



January 30, 2009

Ms. Rhonda O'Leary
Wisconsin Department of Natural Resources - Air Management Bureau
Northern Region, Superior Area Office
1401 Tower Avenue, Superior, WI 54880

Subject: **Report of 2008 Air Emissions from VE-TFRT System**
Terminal Property at the Former Amoco Terminal #406
2904 Winter Street, Superior, WI 54880
Delta Project No. G006N
BRRTS No. 02-16-000331



Dear Ms. O'Leary,

Delta Consultants, on behalf of Atlantic Richfield Company, submits this report of the air monitoring conducted in 2008 of the vacuum-enhanced total fluids recovery and treatment (VE-TFRT) system located at the Terminal Property (a.k.a. Lake City Towing Property) (Figure 1).

Based on the 2008 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 the soil vacuum extraction and air stripping discharges, averaged between 0.08 and 0.82 pounds per hour during 2008. The combined total benzene emitted in 2008 was estimated at 28 pounds (Tables 1 and 2).

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, and 0216-284811) located north across Winter Street due to separate releases and different property owners.

Emissions monitoring and sampling of the VE-TFRT system will be performed on a quarterly basis in 2009.

a member of:



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

Sincerely,

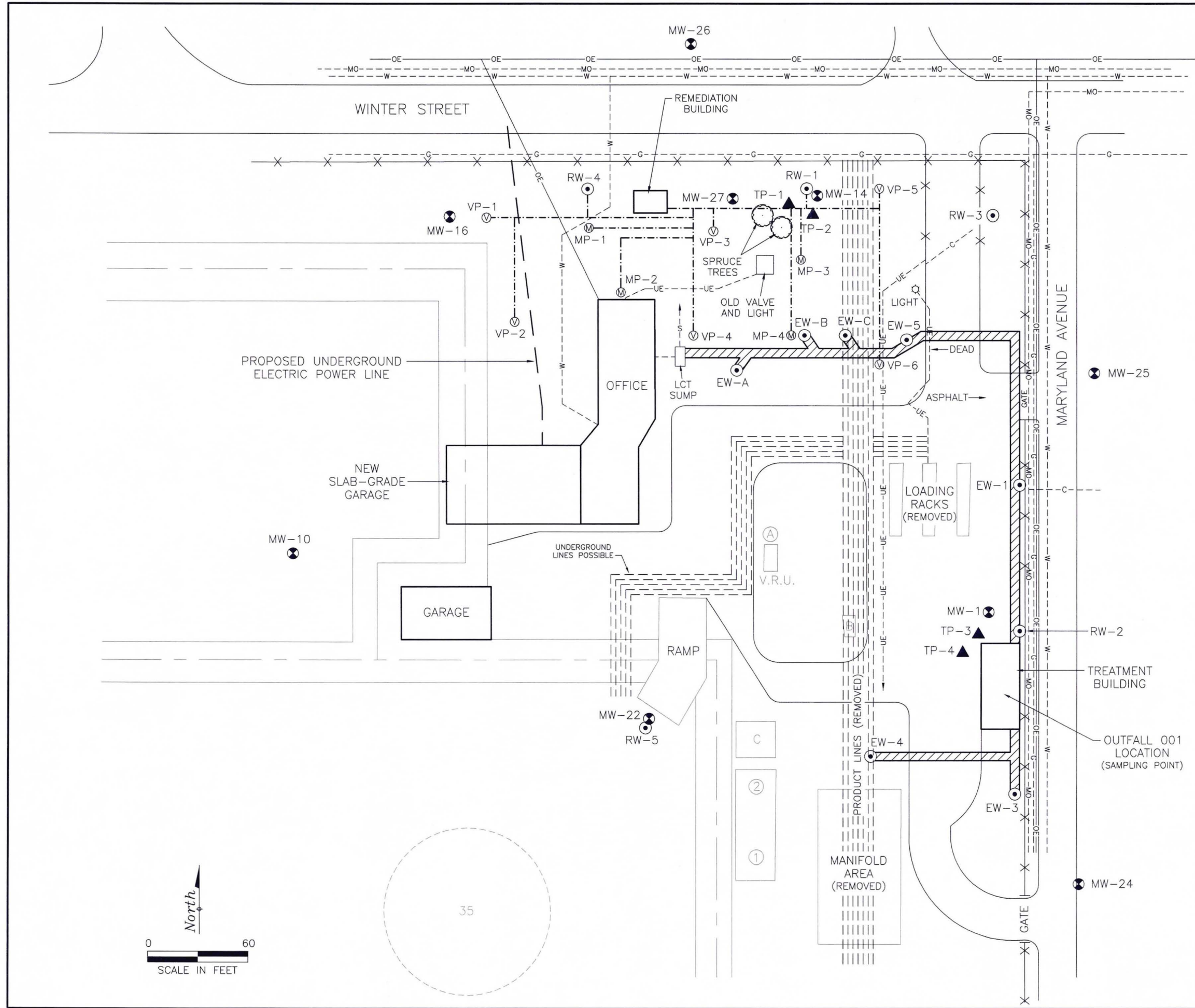
DELTA CONSULTANTS



Nathan Johnson
Project Specialist
njohnson@deltaenv.com

c: Diane Diks, Atlantic Richfield
Jared Otto, Delta
Chris Saari, WDNR

Enclosures: Figure 1 – Site Map
Table 1 – SVE Emission Summary
Table 2 – Air Stripping Emission Summary
Pace Analytical Reports 1066482, 1071290, 1077842, and 1082042



- LEGEND:**
- Ⓜ PROPOSED ADDITIONAL VAPOR POINT
 - Ⓥ PROPOSED MONITORING POINT
 - BURIED SOIL VENT LINES
 - ⊗ MONITORING WELL LOCATION
 - ⊙ RECOVERY WELL LOCATION
 - ▲ TEST POINT WELL
 - FENCE LINE
 - (A) UNDERGROUND STORAGE TANK LOCATION (REMOVED)
 - (35) ABOVE GROUND STORAGE TANK LOCATION (REMOVED)
 - OE— OVERHEAD ELECTRIC LINE
 - UE--- UNDERGROUND ELECTRIC LINE
 - MO--- MURPHY OIL LINE
 - C--- COMMUNICATION LINE
 - G--- GAS LINE
 - W--- WATER LINE
 - S--- SEWER LINE
 - /// TRENCH

NOTE:
 EW-A, EW-B AND EW-C ARE PIPING STUB-UP BURIED UNDERGROUND WITH A METAL PLATE FOR FUTURE SYSTEM EXPANSION.

THIS DRAWING IS INTENDED TO SUPPLEMENT PROJECT DRAWINGS AND SPECIFICATIONS, WHICH TOGETHER SHALL BE USED FOR PERFORMING THE WORK. ALL BUILDING LAWS, RULES, AND REGULATIONS, HAVING JURISDICTION OVER THIS PROJECT SHALL BE PART OF THE DRAWINGS AND SPECIFICATIONS PREPARED BY THE OWNER AND THE CONTRACTOR PERFORMING THE WORK AND SHALL BE COMPLIED WITH BY THE OWNER AND THE CONTRACTOR.

REVISION	DATE	DESCRIPTION	DRAWN	REVIEW

FIGURE I SITE MAP

FORMER AMOCO TERMINAL NO. 406
 2904 WINTER STREET
 SUPERIOR, WISCONSIN

PROJECT NO.: G006N-RP53	DRAWN BY: DD
PREPARED BY: NJ	DATE: 1/12/05
FILE NAME: 406-G3 Rev 1	

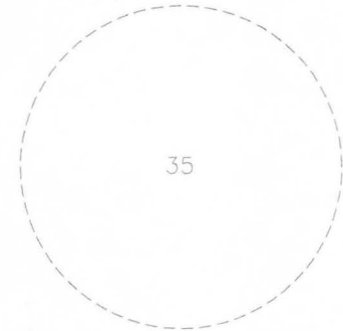
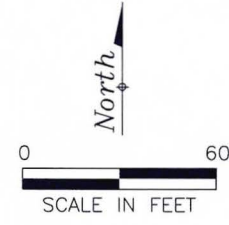


Table 1
SVE Emission Summary

VE-TFRT System
Terminal Property at Former Amoco Superior Terminal No. 406
2904 Winter Street, Superior, Wisconsin
Delta Project No. G006N

Year	Quarter	Date Monitored	% SVE Running	Total Hours in Quarter	Process Air Flow (outlet)	THC-G	Benzene	THC-G Emission Rate (SVE THC-G Recovery Rate)	Cumulative Annual Benzene Emitted
			(%)	(hours)	(SCFM)	(ppmV)	(ppmV)	(lb/hr)	(lb)
Startup		1/4/2005			0	0	0	0	0
2005	Qtr 1	1/11/2005	88.5%	2160	274	63.8	3.2	0.26	9
		1/24/2005			274	60	0	0.25	
		2/23/2005			274	223	1.2	0.92	
		Qtrs 2 & 3			4/11/2005	96.1%	4392	274	
	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	270	17.5	1.1	0.07	20
	Qtr 4	10/6/2008	98.7%	2208	270	25.6	0.93	0.10	26
NR 445 / NR 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. G006N

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)	Cumulative Annual Benzene Emitted
			(%)	(hours)	(SCFM)	(ppmV)	(ppmV)	(lb/hr)	(lb)
	Startup	1/4/2005			0	0	0	0	0.0
2005	Qtr 1	1/11/2005	12.4%	2160	372	24.4	1.2	0.14	0.5
		1/24/2005			376	8.2	0.0	0.05	
		2/23/2005			388	3.3	0.0	0.02	
		Qtrs 2 & 3			4/11/2005	15.9%	4392	376	
	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	350	1.4	0.0	0.01	0.2
	Qtr 4	10/6/2008	19.3%	2208	350	5.1	0.64	0.03	1.4
NR 445 / NR 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

January 28, 2008

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

RE: Project: BP-DELTA SS # 406
Pace Project No.: 1066482

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on January 16, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,



Colin Schuft

colin.schuft@pacelabs.com
Project Manager

Florida (Nelap) Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Minnesota Certification #: 027-053-137
Wisconsin Certification #: 999407970

Enclosures

REPORT OF LABORATORY ANALYSIS

Page 1 of 7

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SAMPLE SUMMARY

Project: BP-DELTA SS # 406
Pace Project No.: 1066482

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1066482001	AIR DISCHARGE STRIPPER	Air	01/15/08 14:30	01/16/08 09:40
1066482002	AIR DISCHARGE-SVE	Air	01/15/08 14:35	01/16/08 09:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BP-DELTA SS # 406
Pace Project No.: 1066482

Lab ID	Sample ID	Method	Analysts	Analytes Reported
1066482001	AIR DISCHARGE STRIPPER	TO-3 Air	AEP	7
1066482002	AIR DISCHARGE-SVE	TO-3 Air	AEP	8

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BP-DELTA SS # 406
Pace Project No.: 1066482

Sample: AIR DISCHARGE STRIPPER		Lab ID: 1066482001	Collected: 01/15/08 14:30	Received: 01/16/08 09:40	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG		Analytical Method: TO-3 Air						
Benzene	0.14	ppmv	0.10	1		01/17/08 11:59	71-43-2	CH
Ethylbenzene	0.11	ppmv	0.10	1		01/17/08 11:59	100-41-4	
THC as Gas	ND	ppmv	1.0	1		01/17/08 11:59		CL
Toluene	0.16	ppmv	0.10	1		01/17/08 11:59	108-88-3	CH
m&p-Xylene	ND	ppmv	0.20	1		01/17/08 11:59	1330-20-7	
o-Xylene	ND	ppmv	0.10	1		01/17/08 11:59	95-47-6	
a,a,a-Trifluorotoluene (S)	91	%	50-150	1		01/17/08 11:59	98-08-8	

Sample: AIR DISCHARGE-SVE		Lab ID: 1066482002	Collected: 01/15/08 14:35	Received: 01/16/08 09:40	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG		Analytical Method: TO-3 Air						
Benzene	1.4	ppmv	0.10	1		01/17/08 12:16	71-43-2	CH
Ethylbenzene	ND	ppmv	0.10	1		01/17/08 12:16	100-41-4	
THC as Gas	184	ppmv	10.0	10		01/22/08 14:22		
Toluene	7.7	ppmv	0.10	1		01/17/08 12:16	108-88-3	CH
m&p-Xylene	9.7	ppmv	0.20	1		01/17/08 12:16	1330-20-7	
o-Xylene	9.1	ppmv	0.10	1		01/17/08 12:16	95-47-6	
a,a,a-Trifluorotoluene (S)	285	%	50-150	1		01/17/08 12:16	98-08-8	S0
TO3 GCV AIR Meth,Ethane,Ethene		Analytical Method: TO-3 Air						
Methane	148	ppmv	5.0	5		01/16/08 14:55	74-82-8	

QUALITY CONTROL DATA

Project: BP-DELTA SS # 406
Pace Project No.: 1066482

QC Batch: AIR/6465	Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air	Analysis Description: TO3 GCV AIR METH,ETHANE,ETHENE
Associated Lab Samples: 1066482002	

METHOD BLANK: 434879
Associated Lab Samples: 1066482002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Methane	ppmv	ND	1.0	

LABORATORY CONTROL SAMPLE: 434880

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methane	ppmv	10	7.9	79	70-130	

SAMPLE DUPLICATE: 435021

Parameter	Units	1066127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ppmv	220	217	1	30	

QUALITY CONTROL DATA

Project: BP-DELTA SS # 406
Pace Project No.: 1066482

QC Batch: AIR/6468 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR BTEX CAN
Associated Lab Samples: 1066482001, 1066482002

METHOD BLANK: 435205
Associated Lab Samples: 1066482001, 1066482002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ppmv	ND	0.10	
Ethylbenzene	ppmv	ND	0.10	
m&p-Xylene	ppmv	ND	0.20	
o-Xylene	ppmv	ND	0.10	
THC as Gas	ppmv	ND	1.0	
Toluene	ppmv	ND	0.10	
a,a,a-Trifluorotoluene (S)	%	95	50-150	

LABORATORY CONTROL SAMPLE & LCSD: 435206 438078

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	1.2	1.0	119	103	70-130	14	30	
Ethylbenzene	ppmv	1	1.1	0.93	110	93	70-130	17	30	
m&p-Xylene	ppmv	2	2.1	1.8	106	92	70-130	15	30	
o-Xylene	ppmv	1	0.96	0.84	96	84	70-130	14	30	
THC as Gas	ppmv	10	9.4	7.9	94	79	70-130	17	30	
Toluene	ppmv	1	0.97	0.92	97	92	70-130	6	30	
a,a,a-Trifluorotoluene (S)	%				112	97	50-150			

QUALIFIERS

Project: BP-DELTA SS # 406
Pace Project No.: 1066482

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.

ANALYTE QUALIFIERS

- | | |
|----|---|
| 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. |
| S0 | Surrogate recovery outside laboratory control limits. |



bp
A BP affiliated company

Chain of Custody Record

Project Name: Superior Former Amoco Terminal No. 406
 BP BU/AR Region/Enfos Segment: Mid-Continent BU / Retail
 State or Lead Regulatory Agency: Wisconsin
 Requested Due Date (mm/dd/yy): Standard TAT

On-site Time: <u>14:20</u>	Temp: <u>23</u>
	Temp:
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.: <u>406</u>	Consultant/Contractor: <u>Delta Consultants</u>
Address: <u>1700 Elm St., Ste. 200, Minneapolis, MN 55414</u>	BP/AR Facility Address: <u>2904 Winter Street</u>	Address: <u>5910 Rice Creek Parkway, Suite 100 Shorview, MN 55126</u>
Lab PM: <u>Michelle Kruse</u>	Site Lat/Long:	Consultant/Contractor Project No.: <u>G006N-RP81-1</u>
Tele/Fax: <u>612-607-6382 / 612-607-6444</u>	California Global ID No.:	Consultant/Contractor PM: <u>Jared Otto</u>
BP/AR EBM: <u>Diane Diks</u>	Enfos Project No.: <u>G006N-0035</u>	Tele/Fax: <u>651-697-5232 / 651-639-9473</u>
Address: <u>28100 Torch Parkway, Suite 200 Warrenville, IL. 60555</u>	Provision or OOC (circle one) <u>Provision</u>	Report Type & QC Level: <u>BP Level 1</u>
Tele/Fax: <u>630-836-7106 / 630-836-7195</u>	Phase/WBS: <u>03</u>	E-mail EDD To: <u>jotto@deltaenv.com / njohnson@deltaenv.com</u>
	Sub Phase/Task: <u>03</u>	Invoice to: <u>Consultant or BP or Atlantic Richfield Co. (circle one)</u>
	Cost Element: <u>05</u>	

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis			Sample Point Lat/Long and Comments	
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	BTEX TO-3	THC TO-3	Methane TO-3		
1	AIR DISCHARGE - STRIPPER	14:30	1/15/2008			X		1						X	X			AIR STRIPPER 001
2	AIR DISCHARGE - SVE	14:35	1/15/2008			X		2						X	X	X		SVE SYSTEM 002
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler's Name: <u>Ed Heytens</u>	Relinquished By / Affiliation: <u>Ed Heytens</u>	Date: <u>1-15-08</u>	Time: <u>15:00</u>	Accepted By / Affiliation: <u>J. Richardson</u>	Date: <u>1/16/08</u>	Time: <u>09:40</u>
Sampler's Company: <u>Delta Consultants</u>						
Shipment Date:						
Shipment Method: <u>Fed Ex</u>						
Shipment Tracking No:						

Special Instructions:

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: AMB °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No



Sample Condition Upon Receipt

Client Name: Delta WTI Project # 1066482

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 8626 0968 2695

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 230194010, 72310129 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature Amb Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and initials of person examining contents: 1-16-08 JR

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>TO-3</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>Sample # 2 on the coc says Air discharge - s/e the the sample says BP-Supr 8006N BTex TO-3/THC TO-3</u>
-Includes date/time/ID/Analysis Matrix:	<u>Air bags</u>	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <u>Methane TO-3 with a date and time of 1-15-08 14:35.</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<u>We only received 1 sample for</u>
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 1/16/08

April 24, 2008

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.: 1071290

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on April 11, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,



Colin Schuft

colin.schuft@pacelabs.com
Project Manager

Florida (Nelap) Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Minnesota Certification #: 027-053-137
Wisconsin Certification #: 999407970

Enclosures

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BP-DELTA-WI SS#406
Pace Project No.: 1071290

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1071290001	AIR DISCHARGE-STRIPPER	Air	04/10/08 13:15	04/11/08 10:00
1071290002	AIR DISCHARGE-SVE	Air	04/10/08 13:05	04/11/08 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BP-DELTA-WI SS#406
Pace Project No.: 1071290

Lab ID	Sample ID	Method	Analysts	Analytes Reported
1071290001	AIR DISCHARGE-STRIPPER	TO-3 Air	AEP	7
1071290002	AIR DISCHARGE-SVE	TO-3 Air	AEP	10

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BP-DELTA-WI SS#406
Pace Project No.: 1071290

Sample: AIR DISCHARGE-STRIPPER	Lab ID: 1071290001	Collected: 04/10/08 13:15	Received: 04/11/08 10:00	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	0.19	1.86		04/23/08 10:34	71-43-2	1M
Ethylbenzene	ND	ppmv	0.19	1.86		04/23/08 10:34	100-41-4	
THC as Gas	ND	ppmv	1.9	1.86		04/23/08 10:34		
Toluene	0.22	ppmv	0.19	1.86		04/23/08 10:34	108-88-3	
m&p-Xylene	ND	ppmv	0.37	1.86		04/23/08 10:34	1330-20-7	
o-Xylene	ND	ppmv	0.19	1.86		04/23/08 10:34	95-47-6	
a,a,a-Trifluorotoluene (S)	79	%	50-150	1.86		04/23/08 10:34	98-08-8	

Sample: AIR DISCHARGE-SVE	Lab ID: 1071290002	Collected: 04/10/08 13:05	Received: 04/11/08 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO3 GCV AIR BTEX BAG		Analytical Method: TO-3 Air						
Benzene	3.4	ppmv	0.34	3.35		04/23/08 10:51	71-43-2	1M
Ethylbenzene	ND	ppmv	0.34	3.35		04/23/08 10:51	100-41-4	
THC as Gas	56.6	ppmv	3.4	3.35		04/23/08 10:51		
Toluene	3.8	ppmv	0.34	3.35		04/23/08 10:51	108-88-3	
m&p-Xylene	0.79	ppmv	0.67	3.35		04/23/08 10:51	1330-20-7	
o-Xylene	ND	ppmv	0.34	3.35		04/23/08 10:51	95-47-6	
a,a,a-Trifluorotoluene (S)	112	%	50-150	3.35		04/23/08 10:51	98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene		Analytical Method: TO-3 Air						
Ethane	ND	ppmv	3.7	3.72		04/21/08 09:44	74-84-0	
Ethene	ND	ppmv	3.7	3.72		04/21/08 09:44	74-85-1	
Methane	3.8	ppmv	3.7	3.72		04/21/08 09:44	74-82-8	A4

QUALITY CONTROL DATA

Project: BP-DELTA-WI SS#406
Pace Project No.: 1071290

QC Batch: AIR/6828 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR METH,ETHANE,ETHENE
Associated Lab Samples: 1071290002

METHOD BLANK: 467137
Associated Lab Samples: 1071290002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Ethane	ppmv	ND	1.0	
Ethene	ppmv	ND	1.0	
Methane	ppmv	ND	1.0	

LABORATORY CONTROL SAMPLE & LCSD: 467138 467139

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ppmv	10	9.4	9.3	94	93	70-130	1	30	
Ethene	ppmv	10	9.5	9.5	95	95	70-130	.7	30	
Methane	ppmv	10	9.3	8.9	93	89	70-130	5	30	

QUALITY CONTROL DATA

Project: BP-DELTA-WI SS#406
Pace Project No.: 1071290

QC Batch: AIR/6846 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR BTEX CAN
Associated Lab Samples: 1071290001, 1071290002

METHOD BLANK: 468407
Associated Lab Samples: 1071290001, 1071290002

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

LABORATORY CONTROL SAMPLE & LCSD: 468408 468409

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	1.1	1.1	112	107	70-130	4	30	
Ethylbenzene	ppmv	1	0.99	0.98	99	98	70-130	7	30	
m&p-Xylene	ppmv	2	2.0	1.9	101	96	70-130	4	30	
o-Xylene	ppmv	1	0.93	0.88	93	88	70-130	5	30	
THC as Gas	ppmv	10	10.0	10.4	100	104	70-130	4	30	
Toluene	ppmv	1	0.94	0.89	94	89	70-130	6	30	
a,a,a-Trifluorotoluene (S)	%				88	88	50-150			

QUALIFIERS

Project: BP-DELTA-WI SS#406
Pace Project No.: 1071290

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.

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.



bp
A BP affiliated company

Chain of Custody Record

Project Name: Superior Former Amoco Terminal No. 406
 BP BU/AR Region/Enfos Segment: Mid-Continent BU / Retail
 State or Lead Regulatory Agency: Wisconsin Dept of Natural Resources
 Requested Due Date (mm/dd/yy): Standard TAT

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name:	Pace Analytical Services, Inc.	BP/AR Facility No.:	406	Consultant/Contractor:	Delta Consultants
Address:	1700 Elm St. Minneapolis, MN 55414	BP/AR Facility Address:	2904 Winter Street	Address:	5910 Rice Creek Parkway, Suite 100 Shorview, MN 55126
Lab PM:	Michelle Kruse	California Global ID No.:		Consultant/Contractor Project No.:	G006N-RP81-1
Tele/Fax:	612-607-6323 / 612-607-6444	Enfos Project No.:	G006N-0036	Consultant/Contractor PM:	Jared Otto
BP/AR EBM:	Diane Diks	Provision or OCC (circle one)		Tele/Fax:	651-697-5232 / 639-9473
Address:	28100 Torch Parkway Warneville, IL 60555	Phase/WBS:	03 (O&M)	Report Type & QC Level:	NA
Tele/Fax:	630-836-7106 / 630-836-7195	Sub Phase/Task:	03 (Analytical)	E-mail EDD To:	njohnson@deltaenv.com/jotto@deltaenv.com
		Cost Element:	05 (Subcontractor)	Invoice to:	Consultant or BP or Atlantic Richfield Co. (circle one)

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis			Sample Point Lat/Long and Comments	
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	BTEX TO-3	THC TO-3	Methane TO-3		
1	AIR DISCHARGE-STRIPPER	13:15	4/10/08		X		1						X	X				AIR STRIPPER 001
2	AIR DISCHARGE-SVE	13:05	4/10/08		X		2						X	X	X			SVE SYSTEM 002
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler's Name:	Ed Heytens	Relinquished By / Affiliation	Ed Heytens	Date	4/10/08	Time	H:00	Accepted By / Affiliation	<i>[Signature]</i>	Date	4/10/08	Time	10:00
Sampler's Company:	Delta Consultants												
Shipment Date:													
Shipment Method:	UPS FROEX												
Shipment Tracking No:													

Special Instructions: Work Release 189618

Custody Seals In Place: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	Temp Blank: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	Cooler Temp on Receipt: <u>amb</u> °F/C	Trip Blank: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	MS/MSD Sample Submitted: <input type="checkbox"/> Yes / <input type="checkbox"/> No
---	---	---	---	---

Sample Condition Upon Receipt



Client Name: BP-DELTA-WI Project # 1071290

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 8640 4474 9860

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 220104010, 72910420 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature AmB
Temp should be above freezing to 8°C

Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: 4-11-08 JL

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>TO3</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>HA(CAS)</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

[Signature]

Date: 4/11/08

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)

August 08, 2008

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.: 1077842

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on July 29, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,



Daryl Peterson for
Colin Schuft
colin.schuft@pacelabs.com
Project Manager

Florida (Nelap) Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Minnesota Certification #: 027-053-137
Wisconsin Certification #: 999407970

Enclosures

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BP-DELTA-WI SS#406
Pace Project No.: 1077842

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1077842001	AIR DISCHARGE-SVE	Air	07/28/08 14:40	07/29/08 15:15
1077842002	AIR DISCHARGE-STRIPPER	Air	07/28/08 14:45	07/29/08 15:15

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SAMPLE ANALYTE COUNT

Project: BP-DELTA-WI SS#406
Pace Project No.: 1077842

Lab ID	Sample ID	Method	Analysts	Analytes Reported
1077842001	AIR DISCHARGE-SVE	TO-3 Air	AH	8
1077842002	AIR DISCHARGE-STRIPPER	TO-3 Air	AH	7

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BP-DELTA-WI SS#406
Pace Project No.: 1077842

Sample:	Lab ID:	Collected:	Received:	Matrix:				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AIR DISCHARGE-SVE	Lab ID: 1077842001	Collected: 07/28/08 14:40	Received: 07/29/08 15:15	Matrix: Air				
TO3 GCV AIR BTEX BAG Analytical Method: TO-3 Air								
Benzene	1.1 ppmv		0.10	1		07/30/08 11:03	71-43-2	
Ethylbenzene	ND ppmv		0.10	1		07/30/08 11:03	100-41-4	
THC as Gas	17.5 ppmv		1.0	1		07/30/08 11:03		
Toluene	1.2 ppmv		0.10	1		07/30/08 11:03	108-88-3	
m&p-Xylene	0.27 ppmv		0.20	1		07/30/08 11:03	1330-20-7	
o-Xylene	ND ppmv		0.10	1		07/30/08 11:03	95-47-6	
a,a,a-Trifluorotoluene (S)	82 %		50-150	1		07/30/08 11:03	98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene Analytical Method: TO-3 Air								
Methane	129 ppmv		5.0	5		08/04/08 11:04	74-82-8	1M,A2

Sample:	Lab ID:	Collected:	Received:	Matrix:				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AIR DISCHARGE-STRIPPER	Lab ID: 1077842002	Collected: 07/28/08 14:45	Received: 07/29/08 15:15	Matrix: Air				
TO3 GCV AIR BTEX BAG Analytical Method: TO-3 Air								
Benzene	ND ppmv		0.10	1		07/30/08 11:21	71-43-2	
Ethylbenzene	ND ppmv		0.10	1		07/30/08 11:21	100-41-4	
THC as Gas	1.4 ppmv		1.0	1		07/30/08 11:21		
Toluene	ND ppmv		0.10	1		07/30/08 11:21	108-88-3	
m&p-Xylene	ND ppmv		0.20	1		07/30/08 11:21	1330-20-7	
o-Xylene	ND ppmv		0.10	1		07/30/08 11:21	95-47-6	
a,a,a-Trifluorotoluene (S)	75 %		50-150	1		07/30/08 11:21	98-08-8	

QUALITY CONTROL DATA

Project: BP-DELTA-WI SS#406
Pace Project No.: 1077842

QC Batch: AIR/7214 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR BTEX CAN
Associated Lab Samples: 1077842001, 1077842002

METHOD BLANK: 507157

Associated Lab Samples: 1077842001, 1077842002

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

LABORATORY CONTROL SAMPLE & LCSD: 507158

507159

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	1.2	1.1	117	111	70-130	5	30	
Ethylbenzene	ppmv	1	0.99	0.94	99	94	70-130	5	30	
m&p-Xylene	ppmv	2	2.0	1.9	98	93	70-130	5	30	
o-Xylene	ppmv	1	0.90	0.85	90	85	70-130	6	30	
THC as Gas	ppmv	10	9.2	9.0	92	90	70-130	2	30	
Toluene	ppmv	1	0.94	0.89	94	89	70-130	5	30	
a,a,a-Trifluorotoluene (S)	%				108	103	50-150			

QUALITY CONTROL DATA

Project: BP-DELTA-WI SS#406
Pace Project No.: 1077842

QC Batch: AIR/7249 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR METH,ETHANE,ETHENE
Associated Lab Samples: 1077842001

METHOD BLANK: 510426
Associated Lab Samples: 1077842001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Methane	ppmv	ND	1.0	

LABORATORY CONTROL SAMPLE & LCSD: 510427 510428

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ppmv	10	8.6	8.0	86	80	70-130	7	30	

QUALIFIERS

Project: BP-DELTA-WI SS#406
Pace Project No.: 1077842

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.

ANALYTE QUALIFIERS

- 1M The closing continuing calibration for this compound is outside of BP acceptance limits.
- A2 The tedlar bag analyzed outside 48 hours from collection.

Chain of Custody Record

Project Name: Superior Former Amoco Terminal No. 406
 BP BU/AR Region/Enfos Segment: Mid-Continent BU / Retail
 State or Lead Regulatory Agency: Wisconsin
 Requested Due Date (mm/dd/yy): Standard TAT

1077842 Page 1 of 1

On-site Time: <u>13:00</u>	Temp:
	Temp:
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.: <u>406</u>	Consultant/Contractor: <u>Delta Consultants</u>
Address: <u>1700 Elm St., Ste. 200, Minneapolis, MN 55414</u>	BP/AR Facility Address: <u>2904 Winter Street</u>	Address: <u>5910 Rice Creek Parkway, Suite 100 Shorview, MN 55126</u>
Lab PM: <u>Michelle Kruse</u>	California Global ID No.:	Consultant/Contractor Project No.: <u>G006N-RP81-1</u>
Tele/Fax: <u>612-607-6382 / 612-607-6444</u>	Enfos Project No.: <u>G006N-0036</u>	Consultant/Contractor PM: <u>Jared Otto</u>
BP/AR EBM: <u>Diane Diks</u>	Provision or OOC (circle one) <u>Provision</u>	Tele/Fax: <u>651-697-5232 / 651-639-9473</u>
Address: <u>28100 Torch Parkway, Suite 200 Warrenville, IL. 60555</u>	Phase/WBS: <u>03</u>	Report Type & QC Level: <u>BP Level 1</u>
Tele/Fax: <u>630-836-7106 / 630-836-7195</u>	Sub Phase/Task: <u>03</u>	E-mail EDD To: <u>jotto@deltaenv.com / njohnson@deltaenv.com</u>
	Cost Element: <u>05</u>	Invoice to: <u>Consultant or BP or Atlantic Richfield Co. (circle one)</u>

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis			Sample Point Lat/Long and Comments	
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	BTEX TO-3	THC TO-3	Methane TO-3		
1	AIR DISCHARGE - STRIPPER	14:45	7/28/2008			X		1						X	X			1077842001 AIR STRIPPER
2	AIR DISCHARGE - SVE	14:46	7/28/2008			X		2						X	X	X		SVE SYSTEM
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler's Name: <u>Ed Heytens</u>	Relinquished By / Affiliation: <u>Ed Heytens</u>	Date: <u>7/28/2008</u>	Time: <u>16:00</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>7/28/08</u>	Time: <u>15:15</u>
Sampler's Company: <u>Delta Consultants</u>						
Shipment Date: <u>7/28/08</u>						
Shipment Method: <u>Fed-Ex</u>						
Shipment Tracking No: <u>[Number]</u>						

Special Instructions:

Custody Seals In Place: Yes No | Temp Blank: Yes No | Cooler Temp on Receipt: Am 16°F/C | Trip Blank: Yes No | MS/MSD Sample Submitted: Yes / No

Sample Condition Upon Receipt - ESI Tech Specs



Client Name: BP. DELTA - WI Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 1530224 10003224

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 200194010, 72910129 Type of Ice: Wet Blue (None) Samples on Ice, cooling process has begun

Cooler Temperature Amb Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 7-29-08

Temp should be above freezing $\leq 6^{\circ}\text{C}$ Comments: _____

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>TD3</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume: triple volume provided for MS/MSD	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>AR(BAG)</u>		
All containers needing acid/base preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Per method, VOA pH is checked after analysis		Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
3 Trip Blanks Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Temp Log: Temp must be maintained at <6 C during login, record temp every 20 mins
Opened time: _____ Temp: _____
Time: _____ put in cooler
Time: _____ Temp: _____

Project Manager Review: [Signature] Date: 7/29/08

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)

October 20, 2008

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.: 1082042

Dear Mr. Otto:

Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,



Colin Schuft

colin.schuft@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Page 1 of 8

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CERTIFICATIONS

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

Minnesota Certification IDs

Tennessee Certification #: 02818
Wisconsin Certification #: 999407970
Washington Certification #: C754
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
Minnesota Certification #: 027-053-137

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

REPORT OF LABORATORY ANALYSIS

Page 2 of 8

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SAMPLE SUMMARY

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1082042001	AIR DISCHARGE-STRIPPER	Air	10/06/08 15:30	10/07/08 08:03
1082042002	AIR DISCHARGE-SVE	Air	10/06/08 15:40	10/07/08 08:03

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

Lab ID	Sample ID	Method	Analysts	Analytes Reported
1082042001	AIR DISCHARGE-STRIPPER	TO-3 Air	AH	7
1082042002	AIR DISCHARGE-SVE	TO-3 Air	AH	8

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AIR DISCHARGE-STRIPPER Lab ID: 1082042001 Collected: 10/06/08 15:30 Received: 10/07/08 08:03 Matrix: Air								
TO3 GCV AIR BTEX BAG Analytical Method: TO-3 Air								
Benzene	0.64	ppmv	0.10	1		10/09/08 12:06	71-43-2	1M
Ethylbenzene	ND	ppmv	0.10	1		10/09/08 12:06	100-41-4	
THC as Gas	5.1	ppmv	1.0	1		10/09/08 12:06		1M
Toluene	0.44	ppmv	0.10	1		10/09/08 12:06	108-88-3	
m&p-Xylene	0.45	ppmv	0.20	1		10/09/08 12:06	1330-20-7	
o-Xylene	0.32	ppmv	0.10	1		10/09/08 12:06	95-47-6	
a,a,a-Trifluorotoluene (S)	80	%	50-150	1		10/09/08 12:06	98-08-8	

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: AIR DISCHARGE-SVE Lab ID: 1082042002 Collected: 10/06/08 15:40 Received: 10/07/08 08:03 Matrix: Air								
TO3 GCV AIR BTEX BAG Analytical Method: TO-3 Air								
Benzene	0.93	ppmv	0.10	1		10/09/08 12:50	71-43-2	1M
Ethylbenzene	0.11	ppmv	0.10	1		10/09/08 12:50	100-41-4	
THC as Gas	25.6	ppmv	1.0	1		10/09/08 12:50		1M
Toluene	1.3	ppmv	0.10	1		10/09/08 12:50	108-88-3	
m&p-Xylene	0.69	ppmv	0.20	1		10/09/08 12:50	1330-20-7	
o-Xylene	0.36	ppmv	0.10	1		10/09/08 12:50	95-47-6	
a,a,a-Trifluorotoluene (S)	80	%	50-150	1		10/09/08 12:50	98-08-8	
TO3 GCV AIR Meth,Ethane,Ethene Analytical Method: TO-3 Air								
Methane	115	ppmv	5.0	5		10/20/08 12:09	74-82-8	A2

QUALITY CONTROL DATA

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

QC Batch: AIR/7535 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR BTEX CAN
Associated Lab Samples: 1082042001, 1082042002

METHOD BLANK: 536955 Matrix: Air
Associated Lab Samples: 1082042001, 1082042002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ppmv	ND	0.10	10/09/08 11:00	
Ethylbenzene	ppmv	ND	0.10	10/09/08 11:00	
m&p-Xylene	ppmv	ND	0.20	10/09/08 11:00	
o-Xylene	ppmv	ND	0.10	10/09/08 11:00	
THC as Gas	ppmv	ND	1.0	10/09/08 11:00	
Toluene	ppmv	ND	0.10	10/09/08 11:00	
a,a,a-Trifluorotoluene (S)	%	85	50-150	10/09/08 11:00	

LABORATORY CONTROL SAMPLE & LCSD: 536956

536957

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ppmv	1	1.1	1.3	113	126	70-130	11	30	
Ethylbenzene	ppmv	1	0.95	1.0	95	102	70-130	8	30	
m&p-Xylene	ppmv	2	2.1	2.2	104	112	70-130	7	30	
o-Xylene	ppmv	1	0.83	0.86	83	86	70-130	4	30	
THC as Gas	ppmv	10	10.1	12.6	101	126	70-130	22	30	
Toluene	ppmv	1	0.97	1.0	97	103	70-130	6	30	
a,a,a-Trifluorotoluene (S)	%				109	100	50-150			

QUALITY CONTROL DATA

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

QC Batch: AIR/7587 Analysis Method: TO-3 Air
QC Batch Method: TO-3 Air Analysis Description: TO3 GCV AIR METH,ETHANE,ETHENE
Associated Lab Samples: 1082042002

METHOD BLANK: 540281 Matrix: Air
Associated Lab Samples: 1082042002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ppmv	ND	1.0	10/20/08 09:23	

LABORATORY CONTROL SAMPLE & LCSD: 540282

540283

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ppmv	10	7.3	9.7	73	97	70-130	29	30	

QUALIFIERS

Project: BP-Delta-WI SS#406
Pace Project No.: 1082042

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.

ANALYTE QUALIFIERS

- 1M The continuing calibration for this compound is outside of BP acceptance limits.
- A2 The tedlar bag analyzed outside 48 hours from collection.



bp
A BP affiliated company

Chain of Custody Record

Project Name: Superior Former Amoco Terminal No. 406
 BP BU/AR Region/Enfos Segment: Mid-Continent BU / Retail
 State or Lead Regulatory Agency: Wisconsin
 Requested Due Date (mm/dd/yy): Standard TAT

1082042 Page 1 of 1

On-site Time: <u>15:15</u>	Temp: <u>52</u>
	Temp:
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.: <u>406</u>	Consultant/Contractor: <u>Delta Consultants</u>
Address: <u>1700 Elm St., Ste. 200, Minneapolis, MN 55414</u>	BP/AR Facility Address: <u>2904 Winter Street</u>	Address: <u>5910 Rice Creek Parkway, Suite 100 Shorview, MN 55126</u>
Lab PM: <u>Michelle Kruse</u>	California Global ID No.:	Consultant/Contractor Project No.: <u>G006N-RP81-1</u>
Tele/Fax: <u>612-607-6382 / 612-607-6444</u>	Enfos Project No.: <u>G006N-0036</u>	Consultant/Contractor PM: <u>Jared Otto</u>
BP/AR EBM: <u>Diane Diks</u>	Provision or OOC (circle one) <u>Provision</u>	Tele/Fax: <u>651-697-5232 / 651-639-9473</u>
Address: <u>28100 Torch Parkway, Suite 200 Warrenville, IL. 60555</u>	Phase/WBS: <u>03</u>	Report Type & QC Level: <u>BP Level 1</u>
Tele/Fax: <u>630-836-7106 / 630-836-7195</u>	Sub Phase/Task: <u>03</u>	E-mail EDD To: <u>jotto@deltaenv.com / njohnson@deltaenv.com</u>
	Cost Element: <u>05</u>	Invoice to: <u>Consultant or BP or Atlantic Richfield Co. (circle one)</u>

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis			Sample Point Lat/Long and Comments	
				Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	BTEX TO-3	THC TO-3	Methane TO-3		
1	AIR DISCHARGE - STRIPPER	15:30	10/6/2008		X			1							X	X		AIR STRIPPER 001
2	AIR DISCHARGE - SVE	15:40	10/6/2008		X			2							X	X	X	SVE SYSTEM 002
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler's Name: <u>Ed Heytens</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>10/6/2008</u>	Time: <u>16:00</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>10/7/2008</u>	Time: <u>15:00</u>
Sampler's Company: <u>Delta Consultants</u>						
Shipment Date: <u>10/6/08</u>						
Shipment Method: <u>Truck</u>						
Shipment Tracking No: <u>10/6/08 1700</u>						

Special Instructions:

Custody Seals In Place: Yes No Temp Blank: Yes No Cooler Temp on Receipt: AMS °F/C Trip Blank: Yes No MS/MSD Sample Submitted: Yes No

Sample Condition Upon Receipt

Pace Analytical

Client Name: BP-DELTA-WI

Project # 1082042

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: 1530724 10003705

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other Temp Blank: Yes No

Thermometer Used 80244842, 179425 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature AmB Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: <u>D-7-08</u>

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>T03</u>	
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes date/time/ID/Analysis Matrix: <u>AmB (BAG)</u>			
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.	
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.	
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 10/7/08

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)