March 30, 2007

Mr. Kipp Eckert ConocoPhillips Site Manager P O. Box 923 Bothell, Washington 98041

Re: Fourth Quarter Remediation System Status Report 600 Westlake Avenue N., Seattle, Washington RM&R No. 1396 Delta Project No WA255-3520-1

Dear Mr. Eckert:

Delta Environmental Consultants, Inc. (Delta) is pleased to submit this Fourth Quarter Remediation System Status Report for the ConocoPhillips Site No. 255353 located at 600 Westlake Avenue N. in Seattle, Washington.

#### WORK PERFORMED THIS YEAR

[First, Second, Third, and Fourth Quarters 2006]

- Monthly operation and maintance (O&M) of the remediation system. The remediation system consists of an air sparge (AS) unit operating at 15 AS wells within a sparge trench, a deep air sparge (DAS) unit at four DAS wells, and a vapor extraction (VE) unit to extract combined vapors from five on-site VE wells and tree off-site VE wells, and to capture sparge vapors from two sections of horizontal piping within the sparge trench (east and west VE trenches).
- The remediation system was shutdown during January, February, and March 2006 due to a number of remedial pilot tests being performed at the site. The system was reactivated on March 28, 2006
- Air analytical collected on April 27, 2006 indicated breakthrough in the 1<sup>st</sup> carbon vessel. The system was shut down pending carbon change out.
- During the April 27, 2006 O&M event, the air sparge compressor was found to have a bad motor.
- On June 26, 2006, H2Oil replaced the motor on the air sparge compressor. The system remained shutdown pending carbon change out.
- In December 26, 2006, nine VE wells and associated trenches were installed in Terry Avenue The VE wells were piped to the northeast corner of the COP property and capped.





#### WORK PROPOSED FOR NEXT QUARTER [First - 2007]

- > Schedule Carbon change out of first carbon vessel and restart system.
- Perform remedial pilot testing on Terry Ave VE wells
- > Continue monthly O&M of the remediation system.

#### **VE SUMMARY**

Extraction Equipment:	Rotron EN6F5L VE blower	_
Offgas Treatment Equipment:	H2Oil 55-gallon moisture separator; Two 1,800-pound activated carbon unit:	<u></u>
Permits for Discharge:	PSCAA No. 8905 (air)	_(NPDES, POTW, etc.)
Start-up Date:	8/20/03	_
Reporting Period:	1/01/06 - 12/30/06	_
Days in Operation During Period:	30	_(days)
Total Days in Operation Since Start-Up:	840	_(days)
Percent Operating Time During Period:	100%	_(%)
System Alarms and Shutdowns:	Breakthrough in first carbon vessel	_
VE Points Extracted During Period:	On-site VE wells, East & West VE trenc	hes
Average Influent Vacuum:	4.0	(inches H2O)
Average Vapor Influent Flow Rate:	150	_(SCFM)
Maximum Vapor Influent Concentration for Period (PID):	14.4	_(ppmv)
Maximum Vapor Effluent Concentration for Period (PID):	14.1	_(ppmv)
Total Hydrocarbon Removal for Period:	37.4	_(lbs)
Cumulative Hydrocarbon Removal to Date:	1.202.0 (since 8/20/03 startup)	_(lbs)
Analytical Results of TPH Concentration in Offgas Emission Sample:	<u>&lt;10 mg/m3 (3/28/06)</u>	(ppmv)
AS SUMMARY		
Sparging Equipment:	Sutortbilt air sparge blower	
Start-up Date:	8/20/03	
Reporting Period:	1/01/06 - 12/30/06	
Days in Operation During Period:	30	(days)
Total Days in Operation Since Start-Up:	851	(days)
Percent Operating Time During Period:	100%	(%)
Number of Wells On-line:	15 AS Wells (AS-1 through AS-15)	
Average System Injection Pressure:	5.0	(psig)
Average System Flow Rate:	7.3 (per AS point)	(SCFM)

#### DAS SUMMARY

Sparging Equipment:	Gast 6066 Compressor	
Start-up Date:	9/22/04	
Reporting Period:	1/01/06 - 12/30/06	
Days in Operation During Period:	30	_(days)
Total Days in Operation Since Start-Up:	484	_(days)
Percent Operating Time During Period:	100%	_(%)
Number of Wells On-line:	4 DAS Wells (DAS-2 through DAS-5)	_
Average System Injection Pressure:	12.4	_(psig)
Average System Flow Rate:	5.31 (per DAS point)	_(SCFM)

#### DISCUSSION

#### System Operation and Maintenance

Delta conducted monthly site visits on March 28, and April 27, 2006 to perform operation and maintenance (O&M) of the remediation system during 2006. The remediation system was shutdown during January, February and the majority of March due to pilot testing activities at the site. Delta performed a number of pilot tests including air sparge (AS), soil vapor extraction (SVE), biorespiration, pump tests, step-drawdown pump tests, and slug tests. The remediation system was re-activated on March 28, 2006.

The air sparge (AS) and VE units operated an estimated 30 days over the reporting period. The AS unit was found to be off on the April 27, 2006 visit A Delta technician determined the AS motor was burnt out The AS motor was replaced on June 22, 2006. The VE system was shut down following the April 28, 2006 O+M event. Air analytical indicated break-through in the first carbon vessel. Refer to Attachment A for the laboratory analytical results.

A summary of VE unit operation parameters is presented in Table 1. Operation summaries of the AS and DAS units are presented in Tables 2 and 3, respectively.

#### Hydrocarbon Removal and Vapor Emissions

During this reporting period, the VE unit effectively removed hydrocarbons from the site at an average rate of 1.25 pounds per day (37.4 pounds over the operational period during 2006). An estimated total of 1,202 pounds of hydrocarbons have been removed from the subsurface by vapor extraction since startup of the current remediation system. Hydrocarbon concentrations in vapor emissions were below the limits of the PSCAA permit based on monthly field monitoring conducted during site visits. A summary of the estimated hydrocarbons removed by the VE unit is included in Table 1.

#### LIMITATIONS

The services described in this report were performed in accordance with generally accepted professional consulting principles and practices. No other warranty, either expressed or implied, is made These services were performed in accordance with terms established with our client. This report is solely for the use of our client and reliance on any part of this report by a third party is at such party's sole risk.

Delta appreciates the opportunity to provide environmental services for ConocoPhillips Company. Please call Eric Larsen at 425-498-7718 if you have any questions regarding the contents of this report Mr. Kipp Eckert. ConocoPhillips Site Manager March 30, 2007 Fourth Quarter Remediation System Status Report 600 Westlake Ave. N., Seattle Washington RM&R No. 1396

Sincerely,

#### DELTA ENVIRONMENTAL CONSULTANTS, INC.

Greg Montgomery Project Scientist

Eric Larsen, L.H.G. Senior Geologist



- Enc: Table 1 VE Unit and Vapor Treatment Operation Summary Table 2 – Air Sparge Unit Operational Summary Table 3 – Deep Air Sparge Unit Operational Summary Figure 1 – Remedial System Site Map Laboratory Analytical Report and Chain of Custody Documentation
- cc: LUST Coordinator, WA State Dept. of Ecology Northwest Regional Office, Bellevue, WA 98008

# TABLE 1 VE UNIT AND VAPOR TREATMENT OPERATION SUMMARY ConocoPhillips Site No. 255353 600 Westlake Avenue North Seattle, Washington

Date	Operational Time Since Last Event (days)	Power Reading (KWH)	Vapor Extraction Vacuum (inches H2O)	Average Flowrate <sup>1</sup> (SCFM)	Influent Petroleum Hydrocarbon Concentration <sup>2</sup> (ppm)	Petroleum Hydrocarbon Concentration Between Carbons <sup>3</sup> (ppm)	Emission Petroleum Hydrocarbon Concentration <sup>4</sup> (ppm)	Estimated Petroleur Hydrocarbons Removed During Operating Period <sup>5</sup> (pounds)
01/29/04	45 <sup>6</sup>	NM	30	192	12	0.0	0.0	42
02/28/04	30	32,432	30	192	12	0.0	0.0	28
03/30/04	31	35,592	30	192	27	02	0.0	6.4
04/28/04	29	38,516	3.5	183	01	01	0.1	0.2
05/27/04	29	41,465	3.5	183	98 <sup>9</sup>	01	01	20 9
06/22/04	26	44,045	35	183	42 <sup>9</sup>	0 1	01	80
07/22/04	30	47,097	35	183	17 9 <sup>9</sup>	11 1	18	39 4
08/16/04	23	49 449	35	183	64	0.2	01	10 8
09/21/04	26	52,907	37	175	10.5	0.3	02	19 2
10/28/04	37	58,559	35	183	14 1	5.4	1.1	38.3
11/22/04	25	62 578	3.5	183	49	01	0.0	9.0
12/17/04 <sup>10</sup>	25	66,601	4.0	175	107	66	23	18.8
01/27/0511	21	70,013	40	175	1.0	06	00	15
02/17/05	21	73,083	40	175	28 9	15 8	0.0	42 6
03/17/05	28	76,709	35	183	01	0.0	00	0 2
04/15/05	29	80 613	35	183	46	4.2	2 2	98
05/11/05	27	84,069	3.5	183	17	11	0.3	3.4
06/21/05	41	90,727	3.5	183	03	34	0.0	0.9
08/23/05	63	99 562	40	175	45.2	26 9	00	200
09/30/05	37	104,474	40	183	9.3	0 0	00	25 3
10/25/05	25	107,068	40	175	11 1	13.0	97	19 5
11/30/05	36	109 918	40	175	14 1	14.4	02	35 6
12/19/05	19	113,376	4.0	175	14 8	14 1	0.1	19.7
12/30/05	11	13 376	40	175	14 8	13 7	0.1	11.4
03/28/05	0	14,245	40	175	14.4	22 6	14.1	0.0
04/27/06	30	19,313	4 0	120	25 9	26 4	NM	37 4
otal To Date	851 <sup>7</sup>							1202 <sup>8</sup>
	30							37.4

<sup>2</sup> Influent petroleum hydrocarbon concentrations based on field measurements using a photoionization detector (PID) unless otherwise indicated

<sup>3</sup> Concentrations between carbon units based on field measurements using a PID

<sup>4</sup> Effluent concentrations based on field measurements using a PID

<sup>5</sup> Hydrocarbons removed during each operating period estimated using influent concentration average flowrate and operational time period

<sup>6</sup> Operation and maintenance of the remedial system was performed on 12/15/03 by the previous consultant. Delta assumed operation and maintenance of the system during January 2004

<sup>7</sup> Total operational time to date includes 107 1 days operated by previous consultant from system startup on 8/20/03 through 12/15/03

<sup>8</sup> Total estimated petroleum hydrocarbons removed to date includes 616 9 pounds reportedly removed by previous consultant from system startup on 8/20/03 through 12/15/03

<sup>9</sup> Petroleum hydrocarbon concentration from laboratory analysis

<sup>10</sup> At the request of ConocoPhillips the remedial system was shut down upon departure of the site on 12/17/04 to be restarted at a later date

<sup>11</sup> At the request of ConocoPhillips the remedial system was restarted on 1/6/05

 TABLE 2

 AIR SPARGE UNIT OPERATIONAL SUMMARY

 ConocoPhillips Site No. 255353

 600 Westlake Avenue North

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WA255352/4Q06 Svstem Status Report Tables.xls/Table 2 - AS

Page 1 of 1

### TABLE 3 DEEP AIR SPARGE UNIT OPERATIONAL SUMMARY

ConocoPhillips Site No. 255353 600 Westlake Avenue North Seattle, Washington

	Header	Air Flowrates per Air Sparge Point (SCFM)				
Date	Pressure (psig)	DAS-1	DAS-2	DAS-3	DAS-4	DAS-5
01/29/04	NIO	NIO	NIO	NIO	NIO	NIO
02/28/04	12	NIO	3	5	35	<3
03/30/04	NIO	NIO	NIO	NIO	NIO	NIO
04/28/04	NIO	NIO	NIO	NIO	NIO	NIO
05/27/04	NIO	NIO	NIO	NIO	NIO	NIO
06/22/04	NIO	NIO	NIO	NIO	NIO	NIO
07/22/04	NIO	NIO	NIO	NIO	NIO	NIO
08/16/04	NIO	NIO	NIO	NIO	NIO	NIO
09/21/04	NIO	NIO	NIO	NIO	NIO	NIO
09/22/04 <sup>1</sup>	10 5*	NIO	5*	22*	4*	7*
10/28/04	10 5	NIO	5	22	4	7
11/22/04	10 5	NIO	6	55	4	75
12/17/04 <sup>2</sup>	11	NIO	65	3.5	4	65
01/27/05 <sup>3</sup>	11	NIO	6.5	4	<3	5
02/17/05	11.5	NIO	7.5	4 E	4 E	4 E
03/17/05	13.5	NIO	4	<3	<3	5
04/15/05	11.5	NIO	9	3 E	3 E	4 E
05/11/05	11 5	NIO	9.2	3	<3 E	5 E
06/21/05	14.5	NIO	45	35E	3 E	65
08/23/05	NM	NIO	NM	NM	NM	NM
09/30/05	16 5	NIO	5.5	3.5	<3	<3
10/25/05	13 5	NIO	5	35	6	5
11/30/05	12.5	NIO	6	7	<3	13
12/30/05	NIO	NIO	NIO	NIO	NIO	NIO
03/28/06	NIO	NIO	NIO	NIO	NIO	NIO
04/27/06	11.5	NIO	7	5	5	14 75

Notes:

psig = pounds per square inch, gauge

SCFM = standard cubic feet per minute

NIO = not in operation

E = Erratic readings

\* Estimated value

<sup>1</sup> The DAS system was modified and restarted on 9/22/04. DAS pressure and flowrates are estimated based on values recorded during fourth guarter monitoring in October 2004.

<sup>2</sup> At the request of ConocoPhillips, the remedial system was shut down upon departure of the site on 12/17/04, to be restarted at a later date.

<sup>3</sup> At the request of ConocoPhillips, the remedial system was restarted on 1/6/05.



Site map based on drawing prepared by GeoEngineers dated 6/03

WA2 REVISIO



## **LEGEND** BIOSPARGE TRENCH AIR SPARGING WELL DEEP AIR SPARGING WELL GROUNDWATER MONITORING WELL ABANDONED OR DESTROYED GROUNDWATER MONITORING WELL MULTIPURPOSE WELL (MONITORING OR REMEDIATION) ON-SITE VAPOR EXTRACTION WELL AND APPROXIMATE LOCATION OF VE CONVEYANCE PIPING TRENCHING FOR DEEP SPARGE CONVEYANCE PIPING BIOSPARGE TRENCHING BIOSPARGE TRENCH HORIZONTAL VAPOR EXTRACTION PIPING 30 FT APPROX SCALE FIGURE 1 REMEDIAL SYSTEM SITE MAP CONOCO PHILLIPS SITE NO. 255353 600 WESTLAKE AVENUE NORTH SEATTLE, WASHINGTON

ECT NO. 255-3507-1	DRAWN BY TS 2/3/06		
NO. 255-3507-1	PREPARED BY TS 2/3/06	Ali.	Delta
SION NO	REVIEWED BY		Environmental Consultants, Inc.
0	EL EL		in in it.

#### LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Remedial System Monitoring ConocoPhillips Site No. 255353



Seattle	11720 North Creek Pkwy N, Suite 400, Botheli, WA 98011-8244 425.420.9200 fax 425.420.9210
Spokane	East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
	509.924.9200 fax 509.924.9290
Portland	9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
	503.906.9200 fax 503.906.9210
Bend	20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
	541.383.9310 fax 541.382.7588
Anchorage	2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

05 April 2006

Eric Larsen Delta Environmental 4006 148th Ave NE Redmond, WA/USA 98052 RE: 600 Westlake Avenue North

Enclosed are the results of analyses for samples received by the laboratory on 03/28/06 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kortland Orr PM



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11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 425.420.9200 fax 425.420.9210 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210 Seattle Spokane Portland Bend Anchorage

Delta Environmental	Project:	600 Westlake Avenue North	
4006 148th Ave NE	Project Number:	WA255-3521	Reported:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	04/05/06 16:13

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
System Infl.	B6C0655-01	Air	03/28/06 10:15	03/28/06 17:30
System Eff.	B6C0655-02	Air	03/28/06 10:20	03/28/06 17:30

North Creek Analytical - Bothell

Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc. Environmental Laboratory Network

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 Seattle
 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 425.420.9200 fax 425.420.9210

 Spokane
 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

 Portland
 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

 Bend
 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

 Anchorage
 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Delta Environmental	Project:	600 Westlake Avenue North	
4006 148th Ave NE	Project Number:	WA255-3521	Reported:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	04/05/06 16:13

### Gasoline Hydrocarbons (Benzene to Napthalene) and BTEX in Air by NWTPH-G and EPA 8021B

#### North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
System Infl. (B6C0655-01) Air	Sampled: 03/28/06	10:15 Rece	ived: 03/28/(	6 17:30					
Gasoline Range Hydrocarbons	ND	10.0	mg/m³ Air	1	6C29032	03/30/06	03/31/06	NWTPH Modified	
Benzene	ND	0.100	п	14	н	н	12	ĸ	
Toluene	ND	0.100	n	u	н	я	11		
Ethylbenzene	ND	0.100	n	н	н	н	9	n	
Xylenes (total)	ND	0.200	11	11	и	11	0	n	
Surrogate: 4-BFB (FID)	90.0 %	50-150			"	n	"	4	
Surrogate: 4-BFB (PID)	101 %	7 <b>5-</b> 133			"	"	n	n	
Gasoline Range Hydrocarbons (v/v	) ND	2.36	ppmv	и	"	п	н	**	
Benzene (v/v)	ND	0.0308	n	IJ	H	н	н	tt.	
Toluene (v/v)	ND	0.0261	и	13	n	я	н	н	
Ethylbenzene (v/v)	ND	0.0227	2	w	n	n	n	и	
Xylenes, total (v/v)	ND	0.0454	n	II.	N	н	ri	n	
System Eff. (B6C0655-02) Air S	ampled: 03/28/06 1	0:20 Recei	ved: 03/28/0	5 17:30					
Gasoline Range Hydrocarbons	ND	10.0	mg/m³ Air	1	6C29032	03/30/06	03/31/06	NWTPH Modified	
Benzene	ND	0.100	u	н	v	u	n	р	
Toluene	ND	0.100	If	п	0			υ	
Ethylbenzene	ND	0.100	n	19	U	<b>\$7</b>	н	0	
Xylenes (total)	ND	0.200	41	υ	11	"	п	17	
Surrogate: 4-BFB (FID)	92.5 %	50-150			"	ıt	"	"	
Surrogate: 4-BFB (PID)	102 %	75-133				n	"	"	
Gasoline Range Hydrocarbons (v/v)	) ND	2.36	ppmv	"	n	"	11	м	
Benzene (v/v)	ND	0.0308	v	п	н	n	9	н	
Foluene (v/v)	ND	0.0261	12	n	u	u	U U	21	
Ethylbenzene (v/v)	ND	0.0227	v	n	u	IF.	w	18	
Xylenes, total (v/v)	ND	0.0454	u	р	v	n	n	'n	

North Creek Analytical - Bothell

Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

> North Creek Analytical, Inc. Environmental Laboratory Network

Page 2 of 5



 
 Seattle
 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 425.420.9200 fax 425.420.9210

 Spokane
 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

 Portland
 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

 Bend
 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

 Anchorage
 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

 ext:
 600 Westlake Avenue North

Delta Environmental	Project:	600 Westlake Avenue North	
4006 148th Ave NE	Project Number:	WA255-3521	Reported:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	04/05/06 16:13

### Gasoline Hydrocarbons (Benzene to Napthalene) and BTEX in Air by NWTPH-G and EPA 8021B - Quality Control

North Creek Analytical - Bothell Reporting RPD Spike Source %REC Analyte Result Limit Units Level Result %REC Limits RPD Limit Notes Batch 6C29032: Prepared 03/29/06 Using EPA 5030B (P/T) Blank (6C29032-BLK1) Gasoline Range Hydrocarbons ND 10.0 mg/m³ Air Benzene ND 0.100 Toluene ND 0.100 Ethylbenzene ND 0.100 Xylenes (total) ND 0.200 Surrogate: 4-BFB (FID) 11.1 ,, 12.0 92.5 50-150 Surrogate: 4-BFB (PID) 11.5 n 12.0 95.8 75-133 Gasoline Range Hydrocarbons (v/v) ND 2.36 ppmv Benzene (v/v) ND 0.0308 Toluene (v/v) ND 0.0261 Ethylbenzene (v/v) ND 0.0227 Xylenes, total (v/v) ND 0.0454 LCS (6C29032-BS1) Gasoline Range Hydrocarbons 67.8 10.0 mg/m<sup>3</sup> Air 100 67.8 50-150 Surrogate: 4-BFB (FID) 11.1 12.0 92.5 50-150 LCS (6C29032-BS2) Benzene 1.55 0.100 mg/m³ Air 2.00 77.5 50-150 Toluene 1.48 0.100 2.00 74.0 50-150 Ethylbenzene 1.48 0.100 2.00 74.0 50-150 Xylenes (total) 4.40 0.200 6.00 73.3 50-150 Surrogate: 4-BFB (PID) 12.0 12.0 100 75-133 LCS Dup (6C29032-BSD1) Gasoline Range Hydrocarbons 67.5 10.0 mg/m³ Air 100 67.5 0.443 50-150 50 Surrogate: 4-BFB (FID) 10.8 12.0 90.0 50-150

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc. Environmental Laboratory Network

Page 3 of 5

Kortland Orr, PM



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 fax 541.382.7588

 Anchorage
 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119

 907.563.9200
 fax 907.563.9210

 Project:
 600 Westlake Avenue North

Delta Environmental	Project: 6	00 Westlake Avenue North	
4006 148th Ave NE	Project Number: W	VA255-3521	Reported:
Redmond, WA/USA 98052	Project Manager: E	ric Larsen	04/05/06 16:13

#### Gasoline Hydrocarbons (Benzene to Napthalene) and BTEX in Air by NWTPH-G and EPA 8021B - Quality Control

		N	orth Cr	eek Analy	tical - B	Bothell					
			Reporting		Spike	Source		%REC		RPD	
Anałyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 6C29032:	Prepared 03/29/06	Using EF	PA 5030B	(P/T)							
LCS Dup (6C29032-I	BSD2)										
Benzene		1.41	0.100	mg/m <sup>3</sup> Air	2.00		70.5	50-150	9.46	50	
Toluene		1.32	0.100	и	2.00		66.0	50-150	11.4	50	
Ethylbenzene		1.32	0.100	п	2.00		66.0	50-150	11.4	50	
Xylenes (total)		3.92	0.200	n	6.00		65.3	50-150	11.5	50	
Surrogate: 4-BFB (PID)		11.9		и	12.0		99.2	75-133			
Duplicate (6C29032-1	OUP1)					Source: E	86C0654-0	<b>)</b> 1			
Gasoline Range Hydroca	bons	ND	10.0	mg/m³ Air		ND			24.3	30	
Surrogate: 4-BFB (FID)	······································	10.6		11	12.0		88.3	50-150			

North Creek Analytical - Bothell

13

Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc. Environmental Laboratory Network Page 4 of 5



 Seattle
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 Spokane
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 fax 509.924.9290

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 541.383.9310
 fax 541.382.7588

 Anchorage
 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119

 907.563.9200
 fax 907.563.9210

Delta EnvironmentalProject:600 Westlake Avenue North4006 148th Ave NEProject Number:WA255-3521Reported:Redmond, WA/USA 98052Project Manager:Eric Larsen04/05/06 16:13

#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

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dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

North Creek Analytical - Bothell

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Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

> North Creek Analytical, Inc. Environmental Laboratory Network

Page 5 of 5

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		117 2000 W Ia	<ul> <li>11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-4244</li> <li>11922 E Ja Awe, Spokane, WA 99206-5302</li> <li>9405 SW Ninabus Awe, Beswerton, OR 97008-7145</li> <li>20332 Engline Awe, Ste FIL, Bend, OR 97701-5712</li> <li>2000 W International Mirport Rd Ste A10, Androrage, AK 99502-1119</li> </ul>	cii, WA 98011-8244 ne, WA 99206-5302 tou, OR 97008-7145 nud, OR 97701-5712 uge, AK 99500-1119	425-420-9200 509-924-9200 503-906-9200 541-383-9310 907-563-9200	200 FAX 420-9210 200 FAX 924-9290 200 FAX 964-9290 310 FAX 965-9210 200 FAX 563-9210	
	CHAIN OF CUSTODY REPORT	<b>TODY REPORT</b>		Work Order #:	BUCOBS	B55	
NCA CLIENT: COP (Nest)	ake 4 1 11	INVOICE TO:		F	URNAROUND REC	TURNAROUND REQUEST	·
and the	WA 98052			•	Organic & Inorganic Analyses	ــــ جــ	_
HONE (4 25) 498 -7725 FAX:	X:	P.O. NUMBER: WAZ55-	5-3520-1		Select Hydro	الفالفالفالفالفالفا Petroleum Hydrocarbon Aualytes	
PROJECT NAME: 10/05 /19 /2	NXO	PRESERVATIVE			- -		<b>T</b>
PROJECT NUMBER: N/A255-3520-	-3520-1			۽ ا <sup>و</sup>			
SAMPLED BY: BH				5] <sup>4</sup>		is and any and the part of the part	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME			MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
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RELEASED BY:		DATE:	RECEIVED BY:	٥		DATE	
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ADDITTONAL REMARKS: COC REV 09/04				<u>_</u>		TEMP	E OF

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May 05, 2006

ł,

Eric Larsen Delta Environmental 4006 148th Ave NE Redmond, WA/USA 98052

RE: COP 25535221 Seattle

Enclosed are the results of analyses for samples received by the laboratory on 04/28/06 09:55. The following list is a summary of the Work Orders contained in this report, generated on 05/05/06 18:14.

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

Work Order BPD0708

Project COP 25535221 Seattle **ProjectNumber** WA255-3520-1

TestAmerica - Seattle, WA

Kate Haney For Kortland Orr, PM

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1 of 6



Delta Environmental	Project Name:	COP 25535221 Seattle	
4006 148th Ave NE	Project Number:	WA255-3520-1	Report Created:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	05/05/06 18:14
	."		

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
System Infl.	BPD0708-01	Air	04/27/06 12:30	04/28/06 09:55
System <b>348</b> Midfluent	BPD0708-02	Air	04/27/06 12:35	04/28/06 09:55

TestAmerica - Seattle, WA

WA Kate Haney For Kortland Orr, PM

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Page 2 of 6

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4006 148th	<b>ironmental</b> 1 Ave NE WA/USA 98052		Pr	oject Name: oject Number oject Manager	WA	2553522 255-3520-1 Larsen		tle		•	Created: 06 18:14
	Gasoline Hydro	ocarbons (Benze	-	alene) ar America - S			by N	<b>WTPH-</b>	G and EPA	8021B	
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BPD0708-01	(System Infl.)		Air		Sampled	: 04/27/06	5 12:30				

Gasoline Range Hydrocarbons	NWTPH Modified	25.9	 10.0	mg/m³ Air	lx	6D2901	04/29/06 15:57	04/30/06 02:07
Gasoline Range Hydrocarbons (v/v)	"	6.09	 2,36	ppmv	"	н	04/29/06 15:57	21
Surrogate(s): 4-BFB (FID)		86.7%	 	50 - 150 %	μ			11
BPD0708-02 (System-Efft.)		Air	Sample	d: 04/27/06	12:35			
Gasolinc Range Hydrocarbons	NWTPH Modified	26,4	 10.0	mg/m' Air	1x	6D2901	04/29/06 15:57	04/30/06 03:05
Gasoline Range Hydrocarbons (v/v)	н	6.23	 2.36	ppmv	H	u	04/29/06 15:57	17
Surrogate(s): 4-BFB (FID)		86.7%	 	50 - 150 %	<i>n</i>			"

TestAmerica - Seattle, WA

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Kate Haney For Kortland Orr, PM





Delta Environmental 4006 148th Ave NE Redmond, WA/USA 98052				Project N Project N Project M	umber:	COP 2 WA255 Eric Lai		Seattle	:				Report Creat 05/05/06 18	
Gasoline Hydrocarbor	is (Benzene to	Napthaler	tani jarubinta ara urat	triace terres for e	r by NWT a - Seattle, V	1.12122 PT 177	ind EPA	8021B	- L	iboratoi	'y Qu	ality Co	ntrol Result	S
QC Batch: 6D29012	Air Pre	paration M	lethod: EP/	A 5030B (	(P/T)									
Analyte	Method	Result	MDL*	MRI	. Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Note
Blank (6D29012-BLK1)								Extr	acted:	04/29/06 15	5:57			
Gasoline Range Hydrocarbons (v/v)	NWTPH Modified	ND		2,36	ррти	١x		-	-	-		-	04/29/06 17:39	
Gasoline Range Hydrocarbons	n	ND		0,01	mg/m³ Air				-	-		-	n	
Benzene (v/v)	-	ND		0.0308	ppmv		-	-					м	
Toluene (v/v)	н	ND		0.0261		н		-	-	-			31	
Ethylbenzene (v/v)	**	ND		0.0227		-			-	-			34	
Xylenes, total (v/v)	14	ND		0.0454		-		-					и	
Benzene	N	ND		0.100	mg/m³ Air	н	-						ч	
Toluene	u	ND	<u> </u>	0.100	•	н	_	-	-				0	
Ethylbenzene	20	NÐ		0,100	"								u	
Xylenes (total)		ND		0.200		•	`	-					•	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	95.8% 109%	1	Limits: 50-1509 75-133								04/29/06 17:39 "	
LCS (6D29012-BS1)								Extr	acted:	04/29/06 15	5:57			
Gasoline Range Hydrocarbons	NWTPH Modified	72.2		10.0	mg/m² Air	lx		100	72.2%	(50-150)			04/29/06 18:13	
Surrogate(s): 4-BFB (FID)		Recovery:	96.7%	I	Limits: 50-1509	6 "							04/29/06 18:13	
LCS (6D29012-BS2)								Extr	acted:	04/29/06 15	:57			
Benzene	NWTPH Modified	1.44		0,100	mg/m³ Air	lx		2.00	72.0%	(50-150)			04/29/06 19:12	
Toluene	-	1.40		0.100	•				70.0%		-		"	
Ethylbenzene	n	1.37		0,100	и	*		4	68.5%	•			и	
Xylenes (total)	•	4.12		0,200		-		6.00	68.7%	•			"	
Surrogate(s): 4-BFB (PID)		Recovery:	108%	L	Limits: 75-1339	6 "							04/29/06 19:13	
LCS Dup (6D29012-BSD1)								Extra	acted:	04/29/06 15	:57			
Gasoline Range Hydrocarbons	NWTPH Modified	57.0	***	10.0	mg/m³ Air	lx		100	57.0%	(50-150)	23.5%	(50)	04/29/06 21:42	
Surrogale(s): +-BFB (FID)		Recovery:	94.2%	L	.imits: 50-150%	6 "							04/29/06 21:42	
LCS Dup (6D29012-BSD2)								Extra	acted:	04/29/06 15	:57			
Benzene	NWTPH Modified	I.43		0.100	mg/m² Air	lx			71.5%	(50-150)	0.697		04/29/06 19:42	
Foluene	18	1.39		0,100		•	- ·		69.5%	•	0.717	0	и	
Ethylbenzene		1.34		0,100		•	-	"	67.0%	21	2.23%		•	
Xylenes (total)	v	4.05		0,200	*	n		6.00	67,5%		1,71%	н	n	
Surrogate(s): 4-BFB (PID)	· · ·	Recovery:	108%	L	imits: 75-133%	é "							04/29/06 19:42	

TestAmerica - Seattle, WA

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The results in this report apply to the samplex analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirely.

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Kate Haney For Kortland Orr, PM





Delta Environmental				Project Name:	COP 2	5535221	Seattle	:					
4006 148th Ave NE				Project Number:	WA255	-3520-1						Report Cre	ated:
Redmond, WA/USA 98052				Project Manager:	Eric La	sen						05/05/06	8:14
Gasoline Hydrocarbo OC Batch; 6D29012			Tes	X in Air by N America - Seat 5030B (P/T)			A				ality Co	ntrol Resu	lts
$Q \subset D 4 (CR, 0 D 2) 0 1 2$													
Analyte	Method	Result	MDL*	MRL Un	lts Dll	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Anslyzed	Notes
Analyte Duplicate (6D29012-DUP1)							Amt	REC	(Limits) 04/29/06 12	RPD	(Limits)	Analyzed	Notes

Recovery: 103%

Limits: 50-150% Ix

Surrogate(s): 4-BFB (FID)

TestAmerica - Seattle, WA

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Kate Haney For Kortland Orr, PM



04/29/06 22:11

## Test

SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Delta Environmental	Project Name:	COP 25535221 Seattle	· · · · · · · · · · · · · · · · · · ·
4006 148th Ave NE	Project Number:	WA255-3520-1	Report Created:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	05/05/06 18:14

#### Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

- DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA Not Reported / Not Available
- Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. đry
- Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' or 'dry' are reported on wet a Wet Weight Basis.
- RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). RPD
- MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits percent solids, where applicable.
- Electronic Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Signature Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Scattle, WA

Kate Haney For Kortland Orr, PM

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Page 6 of 6

<b>Onca</b>			2000 \	11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 11922 E 1# Ave, Spotene, WA 99206-5302 9405 SW Nimbra Ave, Beaverton, OR 97001-7142 2003 Europie Ave, Ste FI, Bead, OR 97701-5712 2000 W International Aurocat Rd Ste Alto. Averiance: AK 99707-117	eck Pkwy N S 11922 E i 05 SW Nimbe 1332 Eurpite , Airnost Rd Ste	iuite 400, Bod 14 Ave, Spok 14 Ave, Spok 14 Ave, Ste F1, B 2 A10, Ancho	Creek Pfwy N Suite 400, Bothell, WA 98011-8244 11922 E 1st Ave, Sponsne, WA 99206-5302 9405 SW Nimbra Ave, Beaverton, OR 97001-5712 20332 Empire Ave, Ste FI, Bend, OR 97701-5712 at Autorot Rd Ste A10, Averyonse, AK 098770-1712		425-420-9200 509-924-9200 503-906-9200 541-383-9310 641-383-9310	FAX 420-9210 FAX 924-9290 FAX 906-9210 FAX 906-9210 FAX 453 mm 0	
	CHAIN OF CUSTODY REPORT	DY RE				•	Work Order #:	•	BPDATAS	70 X	
NCA CLIENT: COP WWW ALE. REPORT TO: TEMA SEEDS		INVOICE TO:	CE 10:					TURN	TURNAROUND REQUEST	QUEST	
ADDRESS: 4006 /48 th Ave NE									Organic & Inorganic Analyses	ا يو ا	 ] [
869	1892	P.O. NI	P.O. NUMBER: UNT 2	WA255-3520-	20-1			Petroleum	It in the service of		<b>T</b>
PROJECT NAME: W/cot/ake OfM			PRESERVATIVE	ATTVE I					- -		5
PROJECT NUMBER: WA 25-535-20-1											
SAMPLED BY: ANC Frohmen	×6-		KUUESTED ANALYSES	NALYSES			<u> </u>		apadity.		
CLIENT SAMPLE SAMPLING IDENTIFICATION DATE/TIME	fATww						MATRIX (W, S, O)	EXX # OF O) CONT.	LOCATION / COMMENTS	10N/	NCA WO ID
1 System Infl. 4/23/06 2:30	×						¥	-	 		JG
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February 15, 2007

Eric Larsen Delta Environmental 4006 148th Ave NE Redmond, WA/USA 98052

RE: COP Westlake 255-35-3

Enclosed are the results of analyses for samples received by the laboratory on 02/08/07 16:00. The following list is a summary of the Work Orders contained in this report, generated on 02/15/07 16:36.

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

<u>Work Order</u> BQB0156

Project COP Westlake 255-35-3

ProjectNumber WA 255-35-27-2

TestAmerica - Seattle, WA

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Sandra Yakamavich, Project Manager

The results in this report apply to the samples analyzed in accordance with the chaim of custody document. This analytical report shall not be reproduced except in full. without the written approval of the laboratory.

Page 1 of 11

## Test Analytical testing corporation

11720 North Creek Pkwy N Suite 400, 11922 E. First Ave, S 9405 SW Nimbus Ave, Br 2000 W International Airport Rd Ste A10, An

#### CHAIN OF CUSTODY REPORT

CLIENT: Delta Co	nsultant	\$				INVOIC			0,	. 11				
REPORT TO: Erie Lar ADDRESS: 4/006 14 Redmond	sen							)nocc ++		-				
ADDRESS: 4/006 14	18th Ave	SE					74	ttn.	K:p	ECK	<ect< td=""><td></td><td></td><td></td></ect<>			
1	W/ 781	252												
PHONE: PROJECT NAME: 255 - 3	FAX:	Last E				P.O. NU	MBER:				5-2	7-2		
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PROJECT NUMBER: $\bigvee A \mathcal{G}$	155-35-	27	<u> </u>			ļ				<u> </u>	<u> </u>	1		<u> </u>
SAMPLED BY: Jaime	KC		 	Þ	<u> </u>	24		REQUE	STED AI	VALYSES	: 			
CLIENT SAMPLE IDENTIFICATION		PLING S/TIME	87EX 8021	NWTP - GY	AWTE	PH Settle							- -	
Effluent	2/8/07	11:15	X	×	×	×								
2 Midcarbon	2/8/07	11:25	X	×	×	×		 						
, Influent	2/8/07	11:30	×	×	×	×								
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RINT NAME: Jaine L.	KC	FIRM: De	Ita				13:0			PRINT NAM	ALE: Fr	my n c	is ri	Lui
RELEASED BY:			1.130			DATE:	<u></u>	<u> </u>		RECEIVED		71. 0	1000	
RINT NAME:		FIRM:				TIME:				PRINT NAK	AE:			
ADDITIONAL REMARKS: YOC REV 09/2004 * NWTPH -	Dx is	with Sq	cle	anu	po	ind	sette	lable	2 5	olid	s bo	) Im	ho ft	) Co



4006 148th Ave NE	Project Number:	WA 255-35-27-2	Report Created:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	02/15/07 16:36

ample ID	Tabana to m	35-4-5-		D ( D )
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Effluent	BQB0156-01	Water	02/08/07 11:15	02/08/07 16:00
Mid carbon	BQB0156-02	Water	02/08/07 11:25	02/08/07 16:00
Influent	BQB0156-03	Water	02/08/07 11:30	02/08/07 16:00

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Delta Environmental	Project Name:	COP Westlake 255-35-3	
4006 148th Ave NE	Project Number:	WA 255-35-27-2	Report Created:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	02/15/07 16:36

	V	olatile Petr T	oleum P <sup>°</sup> estAmeric		-	TPH-	Gx			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQB0156-01 (Effluent)		Wa	ater		Sampl	ed: 02/0	8/07 11:15			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND		50.0	ug/l	lx	7B12024	02/12/07 09:50	02/13/07 05:26	
Surrogate(s): 4-BFB (FID)	· · · · · · · · · · · · · · · · · · ·		89.7%		58 - 144 %	"			0	
BQB0156-02 (Mid carbon)		Wa	ıter		Sampl	ed: 02/0	8/07 11:25			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND		50.0	ug/l	1x	7B12024	02/12/07 09;50	02/13/07 06:00	
Surrogate(s): 4-BFB (FID)			90.0%		58 - 144 %	n			и	
BQB0156-03 (Influent)		Wa	iter		Sampl	ed: 02/0	8/07 11:30			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND		\$0.0	ug/l	1x	7B12024	02/12/07 09:50	02/13/07 06:31	
Surrogate(s): 4-BFB (FID)			90.0%		58 - 144 %	"			W	

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#### Delta Environmental 4006 148th Ave NE

Redmond, WA/USA 98052

Project Name: COP Westlake 255-35-3 Project Number: WA 255-35-27-2

Project Manager:

WA 255-35-27-2 Eric Larsen Report Created: 02/15/07 16:36

..

#### Semivolatile Petroleum Products by NWTPH-Dx with Acid/Silica Gel Clean-up TestAmerica - Seattle, WA Analyte Method Result MDL\* MRL Units Analyzed Dil Batch Prepared Notes BOB0156-01 (Effluent) Water Sampled: 02/08/07 11:15 NWTPH-Dx 7B10001 Diesel Range Hydrocarbons ND -----0.236 mg/l 1x 02/10/07 13:28 02/13/07 18:11 в ND . н ., Lube Oil Range Hydrocarbons 0.472 Surrogate(s): 2-FBP 81.8% 53 - 125 % n ,1 ,, 68 - 125 % Octacosane 107% Water Sampled: 02/08/07 11:25 BQB0156-02 (Mid carbon) Diesel Range Hydrocarbons NWTPH-Dx ND 0.236 mg/l 7B10001 02/10/07 13:28 02/13/07 19:56 -----1x Lube Oil Range Hydrocarbons • ND 0.472 . n n н 9 2-FBP " Surrogate(s): 84.3% 53 - 125 % л 109% 68 - 125 % .. Ocíacosane " BQB0156-03 (Influent) Water Sampled: 02/08/07 11:30 NWTPH-Dx ND Diesel Range Hydrocarbons 0.236 7B10001 02/10/07 13:28 02/13/07 20:22 ----mg/l ١x Lube Oil Range Hydrocarbons ND 0.472 -----,,

 Surrogate(s):
 2-FBP
 85.6%
 53 - 125 %
 "

 Octacosane
 111%
 68 - 125 %
 "

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Report Created:

02/15/07 16:36

COP Westlake 255-35-3

WA 255-35-27-2

Eric Larsen

#### Delta Environmental

4006 148th Ave NE

Redmond, WA/USA 98052

		Volat	ile Organi	c Compon TestAmeric			lethoo	l 8260B			
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQB0156-01	(Effluent)		W	ater		Sampl	ed: 02/(	8/07 11:15			
Benzene		EPA 8260B	ND		0.500	ug/l	lx	7B09029	02/09/07 15:09	02/09/07 23:37	
Ethylbenzene		u a	ND		0.500			n	n		
Toluene		"	ND	*****	0.500	ti ti	н		в		
o-Xylene		U	ND		1.00	н		U		'n	
m,p-Xylene		5	ND		2.00	н		и		54	
Xylenes (total)		R.	ND		3.00		ы	~	п	н	
Surrogate(s):	1,2-DCA-d4			89.0%		70 - 130 %	л			"	
	Toluene-d8			99.5%		75 - 125 %	"			H	
	4-BFB			104%		75 - 125 %	"			n	
BQB0156-02	(Mid carbon)		w	ater		Sampi	ed: 02/0	8/07 11:25			
Benzene		EPA 8260B	ND		0,500	ug/ł	lx	7B09029	02/09/07 15:09	02/10/07 00:04	
Ethylbenzene			ND		0.500		в	w	н	n	
Foluene		•	ND		0.500	P	n	н	n	n	
o-Xylene			ND		1.00	н		u			
m,p-Xylene		n	ND		2.00		9	0	*	u	
Xylenes (total)		30	ND		3.00	*	в	**	*	н	
Surrogate(s):	1,2-DCA-d4			89.0%		70 - 130 %	v			<i>n</i>	
	Toluene-d8			99.5%		<b>75</b> - 125 %	v			n	
	4-BFB			102%		75 - 125 %	"			17	
BQB0156-03	(Influent)		Wa	ater		Sample	ed: 02/0	8/07 11:30			
Benzene		EPA 8260B	ND		0.500	ug/l	lx	7B09029	02/09/07 15:09	02/10/07 00:31	
Sthylbenzene		и	ND		0,500			*	"		
foluene		n	ND		0,500	v	"	в		n	
-Xylene		ų	ND		1.00	v	*	н	и	и	
n,p-Xylene		u	ND		2.00	в	н	н	•	•	
(ylenes (total)		a	ND		3.00	и		Þ	v	-	
Surrogate(s):	1,2-DCA- <b>d</b> -			90.0%		70 - 130 %	"			<i>"</i>	
	Toluene-d8			99.5%		75 - 125 %	7			"	
	4-BFB			102%		75 - 125 %	"			"	

Project Name:

Project Number:

Project Manager:

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Delta Environmental	Project Name:	COP Westlake 255-35-3	
4006 148th Ave NE	Project Number:	WA 255-35-27-2	Report Created:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	02/15/07 16:36

		Conventio	nal Chemis	stry Para estAmeric		-	HA/EI	PA Metho	ods		
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQB0156-01	(Effluent)		Wa	ıter		Samp	oled: 02/0	8/07 11:15			
pН		EPA 150.1	7.62			pH Units	lx	7B08052	02/08/07 18:18	02/08/07 20:25	
Settleable Solids		EPA 160.5	ND		0.20	m1/l	n	7B0902J	02/09/07 09:23	02/09/07 10:25	
BQB0156-02	(Mid carbon)		Wa	iter		Samp	led: 02/0	8/07 11:25			
pH		EPA 150.1	7.53			pH Units	lx	7B08052	02/08/07 18:18	02/08/07 20:25	
Settleable Solids		EPA 160.5	ND		0.20	ml/l	н	7809021	02/09/07 09:23	02/09/07 10:25	
BQB0156-03	(Influent)		Wa	ter		Samp	led: 02/0	8/07 11:30			
pH		EPA 150.1	7.99			pH Units	1x	7B08052	02/08/07 18:18	02/08/07 20:25	
Settleable Solids		EPA 160.5	ND		0.20	ml/l	"	7809021	02/09/07 09:23	02/09/07 10:25	

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Delta Environmental					Project Nar			Vestlake	255-35	-3					
4006 148th Ave NE					Project Nur			5-35-27 <b>-</b> 2						Report Creat	ed:
Redmond, WA/USA 98052					Project Ma	nager:	Eric La	rsen						02/15/07 16	:36
	Volatile P	ctroleum	Produ		NWTPH		************	ory Qua	lity Co	itrol	Results				
QC Batch: 7B12024	Water I	Preparatio	a Meth	od: l	EPA 5030B	(P/T)					hi fhir chrui			<u>leittelt</u> ministelles.is	lation to diffe
Analyte	Method	Result		MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7B12024-BLK1)					_				Extr	acted:	02/12/07 09	9:50			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND			50.0	បទ្វ/ខែ	lx					-	-	02/12/07 10:54	
Surrogate(s): 4-BFB (FID)		Recovery:	87.8%		Lin	nits: 58-144	% "							02/12/07 10:54	
Blank (7B12024-BLK2)									Extr	acted:	02/12/07 09	:50			
Gasoline Range Hydrocarbons	NWTPH-Gx	ND			50,0	ug/l	lx	-	**				••	02/12/07 15:33	
Surrogate(s): 4-BFB (F1D)		Recovery:	89.3%		Lin	nits: 58-1-14	% "							02/12/07 15:33	
LCS (7B12024-BS1)									Extra	acted:	02/12/07 09	:50			
Gasoline Range Hydrocarbons	NWTPH-Gx	916			50.0	ug/l	lx		1000	91.6%	(80-120)		1	02/12/07 11:28	
Surrogate(s): 4-BFB (FID)		Recovery:	95.3%		Lin	nits: 58-144	% "							02/12/07 11:28	
Duplicate (7B12024-DUP1)					QC Source:	BQB0124	04RE1		Extra	acted:	02/12/07 09	:50			
Basoline Range Hydrocarbons	NWTPH-Gx	29400			1000	ug/l	20x	29500				0.340%	6 (25)	02/12/07 12:33	
Surrogate(s): 4-BFB (FID)		Recovery:	108%		Lim	nits: 58-1449	% ix							02/12/07 12:33	
Duplicate (7B12024-DUP2)					QC Source:	BQB0174-	01		Extra	acted:	02/12/07 09:	:50			
asoline Range Hydrocarbons	NWTPH-Gx	1480			250	ug/i	5x	1570				5.90%	(25) (	02/12/07 17:12	
Surrogate(s): 4-BFB (FID)		Recovery:	101%		Lini	iis: 58-1449	% Ix							02/12/07 17:12	
Aatrix Spike (7B12024-MS1)					QC Source:	BQB0124-	04RE1		Extra	cted:	02/12/07 09:	:50			
asoline Range Hydrocarbons	NWTPH-Gx	50200			1000	ug/l	20x	29500	20000	104%	(75-131)		(	02/12/07 13:05	
Surrogate(s): 4-BFB (FID)		Recovery:	116%		Lim	iis: 58-1449	% Ix				• •			02/12/07 13:05	

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Delta Environmental				Project Na	me: (	OP V	Vestlake	255-35	5-3					
4006 148th Ave NE				Project Nu	mber: V	VA 25:	5-35-27-2						Report Creat	ed:
Redmond, WA/USA 98052	2			Project Ma	inager: <u>P</u>	ric La	rsen						02/15/07 16	:36
Semivolati	le Petroleum Pro	ducts by l	The second second second			1.1.1.1.1.1.1	an-up -	Labor	atory	Quality	Cont	rol Re	sults	
QC Batch: 7B10001	Water I	Preparation		EPA 3520	- Seattle; W	Ą								
Analyte	Method	Result	MDL		Units	Dil	Source Result	Spike Amt	% REC	(Limits)	*^ RPD	(Limits	i) Analyzed	Notes
Blank (7B10001-BLK1)								Ext	acted:	82/10/07 13	8:28			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.250	mg/l	lx							02/13/07 08:15	
Lube Oil Range Hydrocarbons	я	ND		0.500	•	н	-					-	P	
Surrogate(s): 2-FBP		Recovery:	68.8%	Li	mits: 53-125%	"							02/13/07 08:15	
Octacosane			98.4%		68-125%	"							**	
LCS (7B10001-BS1)								Extr	acted:	02/10/07 13	:28			
Diesel Range Hydrocarbons	NWTPH-Dx	1.83		0.250	mg/l	İx		2.00	91.5%	(61-132)			02/13/07 08:41	
Surrogate(s): 2-FBP		Recovery:	90.0%	Li	mits: 53-125%	u							02/13/07 08:41	
Octacosane			103%		68-125%								"	
LCS Dup (7B10001-BSD1)								Exte	acted:	02/10/07 13	:28			
Diesel Range Hydrocarbons	NWTPH-Dx	1.72		0.250	mg/i	1x		2.00	86.0%	(61-132)	6.20%	5 (35)	02/13/07 09:07	
Surrogate(s): 2-FBP	~	Recovery:	85.2%	Li	mits: \$3-125%	"							02/13/07 09:07	
Octacosane			104%		68-125%	"							"	

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#### **Delta Environmental** COP Westlake 255-35-3 Project Name: 4006 148th Ave NE Project Number: WA 255-35-27-2 Report Created: Redmond, WA/USA 98052 Project Manager: Eric Larsen 02/15/07 16:36 Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results TestAmerica - Seattle, WA QC Batch: 7B09029 Water Preparation Method: EPA 5030B Analyte Method MDL\* Source Result Spike Amt REC (Limits) % RPD Result MRL Units Dil (Limits) Analyzed Notes Blank (7B09029-BLK1) Extracted: 02/09/07 12:09 Benzene EPA 8260B ND .... 0.500 uø/l lx --02/09/07 16:43 ---\_ Ethylbenzene ND 0.500 ---Methyl tert-butyl ether ND •••• 1.00 ------\_ \_ Naphthalene v ND 5.00 ---... ---------\_ Toluene ND 0.500 ... ---\_\_\_ ---... o-Xylene ND 1.00 -, ------------\_ m,p-Xylene ND 2.00 ---------\_ -----Xylenes (total) . ND 3.00 --------Surrogate(s): 1,2-DCA-d4 Recovery: 89.5% Limits: 70-130% 02/09/07 16:43 Toluene-d8 104% 75-125% J-BFR 106% 75-125% n , LCS (7B09029-BS1) Extracted: 02/09/07 12:09 Benzene EPA 8260B 19.5 0.500 02/09/07 14:32 ---ug/l Iх 20.0 97.5% (80-120) ------Ethylbenzene 18.0 ----0.500 11 ... 90.0% (75-125) -----Methyl tert-butyl ether 21.0 ---1.00 ... 105% (75-126) ------Naphthalene 20.7 5.00 . ---104% ---(65-144) ----Toluene 18.8 ---0.500 ,, 94.0% (75-125) .... o-Xylene 19.9 ---1.00 R 99.5% (75-130) .... m,p-Xylene 37,3 \_. 2.00 40.0 93.2% (75-125) \_ Xylenes (total) 57.2 .... 3.00 60.0 95.3% ... --Surrogate(s): 1,2-DCA-d4 Recovery: 88.0% Limits: 70-130% 02/09/07 14:32 " Toluene-d8 98.0% 75-125% 4-RFB 99.5% 75-125% LCS Dup (7B09029-BSD1) Extracted: 02/09/07 12:09 Benzene EPA 8260B 20.6 0.500 20.0 103% 5 49% (20) 02/09/07 15:02 ue/l 1x ---(80-120) Ethylbenzene 19.5 ---0,500 97.5% (75-125) 8 00% Methyl tert-butyl ether 20.6 ----1.00 103% (75-126) 1.92% Naphthalcne 19.4 5.00 ------97.0% (65-144) 6.48% Toluene 20.4 0.500 -----102% (75-125) 8.16% o-Xylcne 21.3 1.00 ------106% (75-130) 6 80% m,p-Xylene . 40.4 2.00 ------40.0 101% (75-125) 7,98% .. Xylenes (total) 61.6 .... 3.00 7.41% \* ---60.0 103% Surrogate(s): 1,2-DCA-d4 Recovery: 84.0% Limits: 70-130% 02:09/07 15:02 Toluene-d8 99.0% 75-125% *-*₽₽₽ 99.0% 75-125% ..

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# Delta Environmental Project Name: COP Westlake 255-35-3 4006 148th Ave NE Project Number: WA 255-35-27-2 Report Created: Redmond, WA/USA 98052 Project Manager: Eric Larsen 02/15/07 16:36

QC Batch: 7B08052	Water F	Preparation M	lethod: G	eneral Pre	paration									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Note
Duplicate (7B08052-DUP1)				QC Source:	BQB0156-0	91		Extra	cted:	02/08/07 18	8:18			
pH	EPA 150.1	7.61			oH Units	lx	7.62				0.131%	6 (10) (	2/08/07 20:25	`````````````````````````````````

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Deita Environmental	Project Name:	COP Westlake 255-35-3	· ••••
4006 148th Ave NE	Project Number:	WA 255-35-27-2	Report Created:
Redmond, WA/USA 98052	Project Manager:	Eric Larsen	02/15/07 16:36

#### Notes and Definitions

Report Specific Notes:

None

#### Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	•	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's <i>Electronic Reporting and Electronic Signatures Policy</i> . Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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