



**Delta**

Environmental  
Consultants, Inc.

CONOCOPHILLIPS COMPANY  
REMEDIATION SYSTEM STATUS REPORT

release 3043  
Unocal Station # 5353  
Seattle

August 1, 2005

Site No.: 255353 Site Address: 900 Westlake Avenue N, Seattle, Washington

ConocoPhillips Site Manager: Kipp Eckert

Consultant/Contact Person: Delta Environmental Consultants, Inc. – Eric Larsen

Primary Agency/Regulatory ID No.: Washington DOE Northwest Region

**WORK PERFORMED THIS QUARTER [First - 2005]**

- Monthly operation and maintenance (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 operating at four DAS wells, and a vapor extraction (VE) unit to extract combined vapors from five on-site VE wells and three 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 system was restarted on January 6, 2005, following a temporary shutdown.
- A timer was installed on the DAS unit on February 3, 2005 to pulse sparging.

**WORK PROPOSED FOR NEXT QUARTER [Second - 2005]**

- Continue monthly O&M of the remediation system.

**VE SUMMARY**

Extraction Equipment:	<u>Rotron EN6F5L VE blower</u>	
Offgas Treatment Equipment:	<u>H2Oil 55-gallon moisture separator;</u> <u>Two 1,800-pound activated carbon units</u>	
Permits for Discharge:	<u>PSCAA No. 8905 (air)</u>	(NPDES, POTW, etc.)
Start-up Date:	<u>8/20/03</u>	
Reporting Period:	<u>1/01/05 - 3/31/05</u>	
Days in Operation During Period:	<u>70</u>	(days)
Total Days in Operation Since Start-Up:	<u>533</u>	(days)
Percent Operating Time During Period:	<u>100%</u>	(%)
System Alarms and Shutdowns:	<u>None</u>	
VE Points Extracted During Period:	<u>On-site VE wells, East &amp; West VE trenches</u>	
Average Influent Vacuum:	<u>3.8</u>	(inches H2O)
Average Vapor Influent Flow Rate:	<u>217</u> (estimated based on blower curve)	(SCFM)
Maximum Vapor Influent Concentration for Period (PID):	<u>28.9</u>	(ppmv)
Maximum Vapor Effluent Concentration for Period (PID):	<u>0.0</u>	(ppmv)
Total Hydrocarbon Removal for Period:	<u>54.4</u>	(lbs)
Cumulative Hydrocarbon Removal to Date:	<u>883.5 (since 8/20/03 startup)</u>	(lbs)
Analytical Results of TPH Concentration in Offgas Emission Sample:	<u>Not sampled</u>	(ppmv)

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**AS SUMMARY**

Sparging Equipment:	<u>Sutortbilt air sparge blower</u>	
Start-up Date:	<u>8/20/03</u>	
Reporting Period:	<u>1/01/05 - 3/31/05</u>	
Days in Operation During Period:	<u>70</u>	(days)
Total Days in Operation Since Start-Up:	<u>533</u>	(days)
Percent Operating Time During Period:	<u>100%</u>	(%)
Number of Wells On-line:	<u>15 AS Wells (AS-1 through AS-15)</u>	
Average System Injection Pressure:	<u>4.5</u>	(psig)
Average System Flow Rate:	<u>8.3 (per AS point)</u>	(SCFM)

**DAS SUMMARY**

Sparging Equipment:	<u>Gast 6066 Compressor</u>	
Start-up Date:	<u>9/22/04</u>	
Reporting Period:	<u>1/01/05 - 3/31/05</u>	
Days in Operation During Period:	<u>70</u>	(days)
Total Days in Operation Since Start-Up:	<u>172</u>	(days)
Percent Operating Time During Period:	<u>100%</u>	(%)
Number of Wells On-line:	<u>4 DAS Wells (DAS-2 through DAS-5)</u>	
Average System Injection Pressure:	<u>12</u>	(psig)
Average System Flow Rate:	<u>4.4 (per DAS point)</u>	(SCFM)



## CONOCOPHILLIPS COMPANY REMEDIATION SYSTEM STATUS REPORT

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### **DISCUSSION**

#### **System Operation and Maintenance**

Delta conducted monthly site visits on January 27, February 17, and March 17, 2005 to perform operation and maintenance (O&M) of the remediation system during the first quarter of 2005. The deep air-sparge (DAS), air-sparge (AS), and vapor extraction (VE) units operated continuously over the reporting period. A timer was installed February 3, 2005 on the DAS unit to pulse sparging.

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 0.8 pounds per day (54.4 pounds over the operational period during first quarter of 2005). An estimated total of 883.5 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.

#### **Dissolved Oxygen Concentrations**

In conjunction with startup and operation of the remedial system, dissolved oxygen (DO) has been monitored in groundwater at the site since August 2003. Monitoring data indicate that DO concentrations ranged from 0.43 milligrams per liter (mg/l) to 0.62 mg/l at the site prior to startup of the remedial system in August 2003. Since startup of the remedial system, DO concentrations have ranged from 0.1 mg/l to 7.2 mg/l at the site. DO concentrations are generally higher (up to 7.1 mg/l) in monitoring wells that are located near the deep air-sparge wells (MW-32A, MW-33, MW-34, MW-37, MW-50, and MW-53), and are generally lower (up to 1.5 mg/l) in monitoring wells located near the shallow air-sparge trench (MW-35, MW-45, and MW-52) or away from the remedial wells (MW-51).



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Operation of the DAS system appears to have a significant effect on DO concentrations at the site. In late March 2004, the DAS unit was shut down due to compressor failures and remained off for approximately six months. Prior to shutdown of the unit in March 2004, concentrations ranged from 0.84 mg/l to 2.43 mg/l. During the period that the DAS unit was off, DO concentrations generally decreased across the site, ranging from 0.5 mg/l to 1.5 mg/l. Following compressor replacement, the DAS unit was restarted on September 22, 2004 and DO concentrations increased in most wells at the site. The most significant increases were observed in Wells MW-32A (6.1 mg/l) and MW-33 (7.2 mg/l), located near deep air-sparge wells DAS-5 and DAS-4, respectively.

A correlation between operation of the remedial system and DO concentrations at the site was observed again when the system was temporarily shutdown in mid-December 2004 at the request of ConocoPhillips. Following shutdown of the system, DO concentrations showed a decreasing trend, ranging from 0.1 mg/l to 2.0 mg/l. Following restart of the system in early January 2005, DO concentrations increased again, ranging from 0.4 mg/l to 4.6 mg/l. A summary of DO concentrations in selected wells is presented in Table 4 and shown on Graph 1.

#### **Status of Remediation**

Since startup of the current remediation system in August 2003, petroleum hydrocarbon concentrations in groundwater at the site have decreased significantly. Prior to system startup, concentrations of total petroleum hydrocarbons in the gasoline range (TPH-G) were present in several on-site monitoring wells between 10,000 parts per billion (ppb) and 200,000 ppb. Operation of the remediation system and increased dissolved oxygen concentrations have reduced TPH-G concentrations in on-site wells to levels near or below the current Washington State Model Toxics Control Act (MTCA) Method A cleanup level of 800 ppb. Similarly, concentrations of TPH in the diesel range (TPH-D) in on-site wells have decreased to levels near or below the current MTCA Method A cleanup level of 500 ppb. TPH-D concentrations in several on-site wells ranged between 10,000 ppb and 50,000 ppb prior to startup of the remediation system. A summary of groundwater monitoring data is presented in Table 5. TPH and benzene concentrations for selected wells are also presented in Graphs 2 through 10.



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**LIMITATIONS**

The services described in this report were performed in accordance with generally accepted professional consulting principles and practices. No other warranty, either express 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 if you have any questions regarding the contents of this report.

Sincerely,

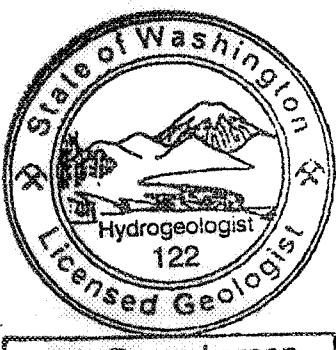
DELTA ENVIRONMENTAL CONSULTANTS, INC.

*Tena Seeds*

Tena Seeds  
Project Engineer

*[Handwritten signature]*

Eric Larsen, L.H.G.  
Senior Geologist



Eric Bruce Larsen

cc: LUST Coordinator, WA State Dept. of Ecology – Northwest Regional Office, Bellevue, WA 98008



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**ATTACHMENTS**

- Table 1 – VE Unit and Vapor Treatment Operation Summary
- Table 2 – Air Sparge Unit Operational Summary
- Table 3 – Deep Air Sparge Unit Operational Summary
- Table 4 – Dissolved Oxygen Concentrations in Selected Monitoring Wells
- Figure 1 – Remedial System Site Map
- Graph 1 – Dissolved Oxygen Concentrations
- Graph 2 – TPH and Benzene Concentrations in MW-32A
- Graph 3 – TPH and Benzene Concentrations in MW-33
- Graph 4 – TPH and Benzene Concentrations in MW-34
- Graph 5 – TPH and Benzene Concentrations in MW-35
- Graph 6 – TPH and Benzene Concentrations in MW-37
- Graph 7 – TPH and Benzene Concentrations in MW-45
- Graph 8 – TPH and Benzene Concentrations in MW-50
- Graph 9 – TPH and Benzene Concentrations in MW-52
- Graph 10 – TPH and Benzene Concentrations in MW-53

**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 <sup>3</sup> Between Carbons (ppm)	Emission Petroleum Hydrocarbon Concentration <sup>4</sup> (ppm)	Estimated Petroleum Hydrocarbons Removed During Operating Period <sup>5</sup> (pounds)
01/29/04	45 <sup>6</sup>	NM	3.0	218	1.2	0.0	0.0	4.7
02/28/04	30	32,432	3.0	218	1.2	0.0	0.0	3.1
03/30/04	31	35,592	3.0	218	2.7	0.2	0.0	7.3
04/28/04	29	38,516	3.5	217	0.1	0.1	0.1	0.3
05/27/04	29	41,465	3.5	217	9.8 <sup>9</sup>	0.1	0.1	24.7
06/22/04	26	44,045	3.5	217	4.2 <sup>9</sup>	0.1	0.1	9.5
07/22/04	30	47,097	3.5	217	17.9 <sup>9</sup>	11.1	1.8	46.8
08/16/04	23	49,449	3.5	217	6.4	0.2	0.1	12.8
09/21/04	26	52,907	3.7	217	10.5	0.3	0.2	23.8
10/28/04	37	58,559	3.5	217	14.1	5.4	1.1	45.4
11/22/04	25	62,578	3.5	217	4.9	0.1	0.0	10.7
12/17/04 <sup>10</sup>	25	66,601	4.0	215	10.7	6.6	2.3	23.1
01/27/05 <sup>11</sup>	21	70,013	4.0	215	1.0	0.6	0.0	1.8
02/17/05	21	73,083	4.0	215	28.9	15.8	0.0	52.4
03/17/05	28	76,709	3.5	217	0.1	0.0	0.0	0.2

**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 <sup>3</sup> Between Carbons (ppm)	Emission Petroleum Hydrocarbon Concentration <sup>4</sup> (ppm)	Estimated Petroleum Hydrocarbons Removed During Operating Period <sup>5</sup> (pounds)
Total To Date		533 <sup>7</sup>						883.5 <sup>8</sup>
Total for 1st Qtr 2005	70							54.4

**Notes:**

KWH = kilowatt-hours

SCFM = standard cubic feet per minute

ppm = parts per million

NM = not measured

<sup>1</sup> Flowrate based on blower vacuum/flow rate curve.

<sup>2</sup> Influent petroleum hydrocarbon concentrations based on field measurements using a photionization 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  
Seattle, Washington

Date	Header Pressure (psig)	Air Flowrates per Air Sparge Point (SCFM)														
		AS-1	AS-2	AS-3	AS-4	AS-5	AS-6	AS-7	AS-8	AS-9	AS-10	AS-11	AS-12	AS-13	AS-14	AS-15
01/29/04	5	11	12	10	11	12	13	8	8	3	<3	5	11	12	8	
02/28/04	4	11	12	14	11	12	13	8	8	3	4	<3	10	11	9	
03/30/04	5	11	12	14	11	12	12	14	8	<3	<3	<3	10	12	8	
04/28/04	NM	10.5	11.5	14	10.5	11	11.5	13.5	8	7.5	<3	<3	9	10.5	7	
05/27/04	4.5	10	11	14	9	10	11	12	7	7	<3	<3	<3	5.5	9	7.5
06/22/04	4.5	11	11	14	10	11	11	12	12.5	11	<3	<3	<3	10	8	
07/22/04	4	12	13	16	11	12	12	13	8	5.5	<3	<3	<3	10.5	8	
08/16/04	4.5	10	11.5	16	9.5	11	12	10.5	8	5.5	<3	<3	<3	9.5	10.5	
09/21/04	4.5	10	10	11.5	8.5	9	9.5	11	6	4.5	<3	<3	4	9.5	7	
10/28/04	4.5	9.5	10	11.5	9.5	9	9.5	10.5	5.5	4	<3	<3	<3	10	6	
11/22/04	4.5	8.5	10	10.5	9	9	9.5	10.5	5	3.5	<3	<3	<3	8	6	
12/17/04 <sup>1</sup>	4.5	8.0	8.7	9.7	7.8	7.5	8.5	9.5	4	3.2	<3	<3	<3	10	7	
01/27/05 <sup>2</sup>	4.5	8.0	8.7	9.5	7.6	7.5	8.2	9.4	3.8	3.2	<3	<3	<3	10	5	
02/17/05	4.5	8.0	8.8	9.7	7.7	7.5	8.3	9.2	3.6	3	<3	<3	<3	9.7	5	
03/17/05	4.5	6.0	9.5	11.5	8.5	8	9	8	3	3	<3	<3	<3	10	<3	
<b>Average:</b>	<b>4.5</b>	<b>9.6</b>	<b>10.6</b>	<b>12.5</b>	<b>9.4</b>	<b>9.8</b>	<b>10.4</b>	<b>11.3</b>	<b>6.6</b>	<b>5.7</b>	<b>3.0</b>	<b>4.0</b>	<b>4.5</b>	<b>9.1</b>	<b>7.3</b>	

Notes:

psig = pounds per square inch, gauge  
SCFM = standard cubic feet per minute

<sup>1</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>2</sup> At the request of ConocoPhillips, the remedial system was restarted on 1/6/05.

**TABLE 3**  
**DEEP AIR SPARGE UNIT OPERATIONAL SUMMARY**  
ConocoPhillips Site No. 255353  
600 Westlake Avenue North  
Seattle, Washington

Date	Header Pressure (psig)	Air Flowrates per Air Sparge Point (SCFM)				
		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	3.5	<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	5.5	4	7.5
12/17/04 <sup>2</sup>	11	NIO	6.5	3.5	4	6.5
01/27/05 <sup>3</sup>	11	NIO	6.5	4	<3	5
02/17/05	11.5	NIO	7.5	4*	4*	4*
03/17/05	13.5	NIO	4	<3	<3	5

**Notes:**

psig = pounds per square inch, gauge  
SCFM = standard cubic feet per minute  
NIO = not in operation  
\* 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 quarter 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.

**TABLE 4**  
**DISSOLVED OXYGEN CONCENTRATIONS**  
**IN SELECTED MONITORING WELLS**  
 ConocoPhillips Site No. 255353  
 600 Westlake Avenue N.  
 Seattle, Washington

Date	Dissolved Oxygen Concentration <sup>1</sup> (mg/l)									
	MW-32A	MW-33	MW-34	MW-35	MW-37	MW-45	MW-50	MW-51	MW-52	MW-53
08/20/03 <sup>2</sup>	0.51	--	0.62	0.43	--	--	--	--	--	0.53
08/20/03 Remediation System Startup										
09/02/03	0.66	-- <sup>3</sup>	1.06	0.77	--	--	--	--	--	2.41
09/12/03	-- <sup>3</sup>	-- <sup>3</sup>	1.47	0.63	--	--	--	--	--	0.55
09/18/03	-- <sup>3</sup>	-- <sup>3</sup>	2.13	0.89	--	--	--	--	--	3.85
10/06/03	-- <sup>3</sup>	-- <sup>3</sup>	0.49	0.93	--	--	--	--	--	-- <sup>3</sup>
10/17/03	-- <sup>3</sup>	-- <sup>3</sup>	0.51	0.94	--	--	--	--	--	-- <sup>3</sup>
10/31/03	--	-- <sup>3</sup>	--	--	--	--	--	--	--	-- <sup>3</sup>
11/06/03	-- <sup>3</sup>	-- <sup>3</sup>	0.52	0.91	--	--	--	--	--	-- <sup>3</sup>
11/17/03	-- <sup>3</sup>	--	0.53	0.88	--	--	--	--	--	--
11/25/03	-- <sup>3</sup>	-- <sup>3</sup>	6.15	0.63	--	--	--	--	--	0.58
12/15/03	--	-- <sup>3</sup>	--	--	--	--	--	--	--	--
01/14/04	3.1	0.6	0.2	0.3	0.5	0.4	4.1	0.4	0.3	0.4
03/30/04	2.43	1.72	1.68	1.46	1.50	0.84	1.69	1.56	1.31	1.28
03/30/04 DAS Unit Shutdown Due to Compressor Failures										
06/22/04	0.5	1.2	0.5	1.5	1.0	0.7	1.1	1.2	1.5	1.1
09/22/04 DAS Unit Restarted Following Compressor Replacement										
09/29/04	6.1	7.2	0.4	0.1	2.0	0.9	0.2	1.4	0.3	1.9
12/17/04 Remediation System Temporarily Shutdown per ConocoPhillips										
12/29/04	1.0	0.1	2.0	0.1	1.5	0.3	1.5	0.1	0.4	0.3
01/06/05 Remediation System Restarted per ConocoPhillips										
03/17/05	0.9	4.6	0.4	0.7	2.5	1.2	0.6	1.8	0.7	1.4
Maximum:	6.1	7.2	6.2	1.5	2.5	1.2	4.1	1.8	1.5	3.9
Average:	1.9	2.6	1.2	0.7	1.5	0.7	1.5	1.1	0.8	1.3
Minimum:	0.5	0.1	0.2	0.1	0.5	0.3	0.2	0.1	0.3	0.3

**Notes:**

mg/l = milligrams per liter

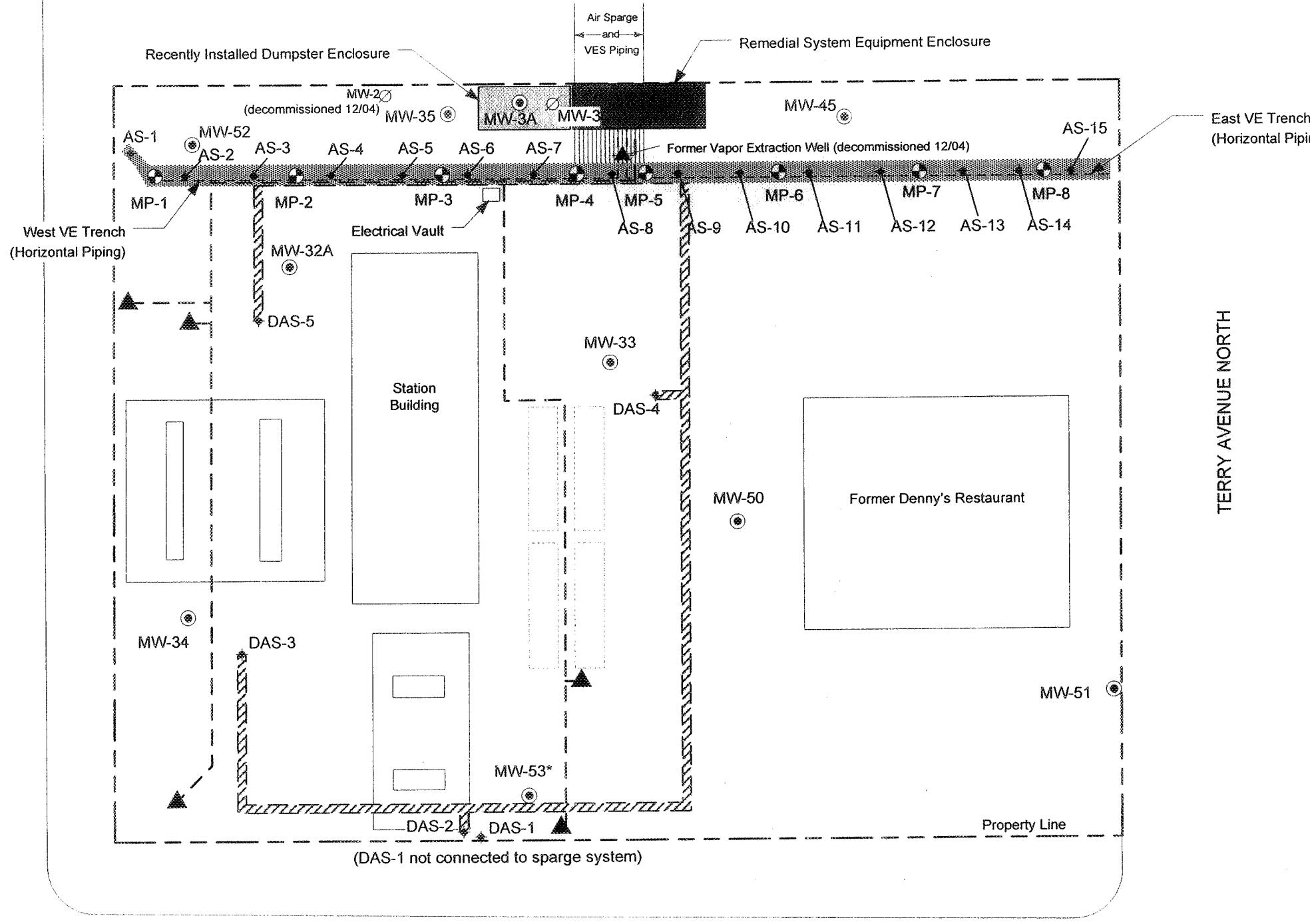
-- = Not measured

<sup>1</sup> Dissolved oxygen concentrations measured in the field with a dissolved oxygen meter. Concentrations were monitored by the previous consultant prior to January 14, 2004.

<sup>2</sup> Concentrations were measured before system startup on August 20, 2003

<sup>3</sup> Dissolved oxygen was not monitored due to bubbling in well.

WESTLAKE AVENUE NORTH



North

TERRY AVENUE NORTH

LEGEND

- AS-1 ◆ BIOSPARGE TRENCH AIR SPARGING WELL
- DAS-2 ◆ DEEP AIR SPARGING WELL
- MW-51 (●) GROUNDWATER MONITORING WELL
- MW-3 (○) ABANDONED OR DESTROYED GROUNDWATER MONITORING WELL
- MP-1 (●) 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

0 30 FT  
APPROX. SCALE

MERCER STREET

MW-40 (●)

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

FIGURE 1

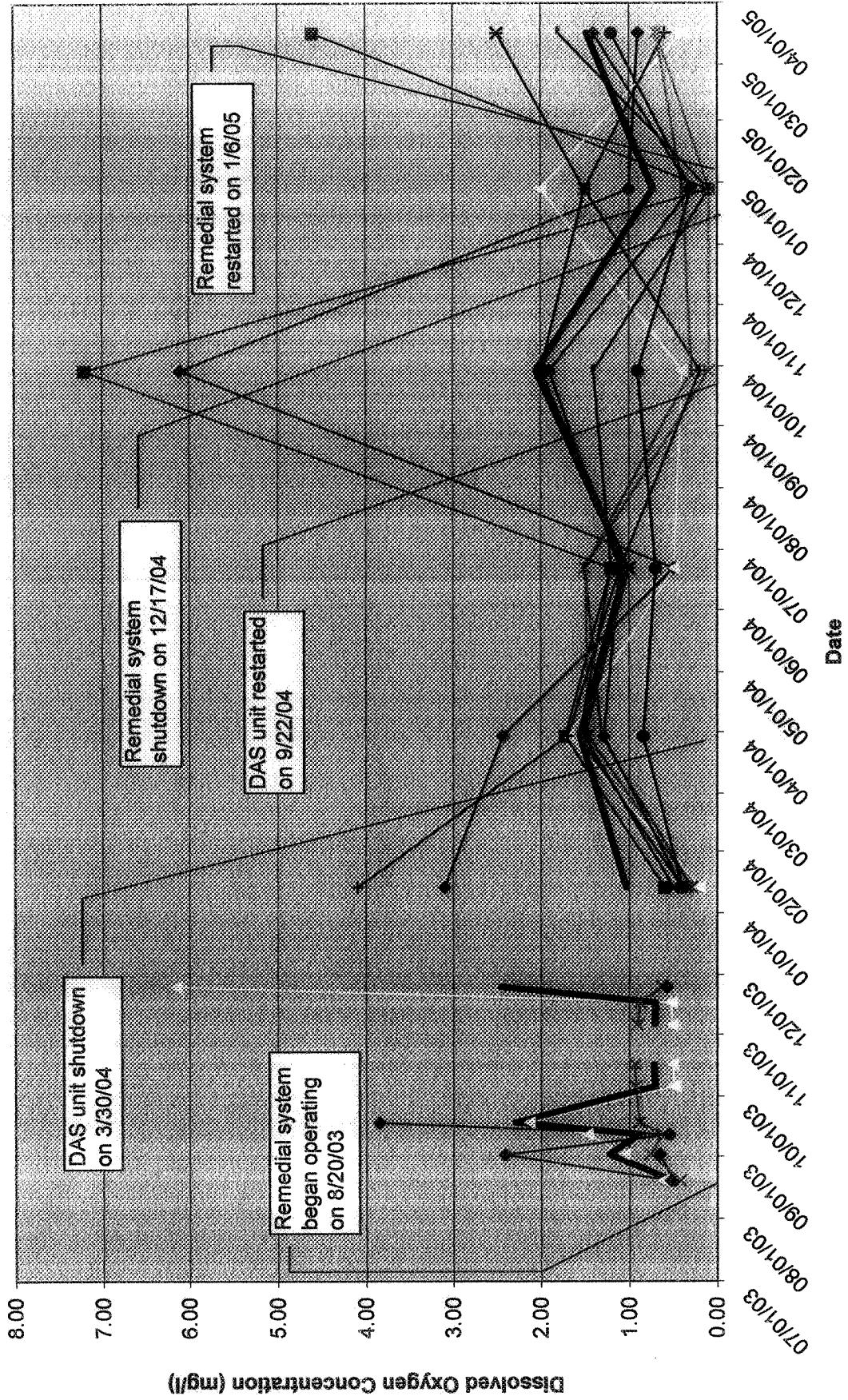
REMEDIAL SYSTEM SITE MAP

CONOCO PHILLIPS SITE NO. 255353  
600 WESTLAKE AVENUE NORTH  
SEATTLE, WASHINGTON

PROJECT NO. WA255-3509-1	DRAWN BY TS 5/12/05
FILE NO. WA255-3509-1	PREPARED BY TS 5/12/05
REVISION NO. 0	REVIEWED BY EL

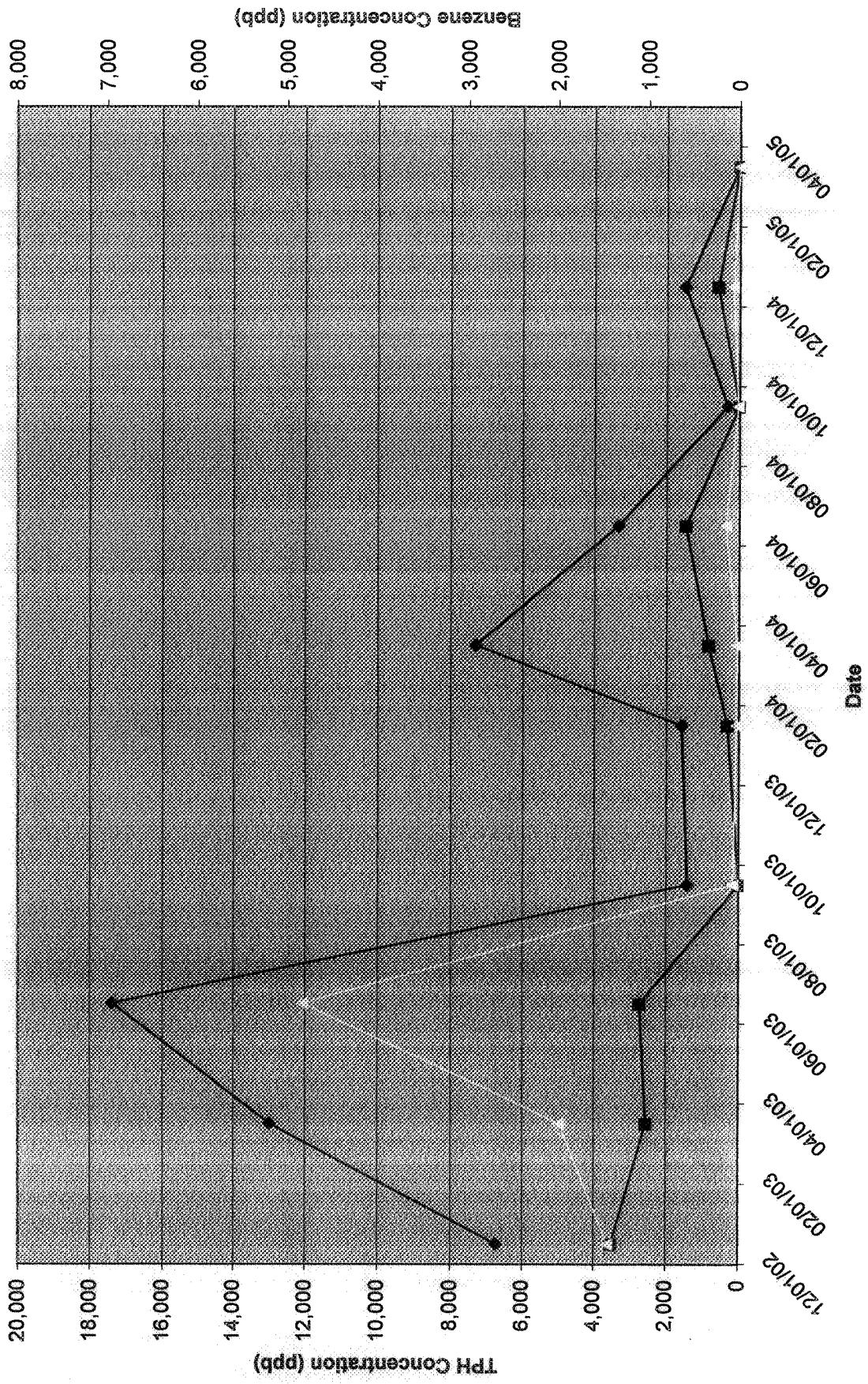
**Delta**  
Environmental  
Consultants, Inc.

**GRAPH 1**  
**Dissolved Oxygen Concentrations**  
 ConocoPhillips Site No. 255353  
 600 Westlake Avenue N.  
 Seattle, Washington



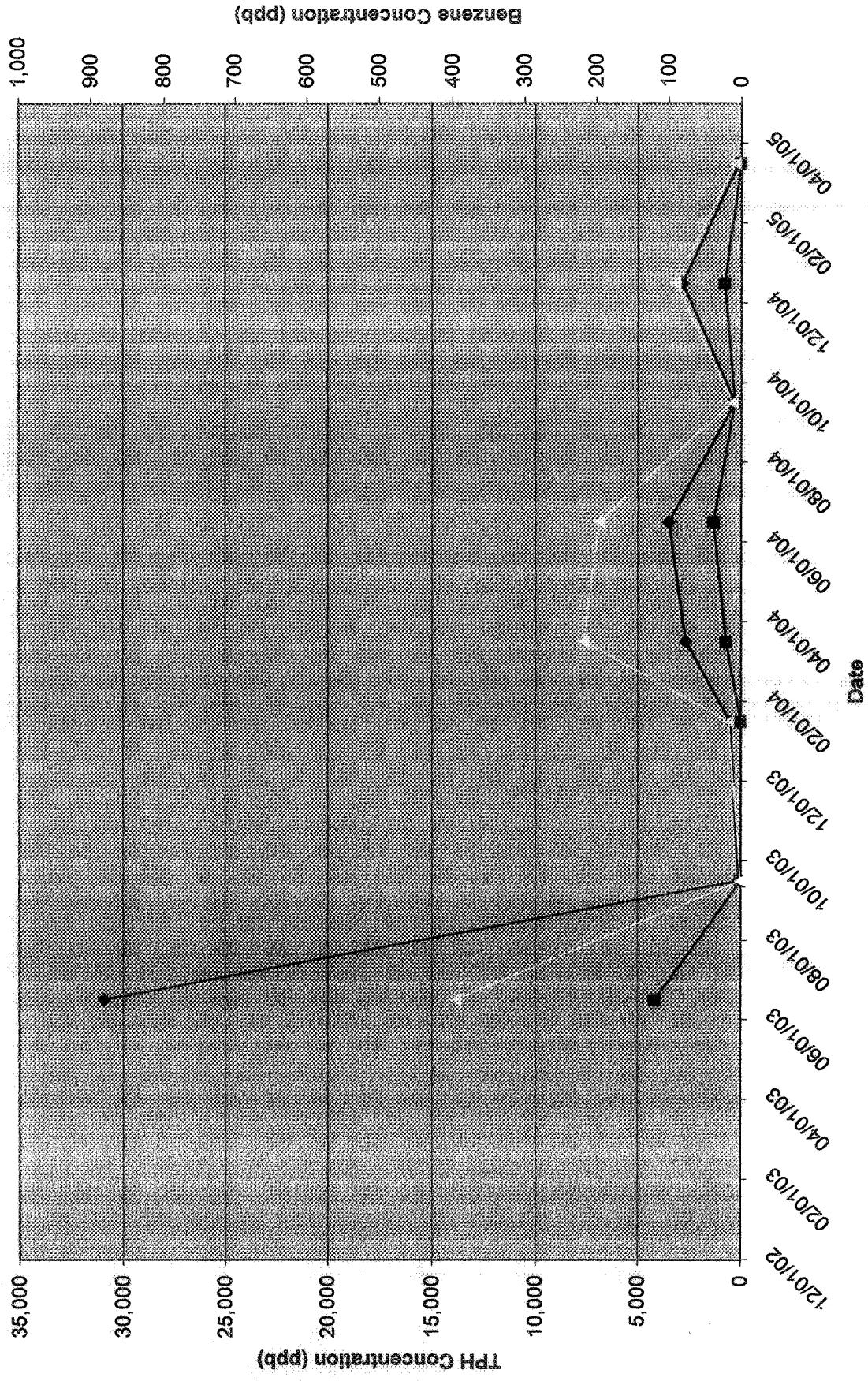
**GRAPH 2**  
TPH and Benzene Concentrations in MW-32A  
ConocoPhillips Site No. 255353  
600 Westlake Avenue N.  
Seattle, Washington

—♦— TPH-G —■— TPH-D Benzene



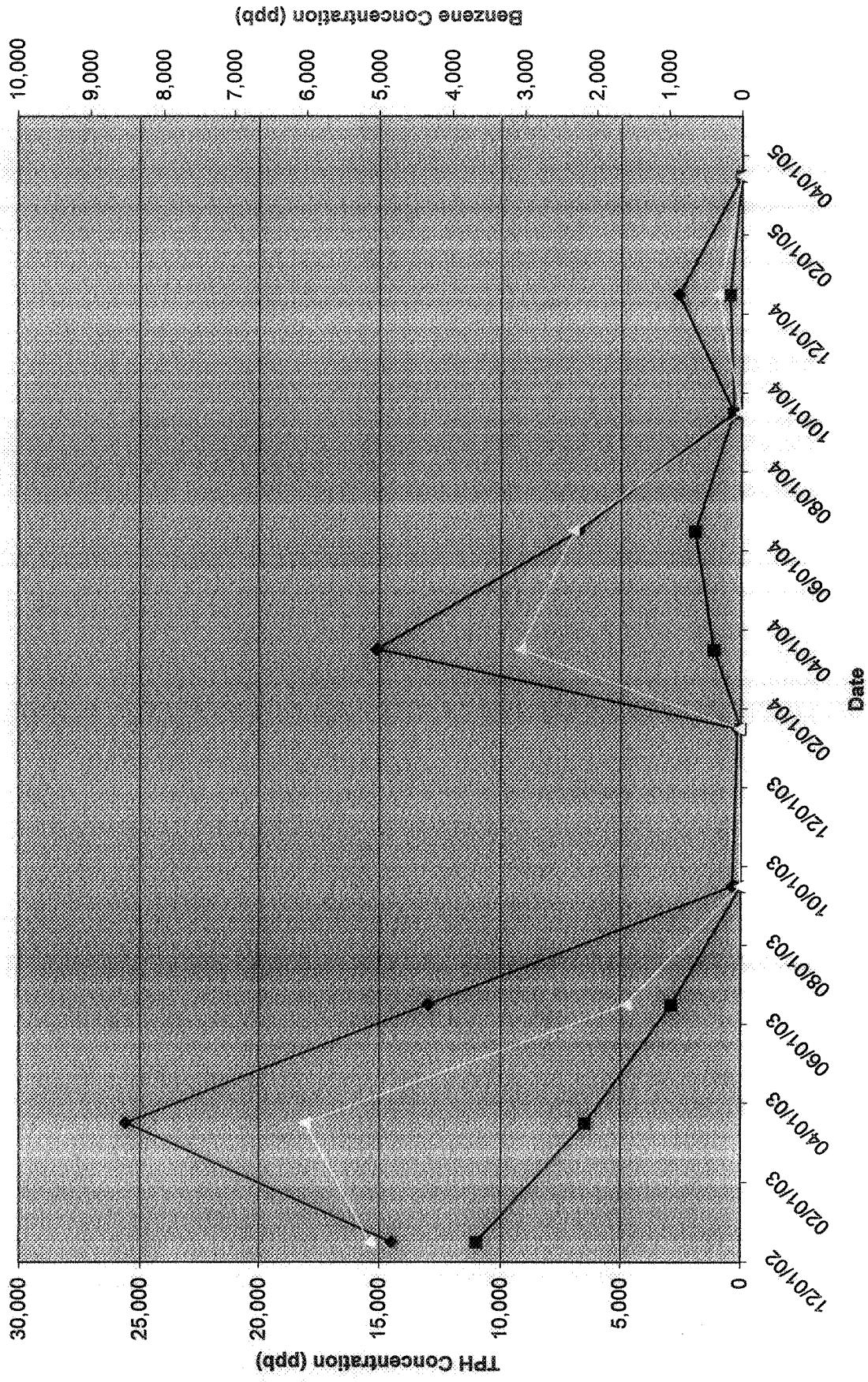
**GRAPH 3**  
TPH and Benzene Concentrations in MW-33  
ConocoPhillips Site No. 255353  
600 Westlake Avenue N.  
Seattle, Washington

—◆— TPH-G —■— TPH-D Benzene



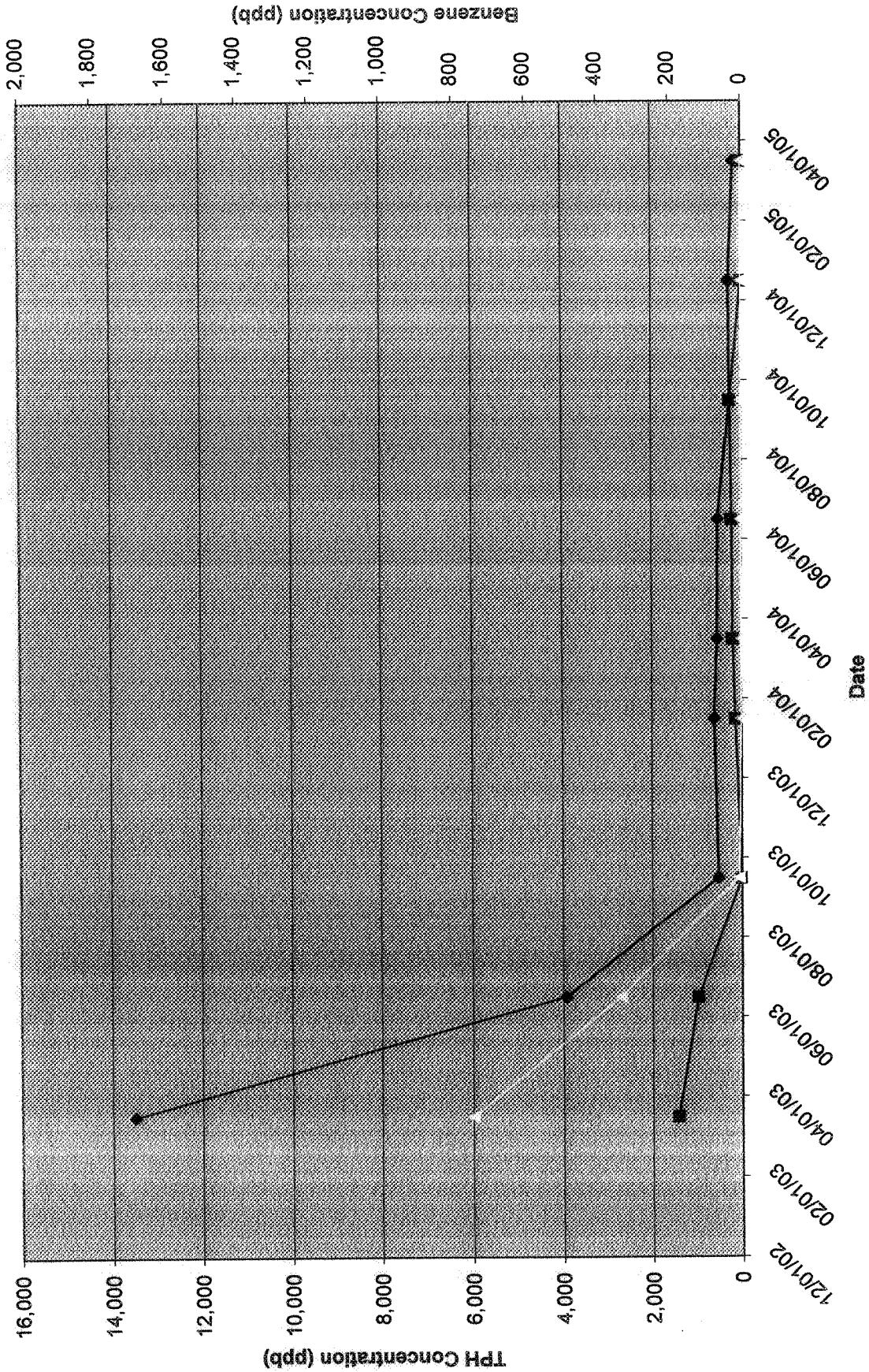
**GRAPH 4**  
**TPH and Benzene Concentrations in MW-34**  
 ConocoPhillips Site No. 25533  
 600 Westlake Avenue N.  
 Seattle, Washington

—♦— TPH-G —■— TPH-D Benzene



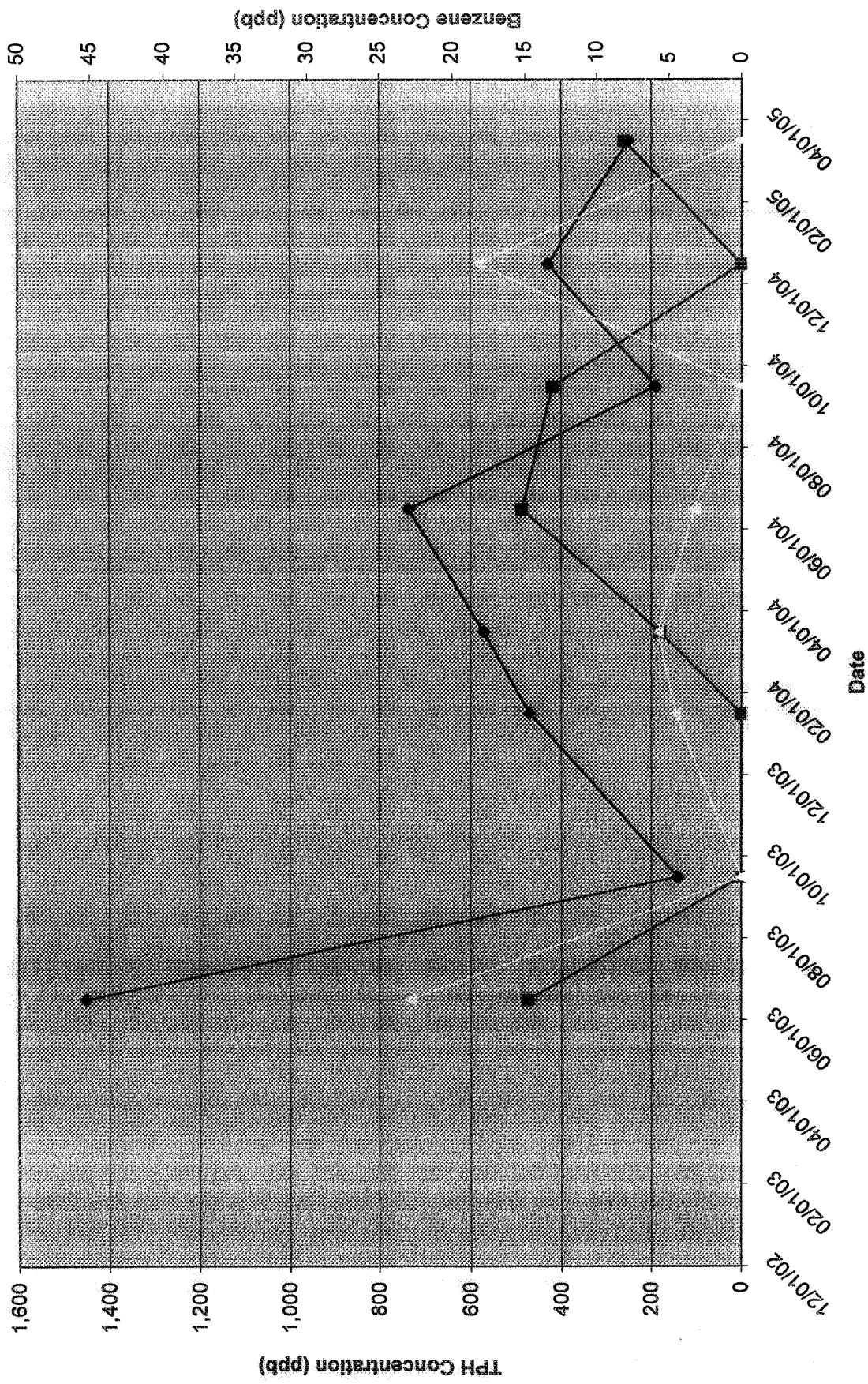
**GRAPH 5**  
**TPH and Benzene Concentrations in MW-35**  
 ConocoPhillips Site No. 2555353  
 600 Westlake Avenue N.  
 Seattle, Washington

—♦— TPH-G —■— TPH-D      Benzene



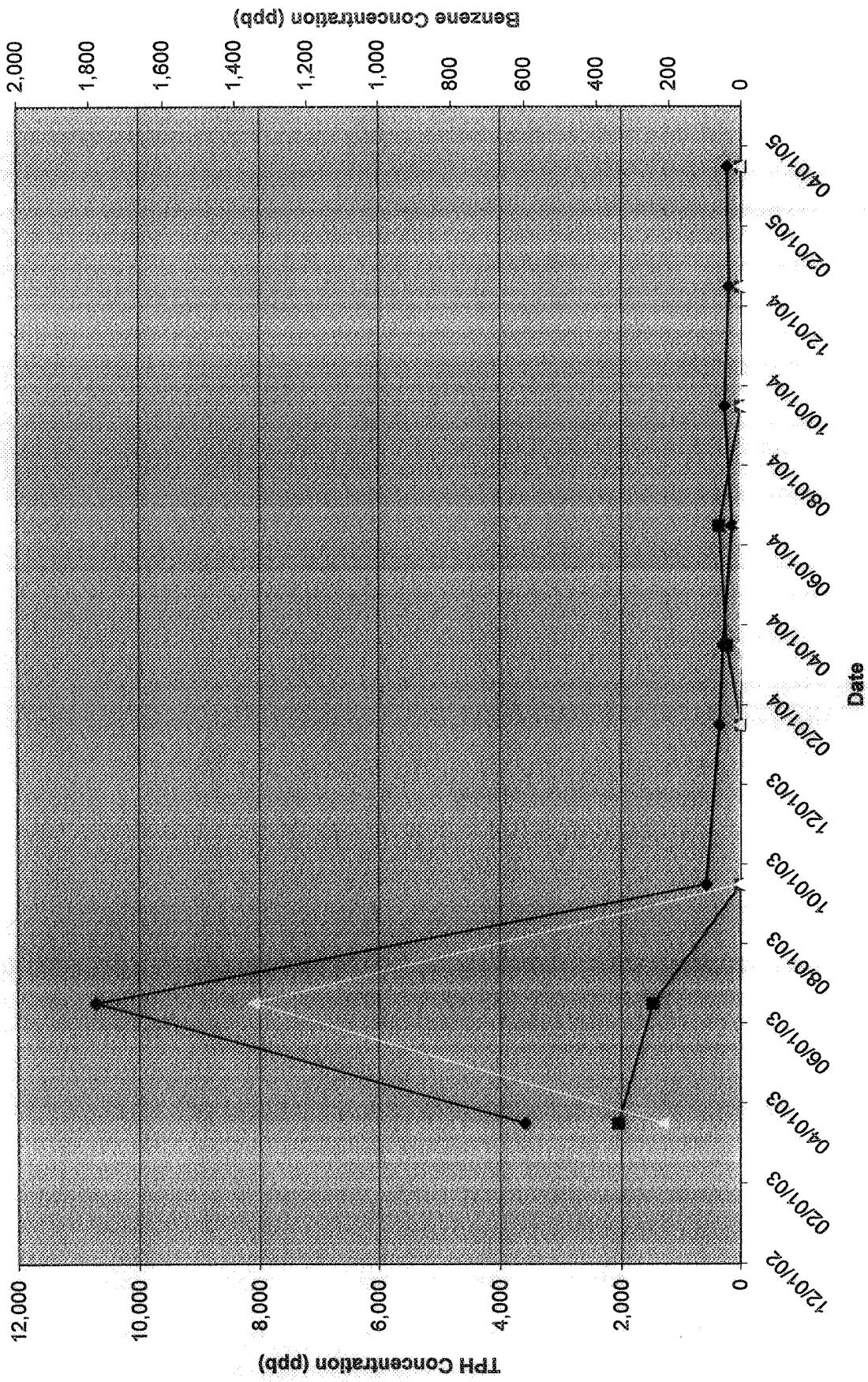
**GRAPH 6**  
**TPH and Benzene Concentrations in MW-37**  
 ConocoPhillips Site No. 255353  
 600 Westlake Avenue N.  
 Seattle, Washington

—◆— TPH-G —■— TPH-D Benzene



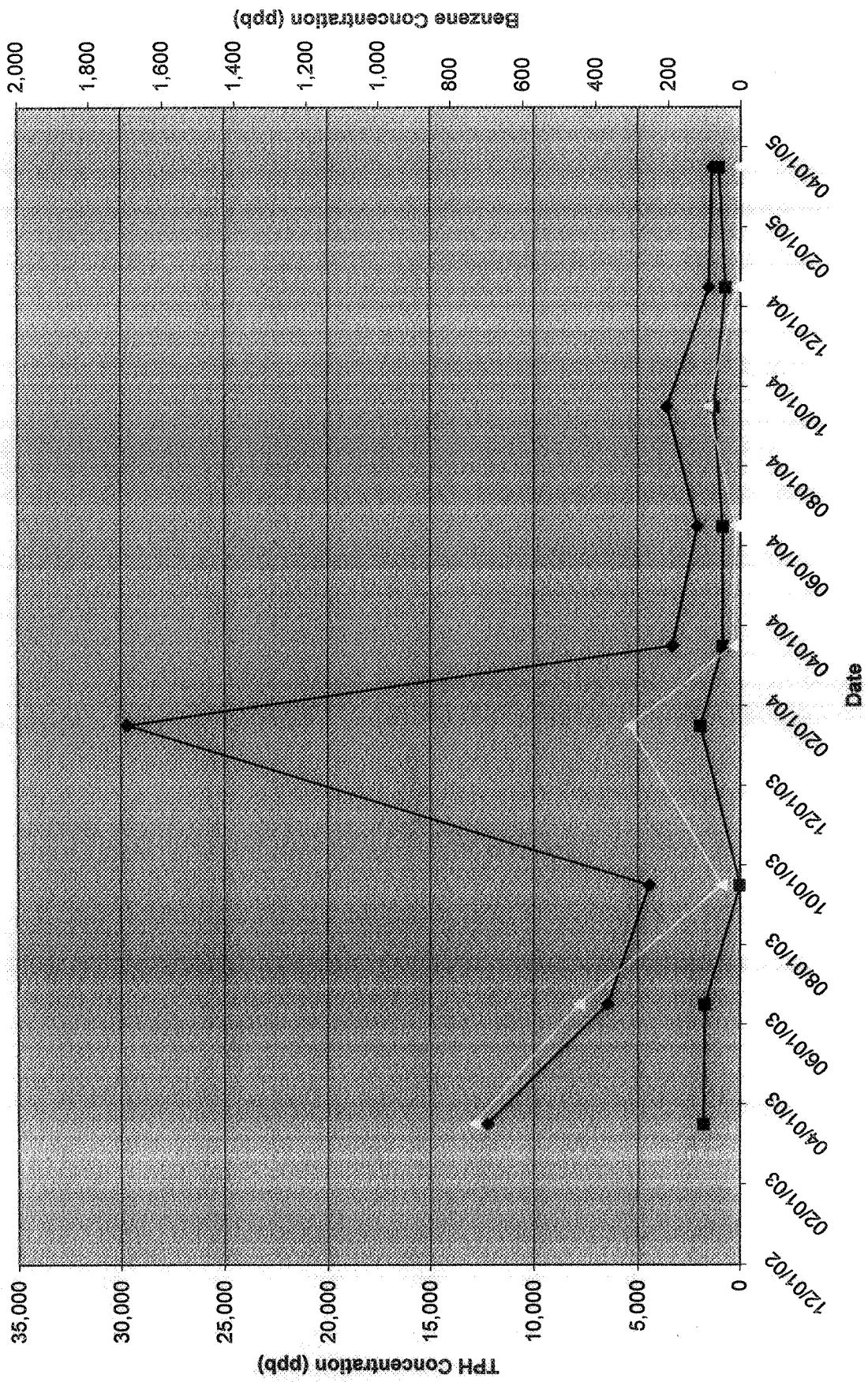
GRAPH 7  
TPH and Benzene Concentrations in MW-45  
ConocoPhillips Site No. 255353  
600 Westlake Avenue N.  
Seattle, Washington

—♦— TPH-G —■— TPH-D Benzene



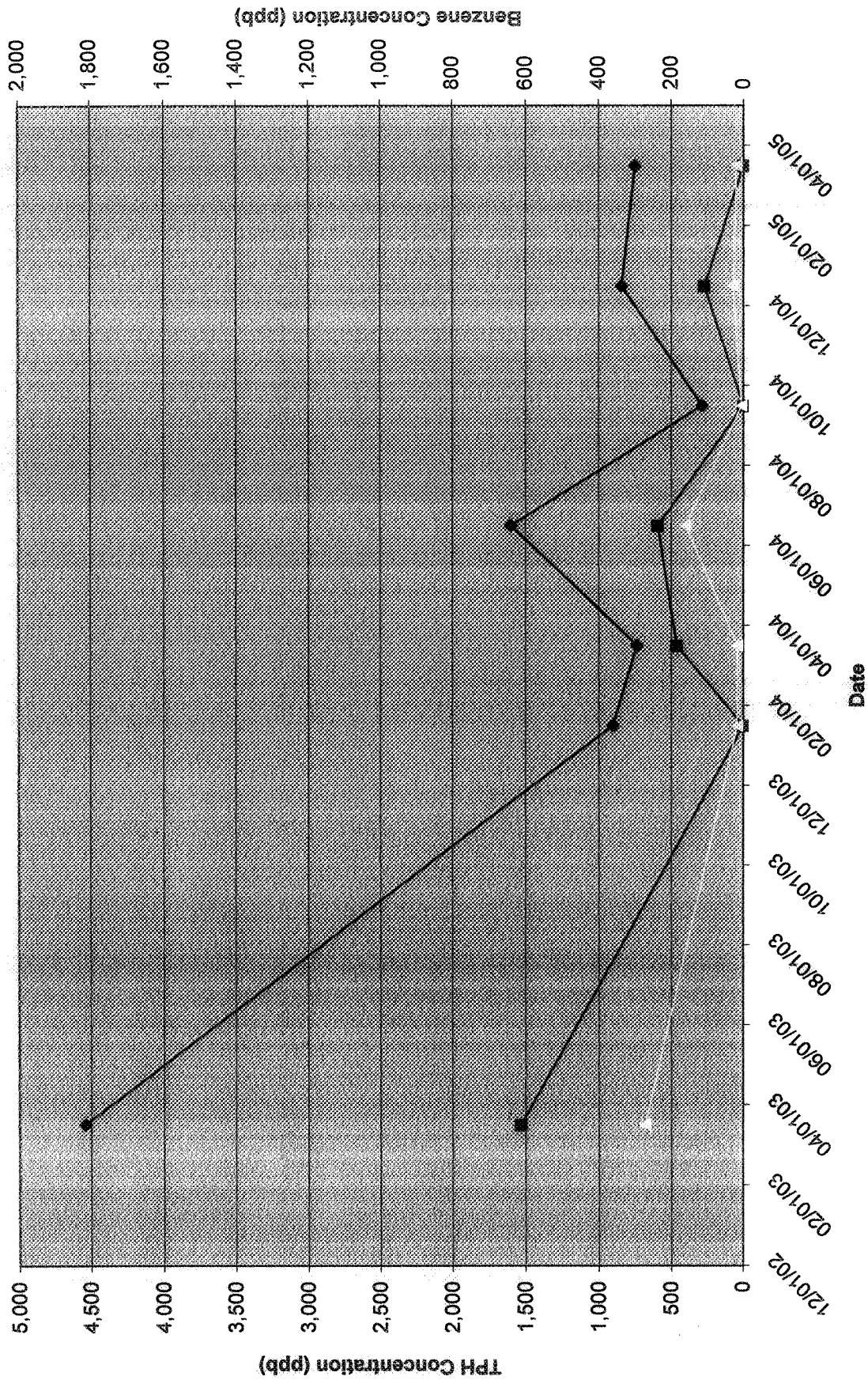
**GRAPH 8**  
TPH and Benzene Concentrations in MW-50  
ConocoPhillips Site No. 255353  
600 Westlake Avenue N.  
Seattle, Washington

—◆— TPH-G —■— TPH-D Benzene



**GRAPH 9**  
**TPH and Benzene Concentrations in MW-52**  
 ConocoPhillips Site No. 255353  
 600 Westlake Avenue N.  
 Seattle, Washington

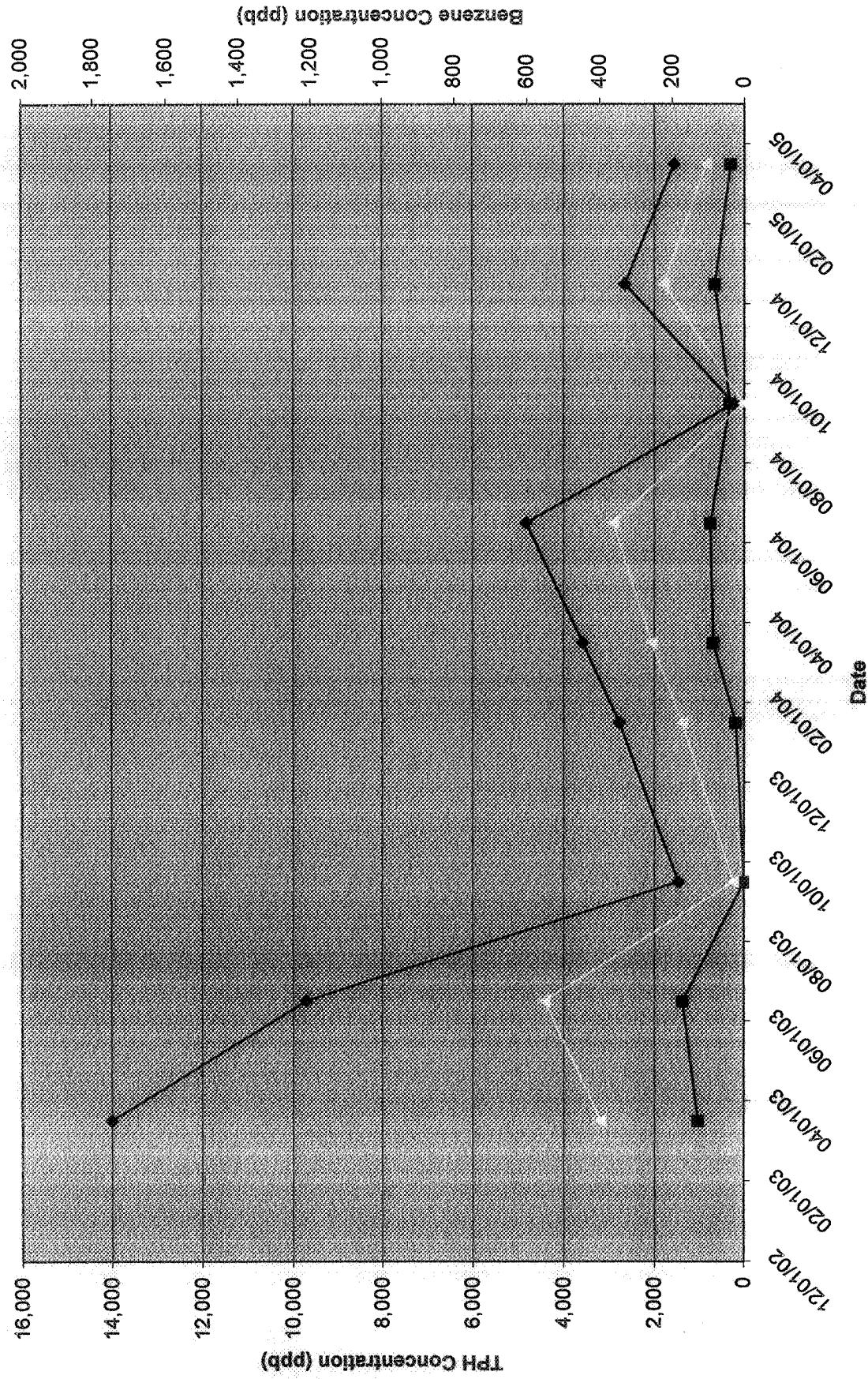
—♦— TPH-G —■— TPH-D      Benzene



**GRAPH 10**

TPH and Benzene Concentrations in MW-53  
ConocoPhillips Site No. 255353  
600 Westlake Avenue N.  
Seattle, Washington

—◆— TPH-G —■— TPH-D Benzene





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Fax 425.869.1892

Date: August 9, 2005  
Project No.: WA255-3507-1

To: Mr. Kipp Eckert  
ConocoPhillips  
1144 Eastlake Avenue East  
Seattle, Washington 98109-4450

We have enclosed:

Copies      Description

1      1Q05 Remediation System Status Report  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
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For your:       Use/Files  
 Approval  
 Review  
 Information

Sent Via:  Regular Mail  
 Priority Mail (USPS)  
 Overnight (UPS)  
 Other \_\_\_\_\_

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

Eric Larsen *[Signature]*

cc: LUST Coordinator, Department of Ecology – Northwest Regional Office, Bellevue, WA 98008

A member of:



AUG 09 2005  
DEPT OF ECOLOGY