SUSTAINABLE STRATEGIES FOR GLOBAL LEADERS

January 3, 2011



Ms. Rhonda O'Leary Wisconsin Department of Natural Resources - Air Management Bureau Northern Region, Superior Area Office 1701 N 4th Street, Superior, WI 54880

Subject:

Report of 2010 Air Emissions from VE-TFRT and SVE-only

Systems

Terminal Property at the Former Amoco Terminal #406

2904 Winter Street, Superior, WI 54880

Delta Project No. WISUPERIOR BRRTS No. 02-16-000331

Dear Ms. O'Leary,

Delta Consultants submits this report of the air monitoring conducted in 2010 of the vacuum-enhanced total fluids recovery and treatment (VE-TFRT) system and a SVE-only system located at the Terminal Property (a.k.a. Lake City Towing Property) (Figure 1).

The VE-TFRT system was installed in 2004 and has been operating since January 2005. The SVE-only system was installed in 1994 and operated from 1994 to 2004. In 2004, the SVE-only system was shutdown due to diminished recovery and to concentrate efforts on installation, start-up and operation of the VE-TFRT system. On August 4, 2009, the SVE-only system was restarted to address soil gas near the Winter Street corridor.

Based on the 2010 data, emission rates did not exceed the 5.7 pounds per hour for volatile organic compound (VOCs) and 300 pounds per year for benzene thresholds established by NR 407 and NR 445, respectively. Therefore, the exemption from operating permits set forth in NR 407.03(1)(sm)2 will continue to be applied to this site.

Total estimated VOC (THC-gas) emissions from both systems averaged between 0.07 and 0.11 pounds per hour during 2010. The combined total benzene emitted in 2010 was estimated at 20 pounds (Tables 1 - 3).

As agreed upon between Delta and WDNR in October 2004, emissions resulting from remedial efforts at this site are reported and managed separately from the recovery systems at the former Barge Dock Property (BRRTS Nos. 02-16-297993, 02-16-117873, 02-16-284811, and 02-16-297979) located north across Winter Street due to separate releases and different property owners.

Emissions monitoring and sampling of the VE-TFRT and SVE-only systems will be performed on a quarterly basis in 2011.





Ms. Rhonda O'Leary Wisconsin Department of Natural Resources - Air Management Bureau January 3, 2011 Page 2

Please contact me at 262-794-8578 with any questions or comments.

Sincerely,

DELTA CONSULTANTS

Nathan Johnson, PE Project Engineer

njohnson@deltaenv.com

c: Jared Otto, Delta Chris Saari, WDNR

Enclosures: Figure 1 – Site Map

Table 1 – SVE Emission Summary (VE-TFRT System)

Table 2 – Air Stripping Emission Summary (VE-TFRT System)

Table 3 – SVE Emission Summary (SVE-only System)

Pace Analytical Reports: 10120878, 10121745, 10127019, 10128623,

10134044, 10134047, 10142419, 10124220

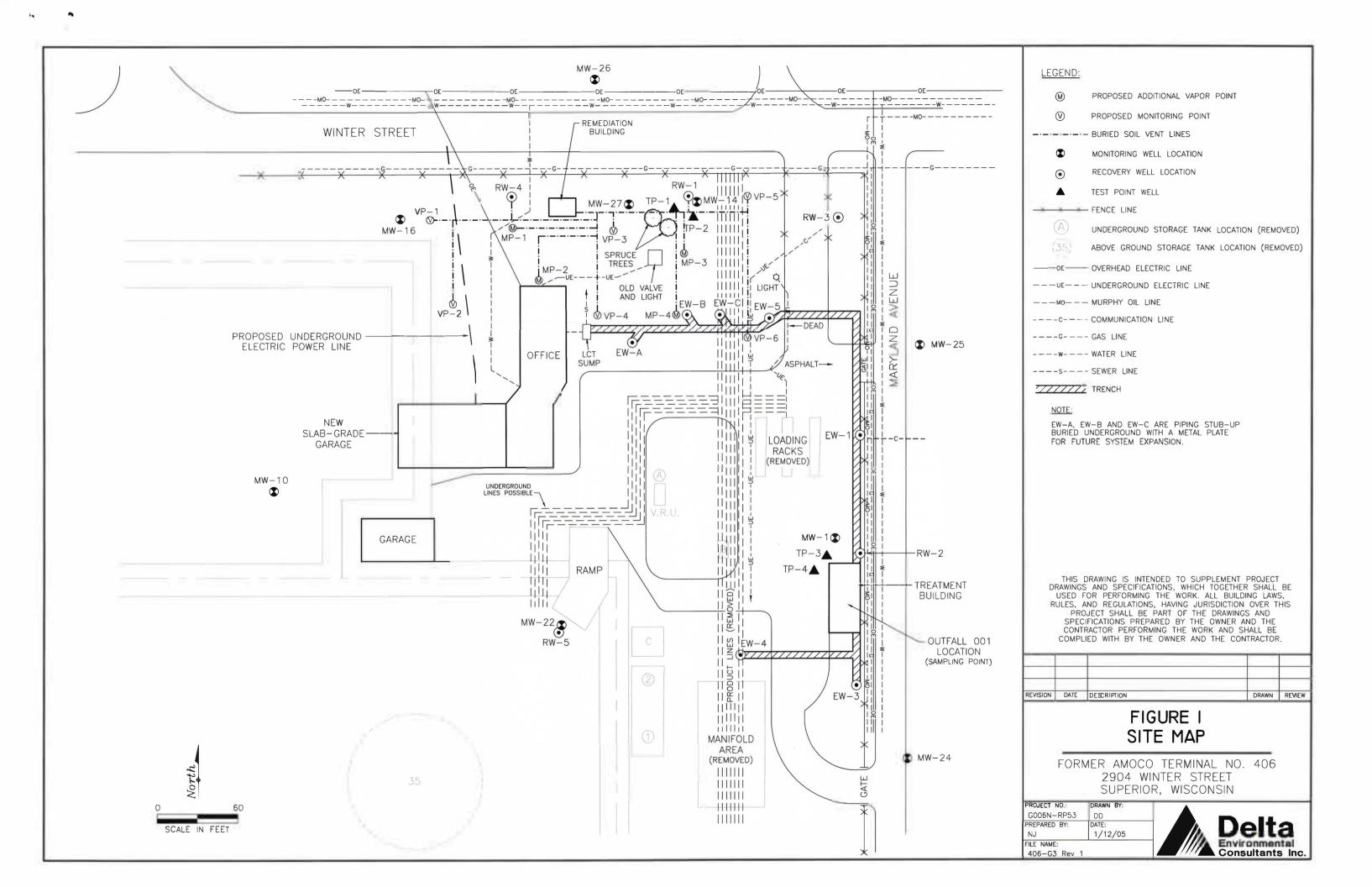


Table 1 SVE Emission Summary

VE-TFRT System

Terminal Property at Former Amoco Superior Terminal No. 406 2904 Winter Street, Superior, Wisconsin Delta Project No. 00406OA091

Year	Quarter	Quarter Monitored Running Quarter		Total Hours in Quarter	Process Air Flow (outlet)	тнс-G	Benzene	THC-G Emission Rate (SVE THC-G Recovery Rate)	Cumulative Annual Benzene Emitted
			(%)	(hours)	(SCFM)	(ppmV) (ppmV)		(lb/hr)	(lb)
Sta	artup	1/4/2005			0	0	0	0	0
2005		1/11/2005			274	63.8	3.2	0.26	
	Qtr 1	1/24/2005	88.5%	5% 2160 274 60		0	0.25	9	
		2/23/2005			274 2		1.2	0.92	
	Qtrs 2 & 3	4/11/2005	96.1%	4392	274	39.4	1.3	0.16	28
	Qtr 4	10/12/2005	75.8%	2208	232	44.7	1.0	0.16	33
2006	Qtr 1	1/7/2006	91.5%	2160	272	44.1	0.91	0.18	6
	Qtr 2	4/12/2006	98.2%	2184	248	39.0	1.0	0.15	13
	Qtr 3	7/20/2006	73.2%	2208	262	19	0.48	0.07	15
	Qtr 4	10/18/2006	84.4%	2208	270	152	3.4	0.62	36
2007	Qtr 1	1/17/2007	93.7%	2160	294	111	2.9	0.49	21
	Qtr 2	4/17/2007	89.6%	2184	274	56.6	0	0.23	21
	Qtr 3	7/11/2007	97.0%	2208	264	9.2	0	0.04	21
	Qtr 4	10/4/2007	76.4%	2208	271	81.6	1.5	0.33	30
2008	Qtr 1	1/15/2008	87.4%	2184	295	184.0	1.4	0.82	10
	Qtr 2	4/10/2008	14.9%	2184	268	56.6	3.4	0.23	13
	Qtr 3	7/28/2008	77.5%	2208	262	17.5	1.1	0.07	20
	Qtr 4	10/6/2008	98.7%	2208	284	25.6	0.93	0.11	27
2009	Qtr 1	1/21/2009	95.9%	2160	302	28.7	1.6	0.13	12.4
	Qtr 2	4/13/2009	99.4%	2184	275	3.1	0.0	0.01	12.4
	Qtr 3	7/9/2009	99.6%	2208	264	11.5	1.1	0.05	20.3
	Qtr 4	10/14/2009	99.3%	2208	268	4.1	0.0	0.02	20.3
2010	Qtr 1	1/20/2010	99.8%	2160	251	8.5	0.75	0.03	5
	Qtr 2	4/21/2010	98.7%	2184	227	6.1	0.64	0.02	9
	Qtr 3	7/21/2010	97.9%	2208	221	18.0	0.50	0.06	12
	Qtr 4	11/4/2010	99.1%	2208	234	16.0	0.64	0.06	16
445 / Ni	R 407 Limits							5.7 lbs/hr	300 lbs/yr

Notes:

All emissions values are estimations based on system operational data and air bag sample analyses.

SCFM = Based on measured air velocity pressure and temperature correlation

THC Emission Rate = (SCFM)(THC-G ppmV)(60 min/hr)(MW)/(1,000,000)(379 scf/mole)

where MW = 95 lb/lb-mole for molecular weight of gasoline

Cumulative Benzene Emitted = (% SVE Running)(Total Qtr Hours)(SCFM)(Benzene ppmV)(60 min/hr)(MW)/(1,000,000)(379 scf/mole) where MW = 78.11 lb/lb-mole for molecular weight of gasoline

THC-G = Total Hydrocarbons as Gasoline in parts per million - volume (ppmV)

% SVE Running from Motor Download Report

Table 2 Air Stripping Emission Summary

VE-TFRT System

Terminal Property at Former Amoco Superior Terminal No. 406 2904 Winter Street, Superior, Wisconsin Delta Project No. 00406OA091

Year	Quarter	Date Monitored	% Air Stripper Running (%)	Total Hours in Quarter	Process Air Flow (outlet)	THC-G	Benzene	THC-G Emission Rate (Air Stripper THC-G Recovery Rate) (lb/hr)	Cumulative Annual Benzene Emitted
Sta	artup	1/4/2005			0	0	0	0	0.0
2005		1/11/2005			372	24.4	1.2	0.14	
	Qtr 1	1/24/2005	12.4%	2160	376	8.2	0 0	0.05	0.5
		2/23/2005			388 3.3		0.0	0.02	
	Qtrs 2 & 3	4/11/2005	15.9%	4392	376	0.0	0.0	0.00	0.5
	Qtr 4	10/12/2005	15.0%	2208	365	2.9	0.0	0.02	0.5
2006	Qtr 1	1/7/2006	7.6%	2160	374	3.7	0.0	0.02	0.0
	Qtr 2	4/12/2006	12.8%	2184	366	6.1	0.0	0.03	0.0
	Qtr 3	7/20/2006	12.0%	2208	359	17	0.0	0.09	0.0
	Qtr 4	10/18/2006	13.7%	2208	368	14.1	0.0	0.08	0.0
2007	Qtr 1	1/17/2007	12.9%	2160	374	0.0	0.0	0.00	0.0
	Qtr 2	4/17/2007	15.0%	2184	365	0.0	0.0	0.00	0.0
	Qtr 3	7/11/2007	16.8%	2208	351	3.1	0.12	0.02	0.2
	Qtr 4	10/4/2007	12.4%	2208	331	3.7	0.8	0.02	1.1
2008	Qtr 1	1/15/2008	14.3%	2184	347	0.41	0.14	0.00	0.2
	Qtr 2	4/10/2008	3.2%	2184	316	0.22	0.0	0.00	0.2
	Qtr 3	7/28/2008	16.4%	2208	277	1.4	0.0	0.01	0.2
	Qtr 4	10/6/2008	19.3%	2208	261	5.1	0.64	0.02	1.1
2009	Qtr 1	1/21/2009	14.6%	2160	429	1.0	0.0	0.01	0.0
	Qtr 2	4/13/2009	19.7%	2184	392	5.4	0.0	0.03	0.0
	Qtr 3	7/9/2009	17.9%	2208	379	0.0	0.0	0.00	0.0
	Qtr 4	10/14/2009	18.7%	2208	391	1.1	0.0	0.01	0.0
2010	Qtr 1	1/20/2010	17.0%	2160	390	0.13	0	0.00	0.0
	Qtr 2	4/21/2010	15.1%	2184	356	0	0	0.00	0.0
	Qtr 3	7/21/2010	25.1%	2208	327	0	0	0.00	0.0
	Qtr 4	11/4/2010	20.1%	2208	374	2.7	0.12	0.02	0.2
445 / NI	R 407 Limits							5.7 lbs/hr	300 lbs/yr

Notes:

All emissions values are estimations based on system operational data and air bag sample analyses.

SCFM = Based on measured air velocity pressure and temperature correlation

 $THC\ Emission\ Rate = (SCFM)(THC-G\ ppmV)(60\ min/hr)(MW)/(1,000,000)(379\ scf/mole)$

where MW = 95 lb/lb-mole for molecular weight of gasoline

Cumulative Benzene Emitted = (% AS Running)(Total Qtr Hours)(SCFM)(Benzene ppmV)(60 min/hr)(MW)/(1,000,000)(379 scf/mole) where MW = 78.11 lb/lb-mole for molecular weight of gasoline

THC-G = Total Hydrocarbons as Gasoline in parts per million - volume (ppmV)

% AS Running from Motor Download Report

Table 3 SVE Emission Summary SVE-only System

Terminal Property at Former Amoco Superior Terminal No. 406
2904 Winter Street, Superior, Wisconsin
Delta Project No. 00406OA091

	Exhaust Flow (pitot tube)	Period Hours	Cumulative Hours	Exhaust THC	Exhaust Benzene	THC Emissions	Cumulative Annual Benzene
Date	(scfm)	(hours)	(hours)	(ppmv)	(ppmv)	(lbs/hr)	(lbs)
8/4/2009		0	0	1 1			0
8/5/2009	85	14.08	14.08	288	0	0.36	0
8/18/2009	74	317.36	331.44	72.6	2.6	0.079	0.7
8/26/2009	80	190.45	521.89	37.5	0.89	0.044	0.9
9/8/2009	85	307.31	829.2	34.8	0.57	0.044	1.1
10/6/2009	87	670.6	1499.8	41.1	2.6	0.053	2.9
11/2/2009	87	654.67	2154.47	16.3	0.19	0.021	3.0
12/7/2009	87	835.64	2990.11	12.6	0	0.016	3.0
2/3/2010	88	1392.73	4382.84	52.6	0.99	0.068	1.5
5/11/2010	87	2324.14	6706.98	67.8	1.1	0.086	4.1
7/21/2010	79	1701.73	8408.71	6.8	0	0.008	4.1
11/4/2010	80	2542.84	10951.55	0	0	0.000	4.1

Notes:

^{1.} Flow on 8/5/2009 taken from blower curve based on measured vacuum at blower





February 01, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10120878

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on January 21, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colin Schuft

colin.schuft@pacelabs.com Project Manager

Colin gel St

Enclosures



Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

CERTIFICATIONS

Project:

BP-Delta-WI SS#406

Pace Project No.:

10120878

Minnesota Certification IDs Montana Certification #: MT CERT0092 New Jersey Certification #: MN-002 Michigan DEQ Certification #: MN-002 Michigan DEQ Certification #: 9909 Maine Certification #: 2007029 Louisiana Certification #: LA080009 Louisiana Certification #: 03086 Kansas Certification #: E-10167 Iowa Certification #: 368

Illinois Certification #: 200011 Florida/NELAP Certification #: E87605 California Certification #: 01155CA Arizona Certification #: AZ-0014 Alaska Certification #: UST-078
1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Wisconsin Certification #: 999407970
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563 Oregon Certification #: MN200001 North Dakota Certification #: R-036

North Carolina Certification #: 530 New York Certification #: 11647 Minnesota Certification #: 027-053-137

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10120878

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10120878001	Air Discharge-Stripper	Air	01/20/10 14:10	01/21/10 11:00
10120878002	Air Discharge-SVE	Air	01/20/10 14:05	01/21/10 11:00





SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10120878

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10120878001	Air Discharge-Stripper	TO-3 Air	CR1	7
10120878002	Air Discharge-SVE	TO-3 Air	CR1	7
		TO-3Air	CR1	1

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project:

BP-Delta-WI SS#406

Pace Project No.:

10120878

Method:

TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: February 01, 2010

General Information:

2 samples were analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below

Additional Comments:

Analyte Comments:

QC Batch: AIR/9678

1M: The continuing calibration for this compound is outside of BP acceptance limits.

- Air Discharge-SVE (Lab ID: 10120878002)
 - Benzene
 - m&p-Xylene
 - Toluene
- · Air Discharge-Stripper (Lab ID: 10120878001)
 - Benzene
 - o-Xylene
 - Toluene

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10120878

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin
Date: February 01, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

Air Discharge-SVE (Lab ID: 10120878002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

ANALYTICAL RESULTS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10120878

Sample: Air Discharge-Stripper	Lab ID: 10120878001	Collected: 01/20/1	0 14:10	Received:	01/21/10 11 00	Matrix: Air	
Parameters	Results Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO3 GCV AIR BTEX BAG	Analytical Method: TO-3 Ai	ir					
Benzene	ND ppmv	0.10	1		01/22/10 10:2	5 71-43-2	1 M
Ethylbenzene	ND ppmv	0.10	1		01/22/10 10:2	5 100-41-4	
THC as Gas	ND ppmv	1.0	1		01/22/10 10:2	5	
Toluene	0.13 ppmv	0.10	1		01/22/10 10:2	5 108-88-3	1M
m&p-Xylene	ND ppmv	0.20	1		01/22/10 10:2	5 1330-20-7	
o-Xylene	ND ppmv	0.10	1		01/22/10 10:2	5 95-47-6	1M
a,a,a-Trifluorotoluene (S)	113 %	50-150	1		01/22/10 10 2	5 98-08-8	
Sample: Air Discharge-SVE Parameters	Lab ID: 10120878002 Results Units	Collected: 01/20/1	0 14:05 DF	Received:	01/21/10 11:00 Analyzed	Matrix: Air CAS No.	Qua
Parameters	Results Units	— Report Limit	DF	Prepared	Analyzeu	CAS NO.	_
TO3 GCV AIR BTEX BAG	Analytical Method: TO-3 A	ir					
Benzene	0.75 ppmv	0.10	1		01/22/10 10 5	8 71-43-2	1M
Ethylbenzene	ND ppmv	0.10	1		01/22/10 10:5	8 100-41-4	
THC as Gas	8.5 ppmv	1.0	1		01/22/10 10:5	8	
Toluene	0.70 ppmv	0.10	1		01/22/10 10 5	8 108-88-3	1M
Totache	on o ppini						
m&p-Xylene	0.30 ppmv	0.20	1		01/22/10 10 5	8 1330-20-7	1M
m&p-Xylene		0.20 0.10	1		01/22/10 10 5 01/22/10 10 5		1M
m&p-Xylene o-Xylene	0.30 ppmv		1 1			8 95-47-6	1M
	0.30 ppmv ND ppmv	0.10 50-150	1		01/22/10 10 5	8 95-47-6	1 M

Date 02/01/2010 04:57 PM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10120878

QC Batch:

AIR/9678

9678 Analysis Method:

TO-3 Air

QC Batch Method: T

TO-3 Air

Analysis Description:

TO3 GCV AIR BTEX BAG

Associated Lab Samples:

mples: 10120878001, 10120878002

Matrix: Air

METHOD BLANK: 740996 Associated Lab Samples:

10120878001, 10120878002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppmv	ND -	0.10	01/22/10 09 30	
Ethylbenzene	ppmv	ND	0.10	01/22/10 09 30	
m&p-Xylene	ppmv	ND	0.20	01/22/10 09 30	
o-Xylene	ppmv	ND	0.10	01/22/10 09:30	
THC as Gas	ppmv	ND	1.0	01/22/10 09:30	
Toluene	ppmv	ND	0.10	01/22/10 09:30	
a,a,a-Trifluorotoluene (S)	%	82	50-150	01/22/10 09 30	

LABORATORY CONTROL SAM	PLE & LCSD: 740997		74	11006						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Benzene	ppmv	1	0.76	0.85	76	85	70-130	12	30	
Ethylbenzene	ppmv	1	0.80	0.89	80	89	70-130	11	30	
m&p-Xylene	ppmv	2	1.6	1.9	80	96	70-130	18	30	
o-Xylene	ppmv	1	0 72	0.84	72	84	70-130	15	30	
THC as Gas	ppmv	10	8.1	9.0	81	90	70-130	10	30	
Toluene	ppmv	1	0.76	0.86	76	86	70-130	13	30	
a,a,a-Trifluorotoluene (S)	%				50	51	50-150			

Date: 02/01/2010 04:57 PM

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

(612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

10120878002

Pace Project No.:

10120878

QC Batch:

QC Batch Method:

AIR/9687

Parameter

TO-3 Air

Analysis Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR METH, ETHANE, ETHENE

Associated Lab Samples:

METHOD BLANK: 741550

Matrix: Air

Associated Lab Samples:

10120878002

Blank Result

Reporting Limit

Analyzed

Qualifiers

Methane

ppmv

Units

ND

1.0 01/26/10 14:14

LABORATORY CONTROL SAMPLE & LCSD: 741552 LCS LCSD Spike LCS LCSD % Rec Max RPD Parameter Limits RPD Units Conc. Result Result % Rec % Rec Qualifiers Methane ppmv 10 10.5 9.0 105 90 70-130 16 30

Date: 02/01/2010 04:57 PM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALIFIERS

Project: BP-Delta-WI SS#406

Pace Project No.: 10120878

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

Date: 02/01/2010 04:57 PM

1M The continuing calibration for this compound is outside of BP acceptance limits.

H1 Analysis conducted outside the recognized method holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-WI SS#406

Pace Project No.:

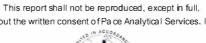
10120878

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10120878001	Air Discharge-Stripper	TO-3 Air	AIR/9678		
10120878002	Air Discharge-SVE	TO-3 Air	AIR/9678		
10120878002	Air Discharge-SVE	TO-3 Air	AIR/9687		

Date: 02/01/2010 04:57 PM

REPORT OF LABORATORY ANALYSIS

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Atlantic Richfield Company

Laboratory Management Program LaMP Chain of Custody Record

Req Due Date (mm/dd/yy):

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

	10120878 _{page_1}	of 1
14	Rush TAT: Yes	No X

	A BP affiliated company	BP/ARC Fac	ility No:	406											Lab \	Nork (Order	Nun	ber:						
Lab Na	me: Pace Analytical Services, Inc			BP//	ARC	Facility	/ Add	ress:		2904	Winte	r Stre	et						Consultan	t/Contra	ctor:	Delta	Consultants		
Lab Ad	dress: 1700 Elm St., Minneapolis, M	N 55414		City	, Stat	e, ZiP	Code	: :		Super	rior, V	VI, 541	880						Consultan	t/Contra	ctor Proje	ect No:	00406OA09-	1	<u>(,)</u>
Lab PN	A: Julie Thieschafer			Lead	d Reg	gulatory	y Age	ency:		Wisc	onsin	Dept	of Nati	ıral R	esourc	æs			Address:	5910 F	Rice Cree	k Park	way, Suite 100, Sho	orview, MN 55	
Lab Ph	one: 612-607-6363 / 612-607-6444	(fax)		Calif	fornia	Globa	ı ID I	No.:											Consultan	t/Contra	ctor PM:	Jared	d Otto		<u></u>
Lab Sh	ipping Accnt:			Enfo	s Pr	posal	No:			0032	3-000	В							Phone:	651-69	7-5232 /	651-63	39-9473 (fax)		
Lab Bo	ettle Order No: N/A		- in	Aco	ounti	ng Mod	de:		Prov	vision	<u> </u>	00	C-BU		00	C-RM			Email EDI	O To: j	otto@del	taenv.c	com / njohnson@de	ltaenv.com	
Other I	nfo:			Stag	ge:	Opera	ate						tions &						Invoice To	D:	BP/AR	c <u>x</u>	Contracto	г	
BP/AR	C EBM: Diane Diks				Ma	trix	П	No	. Coı	ntain	ers /	Pres	ervati	ive			F	Requ	ested Ana	lyses			Report Ty	ype & QC Le	evel
EBM P	Phone: 630-836-7106 / 630-836-719	5 (fax)		Г	Г	П	7						П					П		П			St	andard _X_	
ЕВМ Е	mail: diksdm@bp.com			1		П	١	ig I									₆₀	ı		1-1			Full Data Pa	ackage	
Lab No.	Sample Description	Date	Time	Soll / Solid	Water / Liquid	Air / Vapor		Total Number of Contai	Unpreserved	H ₂ SO ₄	HNO ₃	豆	Methanol		втех то-3	THC TO-3	Methare TO-3						Co Note: If sample not or Sample" in comments and initial any preprint	and single-stril	ke out
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Pace Analytical

AIR Sample Condition Upon Receipt

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-Pace Containers Used:	□Yes	DXNo □N/A			
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ent Notification/ Resolution: Person Contacted: omments/ Resolution:		Date/1	Fime:		Data Required? Y / N

Note: Whenever there is a discrepancy affecting from Carolina compliance surples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservance, out of temp, incorrect containers)
A106 Rev.01 (22May2009)





February 12, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10121745

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colin Schuft

colin.schuft@pacelabs.com Project Manager

Colin Schaft

Enclosures





1700 Elm Street - Suite 200 Minneapdis, MN 55414 (612)607-1700

CERTIFICATIONS

Project:

BP-Delta-WI SS#406

Pace Project No.:

10121745

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414 Alaska Certification #: UST-078 Washington Certification #: C754 Tennessee Certification #: 02818 Pennsylvania Certification #: 68-00563 Oregon Certification #: MN200001 North Dakota Certification #: R-036 North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002 Montana Certification #: MT CERT0092

Minnesota Certification #: 027-053-137

Michigan DEQ Certification #: 9909 Maine Certification #: 2007029 Louisiana Certification #: LA080009 Louisiana Certification #: 03086 Kansas Certification #: E-10167 Iowa Certification #: 368 Illinois Certification #: 200011 Florida/NELAP Certification #: E87605 California Certification #: 01155CA

Arizona Certification #: AZ-0014 Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..





Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10121745

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10121745001	SVE Exhaust	Air	02/03/10 14:57	02/04/10 10:04





1700 Elm Street - Suite 200 Minnea polis, MN 55414 (612)607-1700

SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10

10121745

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10121745001	SVE Exhaust	TO-3 Air	CR1	7
		TO-3 Air	CR1	- 1



Pace Analytical Services, Inc.

1700 EIm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project:

BP-Delta-WI SS#406

Pace Project No.:

10121745

Method:

TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: February 12, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/9755

1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.

- SVE Exhaust (Lab ID: 10121745001)
 - Benzene

2M: The continuing calibration for this compound is outside of BP acceptance limits.

- SVE Exhaust (Lab ID: 10121745001)
 - o-Xylene

REPORT OF LABORATORY ANALYSIS

Page 5 of 11





1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10121745

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin

Date: February 12, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/9770

1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.

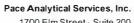
- SVE Exhaust (Lab ID: 10121745001)
 - Methane

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 11







1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

ANALYTICAL RESULTS

Project: BP-Delta-WI SS#406

Pace Project No.: 10121745

Sample: SVE Exhaust	Lab ID: 10121745001 C	ollected: 02/03/1	10 14:57	Received: 02/04/10 10:04 M	Matrix: Air	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG	Analytical Method: TO-3 Air					
Benzene	0.99 ppmv	0.20	2	02/08/10 13:13	71-43-2	1M
Ethylbenzene	ND ppmv	0.20	2	02/08/10 13:13	100-41-4	
THC as Gas	52.6 ppmv	2.0	2	02/08/10 13 13		
Toluene	0.45 ppmv	0.20	2	02/08/10 13:13	108-88-3	
m&p-Xylene	ND ppmv	0.40	2	02/08/10 13:13	1330-20-7	
o-Xylene	0.20 ppmv	0.20	2	02/08/10 13:13	95-47-6	2M
a,a,a-Trifluorotoluene (S)	132 %	50-150	2	02/08/10 13:13	98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene	Analytical Method: TO-3 Air					
Methane	1510 ppmv	200	200	02/10/10 12:36	74-82-8	1M

Date: 02/12/2010 09:55 AM

REPORT OF LABORATORY ANALYSIS

Page 7 of 11







QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10121745

QC Batch:

AIR/9755

Analysis Method:

TO-3 Air

QC Batch Method: TO-3 Air Analysis Description:

TO3GCV AIR BTEX BAG

Associated Lab Samples:

10121745001

METHOD BLANK: 745993

Matrix: Air

Associated Lab Samples:

10121745001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	02/08/10 10:55	
Ethylbenzene	ppmv	ND	0.10	02/08/10 10:55	
m&p-Xylene	ppmv	ND	0.20	02/08/10 10:55	
o-Xylene	ppmv	ND	0.10	02/08/10 10:55	
THC as Gas	ppmv	ND	1.0	02/08/10 10:55	
Toluene	ppmv	ND	0.10	02/08/10 10:55	
a,a,a-Trifluorotoluene (S)	%	102	50-150	02/08/10 10:55	

LABORATORY CONTROL SAM	IPLE & LCSD: 745994		74	15995						
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	0.88	0.85	88	85	70-130	3	30	
Ethylbenzene	ppmv	1	0.97	0.86	97	86	70-130	13	30	
m&p-Xylene	ppmv	2	1.9	1.7	97	85	70-130	13	30	
o-Xylene	ppmv	1	0.96	0.76	96	7 6	70-130	22	30	
THC as Gas	ppmv	10	10.7	9.9	107	99	70-130	8	30	
Toluene	ppmv	1	0.98	0.83	9 8	83	70-130	17	30	
a,a,a-Trifluorotoluene (S)	%				134	127	50-150			

Date: 02/12/2010 09:55 AM





QUALITY CONTROL DATA

Project: BP-Delta-WI SS#406

Pace Project No.: 10121745

QC Batch: AIR/9770 Analysis Method: TO-3 Air

QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR METH,ETHANE,ETHENE

Associated Lab Samples: 10121745001

METHOD BLANK: 746736 Matrix: Air

Associated Lab Samples: 10121745001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Methane ppmv ND 1.0 02/10/10 11:19

LABORATORY CONTROL SAMPLE & LCSD: 746738 746737 Spike LCS **LCSD** LCS LCSD % Rec Max Parameter Units Limits **RPD RPD** Qualifiers Conc. Result Result % Rec % Rec 9 30 Methane ppmv 10 10.0 11.0 100 110 70-130

Date: 02/12/2010 09:55 AM REPORT OF LABORATORY ANALYSIS

Page 9 of 11





(612)607-1700



QUALIFIERS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10121745

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

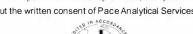
Date: 02/12/2010 09:55 AM

1M Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.

2M The continuing calibration for this compound is outside of BP acceptance limits.

REPORT OF LABORATORY ANALYSIS

Page 10 of 11







1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10121745

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10121745001	SVE Exhaust	TO-3 Air	AIR/9755		
10121745001	SVE Exhaust	TO-3 Air	AIR/9770		

Date: 02/12/2010 09:55 AM

REPORT OF LABORATORY ANALYSIS

Page 11 of 11





Laboratory Management Program LaMP Chain of Custody Record

Req Due Date (mm/dd/yy):

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

10121745 Page 1	_ of	_1_
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Rush TAT: Yes No X

	A BP affiliated company	BP/ARC Fac	ility No:	406											Lab V	Nork (Order	Num	ber:	-		_				
Lab Na	me: Pace Analytical Services, Inc.			BP/A	RC I	Facility	/ Add	dress:		2904	Winte	r Stre	et					T	Consulte	nt/Cor	tractor	:	Delta	Consultants		
Lab Ad	dress: 1700 Elm St., Minneapolis, M	N 55414		City,	Stat	e, ZIP	Cod	le:		Supe	rior, V	/I, 548	80						Consultant/Contractor Project No: 00406OA09-1							
Lab PM	: Julie Thieschafer			Lead	Reg	julator	y Ag	ency:		Wisc	onsin !	Dept o	f Natu	ral Re	esourc	æs		-	Address: 5910 Rice Creek Parkway, Suite 100, Shorview, MN 55126						126	
Lab Pho	one: 612-607-6363 / 612-607-6444	(fax)		Calif	omia	Globa	al ID	No.:											Consultant/Contractor PM: Jared Otto							
Lab Shi	ipping Acent:			Enfo	s Pro	posal	No:			0032	3-0001	3							Phone:	651	-697-5	232 / 6	51-63	9-9473 (fax)		
Lab Bo	ttle Order No: N/A			Acco	ountir	ng Mod	de:		Prov	vision	<u>x</u>	00	C-BU		00	DC-RM			Email El	DD To:	jotto	@delta	env.c	om / njohnson@delt	aenv.com	
Other I	nfo:			Stag	e:	Opera	ate		Ac	tivity:	(21)	Opera	tions 8	Main	tenan	ce			Invoice [*]	Го:	В	P/ARC	_x_	Contractor		
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EBM P	hone: 630-836-7106 / 630-836-7195	5 (fax)			7			2																Star	ndard <u>X</u>	
EBM E	mail: diksdm@bp.com			1				al la l							_		۳				1			Full Data Pac	kage	
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor		Total Number of Con	Unpreserved	42SO₄	HNO ₃	HCI	Methanol		BTEX TO-3	THC TO-3	Meth ne TO-3							Con Note: If sample not colle Sample* in comments a and Initial any preprinte	ınd single-strik	ce out
	SVE Exhaust	2/3/2010	1457			X		1	х						х	x	х	5		1				1012/7	145a	2/
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		1		┖		Н						_							-	+	+	-				
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AIR Sample Condition Upon Receipt

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ampler Name & Signati			□No □N/A			
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Person Contacted: _ omments/ Resolution:						

13 of 13





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

May 06, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10127019

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on April 22, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colin Schuft

colin.schuft@pacelabs.com Project Manager

Calin zehoft

Enclosures



Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

CERTIFICATIONS

Project: BP-Delta-WI SS#406

Pace Project No.: 10127019

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137

Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
lowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10127019

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10127019001	Air Discharge-Stripper	Air	04/21/10 14:45	04/22/10 09:58
10127019002	Air Discharge-SVE	Air	04/21/10 14:35	04/22/10 09:58





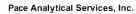
SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10127019

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10127019001	Air Discharge-Stripper	TO-3 Air	CJR	7
10127019002	Air Discharge-SVE	TO-3 Air	CJR	7
		TO-3 Air	D B1	1





1700 Elm Street - Suite 200 Minnea polis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project:

BP-Delta-WI SS#406

Pace Project No.:

10127019

Method:

TO-3 Air

Description: TO3 GCV AIR BTEX BAG Client: BP-Delta-Wisconsin Date: May 06, 2010

General Information:

2 samples were analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/10114

1M: The continuing calibration for this compound is outside of BP acceptance limits.

- · Air Discharge-SVE (Lab ID: 10127019002)
 - Benzene
 - Ethylbenzene
 - o-Xylene
 - Toluene
- · Air Discharge-Stripper (Lab ID: 10127019001)
 - Benzene
 - Ethylbenzene
 - o-Xylene
 - Toluene

REPORT OF LABORATORY ANALYSIS

Page 5 of 11





Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10127019

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin Date: May 06, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,

Page 6 of 11





ANALYTICAL RESULTS

Project:

Methane

BP-Delta-WI SS#406

Pace Project No.:

10127019

Sample: Air Discharge-Stripper	Lab ID: 10127	7019001	Collected: 04/21/	10 14:45	Received:	04/22/10 09:58 N	Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG	Analytical Metho	od: TO-3 Ai	ir					
Benzene	ND ppm	ıv	0.10	1		04/22/10 14:57	71-43-2	1M
Ethylbenzene	ND ppm	ıv	0.10	1		04/22/10 14:57	100-41-4	1M
THC as Gas	ND ppm	ıv	1.0	1		04/22/10 14:57	•	
Toluene	ND ppm	ıv	0.10	1		04/22/10 14:57	108-88-3	1M
m&p-Xylene	ND ppm	ıv	0.20	1		04/22/10 14:57	179601-23-1	
o-Xylene	ND ppm	ıv	0.10	1		04/22/10 14:57	95-47-6	1M
a,a,a-Trifluorotoluene (S)	74 %		50-150	1		04/22/10 14:57	98-08-8	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO3 GCV AIR BTEX BAG	Analytical Metho	od: TO-3 Ai	ir					
Benzene	0.64 ppm	ıv	0.10	1		04/22/10 15:28	71-43-2	1M
Ethylbenzene	ND ppm	ıv	0.10	1		04/22/10 15:28	100-41-4	1M
THC as Gas	6.1 ppm	ıv	1.0	1		04/22/10 15 28		
Toluene	0.61 ppm	ıv	0.10	3.		04/22/10 15:28	108-88-3	1M
m&p-Xylene	0.23 ppm	ıv	0.20	1		04/22/10 15:28	179601-23-1	
o-Xylene	0.10 ppm	ıv	0.10	1		04/22/10 15:28	95-47-6	1M
a,a,a-Trifluorotoluene (S)	78 %		50-150	1		04/22/10 15:28	98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene	Analytical Metho	od: TO-3 A	ir					

10.0 10

72.4 ppmv

Date: 05/06/2010 10:11 AM

REPORT OF LABORATORY ANALYSIS

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05/05/10 10:55 74-82-8





QUALITY CONTROL DATA

Project: BP-Delta-WI SS#406

Pace Project No.: 10127019

QC Batch: AIR/10114 Analysis Method: TO-3 Air

QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR BTEX BAG

Associated Lab Samples: 10127019001, 10127019002

METHOD BLANK: 777988 Matrix: Air

Associated Lab Samples: 10127019001, 10127019002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	04/22/10 10:04	
Ethylbenzene	ppmv	ND	0.10	04/22/10 10:04	
m&p-Xylene	ppmv	ND	0.20	04/22/10 10:04	
o-Xylene	ppmv	ND	0.10	04/22/10 10:04	
THC as Gas	ppmv	ND	1.0	04/22/10 10:04	
Toluene	ppmv	ND	0.10	04/22/10 10:04	
a,a,a-Trifluorotoluene (S)	%	57	50-150	04/22/10 10:04	

LABORATORY CONTROL SAM	PLE & LCSD: 777989		77	77990						
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	0.77	0.81	77	81	70-130	4	30	
Ethylbenzene	ppmv	1	0.73	0.76	73	76	70-130	4	30	
m&p-Xylene	ppmv	2	1.5	1.6	76	82	70-130	8	30	
o-Xylene	ppmv	1	0.72	0.75	72	75	70-130	3	30	
THC as Gas	ppmv	10	9.0	9.1	90	91	70-130	1	30	
Toluene	ppmv	1	0.77	0.82	77	82	70-130	6	30	
a,a,a-Trifluorotoluene (S)	%				56	54	50-150			

Date: 05/06/2010 10:11 AM

REPORT OF LABORATORY ANALYSIS

Page 8 of 11







1700 Elm Street - Suite 200 Minneapolis. MN 55414 (612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10127019

QC Batch: QC Batch Method: AIR/10164

TO-3 Air

Analysis Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR METH, ETHANE, ETHENE

Associated Lab Samples:

METHOD BLANK: 784465

Matrix: Air

Associated Lab Samples:

10127019002

10127019002

Blank Result Reporting Limit

Result

Analyzed

Qualifiers

Parameter Methane

Methane

ppmv

ppmv

Units

Units

ND

1.0 05/05/10 09:13

LABORATORY CONTROL SAMPLE & LCSD:

784467 LCSD

LCS LCSD

% Rec % Rec

% Rec Limits

RPD

Мах RPD Qualifiers

Parameter

Spike Conc. 10

Result 10.9

LCS

8.8 109

88 70-130 21

30

Date: 05/06/2010 10:11 AM





Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALIFIERS

Project: BP-Delta-WI SS#406

Pace Project No.: 10127019

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

Date: 05/06/2010 10:11 AM

1M The continuing calibration for this compound is outside of BP acceptance limits.

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10127019

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10127019001	Air Discharge-Stripper	TO-3 Air	AIR/10114		
10127019002	Air Discharge-SVE	TO-3 Air	AIR/10114		
10127019002	Air Discharge-SVE	TO-3 Air	AIR/10164		

Date: 05/06/2010 10:11 AM

REPORT OF LABORATORY ANALYSIS

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Atlantic Richfield Company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

406

BP/ARC Facility No:

of Custody Record	Page 1	of	1
Req Due Date (mm/dd/yy):	Rush TAT: Yes	No	X
Lab Work Order Number:	10127019		

												_	_								_			
ab Name; Pao	e Analytical Services, Inc.			BP/AF	RC F	acility /	Addre:	ss:	290	4 Wint	er Stre	et					Consulta	nt/Con	tractor:	D	Delta C	onsultants		
ab Address: 170	0 Elm St., Minneapolis, MN	N 55414		City, S	State	, ZIP C	ode:		Sup	erior, \	NI, 548	380					Consultant/Contractor Project No: 004060A09-1							
ab PM: Julie	e Thieschafer			Lead	Regu	rlatory i	Agen	y:	Wis	sconsir	Dept	of Natura	Resou	ırces			Address: 5910 Rice Creek Parkway, Suite 100, Shorview, MN 55126							
ab Phone; 612	2-607-6363 / 612-607-6444	(fax)		Califo	mia (Global	D No	.:								ŀ	Consulta	ent/Con	tractor	PM: J	Jared C	Otto		
ab Shipping Acont				Enfos	Pro	posal N	o:		003	23-000	38						Phone:	651	-697-52	232 / 65	1-639-	9473 (fax)		
ab Bottle Order No	o: N/A			Accou	unting	g Mode	:	Р	rovisio	n_X	00	C-BU_		OOC-R	м	_	Email El	DD To:	jotto	@deltae	nv.con	n / njohnson@delt	aenv.com	
Other Info;				Stage);	Operat	9		Activit	y: (21)	Opera	tions & N	ainten	ance	-11-		Invoice '	Го:	BP	//ARC_	x	Contractor		
P/ARC EBM: Dia	ne Diks				Mat	trix	Ι	No. C	ontai	ners	/ Pres	ervativ	T			Reque	sted A	nalyse	es			Report Ty	pe & QC Le	evel
BM Phone: 630)-836-7106 / 63 0 -836-7195	(fax)		П		П	T	Т	T	Т	П		Т	Т	Т	П		T	Т	П	Т	Sta	ndard <u>X</u>	
BM Email: diks	sdm@bp.com			11									1		9		1			Ш	- [Full Data Pa	ckage	
Lab Sar No.	mple Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	113	lotal Number of Co	H.SO.	HNO3	HCI	M thanol	8 CT YOLS	THC TO-3	Methane TO-8						Sa	Col ote: if sample not col imple" in comments d initial any preprint	and single-stri	Re out
Air Discharç	ge - Stripper	4/21/2010	14:45	П		х	Т	1 X	Т	T	F		7	X	T			Т	Т		П	10127	2190	01
Air Discharg	ge - SVE	4/21/2010	14:35			х	+	1 X	+	+	-	+	1	X	×	\vdash	-	+	-	Н	4	M. C.	α	X
3								1			Ė		1	ŀ		Ė								
ampler's Name:	Ed Heytens					Re	linq	uishe	Ву	Affili	ation		1	Date	1	Time		A	ccept	ed By /	Affili		Date	Time
Shipment Method:		Ship Date:	4/21/201	0 2	É	t	3/	10	C				1	V21/20°	0 /2	ە2:	10	M.			_/	Val-	4.2040	09.13
Shipment Tracking				_	_	_//	_	_	_	_	-	_		_	_	_	_	_	_		_			
Special Instruc	ans:																							

Pace Analytic	al [®] Cli			etta-Wr		■ t# //0/5	27/19
Courier: Fed Ex Custody Seal on Cooler/l Packing Material: Bu	UPS US	SPS Client C	Commercial	Pace Other_			
Tracking #: 873.3			None			Date and Initials of pa	yson examining
Chain of Custody Present:				Comments:			70 /
Chain of Custody Filled Ou			□No □N/A				
Chain of Custody Relinquis		Yes	⊡No □N/A	3.			
Sampler Name & Signature	e on COC:	∑(Yes	□No □N/A	4.			
Samples Arrived within Hol	ld Time:		□No □N/A		40	7	
Short Hold Time Analysis	s (<72hr):	Dices	□No □N/A	6. TB3 -T.	dlin	boes	
Rush Turn Around Time	Requested		5√No □N/A				
Sufficient Volume:	No.	`₩ Yes	□No □N/A	8.			
Correct Containers Used:		₩ es	□No □N/A	9.			
-Pace Containers Used:			No □N/A				
Containers Intact:	4 0	Yes	□No □N/A	10.			
Media:	BR/B			11.			
Sample Labels match COC):	Ves	□N₀ □N/A	12.			
Samples Received:							
Canisters		Flow Contr		Stand Alon		Tedlar Bag	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
					9 2 3		
		01/2					
			-				
				- 4			-
Person Contacted: Comments/ Resolution:				ime:		Oata Required?	Y / N

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
A106 Rev.01 (22May2009)

Project Manager Review:

Date:





May 26, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10128623

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on May 12, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

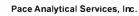
Sincerely,

Colin Schuft

colin.schuft@pacelabs.com Project Manager

Colin Jehoft

Enclosures





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

CERTIFICATIONS

Project:

BP-Delta-WI SS#406

Pace Project No.:

10128623

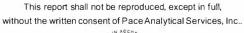
Minnesota Certification IDs 1700 Elm Street SE, Suite 200 Minneapolis, MN 55414 Alaska Certification #: UST-078 Washington Certification #: C754 Tennessee Certification #: 02818 Pennsylvania Certification #: 68-00563 Oregon Certification # MN200001 North Dakota Certification #: R-036 North Carolina Certification #: 530 New York Certification #: 11647 New Jersey Certification #: MN-002 Montana Certification #: MT CERT0092

Minnesota Certification #: 027-053-137

Michigan DEQ Certification #: 9909 Maine Certification #: 2007029 Louisiana Certification #: LA080009 Louisiana Certification #: 03086 Kansas Certification #: E-10167 Iowa Certification #: 368 Illinois Certification #. 200011 Florida/NELAP Certification #. E87605 California Certification #: 01155CA Arizona Certification #: AZ-0014 Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 8









1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-Wi SS#406

Pace Project No.: 10128623

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10128623001	SVE-Exhaust-SVE System	Air	05/11/10 13:45	05/12/10 09:50





1700 EIm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.:

10128623

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10128623001	SVE-Exhaust-SVE System	TO-3 Air	LCW	7
		TO-3 Air	DB1	1





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

ANALYTICAL RESULTS

Project: BP-Delta-WI SS#406

Pace Project No.: 10128623

Sample: SVE-Exhaust-SVE System	Lab ID: 10128623001 (Collected: 05/11/1	0 13:45	Received: 05/12/10 09:50	Matrix: Air	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG	Analytical Method: TO-3 Air					
Benzene	1.1 ppmv	0.10	1	05/12/10 13:0	1 71-43-2	
Ethylbenzene	ND ppmv	0.10	1	05/12/10 13:0	100-41-4	
THC as Gas	67.8 ppmv	1.0	1	05/12/10 13:0)1	1M
Toluene	0.86 ppmv	0.10	1	05/12/10 13:0	1 108-88-3	
m&p-Xylene	ND ppmv	0.20	1	05/12/10 13:0	1 1330-20-7	
o-Xylene	0.18 ppmv	0.10	1	05/12/10 13 0	1 95-47-6	
a,a,a-Trifluorotoluene (S)	116 %	50-150	1	05/12/10 13:0	1 98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene	Analytical Method: TO-3 Air					
Methane	875 ppmv	100	100	05/19/10 11:4	6 74-82-8	A2

Date: 05/26/2010 01:09 PM

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis. MN 55414

(612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10128623

QC Batch:

AIR/10205

Analysis Method:

TO-3 Air

QC Batch Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR BTEX BAG

Associated Lab Samples:

METHOD BLANK: 789194

Matrix: Air

Associated Lab Samples:

10128623001

10128623001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	05/12/10 10:10	
Ethylbenzene	ppmv	ND	0.10	05/12/10 10:10	
m&p-Xylene	ppmv	ND	0.20	05/12/10 10:10	
o-Xylene	ppmv	ND	0.10	05/12/10 10:10	
THC as Gas	ppmv	ND	1.0	05/12/10 10:10	
Toluene	ppmv	ND	0.10	05/12/10 10:10	
a,a,a-Trifluorotoluene (S)	%	81	50-150	05/12/10 10:10	

LABORATORY CONTROL SAM	IPLE & LCSD: 789195		78	39196						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Benzene	ppmv	.1	0.98	1.1	98	108	70-130	10	30	
Ethylbenzene	ppmv	1	0.96	0.98	96	98	70-130	3	30	
m&p-Xylene	ppmv	2	1.8	2.0	92	98	70-130	7	30	
o-Xylene	ppmv	1	0.89	0.98	89	98	70-130	10	30	
THC as Gas	ppmv	10	10.1	12.0	101	120	70-130	17	30	
Toluene	ppmv	t	1.0	1.0	102	103	70-130	.9	30	
a,a,a-Trifluorotoluene (S)	%				88	84	50-150			

Date: 05/26/2010 01:09 PM





QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10128623

QC Batch:

AIR/10245

Analysis Method:

TO-3 Air

QC Batch Method: TO-3 Air Analysis Description:

TO3 GCV AIR METH, ETHANE, ETHENE

Associated Lab Samples:

METHOD BLANK: 792691

Parameter

Matrix: Air

Associated Lab Samples:

10128623001

10128623001

Blank Result

Reporting Limit

Qualifiers

Methane

ppmv

Units

ND

1.0 05/19/10 10:16

Analyzed

LABORATORY CONTROL SAM	PLE & LCSD: 792692		79	92693						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Methane	ppmv		11.7	10.4	117	104	70-130	12	30	

Date: 05/26/2010 01:09 PM





QUALIFIERS

Project:

BP-Delta-WI SS#406

Pace Project No.:

10128623

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

Date 05/26/2010 01:09 PM

1M The continuing calibration for this compound is outside of BP acceptance limits.

A2 The tedlar bag analyzed outside 48 hours from collection.

REPORT OF LABORATORY ANALYSIS

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Atlantic Richfield Company OABPaffiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

406

BP/ARC Facility No:

-		77	_
Req Due Date (mm/dd/yy):	Rush TAT: Yes	No	Х
Lah Work Order Number:	11128123		

Lab Nar	ne:	Pace Analytical Services, Inc.			BP/A	RC F	acility	Addr	85 5:	_	2904	Winte	r Stre	et					7	Consultar	rt/Contr	actor.	De	elta Consult	ants		
Lab Add		1700 Elm St., Minneapolis, MN	55414		_		, ZIP (_	_		Super	nior. W	VI, 548	80						Consulta	nt/Contr	actor Pr	oject N	lo· 00	04060A09-	77.	\neg
Lab PM		Julie Thieschafer			-	_	ulatory	_		_	Wisc	onsin	Dept	of Natur	al Re	SOUTC	es.		-	_	_	_	_		te 100. Sho	rview. MN 551	126
Lab Pho	_	612-607-6363 / 612-607-6444 (fax)			_	Global	-	_	-										Address: 5910 Rice Creek Parkway, Suite 100, Shorview, MN 55126 Coresultant/Contractor PM: Jared Ctto							
Lab Shi	_		,,,,,			-	posal I	_	.	_	M32	3-000	R	_	_		_		-								
Lab Bot					-		ng Mod							C-BU_			DC-RM		-1	Phone: 651-697-5232 / 651-639-9473 (fax) Ernail EDD To: jotto@deltaenv.com / njohnson@deltaenv.com							
Other in		JOHNO. NYA			Stag		Opera							tions &						-							
_	_	: Diane Diks		_	Stage	_	_	Т	No	_		_	_	ervativ	_		_		_	Invoice To: BP/ARC X Contractor uested Analyses Report Type & QC Le				nuol .			
_	_		'5-1		Н	Ma	trix	+	NO	, Co	ntain	ers	Presi	ervauv	e		-	K	eque	uested Analyses				-			vei
EBM P	_	630-836-7106 / 630-836-7195 (diksdm@bp.com	rax)		Н			1	Ę.			П		П				П				Ш			St Fulf Data P	andard X	
Lab No.		Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	- 1	Total Number of Conta	Unpreserved	H ₂ SO ₄	HNO ₃	HCI	Methanol		втех то-з	THC TO-3	Methane TO-3						Note: If s	Co ample not co in comment	mments Mected, indicate and single-stri and sample desc	ke out
	SVE E	exhaust - SVE SYSTEM	5-11-10	13:45			X	1	1	x						×	х	X						4			
								1																			
o Sampi	er's Na	nne: Ed Heytens			H	L	R	l	quis	hed	By / /	Affilia	ation				ate	Tie	me	1	Ac	capte	By /	 Affiliation		Date	Time
-	er's Co	ompany: Delta Consultants	Ship Date:		3		1	7/	1	> 2	1					5/	1-10		1:05		_			- MA		5/17/10	
-	_	acking No:	3p 34w.		۲		_		_			_	_	_	-	F	. ,,	1/7	ريد								
-	_	structions:			_	-		_	-	_	-	-		-	_	_		_	_	_	-	_		_	_		
Space	_	HIS LINE - LAB USE ONLY: Cut	stody Seals in P	lace: /es) No	T	Ter	mp Bla	nk: Y	'es / 1	%)	T	Coole	r Tem	p on Re	ceipt	- <u>A</u>	MB	·F/C	T	Trip Bla	nk: Ye	s / (No)) N	MS/MSD Sa	ample Subn	nitted: Yes //N	。)

AIR Sample Condition Upon Receipt Pace Analytical Client Name: BP-DeHo/MN Project # 10128123 Courier: Fed Ex UPS USPS Client Commercial Pace Other Custody Seal on Cooler/Box Present: yes no Seals intact: yes no Packing Material: Bubble Wrap Bubble Bags None Other Date and Initials of person examining Comments: ZYes DNo DNA 1. Chain of Custody Present: Ves □No □N/A 2. Chain of Custody Filled Out: Yes No □N/A 3. Chain of Custody Relinquished: Yes DNo □N/A 4. Sampler Name & Signature on COC: Yes ONO ONA 5. Samples Arrived within Hold Time: Yes No DNA 6. Tedlor Rac Short Hold Time Analysis (<72hr): Rush Turn Around Time Requested: □Yes ZNo □N/A 7 DNA 8 Ves □No Sufficient Volume: Yes DNo □N/A Correct Containers Used: ZYes □No □N/A -Pace Containers Used: Yes ONO ONA Containers Intact: Media: 11. ZYes No NA 12. Sample Labels match COC: Samples Received: Flow Controllers **Tedlar Bags** Stand Alone G Canisters Sample Number | Can ID Sample Number Can ID Sample Number Can ID Sample Number Can ID Field Data Required? Client Notification/ Resolution:

Project Manager Review:

Date: 05 112 10

Note: Whenever there is a discrepancy affecting North Carolina ampliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, temp, incorrect containers)
A106 Rev.01 (22May2009)





August 04, 2010

Mr. Jared Otto **BP-Delta-Minnesota** c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10134044

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on July 22, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

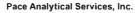
Colin Schuft

colin.schuft@pacelabs.com

Colin Jehoft

Project Manager

Enclosures





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

CERTIFICATIONS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134044

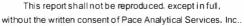
Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414 Alaska Certification #: UST-078 Alaska Certification #MN00064 Arizona Certification #: AZ-0014 Arkansas Certification #: 88-0680 California Certification #: 01155CA EPA Region 8 Certification #: Pace Florida/NELAP Certification #: E87605 Georgia Certification #: 959 Idaho Certification #: MN00064 Illinois Certification #: 200011 lowa Certification #: 368 Kansas Certification #: E-10167 Louisiana Certification #: 03086 Louisiana Certification #: LA080009 Maine Certification #: 2007029 Maryland Certification #: 322 Michigan DEQ Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092 Nebraska Certification #: Pace Nevada Certification #: MN 00064 New Jersey Certification #: MN-002 New Mexico Certification #: Pace New York Certification #: 11647 North Carolina Certification #: 530 North Dakota Certification #: R-036 North Dakota Certification #: R-036A Ohio VAP Certification #: CL101 Oklahoma Certification #: D9921 Oklahoma Certification #: 9507 Oregon Certification #: MN200001 Pennsylvania Certification #: 68-00563
Puerto Rico Certification Tennessee Certification #: 02818 Texas Certification #: T104704192 Washington Certification #: C754 Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 11







Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134044

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
10134044001	SVE Exhaust	Air	07/21/10 14:00	07/22/10 09:42	





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134044

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10134044001	SVE Exhaust	TO-3 Air	RTP	7
		TO-3 Air	RTP	



Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10134044

Method: TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: August 04, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch AIR/10628

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- · LCSD (Lab ID: 831153)
 - THC as Gas
- SVE Exhaust (Lab ID 10134044001)
 - THC as Gas

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/10628

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCSD (Lab ID: 831153)
 - THC as Gas

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/10628

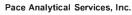
- 1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.
 - SVE Exhaust (Lab ID: 10134044001)
 - THC as Gas

REPORT OF LABORATORY ANALYSIS

Page 5 of 11

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..







1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10134044

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin Date: August 04, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/10611

- 1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.
 - SVE Exhaust (Lab ID: 10134044001)
 - Methane

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 11







ANALYTICAL RESULTS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134044

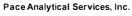
Sample: SVE Exhaust	Lab ID: 10134044001 C	collected: 07/21/	10 14:00	Received: 07/22/10 09:42	Matrix: Air	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG	Analytical Method: TO-3 Air					
Benzene	ND ppmv	0.40	3.95	07/30/10 14	17 71-43-2	
Ethylbenzene	ND ppmv	0.40	3.95	07/30/10 14:	17 100-41-4	
THC as Gas	6.8 ppmv	4.0	3.95	07/30/10 14:	17	1M,CH, L1
Toluene	ND ppmv	0.40	3.95	07/30/10 14:	17 108-88-3	
m&p-Xylene	ND ppmv	0.79	3.95	07/30/10 14:	17 1330-20-7	
o-Xylene	ND ppmv	0.40	3.95	07/30/10 14:	17 95-47-6	
a,a,a-Trifluorotoluene (S)	126 %	54-137	3.95	07/30/10 14:	17 98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene	Analytical Method: TO-3 Air					
Methane	266 ppmv	19.8	19.75	07/29/10 13:	31 74-82-8	1M

Date: 08/04/2010 11:30 AM

REPORT OF LABORATORY ANALYSIS

Page 7 of 11







1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10134044

QC Batch

AIR/10628

Analysis Method:

TO-3 Air

QC Batch Method: TO-3 Air Analysis Description:

TO3 GCV AIR BTEX BAG

Associated Lab Samples:

METHOD BLANK: 831151

Matrix: Air

Associated Lab Samples:

10134044001

10134044001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	07/30/10 09:42	
Ethylbenzene	ppmv	ND	0.10	07/30/10 09:42	
m&p-Xylene	ppmv	ND	0.20	07/30/10 09:42	
o-Xylene	ppmv	ND	0.10	07/30/10 09:42	
THC as Gas	ppmv	ND	1.0	07/30/10 09:42	
Toluene	ppmv	ND	0.10	07/30/10 09:42	
a.a.a-Trifluorotoluene (S)	%	127	54-137	07/30/10 09:42	

LABORATORY CONTROL SAME	PLE & LCSD: 831152		83	31153						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Benzene	ppmv	1	0.99	1.1	99	106	70-130	7	30	
Ethylbenzene	ppmv	1	0.97	1.0	97	104	70-130	8	30	
m&p-Xylene	ppmv	2	1.9	2.2	93	108	70-130	15	30	
o-Xylene	ppmv	1	1.0	1.2	102	119	70-130	15	30	
THC as Gas	ppmv	10	12.4	13.2	124	132	70-130	6	30	CH,L0
Toluene	ppmv	1	0.90	0.97	90	97	70-130	8	30	
a,a,a-Trifluorotoluene (S)	%				118	117	54-137			

Date: 08/04/2010 11:30 AM

REPORT OF LABORATORY ANALYSIS

Page 8 of 11





Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALITY CONTROL DATA

Project: BP-Delta-WI SS#406

Pace Project No.: 10134044

QC Batch: AIR/10611 Analysis Method: TO-3 Air

QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR METH,ETHANE,ETHENE

Associated Lab Samples: 10134044001

METHOD BLANK: 829466 Matrix: Air

Associated Lab Samples: 10134044001

Blank Reporting Parameter Units Result Limit Analyzed Qualifiers

Methane ppmv ND 1.0 07/29/10 12:51

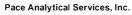
LABORATORY CONTROL SAMPLE & LCSD: 829467 829468 Spike LCS **LCSD** LCS LCSD % Rec Max Parameter Units Result RPD Conc. Result % Rec % Rec Limits **RPD** Qualifiers 10 Methane ppmv 12.3 12.4 124 70-130 30

Date: 08/04/2010 11:30 AM

REPORT OF LABORATORY ANALYSIS

Page 9 of 11







1700 EIm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALIFIERS

Project: BP-Delta-WI SS#406

Pace Project No.: 10134044

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

Date 08/04/2010 11 30 AM

1M	Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.	
IIVI	Sample was transferred from a redial bad into a Summa Camster within 72 hours of collection.	

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased
	high

LO Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

REPORT OF LABORATORY ANALYSIS

Page 10 of 11





(612)607-1700



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134044

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10134044001	SVE Exhaust	TO-3 Air	AIR/10628		
10134044001	SVE Exhaust	TO-3 Air	AIR/10611		

Date: 08/04/2010 11:30 AM

REPORT OF LABORATORY ANALYSIS

Page 11 of 11



Atlantic Richfield Company

Laboratory Management Program LaMP Chain of Custody Record

Req Due Date (mm/dd/yy):

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

/0/3 4044 Page 1 of 1
Rush TAT: Yes No X

(A BP affiliated company	DP/ARC Pac	anty NO.	400			_				_				Lab v	WORK (Order Nur	nbe		_	_	_		_	_	
Lab Na	me: Pace Analytical Services, Inc.		- 5341	BP//	ARC	Facility i	Add	ress:	111	2904	Winte	r Stre	et					Cor	nsultant/	Contrac	tor:	Delta	Delta Consultants			
Lab Ad	dress: 1700 Elm St., Minneapolis, M	IN 55414		City	, Stat	в, ZIP C	ode) :		Supe	rior, V	VI, 548	80			Eq. (c)		Cor	Consultant/Contractor Project No: 00406OA09-1							
Lab PM	: Julie Thieschafer			Lead	dReg	ulatory	Age	ncy:		Wisc	onsin	Dept o	of Natura	al Re	eource	es		Ado	tress:	5910 Ri	ce Cree	k Park	arkway, Sulte 100, Shorview, MN 55126			
Lab Ph	one: 612-607-6363 / 612-607-644	4 (fax)	= -24	Calif	fornia	Global	ID N	No.:										Cor	Consultant/Contractor PM: Jared Otto							
Lab Sh	ipping Acent			Enfo	s Pro	posal N	lo:			0032	3-000	8						Pho	one:	651-697	7-5 23 2 /	12 / 651-639-9473 (fax)				
Lab Bo	ttle Order No: N/A			Acc	ountir	ng Mode	3:		Рго	vision	Х	00	C-BU_		oc	C-RM		Em	ail EDD	To: jc	tto@del	taenv.c	com / njohnson@deltænv.com			
Other I	nfo:			Stag	je:	Operat	ie		Ad	Activity: (21) Operations & Mainte					tenano	ю		hve	oice To:		BP/:AR	с <u>х</u>	Contractor			
BP/AR	C EBM: Diane Diks			Г	Ma	trix	٦	No	. Co	ntain	ers /	Pres	ervativ	e			Requ	este	d Anal	yses			Report Typ	e & QC Lo	evel	
EBM P	hone: 630-836-7106 / 630-836-719	5 (fax)		Г	Г	П	٦						П	П				Γ	П		Т	Т	Sta	nderd _X_		
ЕВМ Е	mail; diksdm@bp.com]		Н	١	919									9		1				Full Data Pa	kage		
Lab No.	Sample Description	Date	Time	Soil / Solld	Water / Liquid	Air / Vapor		Total Number of Con	Unpreserved	H ₂ SO ₄	HNO ₃	HCI	Methanol	1000	BTEX TO-3	THC TO-3	Methane TO-3						Con Note: If sample not coll Sample" in comments and initial any preprinte	and single-stri	ike out	
	SVE Exhaust	7-21-10	14:00	F	F	х	4	1	×				4	_	X	X	X	L	-	H	1	1	1013409	400		
Shipm	er's Name: Ed Heytens er's Company: Delta Consultar ent Method: ent Tracking No:	Ship Date:	7-21-16		2	Re	elin	quis	hed	/	Affilia	ation				21-10	Time		Hong		-	y / Ar	filiation	Date	Time	
-	ial Instructions:			_		_		-				_	_	_	_			_	_			_				
	THIS LINE - LAB USE ONLY:	Custody Seals In P	lace: Yes I Do	I	Тө	mp Blar	ık: \	/es/	Vo)	T	Coole	r Tem	on Re	ceipt	· An	NS	°F/C	Tr	rip Blank	: Yes/i		MS	/MSD Sample Submit	ted: Yes N	6)	
				_	_		_		_	_		_		_												

AIR Sample Condition Upon Receipt

Pace Analytical

ourier: Fed Ex UP ustody Seal on Cooler/Bo acking Material: Bubbl racking #: 2997 ST	'S	J Commercia			
acking Material: Bubbl	x Present: X'yes L		l □ Pace Other_		Optional Proj. Due Date:
		no Sea	is intact: 🔀 yes	☐ no	Proj. Name:
making # 7997 57	le Wrap 🔲 Bubble Bags	None	Other	-	
acking #. ////	139 8006	2.5 mm. 1	Comments:		contents: 2'22 1
nain of Custody Present:	ŊŶŧ	s 🗆 No 🗆 N/	A 1.		
nain of Custody Filled Out:	I X∳e	s 🗆 No 🗆 N/A	2.		
naln of Custody Relinquishe	od: 🗖 Ye:	s ONO ON/A	3.		
mpler Name & Signature o	n COC: 💆 es	B ONO ONA	4.		
mples Arrived within Hold 1	ime: 🗫 🗫	s 🗆 No 🗆 N/A	5.		
ort Hold Time Analysis (<	72hr):	B □No □N/A	6. 703 -7.0	ellor Be	A
sh Turn Around Time Rec	quested: 🗆 Yes	S DN/A	7.	700	0
fficient Volume:	Ů (∀es	□No □N/A	8.		
rrect Comainers Used:	De es	NO DNA	9.		
-Pace Containers Used:	□Yes	Mo □NA			
ntainers Intact:	√ Ves		10.	12.5	
dia: HA	(BAL)		11.		
mple Labels match COC:	Yes	□N₀ □N/A	12.		
mples Received:					
Canisters	Flow Contr	ollers	Stand Alon	e G	Tedlar Bags
Sample Number Ca	an ID Sample Number	Can ID	Sample Number	Can ID	Sample Number Can ID
	erm to enter				
					4
				Constitution of	
ent Notification/ Resolution				Field D	ata Required? Y / N
		Date/T	ime:		

13 of 13





1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

August 05, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10134047

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on July 22, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colin Schuft

colin.schuft@pacelabs.com

Project Manager

Calin ghapt

Enclosures



Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

CERTIFICATIONS

Project:

BP-Delta-WI SS#406

Pace Project No.:

10134047

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification #: UST-078 Alaska Certification #MN00064 Arizona Certification #: AZ-0014 Arkansas Certification #: 88-0680 California Certification #: 01155CA EPA Region 8 Certification #: Pace Florida/NELAP Certification #: E87605 Georgia Certification #: 959 Idaho Certification #: MN00064 lowa Certification #: 368

Kansas Certification #: E-10167 Maryland Certification #: 322

Louisiana Certification #: 03086 Louisiana Certification #: LA080009 Maine Certification #: 2007029

Michigan DEQ Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092 Nevada Certification #: MN 00064 Nebraska Certification #: Pace New Jersey Certification #: MN-002 New Mexico Certification #: Pace New York Certification #: 11647 North Carolina Certification #: 530 North Dakota Certification #: R-036 North Dakota Certification #: R-036A Ohio VAP Certification #: CL101 Oklahoma Certification #: D9921 Oklahoma Certification #: 9507 Oregon Certification #: MN200001 Pennsylvania Certification #: 68-00563

Puerto Rico Certification Tennessee Certification #: 02818 Texas Certification #: T104704192 Washington Certification #: C754 Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS This report shall not be reproduced, except in full,

Page 2 of 11







1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134047

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10134047001	Air Discharge-Stripper	Air	07/21/10 14:20	07/22/10 09:42
10134047002	Air Discharge-SVE	Air	07/21/10 14:25	07/22/10 09:42





SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134047

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10134047001	Air Discharge-Stripper	TO-3 Air	RTP	7
10134047002 Air Discharge-SVE	Air Discharge-SVE	TO-3 Air	RTP	7
		TO-3 Air	RTP	21.







1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10134047

Method: TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: August 05, 2010

General Information:

2 samples were analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/10642

- 1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.
 - · Air Discharge-SVE (Lab ID: 10134047002)
 - THC as Gas
 - · Air Discharge-Stripper (Lab ID: 10134047001)
 - THC as Gas
- 2M: The continuing calibration for this compound is outside of BP acceptance limits.
 - · Air Discharge-SVE (Lab ID: 10134047002)
 - Toluene
- 3M: The continuing calibration for this compound is outside of BP acceptance limits. The results may be biased high.
 - LCSD (Lab ID: 833025)
 - Toluene

REPORT OF LABORATORY ANALYSIS

Page 5 of 11





Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minne apolis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project:

BP-Delta-WI SS#406

Pace Project No.:

10134047

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin Date: August 05, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a Tedlar bag into a Summa Canister within 48 hours of collection.

· Air Discharge-SVE (Lab ID: 10134047002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 11







ANALYTICAL RESULTS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134047

Sample: Air Discharge-Stripper	Lab ID: 101340470	001 Collected: 07/21/	10 14:20	Received: (07/22/10 09:42	Matrix: Air	
Parameters	Results Un	its Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO3 GCV AIR BTEX BAG	Analytical Method: TC	0-3 Air					
Benzene	ND ppmv	0.21	2.08		08/05/10 10:2	5 71-43-2	
Ethylbenzene	ND ppmv	0.21	2.08		08/05/10 10:2	5 100-41-4	
THC as Gas	ND ppmv	2.1	2.08		08/05/10 10:2	5	1M
Toluene	ND ppmv	0.21	2.08		08/05/10 10:2	5 108-88-3	
m&p-Xylene	ND ppmv	0.42	2.08		08/05/10 10:2	5 1330-20-7	
o-Xylene	ND ppmv	0.21	2.08		08/05/10 10:2	5 95-47-6	
a,a,a-Trifluorotoluene (S)	99 %	54-137	2.08		08/05/10 10:2	5 98-08-8	
Parameters	Results Un	its Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO3 GCV AIR BTEX BAG	Analytical Method: TO)-3 Air					
Benzene	0.50 ppmv	0.30	3.04		08/05/10 10:4	3 71-43-2	
Ethylbenzene	ND ppmv	0.30	3.04		08/05/10 10:4	3 100-41-4	
THC as Gas	18.0 ppmv	3.0	3.04		08/05/10 10:4	3	1M
Toluene	0.36 ppmv	0.30	3 04		08/05/10 10:4	3 108-88-3	2M
m&p-Xylene	ND ppmv	0.61	3 04		08/05/10 10:4	3 1330-20-7	
o-Xylene	ND ppmv	0.30	3 04		08/05/10 10:4	3 95-47-6	
a,a,a-Trifluorotoluene (S)	102 %	54-137	3 04		08/05/10 10:4	3 98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene	Analytical Method: TO)-3 Air					
Methane	55.1 ppmv	30.4	30.4		07/29/10 13:0	8 74-82-8	A4

Date: 08/05/2010 04:05 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10134047

QC Batch:

AIR/10642

Analysis Method:

TO-3 Air

QC Batch Method: TO-3 Air Analysis Description:

TO3 GCV AIR BTEX BAG

Associated Lab Samples: 10134047001, 10134047002

METHOD BLANK: 833023

Matrix: Air

Associated Lab Samples: 10134047001, 10134047002

_		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	08/05/10 10:06	
Ethylbenzene	ppmv	ND	0.10	08/05/10 10:06	
m&p-Xylene	ppmv	ND	0.20	08/05/10 10:06	
o-Xylene	ppmv	ND	0.10	08/05/10 10:06	
THC as Gas	ppmv	ND	1.0	08/05/10 10:06	
Toluene	ppmv	ND	0.10	08/05/10 10:06	
a,a,a-Trifluorotoluene (S)	%	102	54-137	08/05/10 10:06	

LABORATORY CONTROL SAM	PLE & LCSD: 833024	1	83	33025						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Benzene	ppmv	1	1.2	1.1	119	111	70-130	7	30	
Ethylbenzene	ppmv	1	1.2	1.1	116	106	70-130	9	30	
m&p-Xylene	ppmv	2	2.3	2.0	114	102	70-130	11	30	
o-Xylene	ppmv	1	1.1	0.96	106	96	70-130	10	30	
THC as Gas	ppmv	10	11.5	11.3	115	113	70-130	2	30	
Tolue n e	ppmv	1	1.2	1.3	118	126	70-130	7	30	3M
a,a,a-Trifluorotoluene (S)	%				102	100	54-137			

Date: 08/05/2010 04:05 PM

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10134047

QC Batch:

AIR/10611

QC Batch Method:

TO-3 Air

Analysis Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR METH, ETHANE, ETHENE

Associated Lab Samples:

METHOD BLANK: 829466

Parameter

Matrix: Air

Associated Lab Samples:

10134047002

10134047002

Blank Result Reporting Limit

Analyzed

Qualifiers

Methane

ppmv

Units

ND

1.0 07/29/10 12:51

LABORATORY CONTROL SAMPLE & LCSD: 829467 829468 LCSD Spike LCS LCS LCSD % Rec Max RPD Parameter Units Conc. Result % Rec % Rec Limits **RPD** Qualifiers Result Methane 10 12.3 12.4 123 124 70-130 30 ppmv

Date: 08/05/2010 04:05 PM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

QUALIFIERS

Project: BP-Delta-WI SS#406

Pace Project No.: 10134047

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

2M The continuing calibration for this compound is outside of BP acceptance limits.

3M The continuing calibration for this compound is outside of BP acceptance limits. The results may be biased high.

A4 Sample was transferred from a Tedlar bag into a Summa Canister within 48 hours of collection.

Date: 08/05/2010 04:05 PM

REPORT OF LABORATORY ANALYSIS

Page 10 of 11







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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10134047

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10134047001	Air Discharge-Stripper	TO-3 Air	AIR/10642		
10134047002	Air Discharge-SVE	TO-3 Air	AIR/10642		
10134047002	Air Discharge-SVE	TO-3 Air	AIR/10611		

Date: 08/05/2010 04:05 PM

REPORT OF LABORATORY ANALYSIS

Page 11 of 11



Atlantic Richfield Company

Laboratory Management Program LaMP Chain of Custody Record

Reg Due Date (mm/dd/yy):

Lab Work Order Number:

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

406

BP/ARC Facility No:

10/34047 Page 1 of 1 Rush TAT: Yes No X

	gr. D. annates company																								
ab Nar	ne: Pace Analytical Services, Inc).		BP/A	RC F	acility /	Addre	ess:		2904	Winte	r Stre	et					Consulta	nt/Con	tractor:	De	elta Consul	tants		
ab Add	kress: 1700 Elm St., Minneapolis, M	AN 55414		City,	State	, ZIP C	ode:			Supe	rior, W	/I, 5 48	80					Consulta	nt/Con	tractor F	Project N	lo: O	0406OA09-1		
ab PM	: Julie Thieschafer			Lead	Reg	ulatory .	Agen	ку:		Wisc	onsin	Dept o	f Natura	Reso	ource	s		Address	: 591	0 Rice (Creek Pa	arkway, Su	ite 100, Shor	iew, MN 55	126
ab Pho	one: 612-607-6363 / 612-607-644	14 (fax)		Calif	omia	Global	D No	o.:										Consulta	int/Con	tractor F	PM: Ja	ared Otto			
ab Shi	pping Accent			Enfo	s Pro	posal N	lo:			0032	3-000	В						Phone:	651	-697-52	32 / 651	-639-9473	(fax)		
Lab Bot	tle Order No; N/A			Acc	ountin	g Mode	i.		Pro	vision	Х	00	C-BU_		00	C-RM		Email El	DD To:	jotto	i)deltaen	v.com / njo	ohnson@delta	ienv.com	
Other In	nfo:			Stag	e:	Operat	e 		Ac	tivity:	(21)	Opera	tions & N	/lainte	nance	•		Invoice 1	Го:	BP	/ARC_	<u>x</u> _	Contractor		
BP/AR	CEBM: Diane Diks			L	Ma	trix	1	No.	. Co	ntain	ers /	Pres	ervativ	•	-		Reque	sted A	nalyse	:S	year.		Report Typ	e & QC Le	evel
EBM P	none: 630-836-7106 / 630-836-719	95 (fax)		Г		П	Т						П	Т	Т			П	Т	Т	П		Sta	ndard <u>X</u>	
EBM E	mail: diksdm@bp.com]		П	1	Containe					Н.	1			7				Н		Full Data Pa	cleage	
Lab No.	Sample Description	Date	Time	Soll / Solid	Water / Liquid	Air / Vapor	- 1	Total Number of Cor	Unpreserved	H₂SO₄	HNO ₃	HCI	Methanol		BTEX 10-3	THC TO-3	Methane TO-3					Sample'	Consample not coll in comments all any preprinte	and single-stri	ke out
	Air Discharge - Stripper	7-21-10	14:20			×	T	1	X					Т	x	Х						10	1340	4700	01
	Air Discharge - SVE	7-21-16	14:25		-0	х	1	1	х					\perp	х	X	х							00	28
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_	er's Name: Ed Heytens			Ļ	_	Re	elinq	uist	hed I	By / /	Affilia	tion		4	Da	ite	Time	1	A	ccepte	d By /	Affiliation	n	Date	Time
Sample	er's Company: Detta Consulta	nts		┺	_	-	,		/	-1				4				Non	Sh	H		PAR		22/1)	09:100
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Shipm	ent Tracking No:						1	//				_													3
Speci	al Instructions:			_				_	_	_				_	-					-,-					
	THIS LINE - LAB USE ONLY:	Custody Seels in P	tack. Yes JNo		Ter	mp Blain	k: Ye	95/N	v 6	<u> </u>	Coole	r Tem	pon Rec	eipt	m	MIZ.	*F/C	Trip Bl	ank: Ye	s No	기 <u>N</u>	MS/MSDS:	ample Submit	ted: Yes N	

AIR Sample Condition Upon Receipt

Pace Analytical Client Name: BP. Desta - We Project # 10/34047 Courier: M Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_ Optional Custody Seal on Cooler/Box Present: yes no Seals intact: yes no Proj. Due Date: Proj. Name: Packing Material: ☐ Bubble Wrap ☐ Bubble Bags 📈 None ☐ Other_ Date and Initials of parson examining contents: 2 - 2 - / 2 Tracking #: 7997 SD39 8006 Comments: Yes ONO ONA 1. Chain of Custody Present: Yes ONO ONIA Chain of Custody Filled Out: Yes DNo □N/A Chain of Custody Relinguished: Sores □No Sampler Name & Signature on COC: □N/A Mares DNo Samples Arrived within Hold Time: □N/A 103 - Tredlar Rose Yes DNo □N/A 6 Short Hold Time Analysis (<72hr): □Yes Too □N/A 7 Rush Turn Around Time Requested: Sufficient Volume: Yes DNo DN/A 8. □NIA 9. Correct Containers Used: □N/A -Pace Containers Used: Yes ONO ON/A 10 Containers Intact: Media: 11. Wes □No □N/A 12 Sample Labels match COC: Samples Received: Canisters Flow Controllers Stand Alone G **Tedlar Bags** Sample Number Can ID Sample Number Can ID Sample Number Can ID Sample Number Can ID **Cilent Notification/ Resolution:** Field Data Required? Y / Person Contacted: Date/Time: Comments/ Resolution: Project Manager Review:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of emp, incorrect containers)
A106 Rev.01 (22May2009)





November 19, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10142419

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cory C Lund

cory.lund@pacelabs.com Project Manager

Enclosures

cc: Nathan Johnson, BP-Delta-Minnesota





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

CERTIFICATIONS

Project: BP-Delta-WI SS#406

Pace Project No.: 10142419

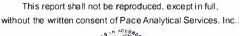
Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414 Alaska Certification #: UST-078 Alaska Certification #MN00064 Arizona Certification #: AZ-0014 Arkansas Certification #: 88-0680 California Certification #: 01155CA EPA Region 8 Certification #: Pace Florida/NELAP Certification #: E87605 Georgia Certification #: 959 Idaho Certification #: MN00064 Illinois Certification #: 200011 lowa Certification #: 368 Kansas Certification #: E-10167 Louisiana Certification #: 03086 Louisiana Certification #: LA080009 Maine Certification #: 2007029 Maryland Certification #: 322 Michigan DEQ Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: Pace

Montana Certification #: MT CERT0092 Nevada Certification #: MN 00064 Nebraska Certification #: Pace New Jersey Certification #: MN-002 New Mexico Certification #: Pace New York Certification #: 11647 North Carolina Certification #: 530 North Dakota Certification #: R-036 North Dakota Certification #: R-036A Ohio VAP Certification #: CL101 Oklahoma Certification #: D9921 Oklahoma Certification #: 9507 Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification Tennessee Certification #: 02818 Texas Certification #: T104704192 Washington Certification #: C754 Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Page 2 of 13







Pace Analytical Services, Inc. 1700 Elm Street - Suite 200

Minneapolis, MN 55414

(612)607-1700

SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142419

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10142419001	Air Discharge-Stripper	Air	11/04/10 14:45	11/05/10 10:15
10142419002	Air Discharge-SVE	Air	11/04/10 14:50	11/05/10 10:15





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SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142419

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10142419001	Air Discharge-Stripper	TO-3 Air	RTP	7
10142419002	Air Discharge-SVE	TO-3 Air	RTP	7
		TO-3 Air	RTP	. 1



Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142419

Method: TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: November 19, 2010

General Information:

2 samples were analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/11203

- CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
 - Air Discharge-Stripper (Lab ID: 10142419001)
 - o-Xylene
- CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
 - · Air Discharge-Stripper (Lab ID: 10142419001)
 - Benzene

QC Batch: AIR/11269

- CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
 - Air Discharge-SVE (Lab ID: 10142419002)
 - Benzene
 - Ethylbenzene
 - Toluene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/11203

R1: RPD value was outside control limits.

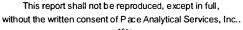
- LCSD (Lab ID: 885931)
 - Benzene
 - Ethylbenzene

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

Page 5 of 13









1700 Elm Street - Suite 200 Minnea polis, MN 55414

(612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10142419

Method: TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: November 19, 2010

Additional Comments:

Analyte Comments:

QC Batch: AIR/11269

1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.

- Air Discharge-SVE (Lab ID: 10142419002)
 - THC as Gas



Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10142419

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin

Date: November 19, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a Tedlar bag into a Summa Canister within 48 hours of collection.

Air Discharge-SVE (Lab ID: 10142419002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/11256

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- Air Discharge-SVE (Lab ID: 10142419002)
 - Methane
- LCS (Lab ID: 892920)
 - Methane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/11256

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- · LCS (Lab ID: 892920)
 - Methane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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Page 7 of 13





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ANALYTICAL RESULTS

Project:

o-Xylene

Methane

a,a,a-Trifluorotoluene (S)

TO3 GCV AIR Meth, Ethane, Ethene

BP-Delta-WI SS#406

Pace Project No.:

10142419

Sample: Air Discharge-Stripper	Lab ID: 10	142419001	Collected:	11/04/1	0 14:45	Received:	11/05/10 10:15	Matrix: Air	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO3 GCV AIR BTEX BAG	Analytical Me	thod: TO-3 A	Air						
Benzene	0.12 p	pmv		0.10	1		11/05/10 17 06	71-43-2	CL
Ethylbenzene	ND p	pmv		0.10	1		11/05/10 17:06	100-41-4	
THC as Gas	2.7 p	pmv		1.0	1		11/05/10 17:06	6	
Toluene	0.12 p	pmv		0.10	1		11/05/10 17:06	108-88-3	
m&p-Xylene	ND p	pmv		0.20	1		11/05/10 17:06	179601-23-1	
o-Xylene	0.25 p	pmv		0.10	1		11/05/10 17:06	95-47-6	CH
a,a,a-Trifluorotoluene (S)	145 %			54-137	1		11/05/10 17:06	98-08-8	S0
Sample: Air Discharge-SVE	Lab ID: 10°	142419002	Collected:	11/04/1	0 14:50	Received:	11/05/10 10:15	Matrix: Air	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
TO3 GCV AIR BTEX BAG	Analytical Me	thod: TO-3 A	Air						
Benzene	0.64 p	pmv		0.17	1.74		11/18/10 10:41	71-43-2	CL
Ethylbenzene	ND p	pmv		0.17	1.74		11/18/10 10:41	100-41-4	CL
THC as Gas	16.0 p	pmv		1.7	1.74		11/18/10 10:41		1M
					4 7 4		44/40/40 40 44	400 00 0	\circ
Toluene	0.65 p	pmv		0.17	1.74		11/18/10 10:41	108-88-3	CL

0.17

54-137 1.74

8.7 8.7

ND ppmv

Analytical Method: TO-3 Air

51.4 ppmv

81 %

1.74

Date: 11/19/2010 03:04 PM

REPORT OF LABORATORY ANALYSIS

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A4,CH,



11/18/10 10:41 95-47-6

11/18/10 10:41 98-08-8

11/19/10 09:09 74-82-8



Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minneapolis. MN 55414

(612)607-1700

QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10142419

QC Batch

Benzene

o-Xylene

Toluene

Ethylbenzene

m&p-Xylene

THC as Gas

AIR/11203

Analysis Method:

TO-3 Air

54-137 11/05/10 11:31

QC Batch Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR BTEX BAG

Associated Lab Samples:

METHOD BLANK: 885929

Parameter

Matrix: Air

101

Associated Lab Samples: 10142419001

a,a,a-Trifluorotoluene (S)

ppmv

%

10142419001

Blank Reporting Units Qualifiers Result Limit Analyzed ppmv ND 0.10 11/05/10 11:31 ppmv ND 0.10 11/05/10 11:31 ppmv ND 0.20 11/05/10 11:31 ppmv ND 0.10 11/05/10 11:31 ND ppmv 1.0 11/05/10 11:31 ND 0.10 11/05/10 11:31

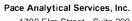
LABORATORY CONTROL SAM	IPLE & LCSD: 885930		88	35931						
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	- 1	1.0	0.75	102	75	70-130	31	30	R1
Ethylbenzene	ppmv	1	1.3	0.89	128	89	70-130	36	30	R1
m&p-Xylene	ppmv	2	2.3	1.8	116	89	70-130	26	30	
o-Xylene	ppmv	1	1.1	0.87	113	87	70-130	26	30	
THC as Gas	ppmv	10	11.6	9.4	116	94	70-130	22	30	
Toluene	ppmv	1	1.1	0.81	110	81	70-130	30	30	

Date: 11/19/2010 03:04 PM

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200 Minneapolis, MN 55414

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QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10142419

QC Batch

AIR/11269

Analysis Method:

TO-3 Air

QC Batch Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR BTEX BAG

Associated Lab Samples:

10142419002

METHOD BLANK: 894506

Matrix: Air

Associated Lab Samples: 10142419002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	11/18/10 09:52	
Ethylbenzene	ppmv	ND	0.10	11/18/10 09:52	
m&p-Xylene	ppmv	ND	0.20	11/18/10 09:52	
o-Xylene	ppmv	ND	0.10	11/18/10 09:52	
THC as Gas	ppmv	ND	1.0	11/18/10 09:52	
Toluene	ppmv	ND	0.10	11/18/10 09:52	
a,a,a-Trifluorotoluene (S)	%	93	54-137	11/18/10 09:52	

LABORATORY CONTROL SAM	IPLE & LCSD: 894507		89	94508						
Danamatas	Units	Spike Conc.	LCS Result	LCSD Result	LCS	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Parameter	Onits	Conc.	Result	Result	% Rec	70 Rec	LIIIIIIS	KFD	KPU	Qualifiers
Benzene	ppmv	1	0.98	0.74	98	74	70-130	27	30	
Ethylbenzene	ppmv	1	0.99	0.91	99	91	70-130	9	30	
m&p-Xylene	ppmv	2	2.0	1.8	101	91	70-130	11	30	
o-Xylene	ppmv	1	1.0	0.94	102	94	70-130	8	30	
THC as Gas	ppmv	10	10.0	8.9	100	89	70-130	12	30	
Toluene	ppmv	1	1.0	0.88	101	88	70-130	14	30	
a,a,a-Trifluorotoluene (S)	%				100	82	54-137			

Date: 11/19/2010 03:04 PM





QUALITY CONTROL DATA

Project:

QC Batch:

BP-Delta-WI SS#406

Pace Project No.:

10142419

AIR/11256

QC Batch Method:

TO-3 Air

Analysis Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR METH, ETHANE, ETHENE

Associated Lab Samples:

METHOD BLANK: 892919

Parameter

Matrix: Air

Associated Lab Samples:

10142419002

10142419002

Dia -l.

Blank Result Reporting Limit

Analyzed Qu

Qualifiers

Methane

ppmv

Units

ND

1.0 11/19/10 08:56

LABORATORY CON	FROL SAMPLE & LCSD: 8929	920	8	92921						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parame	eter Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Methane	ppmv	10	13.1	11.7	131	117	70-130	12	30	CH,L0

Date: 11/19/2010 03:04 PM

REPORT OF LABORATORY ANALYSIS

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(612)607-1700



QUALIFIERS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142419

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

1M	Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.
A4	Sample was transferred from a Tedlar bag into a Summa Canister within 48 hours of collection.
СН	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
LO	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

Date: 11/19/2010 03:04 PM REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142419

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10142419001	Air Discharge-Stripper	TO-3 Air	AIR/11203	_	
10142419002	Air Discharge-SVE	TO-3 Air	AIR/11269		
10142419002	Air Discharge-SVE	TO-3 Air	AIR/11256		

Date: 11/19/2010 03:04 PM

REPORT OF LABORATORY ANALYSIS

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Atlantic Richfield Company

Laboratory Management Program LaMP Chain of Custody Record

Req Due Date (mm/dd/yy):

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

10142419

Page 1 of 1

Rush TAT: Yes No X ,

1	A BP affiliated company	BP/ARC Fac	ility No:	406		_									Lab V	Nork (Order	Num	ber:		_				
ab Na	arme: Pace Analytical Services, Inc.			BP/	ARC	acility	Add	ress:		2904	Winte	r Stre	et						Consultant	/Contra	ector:	Delta	Consultants		
ab Ad	ddress: 1700 Elm St., Minneapolis, MN	55414		City,	State	e, ZIP	Code) :		Super	nior, W	/I, 5 48	180						Consultant	/Contra	ctor Pro	ject No:	00406OA09-	i	
ab PN	M; Julie Thieschafer			Leac	Reg	ulatory	Age	ncy:		Wisc	onsin I	Dept o	of Natur	al Re	source	es			Address: 5910 Rice Creek Parkway, Suite 100, Shorview, MN 55126					126	
ab Ph	none: 612-607-6363 / 612-607-6444 ((fax)		Calif	omia	Globa	IID	No.:	/	•				\					Consultant/Contractor PM: Jared Otto						
ab Sh	nipping Acent:		14 S-S-11	Enfo	s Pro	posal	No:		7	Chec	k Witt	h Jare	d Otto	J					Phone:	651-6	97-5232	/ 651-63	1-639-9473 (fax)		
ab Bo	ottle Order No: N/A			Aca	zuntir	g Mod	ie:		Prov	vision	X	00	C-BU _		00	DC-RM			Email EDD	To:	jotto@d	eltaenv.c	om / njohnson@de	taenv.com	
Other I	info:			Stage: Operate Activity: (21) Operations & Ma			Maint	tenanc	X 8			Invoice To:		BP/A	RC_X	Contracto	r								
P/AR	RC EBM: Diane Diks			Matrix No. Containers / Preservative Requested Analyses					Report T	/pe & QC Le	evel														
BM F	Phone: 630-836-7106 / 630-836-7195 ((fax)				П	٦						П		П							Т	St	andard _X_	
ВМ Е	Email: diksdm@bp.com			1		П	- 1	aine.					Н	1			ا ۾		1.3		П		Full Data P	ackage	
Lab No.	Sample Description	Date	Time	Soi / Solid	Water Liquid	Air / Vapor		Total Number of Con	Unpreserved	H ₂ SO ₄	HNO ₃	HCI	Methanol		87EX TO-3	THC TO-3	Methane TO-3						Co Note: If sample not or Sample" in comment and initial any preprin	and single-stri	ke out
	Air Discharge - Stripper	11-4-10	14:45			Х		1	х						х	Х							101424	19001	
	Air Discharge - SVE	11-4-16	14:50		13	х	1	1	х						х	Х	х						1	000	7
																									7
	Annel-2 rule-s-																	- 1							
								- 27																	
																			710						
				1																					200
				_																				/	
amp	eler's Name: Ed Heytens					R	elin	quist	ned I	By / A	Affilia	tion			0	ate	Tir	me		Acc	epted	By / Aff	filiation	Date	Time
Bamp	ler's Company: Delta Consultants						1.		1	2				7.0	_				1		A		Λ		
_	nent Method: nent Tracking No: 87443	Ship Date: /	1-4-10	+	5.	X	1	1	H	_	-	_			11	440	<i>j5</i> .	שי	Hany	MI			PARI	15-10	DIS
_	cial Instructions:	<i>303</i>		_								_		_	_		_			_				_	_
	THIS LINE - LAB USE ONLY: Cus	stody Seals in P	lace Yes No	T	Ter	np Bla	ŋk: \	es (K	6)	Π	Cooler	Temp	on Re	ceipt	Ph	115	°F/C	T	Trip Blan	k: Yes	(No)	Ms	MSD Sample Subr	itted; Yes N	

AIR Sample Condition Upon Receipt Pace Analytical Client Name: BP-Desta-WI Project # 10142419 Courier: Fed Ex UPS USPS Client Commercial Pace Other_ Custody Seal on Cooler/Box Present: yes no Seals intact: yes no Packing Material:
Bubble Wrap Bubble Bags None Other Date and initials of person examining contents: 8744 3585 3667 Comments: Chain of Custody Present: Yes No No 1. Mes ONo ON/A 2. Chain of Custody Filled Out: Yes DNo DNA 3. Chain of Custody Relinquished: MYes □No □N/A 4. Sampler Name & Signature on COC: Ves DNo DNA 5 Samples Arrived within Hold Time: Moves ONO ON/A 6. Short Hold Time Analysis (<72hr): □Yes □No □N/A 7 **Rush Turn Around Time Requested:** Ves □No □N/A 8. Sufficient Volume: Yes □No Correct Containers Used: □N/A 9. ☐Yes **X**No -Pace Containers Used: □N/A WYes □No □N/A 10. Containers Intact: Media: 11. es DNo DN/A 12. Sample Labels match COC: Samples Received: Canisters Flow Controllers Stand Alone G Tedlar Bags Sample Number Can ID Sample Number Can ID Sample Number Can ID Sample Number Can ID Client Notification/ Resolution: Field Data Required? Y / N Person Contacted: Date/Time: Comments/ Resolution:

Project Manager Review: Date: 11 5/10

Note: Whenever there is a discrepancy afficing North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
A106 Rev.01 (22May2009)





1700 E Im Street - Suite 200 Minnea polis, MN 55414

(612)607-1700

November 19, 2010

Mr. Jared Otto BP-Delta-Minnesota c/o Delta Environmental 5910 Rice Creek Parkway Shoreview, MN 55126

RE: Project: BP-Delta-WI SS#406

Pace Project No.: 10142420

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 2010. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the NELAC standards, BP LaMP Technical Requirements Revision 09, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cory C Lund

cory.lund@pacelabs.com Project Manager

Enclosures

cc: Nathan Johnson, BP-Delta-Minnesota



Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414

(612)607-1700

CERTIFICATIONS

Project: BP-Delta-WI SS#406

Pace Project No.: 10142420

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064

Idaho Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086

Louisiana Certification #: LA080009 Maine Certification #: 2007029 Maryland Certification #: 322 Michigan DEQ Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: Pace Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification

Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970





Pace Analytical Services, Inc.

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SAMPLE SUMMARY

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142420

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10142420001	SVE Exhaust	Air	11/04/10 15:00	11/05/10 10:15

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

SAMPLE ANALYTE COUNT

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142420

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10142420001	SVE Exhaust	TO-3 Air	RTP	7
		TO-3 Air	RTP	1





1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10142420

Method: TO-3 Air

Description: TO3 GCV AIR BTEX BAG
Client: BP-Delta-Wisconsin
Date: November 19, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/11269

- CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
 - SVE Exhaust (Lab ID: 10142420001)
 - Benzene
 - Ethylbenzene
 - Toluene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: AIR/11269

- 1M: Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.
 - SVE Exhaust (Lab ID 10142420001)
 - THC as Gas

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.

1700 Elm Street - Suite 200 Minn eapolis, MN 55414 (612)607-1700

PROJECT NARRATIVE

Project: BP-Delta-WI SS#406

Pace Project No.: 10142420

Method: TO-3 Air

Description: TO3 GCV AIR Meth, Ethane, Ethene

Client: BP-Delta-Wisconsin

Date: November 19, 2010

General Information:

1 sample was analyzed for TO-3 Air. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

A4: Sample was transferred from a Tedlar bag into a Summa Canister within 48 hours of collection.

• SVE Exhaust (Lab ID: 10142420001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: AIR/11256

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- · LCS (Lab ID: 892920)
 - Methane
- SVE Exhaust (Lab ID: 10142420001)
 - Methane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: AIR/11256

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- · LCS (Lab ID: 892920)
 - Methane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

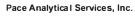
Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 11







1700 Elm Street - Suite 200 Minneapolis. MN 55414 (612)607-1700

ANALYTICAL RESULTS

Project:

BP-Delta-WI SS#406

Pace Project No.: 10142420

Date: 11/19/2010 03:05 PM

Sample: SVE Exhaust	Lab ID: 10142420001 C	ollected: 11/04/1	10 15:00	Received: 11/05/10 10:15	Matrix: Air	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG	Analytical Method: TO-3 Air					
Benzene	ND ppmv	0.17	1.74	11/18/10 11:03	71-43-2	CL
Ethylbenzene	ND ppmv	0.17	1.74	11/18/10 11:03	100-41-4	CL
THC as Gas	ND ppmv	1.7	1.74	11/18/10 11:03	3	1M
Toluene	ND ppmv	0.17	1.74	11/18/10 11:03	108-88-3	CL
m&p-Xylene	ND ppmv	0.35	1.74	11/18/10 11:03	179601-23-1	
o-Xylene	ND ppmv	0.17	1.74	11/18/10 11:03	95-47-6	
a,a,a-Trifluorotoluene (S)	79 %	54-137	1.74	11/18/10 11:03	98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene	Analytical Method: TO-3 Air					
Methane	2.8 ppmv	1.7	1.74	11/19/10 09:23	3 74-82-8	A4,CH, L3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BP-Delta-WI SS#406

Pace Project No.: 10142420

Date: 11/19/2010 03:05 PM

QC Batch: AIR/11269 Analysis Method: TO-3 Air

QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR BTEX BAG

Associated Lab Samples: 10142420001

METHOD BLANK: 894506 Matrix: Air

Associated Lab Samples: 10142420001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ppmv	ND .	0.10	11/18/10 09:52	
Ethylbenzene	ppmv	ND	0.10	11/18/10 09:52	
m&p-Xylene	ppmv	ND	0.20	11/18/10 09:52	
o-Xylene	ppmv	ND	0.10	11/18/10 09:52	
THC as Gas	ppmv	ND	1.0	11/18/10 09:52	
Toluene	ppmv	ND	0.10	11/18/10 09:52	
a,a,a-Trifluorotoluene (S)	%	93	54-137	11/18/10 09:52	

LABORATORY CONTROL SAM	PLE & LCSD: 894507		88	94508						
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	0.98	0.74	98	74	70-130	27	30	
Ethylbenzene	ppmv	1	0.99	0.91	99	91	70-130	9	30	
m&p-Xylene	ppmv	2	2.0	1.8	101	91	70-130	11	30	
o-Xylene	ppmv	1	1.0	0.94	102	94	70-130	8	30	
THC as Gas	ppmv	10	10.0	8.9	100	89	70-130	12	30	
Toluene	ppmv	1	1.0	0.88	101	88	70-130	14	30	
a,a,a-Trifluorotoluene (S)	%				100	82	54-137			

REPORT OF LABORATORY ANALYSIS

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(612)607-1700



QUALITY CONTROL DATA

Project:

BP-Delta-WI SS#406

Pace Project No.:

10142420

QC Batch:

AIR/11256

Analysis Method:

TO-3 Air

QC Batch Method:

TO-3 Air

Analysis Description:

TO3 GCV AIR METH, ETHANE, ETHENE

Associated Lab Samples:

METHOD BLANK: 892919

Matrix: Air

Associated Lab Samples:

10142420001

10142420001

Blank Result Reporting Limit

Qualifiers Analyz**e**d

Parameter Methane

ppmv

Units

ND

1.0 11/19/10 08:56

LABORATORY CONTROL SAMP	LE & LCSD: 892920		89	92921						
		Spik e	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% R e c	Limits	RPD	RPD	Qualifiers
Methane	ppmv	10	13.1	11.7	131	117	70-130	12	30	CH,L0

Date: 11/19/2010 03:05 PM



Pace Analytical Services, Inc. 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

QUALIFIERS

Project:

BP-Delta-WI SS#406

Pace Project No.:

10142420

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

ANALYTE QUALIFIERS

1M	Sample was transferred from a Tedlar bag into a Summa Canister within 72 hours of collection.
A4	Sample was transferred from a Tedlar bag into a Summa Canister within 48 hours of collection.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

Date: 11/19/2010 03:05 PM



(612)607-1700



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

BP-Delta-Wi SS#406

Pace Project No.: 10142420

Date: 11/19/2010 03:05 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10142420001	SVE Exhaust	TO-3 Air	AIR/11269		
10142420001	SVE Exhaust	TO-3 Air	AIR/11256		

REPORT OF LABORATORY ANALYSIS

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Atlantic Richfield Company

Laboratory Management Program LaMP Chain of Custody Record

Req Due Date (mm/dd/yy):

BP/ARC Project Name: Superior Former Amoco Terminal No. 406

10142420	Page	1	of	1	
Rush TA1	T: Yes		No	х	

Č	A BP affiliated company	BP/ARC Fac	ility No:	406					_						Lab V	Vork (Order	Num	ber:		_		_			
Lab Nar	ne: Pace Analytical Services, Inc.			BP/ARC Facility Address: 2904 Winter Street										Consultant/Confractor: Delta Consultants												
Lab Add	ress: 1700 Elm St., Minneapolis, MN	55414		City, State, ZIP Code: Superior, WI, 54880								Consultant/Contractor Project No: 004060A09-1														
Lab PM	Julie Thieschafer			Lead Regulatory Agency: Wisconsin Dept of Natural Res							source	es		Address: 5910 Rice Creek Parkway, Suite 100, Shorview, MN 55126							126					
Lab Pho	ne: 612-607-6363 / 612-607-6444	(fax)		California Global ID No.:						I ID No.:									Consulta	ant/Co	rtractor	PM:	Jarec	d Otto		
Lab Shipping Accent					Enfos Proposai No: Check With Jared Otto											Phone: 651-697-5232 / 651-639-9473 (fax)										
Lab Bottle Order No: N/A				Accounting Mode: Provision X OOC-BU OOC-RM										Ernal EDD To: jotto@deltaenv.com / njohnson@deltaenv.com												
Other In	fo:			Stage: Operate Activity: (21) Operations & Maintenance												Invoice To: BP/ARC X Contractor										
BP/AR	EBM: Diane Diks			Matrix No. C					. Co	Containers / Preservative					Requ				uested Analyses					Report Type & QC Level		
EBM PI	none: 630-836-7106 / 630-836-7195	(fax)		П		П				9			П		П					Т		П		Standard X		
EBM E	nail: diksdm@bp.com			11				e e		-		П			П		ю В							Full Data Package		
Lab No.	Sample Description	Date	Time	Sol / Solid				Total Number of Contain	Unpreserved	H ₂ SO ₄	HING ₃	ΙŻ	Methenol		BTEX TO-3	THC TO-3	Merane TO-3							Co Note: If sample not or Sample" In comment and initial any preprin	and single-stri	ke out
	SVE Exhaust	11-4-10	15:00			x	4	1	х						х	x	x				_			10142	1200	2/
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Speci	al instructions:				- 1											- 2									-1275	36 SEC-
	THIS LINE - LAB USE ONLY: Cu	stody Seals in P	lace: Yes No		Ter	mp Bla	nk: \	100	No)		Coole	r Tem	on Re	ceipt		M()	°F/C		Тпір В	lank: Y	es No	ノ	MS	MSD Sample Subn	itted: Yes	()

AIR Sample Condition Upon Receipt Pace Analytical Client Name: BP. Devra WT Project # 10142420 Courier: Fed Ex UPS USPS Client Commercial Pace Other Custody Seal on Cooler/Box Present: X yes no Seals intact: yes Packing Material: Bubble Wrap Bubble Bags None Cother Leady 15 Date and initials of person examining contents: **Comments:** Ves □No □N/A 1. Chain of Custody Present: Yes □No □N/A 2. Chain of Custody Filled Out: Yes No No N/A 3. Chain of Custody Relinquished: ØYes □No Sampler Name & Signature on COC: □N/A 4. ¥ es □No Samples Arrived within Hold Time: □N/A 5. Yes DNo DN/A 6. Short Hold Time Analysis (<72hr): **Rush Turn Around Time Requested:** ☐Yes No □N/A 7. Yes □No □N/A 8. Sufficient Volume: Yes □No □N/A Correct Containers Used: ☐Yes (No □N/A -Pace Containers Used: Yes □No □N/A Containers Intact: 10. Media: 11 Sample Labels match COC: ¥Yes □No □N/A 12 Samples Received: Flow Controllers Canisters Stand Alone G **Tedlar Bags** Sample Number Can ID Sample Number Can ID Sample Number Can ID Sample Number Can ID

Client Notification/ Resolution:	Field	d Data Required?	Υ /	N
Person Contacted:	Date/Time:	_		
Comments/ Resolution:				
	1			
Project Manager Review:		Date: 11 5	10	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
A106 Rev.01 (22May2009)