environ strategy consultants, inc.

October 15, 2012

Mr. Walter Sprague Pacific Convenience & Fuels, LLC 7180 Koll Center Parkway, Suite 100 Pleasanton, CA 94566 1036 W. Taft Avenue Orange, Californina 92865 Tel 714-919-6500 Fax 714-919-6501 www.environstrategy.com

Remediation System Status Report

Site 01-352 4200 Wheaton Way Bremerton, Washington

Dear Mr. Sprague:

Environ Strategy Consultants Inc. (Environ Strategy) has prepared this *Remediation System Status Report* (Report) for the above referenced site. The Report summarizes the soil vapor extraction (SVE) system operation, field data and laboratory analytical results collected since system start-up on February 28, 2012.

The SVE system is operated at the site to remediate fuel hydrocarbon-impacted soil. This Report summarizes remediation system operations and performance, field data and analytical results collected during the first six months of system operation. Laboratory data packages are attached as Appendix A.

Environ Strategy appreciates the opportunity to be of service. If you have any questions or require additional information regarding this report, please do not hesitate to contact us at (714) 919-6500.

Sincerely, ENVIRON STRATEGY

yund

Dane Nygaard Project Engineer

Laura Sków, L.G., 2882 Project Manager



SITE INFORMATION AND CONTRACTOR OVERVIEW

Site Location:	Site 01-352 4200 Wheaton Way Bremerton, Washington
Pacific Convenience & Fuels Contact:	Mr. Walter Sprague
Environ Strategy Contact:	Ms. Laura Skow
Regulatory Agency:	Ms. Glynis Carrosino Toxics Cleanup Program Washington Dept of Ecology NWRO 3190 160th Avenue SE Bellevue, WA 98008-5452
File No:	VCP No. NW2340
Laboratory Contractor:	Environmental Services Network (ESN) Northwest, Inc. 1210 Eastside Street SE, Suite 200 Olympia, Washington 98501 WADOE Accreditation No. C574-11

SITE BACKGROUND

The subject site is located at 4200 Wheaton Way in Bremerton, Washington and is approximately a 0.5-acre rectangular-shaped, outparcel of commercial land located on the northeast corner of Wheaton Way and Hollis Street. The site is a fuel retail station with four underground storage tanks (USTs) and three pump islands that are located near (west of) a single-story convenience store. The USTs include one 6,000-gallon tank (diesel), two 12,000-gallon tanks (regular gasoline) and one 12,000-gallon tank (premium gasoline). The site is relatively flat, covered with asphalt and concrete, and is part of a larger retail shopping center. Surrounding land use includes commercial properties including retail shops and restaurants.

The site lies at an elevation of approximately 300 feet above mean sea level (ft amsl) on a small peninsula within Puget Sound. It is located approximately 2 miles from Port Orchard Waterway,

Remediation System Status Report

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Dyes Inlet and Sinclair Inlet, which surround the peninsula to the east, west and south, respectively. A site location map is provided as Figure 1. Pertinent site features are shown on Figure 2.

In September and October 1996, the fuel distribution system at the subject site was upgraded. During system upgrades, hydrocarbon-affected soil was encountered in the tank cavity and 450 tons of impacted soil was excavated and transported to a disposal facility in Tacoma, Washington. The release was reported to the Washington Department of Ecology (DOE) and five verification soil samples were collected from the tank cavity for laboratory analysis. In addition, five soil samples were collected from the beneath the product lines and pump islands. The samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds and total petroleum hydrocarbons quantified as gasoline (TPH-Gx). Hydrocarbon impacts in excess of MTCA Method A Cleanup Levels were identified in all ten soil samples. Specifically, the highest levels of fuel hydrocarbons were reported in a composite sample (identified as N&E Wall-8'), which was collected from the north and east sidewall of the diesel tank cavity at a depth of 8 feet. Sample N&E Wall-8' contained TPH-Gx at 7,220 milligrams per kilogram (mg/kg), benzene at 27.6 mg/kg, toluene at 191 mg/kg, ethylbenzene at 111 mg/kg and total xylenes at 626 mg/kg.

In June 1997, Clearwater conducted subsurface site assessment activities. During Clearwater's investigation, 17 soil borings (GP-1 through GP-17) were installed at various locations around the site to delineate the extent of hydrocarbon-affected soil. Borings were terminated at a depth of 17 feet bgs due to refusal. Twenty-six (26) soil samples collected from the borings were analyzed for TPH-Gx and BTEX compounds. Hydrocarbon-affected soil was detected in a majority of the soil borings. The highest concentration of TPH-Gx (1,410 mg/kg) was in a 10-foot sample from boring GP-7 located near the southwest corner of the tank cavity. Similarly, benzene was detected at a maximum level of 11.9 mg/kg in a 10-foot sample collected from GP-5 located east of the existing tank cavity.

In May 2010, Environ Strategy conducted an additional site assessment to evaluate subsurface conditions in the vicinity of the fuel distribution system (USTs and pump islands). Six soil borings (identified as SB-1 through SB-6) were advanced, of which, Borings SB-1, SB-2 and SB-3 were located near the existing tank cavity and advanced to a depth of 30 feet. Borings SB-4, SB-5 and SB-6 were drilled at the west end of the southern, central and northern pump islands, respectively, and extended to a depth of 25 feet at SB-4 and to 20 feet bgs at SB-5 and SB-6. Assessment findings are detailed in the *Focused Phase II Site Assessment Report*, dated



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May 30, 2010.

Based on the results of site assessment, an SVE system was designed and vapor extraction wells VE-1 through VE-4 were installed from March 29 to 31, 2011. Remediation by SVE was pilot tested at the site from April 4 to 7, 2011, and proved effective at removing hydrocarbons from subsurface soil, as detailed in the *Soil Vapor Extraction Well Installation and Pilot Test Report*, dated June 21, 2011.

REMEDIATION ACTIVITIES PERFORMED

- An application for an air discharge permit for the operation of SVE equipment at the site for the remediation of hydrocarbons in soil was submitted on June 6, 2011.
- The air discharge permit for the operation of SVE equipment at the site was received from the Puget Sound Clean Air Agency on November 7, 2011.
- SVE system trenching and underground conveyance piping was installed in the Fourth Quarter of 2011 by Clearcreek Contractors of Everett, Washington. A thermal oxidizer was subsequently installed and tested to comply with the air discharge permit.
- On February 15, 2012, baseline samples were collected to demonstrate compliance with the air discharge permit requirements. Laboratory analytical reports are attached in Appendix A.
- On February 28, 2012, the SVE system began continuous operation for the remediation of hydrocarbons in subsurface soil. Environ Strategy began bi-monthly site visits for operation and maintenance (O&M) of the system. Vapor flow rates, vacuum, system temperatures, and concentrations of unspeciated hydrocarbons in vapor in system influent, effluent, and individual wells were recorded at each visit. Vapor samples were collected monthly from system influent and effluent sample ports and submitted for laboratory analysis. Field data is summarized in Table 1. Individual well data is summarized in Table 2. Field data sheets are attached in Appendix B.
- Influent concentrations of total petroleum hydrocarbons quantified as gasoline (TPH-Gx) ranged from 44,000 micrograms per cubic meter ($\mu g/m^3$) on June 19, 2012, to 3,300,000 $\mu g/m^3$ on February 15, 2012, according to laboratory analytical reports. Laboratory analytical results are summarized in Table 3.
- Hydrocarbon removal rates during the first six months or operation ranged from 45 pounds per day in March 2012 to 1,492 pounds per day in August 2012, as calculated from field photo-ionization detector (PID) measurements (Table 1).



- The system was found off on July 17, 2012, due to suspected power interruption and was restarted.
- In August 2012, the system was found to be shutting off due to backpressure caused by plugging in the catalytic cell. The catalytic cell was cleaned and reinstalled in September 2012.

DISCUSSION AND CONCLUSIONS

Field observations and laboratory test results during the first six months of remediation demonstrate that soil vapor extraction is effective at removing petroleum constituents from subsurface soil beneath the site. During the first six months of operation, an estimated total of 7,461 pounds of petroleum hydrocarbons were extracted from the site subsurface, thermally treated and discharged. Trends in hydrocarbon concentrations in vapor, cumulative mass removed and individual well concentrations are graphically illustrated in Graphs 1 and 2. As shown in Graph 1, hydrocarbon concentrations in system influent vapor have fluctuated since system start-up but show an increasing trend as select extraction wells are opened/closed to optimize system performance (Tables 1 and 2). Field PID readings from the individual extraction wells show hydrocarbon concentrations have fluctuated over time and exhibit an increase during the recent dry season (Graph 2).

Based on 2010 soil data, the site is estimated to contain approximately 42,354 pounds of hydrocarbons in soil (Table 4), considerably higher than estimates based on previous soil sample data. It should be noted that the hydrocarbon mass estimate is based on available data and calculated averages assuming distribution is uniform within the specified depth intervals and estimated area of impact. Although hydrocarbon removal rates have increased during the dry season; based on the current hydrocarbon removal rate and the expectation that removal rates will decline as the amount of remaining hydrocarbons decreases, a minimum of six additional months of system operation is estimated to be required to remove remaining hydrocarbons in soil to achieve target concentrations.

Environ Strategy is pleased to be of service to Mr. Walter Sprague and Pacific Convenience & Fuels, Inc. If there are questions regarding this report or if additional site information is required, please do not hesitate to contact Environ Strategy at (714) 919-6500.



Remediation System Status Report

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ATTACHMENTS:

FIGURES

Figure 1:	Site Location Map
Figure 2:	Site Plan Showing Well Locations
TABLES	
Table 1:	Summary of Vapor Extraction System Operational Data
Table 2:	SVE Well Data
Table 3:	SVE Influent and Effluent Analytical Data
Table 4:	Subsurface Hydrocarbon Mass Calculations
GRAPHS	
Graph 1:	Vapor Extraction Remediation System – Mass Removal Trend
Graph 2:	Vapor Extraction Remediation System – Hydrocarbon
-	Concentrations by Well

APPENDICES

Appendix A:	Laboratory Analytical Reports
Appendix B:	Field Data Sheets



FIGURES



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TABLES

TABLE 1Summary of Soil Vapor Extraction System Operational DataSite 01-352Bremerton, Washington1 of 1

Date		Calculated Operational Hours	I Umeranonai	# of Wells Online	Influent Vacuum (in H ₂ O)	System Combustion Temp (°F)	Temp below cat. Bed (°F)	Temp above cat. Bed (°F)	Flow (acfm)	Influent PID Reading (ppmV)	Reading	Hydrocarbon Mass Removed (lbs)	Removal Rate	Remarks
2/28/2012	603,986		-	4	18	625	665	896	82	600	-	-	-	
3/14/2012	604,346	360	360	4	60	620	620	740	197	800	5	676	45	
3/30/2012	604,730	744	744	4	68	625	630	700	188	450	4	1,290	38	
4/10/2012	604,994	1,008	1,008	4	58	640	692	690	190	492	-	1,612	29	
5/15/2012	605,834	1,848	1,848	4	45	650	650	699	170	1,199	-	3,256	47	
5/30/2012	606,194	2,208	2,208	4	48	650	650	677	176	1,009	-	4,208	63	
6/19/2012	630,872	2,688	2,688	3	45	600	600	602	160	660	3	5,081	44	
6/30/2012	633,512	2,952	2,952	2	59	650	650	687	176	700	5	5,511	39	Wells #3 and #4 closed due to decreasing concentrations
7/17/2012	636,688	3,360	3,360	3	55	650	680	700	140	948	8.4	6,152	38	System found down due to power outage, storms in area
7/31/2012	636,688	3,696	3,696	2	59	650	650	687	176	400	9	6,694	39	
8/15/2012	637,404	4,056	4,056	3	65	650	650	699	90	1,200	-	7,047	24	
8/20/2012	638,122	4,176	4,176	3	48	650	650	677	176	1,678	-	7,461	83	System shutting down due to cat cell likely plugged

Notes and abbreviations:

Hydrocarbon removal rate and cumulative hydrocarbon removal were calculated using the following formula:

lbs =

ppmv (60 min/hr) (24 hr/day) (acfm) (86 lb/lb-mole)

(1,000,000) (379 ft³/lb-mole)

 Where:
 ppmv = average hydrocarbon concentration in parts per million by volume ft/min = velocity or flow rate in standard cubic feet per minute acfm = vapor flow rate in actual cubic feet per minute 86 lb/lb-mole = average molecular weight of gasoline 379 ft /lb-mole = average molar weight of air

- : zero lbs: pounds lbs:/day: pounds per day PID: photo-ionization detector calibrated to hexane ppmv: parts per million by volume acfm: actual cubic feet per minute in H₂O: inches of water

environ strategy consultants, inc.

TABLE 2SVE Well DataSite 01-352Bremerton, Washington1 of 1

	#1	Vac	Status	Flow	#2	Vac	Status	Flow	#3	Vac	Status	Flow	#4	Vac	Status	Flow
Date	(ppmv)	(H ² O")	(%)	(acfm)	(ppmv)	(H ² O")	(%)	(acfm)	(ppmv)	(H ² O")	(%)	(acfm)	(ppmv)	(H ² O")	(%)	(acfm)
02/28/12	230	12	100%	-	400	10	100%	-	130	11	100%	-	278	10	100%	-
03/14/12	1,220	29	100%	60	280	30	100%	60	380	25	100%	60	227	27	100%	60
03/30/12	1,007	28	100%	55	125	29	100%	45	270	30	100%	60	200	30	100%	58
04/10/12	1,262	31	100%	-	298	30	100%	-	272	22	100%	-	325	31	100%	-
05/15/12	296	32.5	100%	45	767	26	100%	40	638	26	100%	40	1,125	28.6	100%	45
05/30/12	250	36	100%	45	600	26	100%	45	555	26	100%	45	980	30	100%	44
06/19/12	692	34	100%	45	780	35	100%	40	400	34	50%	40	-	-	0%	-
06/30/12	680	54	100%	45	230	30	50%	45	-	-	0%	-	-	-	0%	-
07/17/12	220	42	100%	40	200	38	100%	40	85	34	50%	40	-	-	0%	-
07/31/12	280	54	100%	67	230	55	100%	59	-	-	0%	-	-	-	0%	-
08/15/12	306	52.5	100%	40	445	50	100%	40	500	50	100%	40	-	-	0%	-
08/20/12	2,065	36	100%	45	802	34	100%	45	462	35	100%	45	-	-	0%	-

Notes:

System start up on 02/28/2012

H²O" = inches of water ppmv = parts per million by volume, based on field photo-ionization detector readings acfm = actual cubic feet per minute 1% LEL = 138 ppmv (approximately) "-" = not measured %: percent Status: well status, percent open Vac: vacuum



TABLE 3SVE Influent and Effluent Analytical DataSite 01-352Bremerton, Washington1 of 1

SYSTEM															
VAPOR															
EXTRACTION		E	PA METHOD 82	260											
INLET	TPH-Gx	Benzene	Toluene	Ethylbenzene	Xylenes										
Date	$\mu g/m^3$	$\mu g/m^3$	μg/m ³	$\mu g/m^3$	μg/m ³										
02/15/12	3,300,000	29,000	22,000	13,000	40,000										
03/14/12	1,400,000	13,000	29,000	9,000	31,000										
04/10/12	90,000	410	860	410	1,500										
05/15/12	74,000	360	890	220	1,100										
06/19/12	44,000	280	1,100	170	1,100										
07/17/12	170,000	160	890	320	2,600										
08/20/12	1,400,000	870	2,700	340	2,600										

	EPA METHOD 8260													
OUTLET	TPH-Gx	Benzene	Toluene	Ethylbenzene	Xylenes									
Date	μg/m ³	$\mu g/m^3$	μg/m ³	$\mu g/m^3$	μg/m ³									
02/15/12	38,000	<100	110	<100	260									
03/14/12	32,000	<100	<100	<100	<100									
04/10/12	4,200	8.9	19	8.3	38									
05/15/12	6,900	13	54	22	180									
06/19/12	7,500	<10	<10	<10	17									
07/17/12	5,100	13	22	<10	35									
08/20/12	19,000	21	38	<10	37									

Notes:

<100 =not detected at listed detection limit

 $\mu g/m^3 = micrograms$ per cubic meter

TPH-Gx: total petroleum hydrocarbons quantified as gasoline



GRAPHS

GRAPH 1 Vapor Extraction System - Mass Removal Trend Site 01-352 Bremerton, Washington



GRAPH 2 Vapor Extraction System - Hydrocarbon Concentrations by Well Site 01-352 Bremerton, Washington



APPENDIX A

Laboratory Analytical Reports



February 16, 2012

Dane Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF-Site 352 Project in Bremerton, Washington. Soil vapor samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8260 on February 15, 2012.

The results of the analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

michael a Knoce

Michael A. Korosec *President*

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy PCF-SITE 352 PROJECT Client Project #623 Bremerton, Washington ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Soil Vapor by Method NWTPH-Gx/8260

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline Range Organics	Surrogate
Number	Analyzed	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	Recovery (%)
Method Blank	2/15/2012	nd	nd	nd	nd	nd	113
LCS	2/15/2012	104%	110%	103%	103%	91%	106
LCSD	2/15/2012	93%	94%	94%	91%		106
Inlet-021412	2/15/2012	29	22	13	40	3300	116
Out-021412	2/15/2012	nd	0.11	nd	0.26	38	115
Out-021412 Duplicate	2/15/2012	nd	0.11	nd	0.26	38	116
Reporting Limits		0.1	0.1	0,1	0.1	10	

"nd" Indicates not detected at the listed detection limits. "int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

CHAIN-OF-CUSTODY RECORD

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Environmental

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NORTHWEST, INC.



March 19, 2012

Dane Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF-Site 352 Project in Bremerton, Washington. One soil vapor sample was analyzed for Gasoline by NWTPH-Gx, BTEX by Method 8260, and Pb by Method 6020 on March 16, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Michael a Korone

Michael A. Korosec President

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy Consultants PCF-SITE 352 PROJECT Client Project #623 Bremerton, Washington ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Soil Vapor by Method NWTPH-Gx/8260

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline Range Organics	Surrogate
Number	Analyzed	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	Recovery (%)
Method Blank	3/16/2012	nd	nd	nd	nd	nd	95
LCS	3/16/2012	90%	95%	94%	87%	101%	90
LCSD	3/16/2012	90%	95%	96%	91%		90
IN-031412	3/16/2012	13	29	9.0	31	1400	99
OUT-031412	3/16/2012	nd	nd	nd	nd	32	103
Reporting Limits	5	0.1	0.1	0.1	0.1	10	

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

ESN	Environmental
NORTHWEST, INC	Services Network

CHAIN-OF-CUSTODY RECORD

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April 18, 2012

Dane Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF-Site 352 Project in Bremerton, Washington. Air samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8260 on April 11, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

michael & Koroce

Michael A. Korosec President

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy PCF-SITE 352 PROJECT Client Project #623 Bremerton, Washington

ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analyses of Volatile Organic Componds in Soil Vapor by Method 8260

Sample ID	Molecular	Reporting	MB	LCS	LCSD	Inlet 4102012	Outlet 4102012
Date Sampled	Weight	Limits	04/11/12	04/11/12	04/11/12	04/10/12	04/10/12
Date Analyzed	g	ug/m3	04/11/12	04/11/12	04/11/12	04/11/12	04/11/12
Danmana	50.11						
Benzene	78.11	0.1	nd	97%	97%	410	8.9
Toluene	92.13	0.1	nd	110%	96%	860	19
Ethylbenzene	106.2	0.1	nd	103%	104%	410	8.3
Xylenes	106.2	0.1	nd	98%	97%	1,500	38
Gasoline		10	nd	93%		90,000	4,200
Surrogate recoveries			he the second			· · · · · · · · · · · · · · · · · · ·	
Dibromofluoromethane			108%	100%	101%	94%	97%
Toluene-d8			99%	93%	93%	119%	108%
4-Bromofluorobenzene			110%	95%	96%	105%	100%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135% Acceptable RPD limit: 35%

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ESN

NORTHWEST, INC.

<u>Environmental</u> Services Network



May 21, 2012

Dane Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF-Site 352 Project in Bremerton, Washington. Air samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8260 on May 16, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Stephen Loague

Lab Manager

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy PCF #352 PROJECT Client Project #623 Bremerton, Washington ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Water by Method NWTPH-Gx/8260

Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline Range Organics	Surrogate
Analyzed	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	Recovery (%)
5/16/2012	nd	nd	nd	nd	nd	115
5/16/2012	90%	105%	90%	98%	107%	96
5/16/2012	85%	84%	90%	87%		100
5/16/2012	360	890	220	1100	74,000	102
5/16/2012	13	54	22	180	6900	113
	10.0	10.0	10.0	10.0	100	
	Analyzed 5/16/2012 5/16/2012 5/16/2012 5/16/2012	Analyzed ug/m3 5/16/2012 nd 5/16/2012 90% 5/16/2012 85% 5/16/2012 360 5/16/2012 13	Analyzed ug/m3 ug/m3 5/16/2012 nd nd 5/16/2012 90% 105% 5/16/2012 85% 84% 5/16/2012 360 890 5/16/2012 13 54	Analyzed ug/m3 ug/m3 ug/m3 5/16/2012 nd nd nd 5/16/2012 90% 105% 90% 5/16/2012 85% 84% 90% 5/16/2012 360 890 220 5/16/2012 13 54 22	Analyzedug/m3ug/m3ug/m3ug/m35/16/2012ndndndnd5/16/201290%105%90%98%5/16/201285%84%90%87%5/16/201236089022011005/16/2012135422180	Analyzed ug/m3 ug/m3

"nd" Indicates not detected at the listed detection limits. "int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%



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June 21, 2012

Dane Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF Site #352 Project in Bremerton, Washington. Soil vapor samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8260 on June 20, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Michaela Roman

Michael A. Korosec President

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy PCF #352 PROJECT Client Project #623 Bremerton, Washington ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Soil Vapor by Method NWTPH-Gx/8260

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline Range Organics	Surrogate
Number	Analyzed	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	Recovery (%)
Method Blank	6/20/2012	nd	nd	nd	nd	nd	120
LCS	6/20/2012	102%	100%	107%	108%	108%	99
LCSD	6/20/2012	100%	97%	101%	102%		97
Inlet 05152012	6/20/2012	280	1100	170	1100	44,000	115
Outlet 05152012	6/20/2012	nd	nd	nd	17	7500	113
Reporting Limits		10.0	10.0	10.0	10.0	100	
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"nd" Indicates not detected at the listed detection limits. "int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

CHAIN-OF-CUSTODY RECORD

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ESN

NORTHWEST, INC.

Environmental Services Network



July 18, 2012

Dane Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF Site 352 Project located in Bremerton, Washington. Soil vapor samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8260 on July 18, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

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Michael A. Korosec President

ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy PCF #352 PROJECT Client Project #623 Bremerton, Washington ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Soil Vapor by Method NWTPH-Gx/8260

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline Range Organics	Surrogate
Number	Analyzed	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	Recovery (%)
Method Blank	7/18/2012	nd	nd	nd	nd	nd	111
LCS	7/18/2012	108%	116%	112%	123%	92%	86
LCSD	7/18/2012	92%	96%	96%	103%		99
Outlet	7/18/2012	13	22	nd	35	5100	106
Inlet	7/18/2012	160	890	320	2600	170,000	108
Reporting Limits		10	10	10	10	100	

"nd" Indicates not detected at the listed detection limits. "int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%

CHAIN-OF-CUSTODY RECORD

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ESN

NORTHWEST, INC.

<u>Environmental</u> Services Network



August 24, 2012

Dan Nygaard Environ Strategy 1036 West Taft Avenue, Suite 200 Orange, CA 92865

Dear Mr. Nygaard:

Please find enclosed the analytical data report for the PCF Site 352 Project located in Bremerton, Washington. Soil vapor samples were analyzed for Gasoline by NWTPH-Gx and VOC's by Method 8260 on August 23, 2012.

The results of the analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to you for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

michael a Karrec

Michael A. Korosec President
ESN NORTHWEST CHEMISTRY LABORATORY

Environ Strategy PCF #352 PROJECT Client Project #623 Bremerton, Washington ESN Northwest 1210 Eastside Street SE Suite 200 Olympia, WA 98501 (360) 459-4670 (360) 459-3432 Fax lab@esnnw.com

Analysis of Gasoline Range Organics, BTEX in Soil Vapor by Method NWTPH-Gx/8260

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline Range Organics	Surrogate
Number	Analyzed	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	Recovery (%)
Method Blank	8/23/2012	nd	nd	nd	nd	nd	102
LCS	8/23/2012	112%	113%	113%	120%	87%	94
LCSD	8/23/2012	109%	110%	112%	118%		90
Outlet	8/23/2012	21	38	nd	37	19,000	106
Outlet Duplicate	8/23/2012	20	43	nd	41	19,000	94
Inlet	8/23/2012	870	2700	340	2600	1,400,000	102
Reporting Limits		10	10	10	10	100	

"nd" Indicates not detected at the listed detection limits. "int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS: 65% TO 135%



CHAIN-OF-CUSTODY RECORD

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APPENDIX B

Field Data Sheets

2/28/12

Vapor Extraction System Data Sheet

Station No: 5; 4 4 852 Max Flow Rate (scfm): 250

Voc Out: 2-10 // MU

City: Bacmenton, UA Min. Op. Temp: 625 F

	# of Wells	Cumulative	Influent	System	Total	Average Well	Average System	System Influent	Flow	Flow	Adsorber Inlet	Effluent (A)	Effluent (B)	Effluent (C)	System	Temp.	Temp.
Date	(Zones)	Operating	Vacuum	Flowrate	Well Flow	Influent Conc.	Influent Conc.	O2 Conc.	Pres / Vac	Temp.	Temp.	Conc.	Conc.	Conc.	Combustion	Below Cat.	Above Cat
	On-Line	Hours	(In. H _z O)		(acfm)	ppm(v)	ppm(v)	%	(In. H ₂ O)	(°F)	(°F)	ppm(V)	ppm(V)	ppm(V)	Temp (°F)	Bed (⁰F)	Bed (°F)
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Date	Electric Meter Reading	Blower Amperage	Changed Process Filter	Changed	Test Safety interlock System	Replaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flame	Replaced Chart Pens or Paper			Automatic System Shut- Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Comments
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Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Influent Vacuum (In. H ₂ O)	System Flowrate (acfm)	Total Well Flow (acfm)	Average Well Influent Conc. ppm(v)	Average System Influent Conc. ppm(v)	System Influent O ₂ Conc. %	Flow Pres / Vac (In. H ₂ O)	Flow Temp. (°F)	Adsorber Inlet Temp. (°F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Солс. ppm(V)	System Combustion Temp (ºF)	Temp. Below Cat. Bed (°F)	Temp. Above Cat. Bed (°F)
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TAN MEMORY CONTRACTOR STORES	وي موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و موجوع و م	ayaa yaanaa ayaa ahaa dhaa dhaa dhaa ahaa ahaa ah		March F. K.C.T. KING				0								<u> </u>	

Date	Electric Meter Reading	Blower Amperage	Changed Process Filter		Test Safety Interlock System	Replaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flame		Inspect Fire Suppression Device		Automatic System Shut- Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Comments
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Notes: 1		TEV	1. 2	/ 	9750	2 £4/-	~ 1	4		<u> </u>					
	H	T-U, 1=2	200	#4	= 29	40		1/.1		1	ali				
	#	2-15	50					vei	our	1 10	ant	<u> </u>			
	H	2-15 3=21	80							<i>.</i>					· · · · · · · · · · · · · · · · · · ·
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Vapor Extraction	System	Data	Sheet	ļ
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						1	Vapo	r Extract	ion Sys	stem U	ata Snee	1 1			0		t
Station No: Max Flow Rat		4752	SU CA	for an and the second sec				L			·			City:M	Br in. Op. Ten		0
Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Influent Vacuum (In. H ₂ O)	System Flowrate	Total Well Flow (acfm)	Avarage Well Influent Conc. ppm(v)	Average System Influent Conc. ppm(v)	System Influent O ₂ Conc. %	Flow Pres / Vac (In. H ₂ O)	Flow Temp. (°F)	Adsorber Inlet Temp. (°F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Conc. ppm(V)	System Combustion Temp (°F)	Temp. Below Cat. Bed (°F)	Temp. Above Cat. Bed (°F)
3/30/12		61141	Contraction of the local division of the loc									450	4		625	620	700
41			SP	55		1607			28								
#2				45		125			29								
43				60		270			30								
44				54		200			20								
																	<u> </u>
<u></u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>	1	1		+			-					

Vapor Extraction System Maintenance Service Record

Date	Electric Meter Reading	Blower Amperage	Changed Process Filter		Test Safety Interlock System	Replaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flarne	Replaced Chart Pens or Paper	Inspect Fire Suppression Device	Carbon Change- Ouí	Automatic System Shut Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Comments
															· ·
Notes:		Ueloci #	+		Tote	1 Ial	+=	987	DS E	pm			<u>.</u>		
			12 2	18	45						·····	· · · · · · · · · · · · · · · · · · ·			
		E	13=	20	00	1									

14= 1900

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Station No: Max Flow Ra	PCF te (scfm): _	<u>#352</u> 25	TU CF	2			Vapoi Voc O		ion Sys	stem D)ata She	,			Io m.n In. Op. Ter		an and a second second second second second second second second second second second second second second seco
Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Influent Vacuum (In. H ₂ O)	System Flowrate	Totał Well Flow (acfm)	Average Well Influent Conc. ppm(v)	Avəragə System Influent Conc. ppm(v)	System Influent O ₂ Conc. %	Flow Pres / Vac (In. H ₂ O)	Flow Temp. (°F)	Adsorber Inlet Temp. (°F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Conc. pprn(V)	System Combustion Temp (°F)	Temp. Below Cat. Bed (°F)	Temp. Above Cat. Bed (°F)
4/10/2	4	61410	38	190	190		492								610	692	680
61							1262		21								
#2						· · · · · · · · · · · · · · · · · · ·	298	1	20								
# 3						· · · · · · · · · · · · · · · · · · ·	272		22								
44							325		31								
													+				
			<u> </u>			- 167 T - 4											
			+					<u> </u>	1			1					

Date	Electric Meter Reading	Blower Amperage	Changed Process Filler	Changed Dilution Filter	Test Safety Interlock System	Repfaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flame		Inspect Fire Suppression Device	Carbon Chang e- Oul	Automatic System Shut- Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Commenis
4/10/12		14.5			oK	OK				Wangga.		oK			· · · · · · · · · · · · · · · · · · ·
												-			
			<u> </u>			<i>a</i> 1	7		20			and the second se	<u></u>		
Notes:	(Je loci	t-/	= 7	22010	<u>ta/e7</u>		7800	DE	m					· · · · · · · · · · · · · · · · · · ·
			<u><u> </u></u>	2	1900)									
			- <u></u> #7		2010	2					<u></u>			****	
			Hy	2 (1875										

Station No: Max Flow Rat	PCF#352	2250					Voc O	ut: <u>11</u> .	6		-			City: ^E M	in. Op. Ter	DN, WA	
Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Vacuum (In. H ₂ O)		Total Well Flow (acfm)	Average Well Influent Conc. ppm(v)	Average System Influent Conc. ppm(v)			Flow Temp. (°F)	Adsorber Inlet Temp. (°F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Conc. ppm(V)		Temp. Below Cat. Bed (°F)	Temp. Above Cat. Bed (°F)
05/15/2012	4	622448	45	170	45	1199									650	650	699
#1			32.5	45		296											
#2			26	40		767										•	
#3		·	26	40		638											
#4			28.6	45		1125											
05/30/2012	4	622808	48	176		1009									650	650	677
#1			36	45		250											
#2			26	45		600											
#3			26	45		555											
#4			30	44		980										-	
					-							-					
					:	T											

05/15/2012	14.6	-1	1	A			or Flame	or Paper	Device	Out	System Shul- Down Test	Monitor	Serviced	
	14.0	OK	ок	ок	NA	NA	NA	NA	ОК	NA	OK	NA	NA	
05/30/2012	14.2	ок	OK	OK	NA	NA	NA	NA	OK	NA	OK	NA	NA	
		İ												
Noles:	ON	MAY 15,	2012	AIR SA	MPLES WE	RE COLLE	CTED FROM	I INLET	/OUTLET	PORTS I	AKEN TO	ESN LA	BORATOR	RIES OLYMPIA, WA
	ON	MAY 30	, 2012	THE SY	stem was	OPERATI	NG AT TEI	MPERATU	RE CONCI	ENTRATIC	ONS LOWE	R, WATE	ER IN KN	NOCKOUT TANK
														· · · · · · · · · · · · · · · · · · ·
				1.										

Station No: Max Flow Rat	PCF#35: te (scfm):	2250) CFM				Voc C	Out:11.	6			,		City: M	BREMERT	ON, WA	0 F
Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Influent Vacuum (In. H ₂ O)	System Flowrate (acfm)	Total Well Flow (acfm)	Average Well Influent Conc. ppm(v)	Average System Influent Conc. ppm(v)	System Influent O ₂ Conc. %	Flow Pres / Vac (In. H ₂ O)	Flow Temp. (°F)	Adsorber Inlet Temp. (°F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Conc. ppm(V)	System Combustion Temp (°F)	Temp. Below Cat. Bed (ºF)	Temp. Above Ca Bed (°F)
06/19/2012	4	63087/8	45	160		660						3			600	600	602
#1	100%	<u></u>	34	45	4Ó	692	400										
#2	100%		35	40	38	780	560										
#3	50%		34	40	40	800	630	<u></u>									
#4	closed										1						
						1											
						700						-					
06/30/2012	4	63351/2	59	176		700						5			650	650	687
#1	100용		54	45		680											
#2	50%		30	45	- -	230											
#3	closed		0	0				· · · · · · · · · · · · · · · · · · ·									
#4	closed		0	0		-											
					:												

Date	Electric Meter Reading	Blower Amperage	Changed Process Filter		Test Safety Interlock System	Replaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flame		Inspect Fire Suppression Device	Carbon Change- Out	Automatic System Shut- Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Comments
06/19/2012		14.5	OK	OK	ОК	NA	NA	NA	NA	ОК	NA	OK	NA	NA	
06/30/2012		14.3	ОК	OK	OK	NA	NA	NA	NA	OK	NA	OK	NA	NA	
Notes:		ON J	UNE 19	, 2012	2 AIR S	AMPLES W	ERE COLLE	ECTED FRO	M INLE	r/outlei	PORTS	TAKEN TO) ESN L	ABORATO	RIES OLYMPIA, WA
		ON J	UNE 30), 201	2 THE S	YSTEM WA	S OPERAT	ING AT TH	EMPERAT	URE CON	CENTRATI	IONS WER	E LOWEF	R AND CI	JOSED #3 & #4 TO
		TRY	AND GE	T HIG	HER CON	CENTRATI	ONS. RA	ISED THE	COMBUS	TION CHA	AMBER TH	EMPERATU	RE TO 6	50f.	
					<u> </u>										

Station No: Max Flow Ra	PCF#35. te (scfm):	2250) CFM				Voc C	9ut: <u>8</u> .						City: ^E M	BREMERT	ON, WA	0 F
Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Influent Vacuum (In. H ₂ O)	System Flowrate (acfm)	Total Well Flow (acfm)	Average Well Influent Conc. ppm(v)	Average System Influent Conc. ppm(v)	System Influent O ₂ Conc. %	Flow Pres / Vac (In. H ₂ O)	Flow Temp. (°F)	Adsorber Inlet Temp. (°F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Conc. ppm(V)	System Combustion Temp (°F)		Temp. Above Cat Bed (°F)
07/17/2012	4	63668/8	55	140		948	300					8.4			650	680	700
#1	100%		42	80	40	220											
#2	100%		40	80	:38	200											
#3	50%		34	60	40	85											
#4	closed				· · · · · · · · · · · · · · · · · · ·											<u></u>	
07/31/2012	4	63668/8	59	176	:	400	200					9			650	650	687
#1	100%		54	67		280	180										
#2	100%		55	59		230	100										
#3	closed		0	0													
#4	closed		0	0				-									
					1												

Date	Electric Meter Reading	Blower Amperage	Changed Process Filter	-	Test Safety Interlock System	Replaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flame		Inspect Fire Suppression Device	Carbon Change- Out	Automatic System Shut- Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Comments
07/17/2012	13991	14.5	ОК	OK	OK	NA	NA	NA	NA	ОК	NA	OK	NA	NA	
07/31/2012		12.6	OK	ОК	OK	NA	NA	NA	NA	OK	NA	ОК	NA	NA	
											······································				
Notes:		SYST	EM OFF	' AT AI	RRIVAL	ON JULY :	17, 2012	LIKELY A	STORM	EVENT A	ND POWE	R OUTAGI	E IN TH	ie area	07/15/12.
		ON J	ULY 17	, 2012	2 AIR S	AMPLES W	ERE COLLE	ECTED FRO	M INLE	r/outlei	PORTS	TAKEN TO	D ESN L	ABORATC	RIES OLYMPIA, WA
		ON J	UNE 30), 201	2 THE S	YSTEM WA	S OPERAT	ING AT TH	EMPERAT	URE CON	CENTRATI	ONS WER	E LOWEF	R AND CI	LOSED #3 & #4 TO
		TRY	AND GI	ET HIG	HER CON	CENTRATI	ONS. RA	ISED THE	COMBUS	TION CHA	AMBER TE	MPERATU	RE TO 6	550f.	

Station No:	PCF#35	2			- 	and and a	. :	. 10				r		City:1	BREMERT	ON, WA	
Max Flow Rat	te (scfm):	250	CFM		· · · · ·		Voc.C	ut: <u>10</u>						M	lin. Op. Ter	np: <u>63(</u>	<u>) F</u>
Date	# of Wells (Zones) On-Line	Cumulative Operating Hours	Influent Vacuum (In_H ₂ O)	System Flowrate (acfm)	Total Well Flow (acfm)	Average Well Influent Conc. ppm(v)	Average System Influent Conc. ppm(v)	System Influent O ₂ Conc. %	Flow Pres / Vac (In. H ₂ O)	Flow Temp. (°F)	Adsorber Inlet Temp. ("F)	Effluent (A) Conc. ppm(V)	Effluent (B) Conc. ppm(V)	Effluent (C) Conc. ppm(V)	System Combustion Temp ("F)	Temp. Below Cal. Bed (°F)	Temp. Above Cat. Bed (°F)
08/15/2012	-4	63740/4	65	90		1200									650	650	699
#1			52.5	40	-	306											
#2			50	40	:.	445											
#3			.50	40		500											
#4			OFF	OFF		OFF											
					: :												
08/20/2012	4	63812/2	48	176	:	1678	· · · · · · · · · · · · · · · · · · ·								650	650	677
#1			36	45	: 	2065							i				
#2			34	45		802											
#3			35	45		462											
#4			OFF	OFF	• •	OFF											
					•												
					± 2.								in etter og utter				

Dạte	Electric Meter Reading	Blower Amperage	Changed Process Filler		Test Safety Interlock System	Replaced V-Belts	Changed Blower Oil	Replaced UV Scanner or Flame		Inspect Fire Suppression Device	Carbon Change- Out	Automatic System Shut Down Test	Calibrate VOC Monitor	Holding Tamk Serviced	Comments
08/15/2012		15.6	ок	OK	OK	NA	NA	NA.	NA	ок	NA	OK	NA	NA	
08/20/2012	14460	14.8	OK	OK	ок	NA	NA	NA	NA	ок	NA	OK	NA	NA	
														-	
Notes: •		on a	UGUST	20, 20	012 AIR	SAMPLES	WERE COI	LLECTED F	ROM IN	let/outi	LET PORT	s taken	TO ESN	I LABORA	ATORIES OLYMPIA, WA
		THE	SYSTEM	1 SHUT	S DOWN	DUE TO I	OW PRESS	URE THE A	AIRFLOW	IS RED	UCING OV	ER TIME	LIKELY	PLUGGI	ED CAT-CELL.
		SET	THE BU	JRNER	TEMPERA	TURE TO	630 F TO	TRY AND	INCREA	SE THE	REMOVAL	EFFECIE	NCY.		
										i					
				74 5											