.69	20	WG591756
Dibenz(a,h)anthracene	mg/kg	0.144	0.142	86.0	49-111	1.40	20	WG591756
Fluoranthene	mg/kg	0.153	0.149	91.0	59-108	2.09	20	WG591756
Fluorene	mg/kg	0.129	0.142	77.0	59-100	9.72	20	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	0.156	0.154	93.0	50-110	1.45	20	WG591756
Naphthalene	mg/kg	0.132	0.124	79.0	55-91	6.17	20	WG591756
Phenanthrene	mg/kg	0.145	0.150	87.0	55-103	2.90	20	WG591756
Pyrene	mg/kg	0.152	0.148	91.0	54-104	2.48	20	WG591756
2-Fluorobiphenyl				75.78	37-119			WG591756
Nitrobenzene-d5				91.23	20-114			WG591756
p-Terphenyl-d14				98.10	15-174			WG591756

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/kg	3.31	0	.05	94.6	80-120	L573618-01	WG591347
1,3,5-Trimethylbenzene	mg/kg	3.32	0	.05	94.8	80-120	L573618-01	WG591347
Benzene	mg/kg	3.18	0	.05	90.8	32-137	L573618-01	WG591347
Ethylbenzene	mg/kg	3.07	0	.05	87.6	10-150	L573618-01	WG591347
Gasoline (C6-C10)	mg/kg	35.1	0	.5	100.	80-120	L573618-01	WG591347
m&p-Xylene	mg/kg	6.54	0	.1	93.5	14-141	L573618-01	WG591347
Methyl tert-butyl ether	mg/kg	2.86	0	.05	81.6	24-151	L573618-01	WG591347
Naphthalene	mg/kg	3.45	0	.05	98.7	80-120	L573618-01	WG591347
o-Xylene	mg/kg	3.20	0	.05	91.4	10-157	L573618-01	WG591347
Toluene	mg/kg	3.24	0	.05	92.5	20-142	L573618-01	WG591347
a,a,a-Trifluorotoluene(PID)					102.2	80-120		WG591347
Acenaphthene	mg/kg	0.134	0	.167	80.3	30-132	L573626-02	WG591489
Acenaphthylene	mg/kg	0.132	0	.167	78.8	31-144	L573626-02	WG591489
Anthracene	mg/kg	0.123	0	.167	73.4	27-140	L573626-02	WG591489
Benzo(a)anthracene	mg/kg	0.111	0	.167	66.5	22-139	L573626-02	WG591489
Benzo(a)pyrene	mg/kg	0.0974	0	.167	58.3	16-148	L573626-02	WG591489
Benzo(b)fluoranthene	mg/kg	0.0931	0	.167	55.7	13-152	L573626-02	WG591489
Benzo(g,h,i)perylene	mg/kg	0.0955	0	.167	57.2	10-137	L573626-02	WG591489
Benzo(k)fluoranthene	mg/kg	0.104	0	.167	62.3	15-152	L573626-02	WG591489

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Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chrysene	mg/kg	0.111	0	.167	66.4	20-139	L573626-02	WG591489
Dibenz(a,h)anthracene	mg/kg	0.100	0	.167	60.1	10-137	L573626-02	WG591489
Fluoranthene	mg/kg	0.116	0	.167	69.6	24-145	L573626-02	WG591489
Fluorene	mg/kg	0.134	0	.167	80.3	30-138	L573626-02	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	0.0962	0	.167	57.6	10-139	L573626-02	WG591489
Naphthalene	mg/kg	0.139	0	.167	83.2	31-124	L573626-02	WG591489
Phenanthrene	mg/kg	0.121	0	.167	72.2	25-139	L573626-02	WG591489
Pyrene	mg/kg	0.127	0	.167	76.2	23-145	L573626-02	WG591489
2-Fluorobiphenyl					85.72	37-119		WG591489
Nitrobenzene-d5					94.77	20-114		WG591489
p-Terphenyl-d14					94.19	15-174		WG591489
Acenaphthene	mg/kg	0.174	0	.167	104.	30-132	L573684-05	WG591756
Acenaphthylene	mg/kg	0.172	0	.167	103.	31-144	L573684-05	WG591756
Anthracene	mg/kg	0.147	0	.167	87.8	27-140	L573684-05	WG591756
Benzo(a)anthracene	mg/kg	0.148	0	.167	88.6	22-139	L573684-05	WG591756
Benzo(a)pyrene	mg/kg	0.142	0.0380	.167	62.0	16-148	L573684-05	WG591756
Benzo(b)fluoranthene	mg/kg	0.143	0.0490	.167	56.5	13-152	L573684-05	WG591756
Benzo(g,h,i)perylene	mg/kg	0.0918	0	.167	55.0	10-137	L573684-05	WG591756
Benzo(k)fluoranthene	mg/kg	0.150	0	.167	89.7	15-152	L573684-05	WG591756
Chrysene	mg/kg	0.155	0.0400	.167	68.7	20-139	L573684-05	WG591756
Dibenz(a,h)anthracene	mg/kg	0.0871	0	.167	52.1	10-137	L573684-05	WG591756
Fluoranthene	mg/kg	0.197	0.0900	.167	64.0	24-145	L573684-05	WG591756
Fluorene	mg/kg	0.162	0	.167	97.2	30-138	L573684-05	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	0.100	0	.167	60.2	10-139	L573684-05	WG591756
Naphthalene	mg/kg	0.160	0	.167	95.7	31-124	L573684-05	WG591756
Phenanthrene	mg/kg	0.168	0	.167	101.	25-139	L573684-05	WG591756
Pyrene	mg/kg	0.186	0.0700	.167	69.8	23-145	L573684-05	WG591756
2-Fluorobiphenyl					98.11	37-119		WG591756
Nitrobenzene-d5					116.4*	20-114		WG591756
p-Terphenyl-d14					80.92	15-174		WG591756

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/kg	3.59	3.31	103.	80-120	8.16	20	L573618-01	WG591347
1,3,5-Trimethylbenzene	mg/kg	3.61	3.32	103.	80-120	8.47	20	L573618-01	WG591347
Benzene	mg/kg	3.41	3.18	97.5	32-137	7.13	39	L573618-01	WG591347
Ethylbenzene	mg/kg	3.33	3.07	95.0	10-150	8.17	44	L573618-01	WG591347
Gasoline (C6-C10)	mg/kg	33.9	35.1	97.0	80-120	3.38	20	L573618-01	WG591347
m&p-Xylene	mg/kg	7.05	6.54	101.	14-141	7.46	44	L573618-01	WG591347
Methyl tert-butyl ether	mg/kg	3.08	2.86	87.9	24-151	7.37	37	L573618-01	WG591347
Naphthalene	mg/kg	4.00	3.45	114.	80-120	14.6	20	L573618-01	WG591347
o-Xylene	mg/kg	3.46	3.20	98.8	10-157	7.78	44	L573618-01	WG591347
Toluene	mg/kg	3.48	3.24	99.5	20-142	7.30	42	L573618-01	WG591347
a,a,a-Trifluorotoluene(PID)				101.9	80-120				WG591347
Acenaphthene	mg/kg	0.137	0.134	82.0	30-132	2.05	21	L573626-02	WG591489
Acenaphthylene	mg/kg	0.141	0.132	84.2	31-144	6.56	24	L573626-02	WG591489
Anthracene	mg/kg	0.127	0.123	75.9	27-140	3.24	20	L573626-02	WG591489
Benzo(a)anthracene	mg/kg	0.106	0.111	63.4	22-139	4.74	22	L573626-02	WG591489
Benzo(a)pyrene	mg/kg	0.0965	0.0974	57.8	16-148	0.918	21	L573626-02	WG591489
Benzo(b)fluoranthene	mg/kg	0.0902	0.0931	54.0	13-152	3.13	24	L573626-02	WG591489
Benzo(g,h,i)perylene	mg/kg	0.0999	0.0955	59.8	10-137	4.53	32	L573626-02	WG591489
Benzo(k)fluoranthene	mg/kg	0.109	0.104	65.1	15-152	4.34	22	L573626-02	WG591489
Chrysene	mg/kg	0.114	0.111	68.0	20-139	2.39	23	L573626-02	WG591489
Dibenz(a,h)anthracene	mg/kg	0.0995	0.100	59.6	10-137	0.791	29	L573626-02	WG591489

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Quality Assurance Report
Level II

L573636

May 16, 2012

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
				Matrix Spike Duplicate					
Fluoranthene	mg/kg	0.121	0.116	72.6	24-145	4.17	29	L573626-02	WG591489
Fluorene	mg/kg	0.133	0.134	79.9	30-138	0.459	22	L573626-02	WG591489
Indeno(1,2,3-cd)pyrene	mg/kg	0.101	0.0962	60.7	10-139	5.28	32	L573626-02	WG591489
Naphthalene	mg/kg	0.146	0.139	87.5	31-124	5.10	25	L573626-02	WG591489
Phenanthrene	mg/kg	0.136	0.121	81.3	25-139	11.9	25	L573626-02	WG591489
Pyrene	mg/kg	0.121	0.127	72.2	23-145	5.45	30	L573626-02	WG591489
2-Fluorobiphenyl				86.57	37-119				WG591489
Nitrobenzene-d5				100.9	20-114				WG591489
p-Terphenyl-d14				97.60	15-174				WG591489
Acenaphthene	mg/kg	0.165	0.174	98.9	30-132	5.38	21	L573684-05	WG591756
Acenaphthylene	mg/kg	0.165	0.172	98.5	31-144	4.46	24	L573684-05	WG591756
Anthracene	mg/kg	0.151	0.147	90.7	27-140	3.32	20	L573684-05	WG591756
Benzo(a)anthracene	mg/kg	0.163	0.148	97.7	22-139	9.80	22	L573684-05	WG591756
Benzo(a)pyrene	mg/kg	0.153	0.142	69.1	16-148	8.03	21	L573684-05	WG591756
Benzo(b)fluoranthene	mg/kg	0.162	0.143	67.4	13-152	11.9	24	L573684-05	WG591756
Benzo(g,h,i)perylene	mg/kg	0.0893	0.0918	53.4	10-137	2.82	32	L573684-05	WG591756
Benzo(k)fluoranthene	mg/kg	0.169	0.150	101.	15-152	11.8	22	L573684-05	WG591756
Chrysene	mg/kg	0.169	0.155	77.1	20-139	8.65	23	L573684-05	WG591756
Dibenz(a,h)anthracene	mg/kg	0.0936	0.0871	56.0	10-137	7.22	29	L573684-05	WG591756
Fluoranthene	mg/kg	0.254	0.197	98.2	24-145	25.3	29	L573684-05	WG591756
Fluorene	mg/kg	0.160	0.162	95.8	30-138	1.43	22	L573684-05	WG591756
Indeno(1,2,3-cd)pyrene	mg/kg	0.110	0.100	66.0	10-139	9.30	32	L573684-05	WG591756
Naphthalene	mg/kg	0.175	0.160	104.	31-124	8.85	25	L573684-05	WG591756
Phenanthrene	mg/kg	0.198	0.168	118.	25-139	16.1	25	L573684-05	WG591756
Pyrene	mg/kg	0.233	0.186	97.8	23-145	22.3	30	L573684-05	WG591756
2-Fluorobiphenyl				95.63	37-119				WG591756
Nitrobenzene-d5				114.0	20-114				WG591756
p-Terphenyl-d14				89.22	15-174				WG591756

Batch number /Run number / Sample number cross reference

WG591347: R2164015: L573636-01 02 03 04 05 06 07 08 09
WG591825: R2165494: L573636-01 02 03 04 05 06
WG591826: R2165495: L573636-07 08 09
WG591489: R2166514: L573636-01 02 03 04 05 06 07
WG591359: R2167934: L573636-01 02
WG591760: R2167935: L573636-03 04 05 06 07 08 09
WG591756: R2168033: L573636-08 09

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L573636

May 16, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Calumet Specialty Products

2407 Stinson Avenue
Superior, WI 54880

Billing information:

1
2407 Stinson Avenue

Superior, WI 54880

Report to: **Peter Fredman**

Email: **Peter.Fredman@calumetspec**

Project Description: Slop line leak

City/State Collected: Superior, WI

Phone: (715) 398-8455
FAX: (715) 398-8209

Client Project #:

Lab Project #: **MUROILSWI-FREDMAN**

Collected by (print): Matthew Unzeitig

Site/Facility ID#:

P.O.#: 12100019

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day.....100%
___ Two Day.....50%
___ Three Day.....25%

Date Results Needed

Email? ___No X Yes
FAX? ___No ___Yes

Analysis/Container/Preservative — H044

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	DROWM 60mlAmb/MeCl/Syr	MISC-SUB 4ozAmb-NoPres	Metals 2ozClr-NoPres	PVOCGRO 60mlAmb/MeOH/Syr	SV8270 4ozClr-NoPres	TS 2ozClr-NoPres / PAH	V8260/465 2ozClr-NoPres	V8260/465 60mlAmb/MeOH/Syr	Remarks/Contaminant	Sample # (lab only)
T34-SW-N-3ft	Grab	SS	3'	5-4-2012	1010	4	X			X		X				L573636-01
T34-SW-N-7ft	Grab	SS	7'	5-4-2012	1045	4	X			X		X				-02
T34-B-E-7ft	Grab	SS	7'	5-4-2012	1110	4	X			X		X				-03
T34-B-E-11ft	Grab	SS	11'	"	1150	4	X			X		X				-04
T34-B-C-7ft	"	SS	7'	"	1045	4	X			X		X				-05
T34-B-C-11ft	"	SS	11'	"	1245	4	X			X		X				-06
T34-B-W-7ft	"	SS	7'	"	1330	4	X			X		X				-07
T34-B-W-11ft	"	SS	11'	"	1350	4	X			X		X				-08
T34-SW-S-5ft	"	SS	5'	"	1210	4	X			X		X				-09

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

5274 8784 3041

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	5-4-12	1430	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	5-4-12	1505	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.6°C Bottles Received: 36

Date: 5-5-12 Time: 0900

Condition: (lab use only) TEOK

COC Seal Intact: ___ Y ___ N ___ NA

pH Checked: NCF:

Chain of Custody Page 1 of 10

ESC LABORATORIES
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

Acctnum: **MUROILSWI** (lab use only)
Template/Prelogin: **T78120 P389113**
Cooler #: 4-5-12G
Shipped Via: **FedEx Ground**

Sager, John E - DNR

From: Sager, John E - DNR
Sent: Thursday, April 19, 2012 9:46 AM
To: DeVenecia, Eric R - DNR
Subject: Calumet Superior Tank 34 Spill
Attachments: COCL570235.pdf; L570235.pdf

Hi Eric,

I am working with Calumet Superior on cleanup of a spill near Tank 34. The spill was from a slop oil line. While the spill is being cleaned up Calumet had the valves in the containment area closed. With all the rain they need to drain storm water. I had Calumet collect a water sample and analyze it for oil/grease and PVOCs and naphthalene. Attached are the results. Can you please take a look at the results and let me know if I can tell them it is OK to discharge this water. Please call me if you would like to discuss. Thank you for your help.

John Sager
Emergency Response Coordinator / Hydrogeologist Remediation and Redevelopment Program Wisconsin Department of Natural Resources
107 Sutliff Avenue
Rhinelander, WI 54501
(*) phone: (715) 365-8959
(*) fax: (715) 365-8932
(*) e-mail: john.sager@wi.gov

-----Original Message-----
From: Peter Fredman [mailto:Peter.Fredman@calumetspecialty.com]
Sent: Wednesday, April 18, 2012 4:13 PM
To: Sager, John E - DNR
Subject: FW: ESC Lab Sciences Report for Tank 34 Water

John,
Here are the lab results for the sample I took on Monday.
Please note water discharged passes through the #2 API Separator, then to the Pond 4 bay, and then to Pond 4 prior to discharge off-site.
Let me know if I am OK to discharge.
Thanks,
Peter Fredman
Environmental Engineer
Phone: 715-398-8434
Fax: 715-398-8209

-----Original Message-----
From: John Hawkins [mailto:jhawkins@esclabsciences.com]
Sent: Wednesday, April 18, 2012 4:09 PM
To: Peter Fredman
Subject: ESC Lab Sciences Report for Tank 34 Oil and Water L570235

Sager, John E - DNR

From: Peter Fredman <Peter.Fredman@calumetspecialty.com>
Sent: Wednesday, April 18, 2012 4:13 PM
To: Sager, John E - DNR
Subject: FW: ESC Lab Sciences Report for Tank 34 Water
Attachments: COCL570235.pdf; L570235.pdf

John,
Here are the lab results for the sample I took on Monday.
Please note water discharged passes through the #2 API Separator, then to the Pond 4 bay, and then to Pond 4 prior to discharge off-site.
Let me know if I am OK to discharge.
Thanks,
Peter Fredman
Environmental Engineer
Phone: 715-398-8434
Fax: 715-398-8209

-----Original Message-----
From: John Hawkins [mailto:jhawkins@esclabsciences.com]
Sent: Wednesday, April 18, 2012 4:09 PM
To: Peter Fredman
Subject: ESC Lab Sciences Report for Tank 34 Oil and Water L570235

Thank for you choosing ESC Lab Sciences! Please find enclosed PDF files containing your laboratory analysis and chain of custody.

ESC is pleased to announce that we are accepting samples from 21 states for the new 3511 prep technique for PAHs by 8270 and 8270SIM. This technique allows for a 98% reduction in solvent usage, and requires only 2 to 3 40 mL non-preserved amber vials vs. the traditional 1 or 2 amber liter jars. Please contact your Technical Service Representative for details.

ESC is leading the laboratory industry with our On-line Data Management tools. Please contact your Technical Service Representative to learn how to create historical Excel tables or access data in real time using powerful and intuitive software that is only available at http://www.esclabsciences.com.

How are we doing? ESC would like to hear from you. Please take a moment and complete our customer feedback survey at https://www.surveymonkey.com/s/TCGLB7T.

ESC ... "Your Lab of Choice"

John Hawkins
Technical Service Representative
615-773-9669

ESC Lab Sciences
12065 Lebanon Rd.

Mt. Juliet, TN 37122

Troy Dunlap

From: John V. Hawkins
Sent: Monday, April 16, 2012 3:10 PM
To: Login; Andy Vann (AVann@esclabsciences.com)
Subject: FW: Rush Sample MUROILSWI

TM approved next day TAT for these incoming sample 4-17-2012

Thanks

John

From: Peter Fredman [mailto:Peter.Fredman@calumetspecialty.com]
Sent: Monday, April 16, 2012 2:55 PM
To: John V. Hawkins
Subject: RE: Rush Sample

Samples are coming your way. Please analyze them on a same day rush.
Thanks,
Peter Fredman
Environmental Engineer
Phone: 715-398-8434
Fax: 715-398-8209
<image001.jpg>

From: John V. Hawkins [mailto:JHawkins@esclabsciences.com]
Sent: Monday, April 16, 2012 1:22 PM
To: Peter Fredman
Subject: RE: Rush Sample

The PVOC (naphthalene) are in 40 ml vials need 2 per sample

Oil & grease- 1 liter add HCL need 2 per sample

John

From: Peter Fredman [mailto:Peter.Fredman@calumetspecialty.com]
Sent: Monday, April 16, 2012 12:08 PM
To: John V. Hawkins
Subject: Rush Sample

John,
Do you have availability to rush a sample for Oil & Greases, PVOC's, and naphthalene's? It would be a water sample and I am looking for same day analysis.
I believe I need a 40ml vial with HCl?

Company Name/Address:	Billing Information:	Analysis/Container/Preservative	Chain of Custody Page ___ of ___
~~Murphy Oil Company~~ Calumet Superior, LLC 2407 Stinson Avenue Superior, WI 54880	David Beattie 2407 Stinson Avenue Superior, WI 54880	Oil & Grease 1L Amb HCl <2; PVOC (naphthalene) 40ml Clr HCl	F166 ESC LAB SCIENCES 12065 Lebanon Road Mt. Juliet, TN 37122 Phone: (800) 767-5859 Phone: (615) 758-5858 Fax: (615) 758-5859

Report to: Peter Fredman

Email to: Peter.Fredman@Clmt.com

Project Description: Tank 34 Dike Water

City/State Collected: Superior, WI

Phone: (715) 398-8455

FAX: (715) 398-8209

Client Project #:

ESC Key:

Collected by: (print) Peter Fredman

Site/Facility ID#:

P.O.#: 1110067

Collected by (signature): [signature]

Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
X Same Day......200%
___ Next Day.......100%
___ Two Day........50%
___ Three Day.......25%

Date Results Needed:

Email? __No X Yes

FAX? X No __Yes

CoCode MUROILSW (lab use only)

Template/Prelogin

Shipped Via: FedEX

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Oil & Grease	PVOC				Remarks/Contaminant	Sample # (lab only)
Tank 34 Basin	Grab	WW	2-3"	4/16/12	1405	4	X	X				L570235-01	

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other________

pH ________ Temp ________

Remarks: 4875 5521 0541/Hok

Other ________

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via:	Condition: (lab use only)
[signature]	4/16/12	1445		☐ UPS ☑ FedEx ☐ Courier ☐	OK TP
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C / Bottles Received: 4	CoC Seals Intact ✓ Y ___ N ___ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 4/17/12 / Time: 0900	pH Checked: <2 / NCF:

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Tax I.D. 62-0814289

Est. 1970

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

Report Summary

Wednesday April 18, 2012

Report Number: L570235
Samples Received: 04/17/12
Client Project:

Description: Tank 34 Oil and Water

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: John Hawkins

John Hawkins , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

April 18, 2012

ESC Sample # : L570235-01

Site ID :

Project # :

Date Received : April 17, 2012
Description : Tank 34 Oil and Water

Sample ID : TANK 34 BASIN 2-3 IN

Collected By : Peter Fredman
Collection Date : 04/16/12 14:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Oil & Grease (Hexane Extr)	BDL	5.0	mg/l	1664A	04/17/12	1
PVOCGRO						
Benzene	0.012	0.00050	mg/l	8021	04/17/12	1
Toluene	0.011	0.0050	mg/l	8021	04/17/12	1
Ethylbenzene	0.0016	0.00050	mg/l	8021	04/17/12	1
m&p-Xylene	0.0071	0.0010	mg/l	8021	04/17/12	1
o-Xylene	0.0036	0.00050	mg/l	8021	04/17/12	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8021	04/17/12	1
Naphthalene	BDL	0.0050	mg/l	8021	04/17/12	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8021	04/17/12	1
1,2,4-Trimethylbenzene	0.0030	0.0010	mg/l	8021	04/17/12	1
Gasoline (C6-C10)	BDL	0.10	mg/l	8015	04/17/12	1
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021	04/17/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 04/18/12 08:36 Printed: 04/18/12 08:36

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L570235-01	WG588074	SAMP	Naphthalene	R2125913	J5

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/18/12 at 08:36:52

TSR Signing Reports: 341
R2 - Rush: Next Day

Sample: L570235-01 Account: MUROILSWI Received: 04/17/12 09:00 Due Date: 04/18/12 00:00 RPT Date: 04/18/12 08:36

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Est. 1970

Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L570235

April 18, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,2,4-Trimethylbenzene	< .001	mg/l			WG588074	04/17/12 13:51
1,3,5-Trimethylbenzene	< .001	mg/l			WG588074	04/17/12 13:51
Benzene	< .0005	mg/l			WG588074	04/17/12 13:51
Ethylbenzene	< .0005	mg/l			WG588074	04/17/12 13:51
Gasoline (C6-C10)	< .1	mg/l			WG588074	04/17/12 13:51
m&p-Xylene	< .001	mg/l			WG588074	04/17/12 13:51
Methyl tert-butyl ether	< .001	mg/l			WG588074	04/17/12 13:51
Naphthalene	< .005	mg/l			WG588074	04/17/12 13:51
o-Xylene	< .0005	mg/l			WG588074	04/17/12 13:51
Toluene	< .005	mg/l			WG588074	04/17/12 13:51
a,a,a-Trifluorotoluene(PID)		% Rec.	103.0	80-120	WG588074	04/17/12 13:51
Oil & Grease (Hexane Extr)	< 5	mg/l			WG588089	04/17/12 22:07

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,2,4-Trimethylbenzene	mg/l	.05	0.0480	95.9	80-120	WG588074
1,3,5-Trimethylbenzene	mg/l	.05	0.0485	97.1	80-120	WG588074
Benzene	mg/l	.05	0.0471	94.1	79-114	WG588074
Ethylbenzene	mg/l	.05	0.0480	95.9	80-116	WG588074
Gasoline (C6-C10)	mg/l	.5	0.445	89.1	80-120	WG588074
m&p-Xylene	mg/l	.1	0.0985	98.5	85-120	WG588074
Methyl tert-butyl ether	mg/l	.05	0.0441	88.2	64-125	WG588074
Naphthalene	mg/l	.05	0.0500	99.9	80-120	WG588074
o-Xylene	mg/l	.05	0.0481	96.2	82-116	WG588074
Toluene	mg/l	.05	0.0472	94.5	79-112	WG588074
a,a,a-Trifluorotoluene(PID)				107.4	80-120	WG588074
Oil & Grease (Hexane Extr)	mg/l	40	40.1	100.	78-114	WG588089

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2,4-Trimethylbenzene	mg/l	0.0484	0.0480	97.0	80-120	0.840	20	WG588074
1,3,5-Trimethylbenzene	mg/l	0.0486	0.0485	97.0	80-120	0.0600	20	WG588074
Benzene	mg/l	0.0474	0.0471	95.0	79-114	0.690	20	WG588074
Ethylbenzene	mg/l	0.0478	0.0480	96.0	80-116	0.370	20	WG588074
Gasoline (C6-C10)	mg/l	0.473	0.445	94.0	80-120	5.99	20	WG588074
m&p-Xylene	mg/l	0.0985	0.0985	98.0	85-120	0.0300	20	WG588074
Methyl tert-butyl ether	mg/l	0.0466	0.0441	93.0	64-125	5.44	20	WG588074
Naphthalene	mg/l	0.0540	0.0500	108.	80-120	7.66	20	WG588074
o-Xylene	mg/l	0.0489	0.0481	98.0	82-116	1.55	20	WG588074
Toluene	mg/l	0.0475	0.0472	95.0	79-112	0.510	20	WG588074
a,a,a-Trifluorotoluene(PID)				101.4	80-120			WG588074
Oil & Grease (Hexane Extr)	mg/l	39.8	40.1	100.	78-114	0.751	20	WG588089

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/l	0.0531	0.00300	.05	100.	80-120	L570235-01	WG588074
1,3,5-Trimethylbenzene	mg/l	0.0518	0	.05	104.	80-120	L570235-01	WG588074
Benzene	mg/l	0.0602	0.0120	.05	96.4	35-147	L570235-01	WG588074
Ethylbenzene	mg/l	0.0509	0.00160	.05	98.5	39-141	L570235-01	WG588074
Gasoline (C6-C10)	mg/l	0.504	0	.5	101.	80-120	L570235-01	WG588074

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Est. 1970

Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L570235

April 18, 2012

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
m&p-Xylene	mg/l	0.109	0.00710	.1	102.	26-157	L570235-01	WG588074
Methyl tert-butyl ether	mg/l	0.0476	0	.05	95.1	37-147	L570235-01	WG588074
Naphthalene	mg/l	0.0634	0	.05	127.*	80-120	L570235-01	WG588074
o-Xylene	mg/l	0.0537	0.00360	.05	100.	40-145	L570235-01	WG588074
Toluene	mg/l	0.0600	0.0110	.05	97.9	35-148	L570235-01	WG588074
a,a,a-Trifluorotoluene(PID)					106.0	80-120		WG588074

Matrix Spike Duplicate

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/l	0.0489	0.0531	91.9	80-120	8.17	20	L570235-01	WG588074
1,3,5-Trimethylbenzene	mg/l	0.0471	0.0518	94.3	80-120	9.48	20	L570235-01	WG588074
Benzene	mg/l	0.0565	0.0602	89.0	35-147	6.34	20	L570235-01	WG588074
Ethylbenzene	mg/l	0.0476	0.0509	91.9	39-141	6.72	20	L570235-01	WG588074
Gasoline (C6-C10)	mg/l	0.548	0.504	110.	80-120	8.34	20	L570235-01	WG588074
m&p-Xylene	mg/l	0.101	0.109	94.3	26-157	7.09	20	L570235-01	WG588074
Methyl tert-butyl ether	mg/l	0.0455	0.0476	90.9	37-147	4.53	20	L570235-01	WG588074
Naphthalene	mg/l	0.0578	0.0634	116.	80-120	9.13	20	L570235-01	WG588074
o-Xylene	mg/l	0.0501	0.0537	93.0	40-145	7.01	20	L570235-01	WG588074
Toluene	mg/l	0.0561	0.0600	90.2	35-148	6.71	20	L570235-01	WG588074
a,a,a-Trifluorotoluene(PID)				103.9	80-120				WG588074

Batch number /Run number / Sample number cross reference

WG588074: R2125913: L570235-01
WG588089: R2126693: L570235-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Calumet Specialty Products
Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L570235

April 18, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

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Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

Report Summary

Wednesday April 18, 2012

Report Number: L570235
Samples Received: 04/17/12
Client Project:

Description: Tank 34 Oil and Water

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: John Hawkins

John Hawkins , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Peter Fredman
Calumet Specialty Products
2407 Stinson Avenue
Superior, WI 54880

April 18, 2012

ESC Sample # : L570235-01

Site ID :

Project # :

Date Received : April 17, 2012
Description : Tank 34 Oil and Water

Sample ID : TANK 34 BASIN 2-3 IN

Collected By : Peter Fredman
Collection Date : 04/16/12 14:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Oil & Grease (Hexane Extr)	BDL	5.0	mg/l	1664A	04/17/12	1
PVOCGRO						
Benzene	0.012	0.00050	mg/l	8021	04/17/12	1
Toluene	0.011	0.0050	mg/l	8021	04/17/12	1
Ethylbenzene	0.0016	0.00050	mg/l	8021	04/17/12	1
m&p-Xylene	0.0071	0.0010	mg/l	8021	04/17/12	1
o-Xylene	0.0036	0.00050	mg/l	8021	04/17/12	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8021	04/17/12	1
Naphthalene	BDL	0.0050	mg/l	8021	04/17/12	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8021	04/17/12	1
1,2,4-Trimethylbenzene	0.0030	0.0010	mg/l	8021	04/17/12	1
Gasoline (C6-C10)	BDL	0.10	mg/l	8015	04/17/12	1
Surrogate recovery-%						
a,a,a-Trifluorotoluene(PID)	103.		% Rec.	8021	04/17/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 04/18/12 08:36 Printed: 04/18/12 08:36

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L570235-01	WG588074	SAMP	Naphthalene	R2125913	J5

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/18/12 at 08:36:52

TSR Signing Reports: 341
R2 - Rush: Next Day

Sample: L570235-01 Account: MUROILSWI Received: 04/17/12 09:00 Due Date: 04/18/12 00:00 RPT Date: 04/18/12 08:36

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Peter Fredman
2407 Stinson Avenue

Superior, WI 54880

Quality Assurance Report
Level II

L570235

April 18, 2012

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,2,4-Trimethylbenzene	< .001	mg/l			WG588074	04/17/12 13:51
1,3,5-Trimethylbenzene	< .001	mg/l			WG588074	04/17/12 13:51
Benzene	< .0005	mg/l			WG588074	04/17/12 13:51
Ethylbenzene	< .0005	mg/l			WG588074	04/17/12 13:51
Gasoline (C6-C10)	< .1	mg/l			WG588074	04/17/12 13:51
m&p-Xylene	< .001	mg/l			WG588074	04/17/12 13:51
Methyl tert-butyl ether	< .001	mg/l			WG588074	04/17/12 13:51
Naphthalene	< .005	mg/l			WG588074	04/17/12 13:51
o-Xylene	< .0005	mg/l			WG588074	04/17/12 13:51
Toluene	< .005	mg/l			WG588074	04/17/12 13:51
a,a,a-Trifluorotoluene(PID)		% Rec.	103.0	80-120	WG588074	04/17/12 13:51
Oil & Grease (Hexane Extr)	< 5	mg/l			WG588089	04/17/12 22:07

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,2,4-Trimethylbenzene	mg/l	.05	0.0480	95.9	80-120	WG588074
1,3,5-Trimethylbenzene	mg/l	.05	0.0485	97.1	80-120	WG588074
Benzene	mg/l	.05	0.0471	94.1	79-114	WG588074
Ethylbenzene	mg/l	.05	0.0480	95.9	80-116	WG588074
Gasoline (C6-C10)	mg/l	.5	0.445	89.1	80-120	WG588074
m&p-Xylene	mg/l	.1	0.0985	98.5	85-120	WG588074
Methyl tert-butyl ether	mg/l	.05	0.0441	88.2	64-125	WG588074
Naphthalene	mg/l	.05	0.0500	99.9	80-120	WG588074
o-Xylene	mg/l	.05	0.0481	96.2	82-116	WG588074
Toluene	mg/l	.05	0.0472	94.5	79-112	WG588074
a,a,a-Trifluorotoluene(PID)				107.4	80-120	WG588074
Oil & Grease (Hexane Extr)	mg/l	40	40.1	100.	78-114	WG588089

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,2,4-Trimethylbenzene	mg/l	0.0484	0.0480	97.0	80-120	0.840	20	WG588074
1,3,5-Trimethylbenzene	mg/l	0.0486	0.0485	97.0	80-120	0.0600	20	WG588074
Benzene	mg/l	0.0474	0.0471	95.0	79-114	0.690	20	WG588074
Ethylbenzene	mg/l	0.0478	0.0480	96.0	80-116	0.370	20	WG588074
Gasoline (C6-C10)	mg/l	0.473	0.445	94.0	80-120	5.99	20	WG588074
m&p-Xylene	mg/l	0.0985	0.0985	98.0	85-120	0.0300	20	WG588074
Methyl tert-butyl ether	mg/l	0.0466	0.0441	93.0	64-125	5.44	20	WG588074
Naphthalene	mg/l	0.0540	0.0500	108.	80-120	7.66	20	WG588074
o-Xylene	mg/l	0.0489	0.0481	98.0	82-116	1.55	20	WG588074
Toluene	mg/l	0.0475	0.0472	95.0	79-112	0.510	20	WG588074
a,a,a-Trifluorotoluene(PID)				101.4	80-120			WG588074
Oil & Grease (Hexane Extr)	mg/l	39.8	40.1	100.	78-114	0.751	20	WG588089

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/l	0.0531	0.00300	.05	100.	80-120	L570235-01	WG588074
1,3,5-Trimethylbenzene	mg/l	0.0518	0	.05	104.	80-120	L570235-01	WG588074
Benzene	mg/l	0.0602	0.0120	.05	96.4	35-147	L570235-01	WG588074
Ethylbenzene	mg/l	0.0509	0.00160	.05	98.5	39-141	L570235-01	WG588074
Gasoline (C6-C10)	mg/l	0.504	0	.5	101.	80-120	L570235-01	WG588074

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L570235

April 18, 2012

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
m&p-Xylene	mg/l	0.109	0.00710	.1	102.	26-157	L570235-01	WG588074
Methyl tert-butyl ether	mg/l	0.0476	0	.05	95.1	37-147	L570235-01	WG588074
Naphthalene	mg/l	0.0634	0	.05	127.*	80-120	L570235-01	WG588074
o-Xylene	mg/l	0.0537	0.00360	.05	100.	40-145	L570235-01	WG588074
Toluene	mg/l	0.0600	0.0110	.05	97.9	35-148	L570235-01	WG588074
a,a,a-Trifluorotoluene(PID)					106.0	80-120		WG588074

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,4-Trimethylbenzene	mg/l	0.0489	0.0531	91.9	80-120	8.17	20	L570235-01	WG588074
1,3,5-Trimethylbenzene	mg/l	0.0471	0.0518	94.3	80-120	9.48	20	L570235-01	WG588074
Benzene	mg/l	0.0565	0.0602	89.0	35-147	6.34	20	L570235-01	WG588074
Ethylbenzene	mg/l	0.0476	0.0509	91.9	39-141	6.72	20	L570235-01	WG588074
Gasoline (C6-C10)	mg/l	0.548	0.504	110.	80-120	8.34	20	L570235-01	WG588074
m&p-Xylene	mg/l	0.101	0.109	94.3	26-157	7.09	20	L570235-01	WG588074
Methyl tert-butyl ether	mg/l	0.0455	0.0476	90.9	37-147	4.53	20	L570235-01	WG588074
Naphthalene	mg/l	0.0578	0.0634	116.	80-120	9.13	20	L570235-01	WG588074
o-Xylene	mg/l	0.0501	0.0537	93.0	40-145	7.01	20	L570235-01	WG588074
Toluene	mg/l	0.0561	0.0600	90.2	35-148	6.71	20	L570235-01	WG588074
a,a,a-Trifluorotoluene(PID)				103.9	80-120				WG588074

Batch number /Run number / Sample number cross reference

WG588074: R2125913: L570235-01
WG588089: R2126693: L570235-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Level II

L570235

April 18, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Chain of Custody Page ___ of ___

F166

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Phone: (615) 758-5858
Fax: (615) 758-5859

Company Name/Address: ~~Murphy Oil Company~~ Calumet Superior, LLC, 2407 Stinson Avenue, Superior, WI 54880	Billing Information: David Beattie, 2407 Stinson Avenue, Superior, WI 54880
Report to: Peter Fredman	Email to: Peter.Fredman@Clmt.com
Project Description: Tank 34 Dike Water	City/State Collected: Superior, WI
Phone: (715) 398-8455 / FAX: (715) 398-8209	Client Project #: / ESC Key:
Collected by (print): Peter Fredman	Site/Facility ID#: / P.O.#: 1110067
Collected by (signature): [signature] Immediately Packed on Ice N___ Y X	Rush? (Lab MUST Be Notified) X Same Day......200% ___ Next Day......100% ___ Two Day......50% ___ Three Day......25%
Date Results Needed: Email? __No X Yes FAX? X No __Yes	

Analysis/Container/Preservative: Oil & Grease 1L Amb HCl <2; PVOC (naphthalene) 40ml Clr HCl

CoCode MUROILSW (lab use only)
Template/Prelogin
Shipped Via: FedEX

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Oil & Grease 1L Amb HCl <2	PVOC (naphthalene) 40ml Clr HCl	Remarks/Contaminant	Sample # (lab only)
Tank 34 Basin	Grab	WW	2-3"	4/16/12	1405	4	X	X	L570235-01	

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other ______

pH ______ Temp ______

Remarks: 4875 5521 0546 [illegible] Other ______

Relinquished by: (Signature) [signature]	Date: 4/16/12	Time: 1445	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ______	Condition: (lab use only) OK TD
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C / Bottles Received: 4	CoC Seals Intact ✓ Y ___ N ___ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 4/17/12 / Time: 0900	pH Checked: <2 / NCF: