

8394 / 471259 /

RELEASE 471259
TOSCO 6380
BELLINGHAM

DATE: January 12, 2000

**TOSCO MARKETING COMPANY
GROUNDWATER MONITORING REPORT**

Site No.: 6380 Address: 200 South 36th Street, Bellingham, WA
Tosco Project Manager: Timothy D. Johnson
Consultant /Contact Person: Environmental Resolutions, Inc./John Meyer
Primary Agency/Regulatory ID No.: Washington State Department of Ecology

WORK PERFORMED THIS QUARTER(S) [Fourth - 1999]:
• Monitored, purged, and sampled 4 groundwater monitoring wells

WORK PROPOSED FOR NEXT QUARTER [First - 2000]:
• Monitor, purge, and sample 4 monitoring wells

SUMMARY:

Frequency of Sampling Events:	Quarterly	(Quarterly, etc.)
Approximate Depth to Groundwater:	5 to 8 ft	(Measured Feet)
Groundwater Gradient:	Northerly and Easterly	(Direction)
	0.005 ft/ft	(Magnitude)
Maximum TPH-G/Benzene Concentrations:	94.7/ND	(ppb)
✓ Measurable Free Product Detected:	No	(Yes - ID wells(s)/No)
Free Product Recovered This Quarter:	Not Applicable	(gallons)
Cumulative Free Product Recovered to Date:	Not Applicable	(gallons)
Bulk Soil Removed This Quarter:	Unknown	(cubic yards)
Water Wells or Surface Waters w/in a 2000'	Unknown	(Distance &
Radius and Respective Direction:	Not Applicable	Direction)
Current Remedial Action:	None	(SVE/AS/P&T etc.)
Permits for Discharge:	None	(NPDES, POTW, etc.)

DISCUSSION:

- Lead concentrations were above MTCA Method A Cleanup Levels in 3 of 4 wells.

ATTACHMENTS:

- Plate P-1 - Groundwater Sample Analyses Map, 12/07/99
- Table 1 - Groundwater Analytical Results
- Laboratory Reports and Chain of Custody Records
- Field Data Records

Prepared By:

John K. Meyer, R.G.
Environmental Resolutions, Inc.

cc: Ecology NW Region

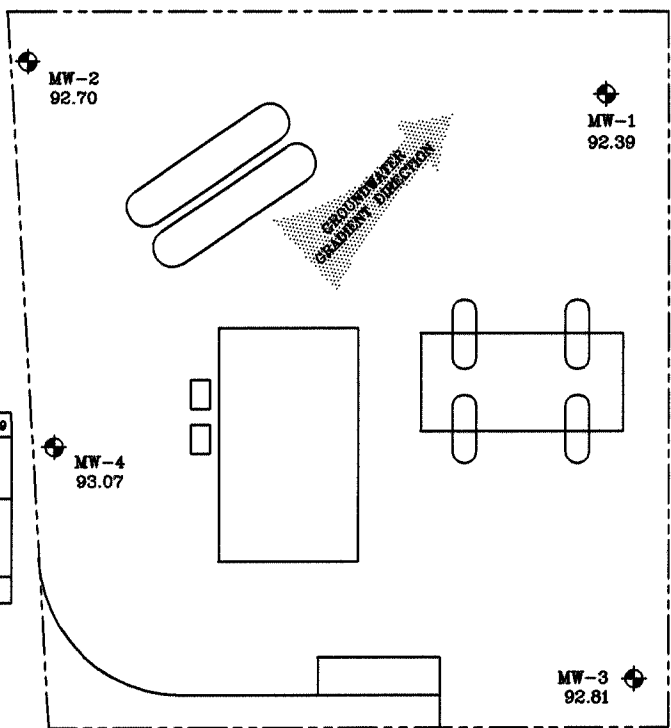
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5/25/99	8/12/99	12/07/99
ND	ND	ND
ND	281	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
---	---	17.0

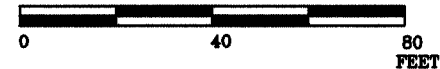
5/25/99	8/12/99	12/07/99
ND	ND	ND
ND	---	ND
ND	---	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
---	---	6.18

5/25/99	8/12/99	12/07/99
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
---	---	10.2

5/25/99	8/12/99	12/07/99
210	56.3	94.7
383	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	0.598
3.04	0.732	ND
3.93	1.84	ND
---	---	4.40



APPROXIMATE SCALE



Laboratory Results
in ug/L (ppb)

5/25/99	Sample Date	5/25/99	Sample Date
210	Total Petroleum Hydrocarbons as Gasoline	210	Total Petroleum Hydrocarbons as Gasoline
383	Total Petroleum Hydrocarbons as Diesel	383	Total Petroleum Hydrocarbons as Diesel
ND	Total Petroleum Hydrocarbons as Oil	ND	Total Petroleum Hydrocarbons as Oil
ND	Benzene	ND	Benzene
ND	Toluene	ND	Toluene
3.04	Ethylbenzene	3.04	Ethylbenzene
3.93	Total Xylenes	3.93	Total Xylenes
---	Total Lead	---	Total Lead

Numbers in Red Exceed
MTCA Method A Cleanup Levels
ND = Not Detected
--- = Not Analyzed

SOURCE: Modified
from maps provided by
Tosco Marketing Company

FN 6380

GROUNDWATER SAMPLE ANALYSES MAP - 12/07/99

TOSCO FACILITY 6380
200 South 36th Street
Bellingham, Washington

EXPLANATION

- ◆ MW-3 Groundwater Monitoring Well
- 92.85 Relative Groundwater Elevation

PROJECT NO.

31065

PLATE

P-1

cc: 01/12/00



TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Facility 6380
200 South 36th Street
Bellingham, Washington
Page 1 of 1

Well Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	B	T	E	X	Total Pb
MW-1	3/11/99	4.96	93.53	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	2.41
98.49	5/25/99	5.33	93.16	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--
	8/12/99	6.66	91.83	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	--
	12/07/99	6.10	92.39	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	6.18
MW-2	3/11/99	7.93	92.81	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	162
100.74	5/25/99	8.18	92.56	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--
	8/12/99	8.94	91.80	<50.0	281	<750	<0.500	<0.500	<0.500	<1.00	--
	12/07/99	8.04	92.70	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	17.0
MW-3	3/11/99	4.93	92.91	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	6.35
97.84	5/25/99	5.19	92.65	210	383	<750	<0.500	<0.500	3.04	3.93	--
	8/12/99	5.70	92.14	56.3	<250	<750	<0.500	<0.500	0.732	1.84	--
	12/07/99	5.03	92.81	94.7	<250	<750	<0.500	0.598	<0.500	<1.00	4.40
MW-4	3/11/99	6.39	93.05	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	29.0
99.44	5/25/99	6.62	92.82	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--
	8/12/99	7.31	92.13	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	--
	12/07/99	6.37	93.07	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	10.2
MTCA Method A Cleanup Level				1,000 ^a			5	40	30	20	5

EXPLANATION:

All concentrations in ug/L (ppb).

Wellhead elevations taken from prior consultants reports.

DTW = Depth to water in feet below top of casing.

GW Elev. = Groundwater elevation relative to top of casing elevation.

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Ecology Method WTPH-G.

TPH-D and TPH-O = Total Petroleum Hydrocarbons as Diesel and Oil, respectively, by Ecology Method WTPH-D (extended).

B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes.

BTEX = Aromatic compounds by EPA Method 8020.

Total Pb = Total lead by EPA Method 7421.

-- = Not analyzed or no data.

< = Less than the stated laboratory reporting limit.

Shaded values equal or exceed MTCA Method A Cleanup Levels.

^a Total Petroleum Hydrocarbons

Data collected before 05/26/99 are taken from prior consultants.



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28 December, 1999

John Meyer
ERI
1921 Edmonds Drive SE
Renton, WA 98055

RE: Tosco #6380

Enclosed are the results of analyses for samples received by the laboratory on 12/07/99 15:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steve Davis
Project Manager



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ERI
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 Renton WA, 98055

Project: Tosco #6380
 Project Number: 31065
 Project Manager: John Meyer

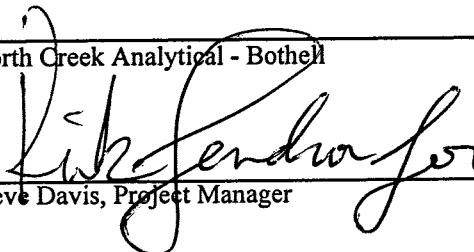
Reported:
 12/28/99 14:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	B9L0131-01	Water	12/07/99 12:00	12/07/99 15:10
MW-2	B9L0131-02	Water	12/07/99 12:00	12/07/99 15:10
MW-3	B9L0131-03	Water	12/07/99 12:00	12/07/99 15:10
MW-4	B9L0131-04	Water	12/07/99 12:00	12/07/99 15:10

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 1921 Edmonds Drive SE
 Renton WA, 98055

Project: Tosco #6380
 Project Number: 31065
 Project Manager: John Meyer

Reported:
 12/28/99 14:50

**Gasoline Range Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (B9L0131-01) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	9L08011	12/08/99	12/08/99	WTPH-G/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)		97.9 %	50-150		"	"	"	"	
Surrogate: 4-BFB (PID)		97.1 %	50-150		"	"	"	"	
MW-2 (B9L0131-02) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	9L08011	12/08/99	12/08/99	WTPH-G/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)		96.3 %	50-150		"	"	"	"	
Surrogate: 4-BFB (PID)		95.8 %	50-150		"	"	"	"	
MW-3 (B9L0131-03) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Gasoline Range Hydrocarbons	94.7	50.0	ug/l	1	9L08011	12/08/99	12/08/99	WTPH-G/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	0.598	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)		97.1 %	50-150		"	"	"	"	
Surrogate: 4-BFB (PID)		93.5 %	50-150		"	"	"	"	

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ERI 1921 Edmonds Drive SE Renton WA, 98055	Project: Tosco #6380 Project Number: 31065 Project Manager: John Meyer	Reported: 12/28/99 14:50
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Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by NWTPH-G and EPA 8021B
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (B9L0131-04) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	9L08021	12/09/99	12/09/99	WTPH-G/8021B	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)		99.0 %	50-150		"	"	"	"	
Surrogate: 4-BFB (PID)		95.8 %	50-150		"	"	"	"	

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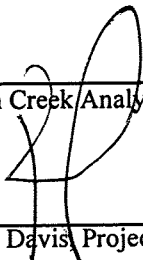
Reported:
 12/28/99 14:50

Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (B9L0131-01) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	9L09004	12/09/99	12/10/99	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
<i>Surrogate: 2-FBP</i>		80.5 %	50-150		"	"	"	"	
MW-2 (B9L0131-02) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	9L09004	12/09/99	12/10/99	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
<i>Surrogate: 2-FBP</i>		73.1 %	50-150		"	"	"	"	
MW-3 (B9L0131-03) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	9L09004	12/09/99	12/10/99	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
<i>Surrogate: 2-FBP</i>		84.2 %	50-150		"	"	"	"	
MW-4 (B9L0131-04) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	9L09004	12/09/99	12/10/99	WTPH-D	
Heavy Oil Range Hydrocarbons	ND	0.750	"	"	"	"	"	"	
<i>Surrogate: 2-FBP</i>		69.9 %	50-150		"	"	"	"	

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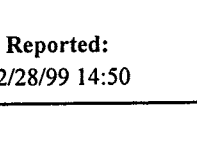
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**Total Metals by EPA 6000/7000 Series Methods
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (B9L0131-01) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Lead	0.00618	0.00100	mg/l	1	9L08012	12/08/99	12/11/99	EPA 6020	
MW-2 (B9L0131-02) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Lead	0.0170	0.00100	mg/l	1	9L08012	12/08/99	12/11/99	EPA 6020	
MW-3 (B9L0131-03) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Lead	0.00440	0.00100	mg/l	1	9L08012	12/08/99	12/11/99	EPA 6020	
MW-4 (B9L0131-04) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Lead	0.0102	0.00100	mg/l	1	9L08012	12/08/99	12/11/99	EPA 6020	

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Project: Tosco #6380
 Project Number: 31065
 Project Manager: John Meyer

Reported:
 12/28/99 14:50

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (B9L0131-04) Water Sampled: 12/07/99 12:00 Received: 12/07/99 15:10									
Bromodichloromethane	ND	1.00	ug/l	1	9L13016	12/13/99	12/13/99	EPA 8021B	
Bromoform	ND	1.00	"	"	"	"	"	"	
Bromomethane	ND	1.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.00	"	"	"	"	"	"	
Chlorobenzene	ND	1.00	"	"	"	"	"	"	
Chloroethane	ND	1.00	"	"	"	"	"	"	
Chloroform	ND	1.00	"	"	"	"	"	"	
Chloromethane	ND	1.00	"	"	"	"	"	"	
Dibromochloromethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	
Methylene chloride	ND	5.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	"	
Tetrachloroethene	ND	1.00	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	"	
Trichloroethene	ND	1.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	"	
Vinyl chloride	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (ELCD)		117 %		50-150	"	"	"	"	

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 1921 Edmonds Drive SE Project Number: 31065
 Renton WA, 98055 Project Manager: John Meyer
 Reported: 12/28/99 14:50

Gasoline Range Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B - Quality Control
 North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
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Batch 9L08011: Prepared 12/08/99 Using EPA 5030B (P/T)

Blank (9L08011-BLK1)

Gasoline Range Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surrogate: 4-BFB (FID)	46.6		"	48.0		97.1	50-150			
Surrogate: 4-BFB (PID)	46.6		"	48.0		97.1	50-150			

LCS (9L08011-BS1)

Gasoline Range Hydrocarbons	515	50.0	ug/l	500		103	70-130			
Surrogate: 4-BFB (FID)	50.7		"	48.0		106	50-150			

Duplicate (9L08011-DUP1)

Source: B9L0130-01

Gasoline Range Hydrocarbons	15800	5000	ug/l		17700			11.3	25	
Surrogate: 4-BFB (FID)	43.5		"	48.0		90.6	50-150			

Duplicate (9L08011-DUP2)

Source: B9L0133-04

Gasoline Range Hydrocarbons	272	250	ug/l		266			2.23	25	
Surrogate: 4-BFB (FID)	40.9		"	48.0		85.2	50-150			

Matrix Spike (9L08011-MS1)

Source: B9L0130-03

Benzene	9.20	0.500	ug/l	10.0	0.0874	91.1	70-130			
Toluene	9.28	0.500	"	10.0	0.0894	91.9	70-130			
Ethylbenzene	9.73	0.500	"	10.0	0.0760	96.5	70-130			
Xylenes (total)	29.3	1.00	"	30.0	0.263	96.8	70-130			
Surrogate: 4-BFB (PID)	47.4		"	48.0		98.8	50-150			

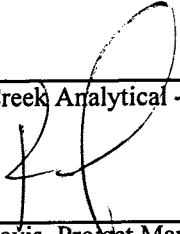
Matrix Spike Dup (9L08011-MSD1)

Source: B9L0130-03

Benzene	9.61	0.500	ug/l	10.0	0.0874	95.2	70-130	4.36	15	
Toluene	9.58	0.500	"	10.0	0.0894	94.9	70-130	3.18	15	
Ethylbenzene	10.0	0.500	"	10.0	0.0760	99.2	70-130	2.74	15	
Xylenes (total)	30.0	1.00	"	30.0	0.263	99.1	70-130	2.36	15	
Surrogate: 4-BFB (PID)	47.1		"	48.0		98.1	50-150			

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ERI 1921 Edmonds Drive SE Renton WA, 98055	Project: Tosco #6380 Project Number: 31065 Project Manager: John Meyer	Reported: 12/28/99 14:50
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Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by NWTPH-G and EPA 8021B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9L08021: Prepared 12/08/99 Using EPA 5030B (P/T)

Blank (9L08021-BLK1)

Gasoline Range Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Methyl tert-butyl ether	ND	5.00	"							
Surrogate: 4-BFB (FID)	46.1		"	48.0		96.0	50-150			
Surrogate: 4-BFB (PID)	45.5		"	48.0		94.8	50-150			

Blank (9L08021-BLK2)

Gasoline Range Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Methyl tert-butyl ether	ND	5.00	"							
Surrogate: 4-BFB (FID)	43.0		"	48.0		89.6	50-150			
Surrogate: 4-BFB (PID)	43.6		"	48.0		90.8	50-150			

LCS (9L08021-BS1)

Gasoline Range Hydrocarbons	495	50.0	ug/l	500		99.0	70-130			
Surrogate: 4-BFB (FID)	52.6		"	48.0		110	50-150			

Duplicate (9L08021-DUP1)

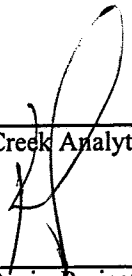
Source: B9L0142-06

Gasoline Range Hydrocarbons	2090	1000	ug/l		2270			8.26	25	
Surrogate: 4-BFB (FID)	50.3		"	48.0		105	50-150			

Duplicate (9L08021-DUP2)

Source: B9L0142-07

Gasoline Range Hydrocarbons	1950	1000	ug/l		1910			2.07	25	
Surrogate: 4-BFB (FID)	48.6		"	48.0		101	50-150			

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ERI 1921 Edmonds Drive SE Renton WA, 98055	Project: Tosco #6380 Project Number: 31065 Project Manager: John Meyer	Reported: 12/28/99 14:50
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Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by NWTPH-G and EPA 8021B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9L08021: Prepared 12/08/99 Using EPA 5030B (P/T)

Matrix Spike (9L08021-MS1)				Source: B9L0142-01						
Benzene	10.0	0.500	ug/l	10.0	ND	100	70-130			
Toluene	10.2	0.500	"	10.0	ND	102	70-130			
Ethylbenzene	10.2	0.500	"	10.0	ND	102	70-130			
Xylenes (total)	29.8	1.00	"	30.0	ND	99.3	70-130			
Methyl tert-butyl ether	10.0	5.00	"	10.0	ND	100	70-130			
Surrogate: 4-BFB (PID)	50.5		"	48.0		105	50-150			

Matrix Spike Dup (9L08021-MSD1)				Source: B9L0142-01						
Benzene	10.2	0.500	ug/l	10.0	ND	102	70-130	1.98	15	
Toluene	10.3	0.500	"	10.0	ND	103	70-130	0.976	15	
Ethylbenzene	10.2	0.500	"	10.0	ND	102	70-130	0	15	
Xylenes (total)	29.9	1.00	"	30.0	ND	99.7	70-130	0.335	15	
Methyl tert-butyl ether	10.5	5.00	"	10.0	ND	105	70-130	4.88	15	
Surrogate: 4-BFB (PID)	50.8		"	48.0		106	50-150			

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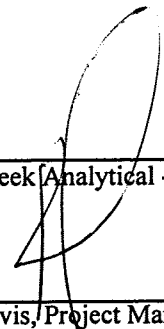


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ERI Project: Tosco #6380
 1921 Edmonds Drive SE Project Number: 31065
 Renton WA, 98055 Project Manager: John Meyer
 Reported: 12/28/99 14:50

**Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9L09004: Prepared 12/09/99 Using EPA 3520C/600 Series										
Blank (9L09004-BLK1)										
Diesel Range Hydrocarbons	ND	0.250	mg/l							
Heavy Oil Range Hydrocarbons	ND	0.750	"							
<i>Surrogate: 2-FBP</i>	<i>0.236</i>		"	<i>0.320</i>		<i>73.8</i>	<i>50-150</i>			
LCS (9L09004-BS1)										
Diesel Range Hydrocarbons	1.79	0.250	mg/l	2.00		89.5	60-140			
<i>Surrogate: 2-FBP</i>	<i>0.260</i>		"	<i>0.320</i>		<i>81.2</i>	<i>50-150</i>			
Duplicate (9L09004-DUP1) Source: B9L0126-12										
Diesel Range Hydrocarbons	0.737	0.524	mg/l		0.394			60.7	44	Q-05
Heavy Oil Range Hydrocarbons	ND	1.57	"		ND				44	
<i>Surrogate: 2-FBP</i>	<i>0.635</i>		"	<i>0.671</i>		<i>94.6</i>	<i>50-150</i>			
Duplicate (9L09004-DUP2) Source: B9L0126-13										
Diesel Range Hydrocarbons	0.678	0.493	mg/l		0.470			36.2	44	
Heavy Oil Range Hydrocarbons	ND	1.48	"		0.216			72.9	44	Q-05
<i>Surrogate: 2-FBP</i>	<i>0.534</i>		"	<i>0.631</i>		<i>84.6</i>	<i>50-150</i>			

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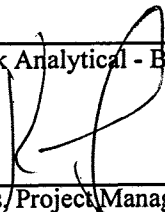


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ERI 1921 Edmonds Drive SE Renton WA, 98055	Project: Tosco #6380 Project Number: 31065 Project Manager: John Meyer	Reported: 12/28/99 14:50
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**Total Metals by EPA 6000/7000 Series Methods - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9L08012: Prepared 12/08/99 Using EPA 3020A										
Blank (9L08012-BLK1)										
Lead	ND	0.00100	mg/l							
LCS (9L08012-BS1)										
Lead	0.202	0.00100	mg/l	0.200		101	80-120			
Matrix Spike (9L08012-MS1) Source: B9L0128-01										
Lead	0.213	0.00100	mg/l	0.200	0.00323	105	75-125			
Matrix Spike Dup (9L08012-MSD1) Source: B9L0128-01										
Lead	0.216	0.00100	mg/l	0.200	0.00323	106	75-125	1.40	20	

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ERI
 1921 Edmonds Drive SE
 Renton WA, 98055

Project: Tosco #6380
 Project Number: 31065
 Project Manager: John Meyer

Reported:
 12/28/99 14:50

Halogenated Volatile Organics by EPA Method 8021B (modified) - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9L13016: Prepared 12/13/99 Using EPA 5030B [P/T]

Blank (9L13016-BLK1)

Bromodichloromethane	ND	1.00	ug/l							
Bromoform	ND	1.00	"							
Bromomethane	ND	1.00	"							
Carbon tetrachloride	ND	1.00	"							
Chlorobenzene	ND	1.00	"							
Chloroethane	ND	1.00	"							
Chloroform	ND	1.00	"							
Chloromethane	ND	1.00	"							
Dibromochloromethane	ND	1.00	"							
1,2-Dichlorobenzene	ND	1.00	"							
1,3-Dichlorobenzene	ND	1.00	"							
1,4-Dichlorobenzene	ND	1.00	"							
1,1-Dichloroethane	ND	1.00	"							
1,2-Dichloroethane	ND	1.00	"							
1,1-Dichloroethene	ND	1.00	"							
cis-1,2-Dichloroethene	ND	1.00	"							
trans-1,2-Dichloroethene	ND	1.00	"							
1,2-Dichloropropane	ND	1.00	"							
cis-1,3-Dichloropropene	ND	1.00	"							
trans-1,3-Dichloropropene	ND	1.00	"							
Methylene chloride	ND	5.00	"							
1,1,2,2-Tetrachloroethane	ND	1.00	"							
Tetrachloroethene	ND	1.00	"							
1,1,1-Trichloroethane	ND	1.00	"							
1,1,2-Trichloroethane	ND	1.00	"							
Trichloroethene	ND	1.00	"							
Trichlorofluoromethane	ND	1.00	"							
Vinyl chloride	ND	1.00	"							
<i>Surrogate: 4-BFB (ELCD)</i>	<i>11.5</i>		<i>"</i>	<i>10.0</i>		<i>115</i>	<i>50-150</i>			

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ERI 1921 Edmonds Drive SE Renton WA, 98055	Project: Tosco #6380 Project Number: 31065 Project Manager: John Meyer	Reported: 12/28/99 14:50
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Halogenated Volatile Organics by EPA Method 8021B (modified) - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9L13016: Prepared 12/13/99 Using EPA 5030B [P/T]

LCS (9L13016-BS1)

Chlorobenzene	8.87	1.00	ug/l	10.0		88.7	70-130			
1,1-Dichloroethene	9.17	1.00	"	10.0		91.7	70-130			
Trichloroethene	9.86	1.00	"	10.0		98.6	70-130			
<i>Surrogate: 4-BFB (ELCD)</i>	<i>10.7</i>		<i>"</i>	<i>10.0</i>		<i>107</i>	<i>50-150</i>			

Matrix Spike (9L13016-MS1)

Source: B9L0206-03

Chlorobenzene	9.02	1.00	ug/l	10.0	ND	90.2	70-130			
1,1-Dichloroethene	9.18	1.00	"	10.0	ND	91.8	70-130			
Trichloroethene	10.0	1.00	"	10.0	ND	100	70-130			
<i>Surrogate: 4-BFB (ELCD)</i>	<i>11.0</i>		<i>"</i>	<i>10.0</i>		<i>110</i>	<i>50-150</i>			

Matrix Spike Dup (9L13016-MSD1)

Source: B9L0206-03

Chlorobenzene	9.11	1.00	ug/l	10.0	ND	91.1	70-130	0.993	20	
1,1-Dichloroethene	9.56	1.00	"	10.0	ND	95.6	70-130	4.06	20	
Trichloroethene	10.1	1.00	"	10.0	ND	101	70-130	0.995	20	
<i>Surrogate: 4-BFB (ELCD)</i>	<i>10.7</i>		<i>"</i>	<i>10.0</i>		<i>107</i>	<i>50-150</i>			

North Creek Analytical - Bothell

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ERI
 1921 Edmonds Drive SE
 Renton WA, 98055

Project: Tosco #6380
 Project Number: 31065
 Project Manager: John Meyer

Reported:
 12/28/99 14:50

Notes and Definitions

- Q-05 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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TOSCO CHAIN OF CUSTODY REPORT

TOSCO INFORMATION	
Facility Number:	6380
Site Address:	200 S 31st St.
City, State, ZIP:	Bellingham, WA
Site Release Number:	77062002511.200.481.010.01000.256380
Tosco Manager:	Tim Johnson
CERT INFO: (check one) <input checked="" type="checkbox"/> Evaluation <input type="checkbox"/> Remediation	
<input type="checkbox"/> Detection <input type="checkbox"/> Demolition <input type="checkbox"/> Closure <input type="checkbox"/> Miscellaneous	

CONSULTANT INFORMATION	
Firm:	ERT
Project#	31015
Address:	1921 Edmonds Dr SE. Renton, WA 98055
Phone:	425-227-0280
Fax:	425-225
Project Manager:	John Meyer
Sample Collection by:	Chris Carter

Chain of Custody Record #:
B9L0131

Quality Assurance Data Level:
 A B

A: Standard Summary
B: Standard + Chromatog

Laboratory Turnaround Days:
 10 5 3 2 1

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CONTAINERS
1. MW-1	12/7/99	W	4
2. MW-2	↓	↓	4
3. MW-3	↓	↓	4
4. MW-4	↓	↓	6
5.			
6.			
7.			
8.			
9.			
10.			

○ OR ○ WA ○ AK ○ NW Series												
TPH-HCID	TPH-Gas	BTEX EPA 8021 Mod.	TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel Extended	TPH-Diesel-Ext. w/SG Cleanup	Halogen. Volatiles EPA 8021	Pesticides/PCBs or PCBs Only	GC/MS Volatiles EPA 8260	GC/MS SemiVolis. EPA 8270	PAH's: 8270 SIM or 8310	Total or Dissolved TCLP or RCRA Metals (8)
			X	X								X
			X	X								X
			X	X								X
			X	X			X		X			X

NCA SAMPLE NUMBER
B9L0131 -01
-02
-03

Relinquished by:	Firm:	Date & Time	Received by:	Firm:	Date & Time
1. [Signature]	ERT	12/7/99	S. Wideman	NCA	12/7/99 1510
2.					
3.					

Final Report Approval

Were all requested results provided? yes no Define

Were results within requested turnaround? yes no "No" on back

Final Approval Signature: _____

Firm: _____ Date: _____

