LUST 471259 TOSCO# 6380 Bellingham

DATE: March 8, 2002

TOSCO CORPORATION GROUNDWATER MONITORING REPORT

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

WORK PERFORMED THIS QUARTER(S) [First - 2002]:

Monitored, purged, and sampled 4 groundwater monitoring wells.

WORK PROPOSED FOR NEXT QUARTER [First - 2003]:

Monitor, purge, and sample 4 monitoring wells.

SUMMARY:

GUMMARY: Frequency of Sampling Events:	Annually	(Quarterly, etc.)
Approximate Depth to Groundwater:	4 to 8 ft	(Measured Feet)
Groundwater Gradient:	Northerly and Easterly	(Direction)
	0.007 ft/ft	(Magnitude)
Maximum TPH-G/Benzene Concentrations:	838/128	(ppb)
Measurable Free Product Detected:	None	(Yes - ID well(s)/No)
Free Product Recovered This Quarter:	Unknown	(gallons)
Cumulative Free Product Recovered to Date:	Unknown	(gallons)
Bulk Soil Removed This Quarter:	None	(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:

- MW1 contained hydrocarbon concentrations exceeding MTCA Method A Cleanup Levels.
- 3 of 4 wells sampled contained total lead concentrations exceeding the MTCA Method A Cleanup Level.
- Samples were additionally analyzed for total lead, dissolved lead, and turbidity. Refer to official laboratory report for turbidity results.

ATTACHMENTS:

Plate 1: Groundwater Sample Analysis Map - 03/07/02

Table 1: Groundwater Analytical Results

Laboratory Reports and Chain of Custody Records

Field Data Records

Prepared By:

Yukiko Noguchi

Environmental Technician

cc: Ecology NW Region

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APR 1 2 2002

DEPT OF ECOLOGY

Stephen M. Dailey, P.E. Senior Staff Engineer

Reviewed By:

31065GWS

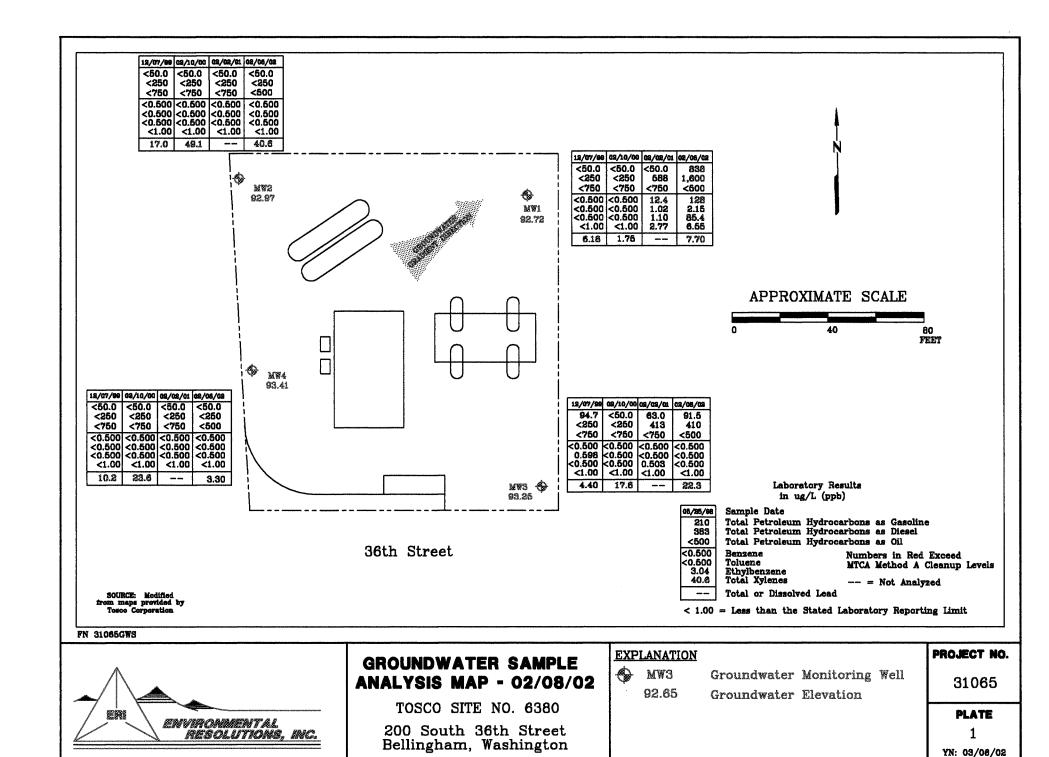


TABLE 1 GROUNDWATER ANALYTICAL RESULTS Tosco Site No. 6380 200 South 36th Street Bellingham, Washington

Page 1 of 1

Vell Name	Sample Date	DTW	GW Elev.	TPH-G	TPH-D	TPH-O	В	<u>T</u>	<u>E</u>	X	Total Pb	Diss.
MW1	03/11/99	4.96	93.53	<50	<250	<750	<0.500	<0,500	<0.500	<1.00	2.41	_
98.49	05/25/99	5.33	93.16	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00		-
00.10	08/12/99	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	
	02/10/00	6.10	92.39	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	1.75	
	02/02/01	5.17	93.32	<50.0	588	<750	12.4	1.02	1.10	2.77		<1.0
	02/08/02	5.77	92.72	1838	1,600	<500	H28	2.15	85.4	6.55	7.70	<1.0
MW2	03/11/99	7.93	92.81	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	162	
100.74	05/25/99	8.18	92.56	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00		
100.74	08/12/99	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	
	02/10/00	8.32	92.42	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	49.1	
	02/02/01	6.40	94.34	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00		<1.0
	02/08/02	7.77	92.97	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	40.6	<1.0
MW3	03/11/99	4.93	92.91	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	6.35	
97.84	05/25/99	5.19	92.65	210	383	<750	<0,500	<0.500	3.04	3.93		
31.04	08/12/99	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	
	02/10/00	4.92	92.92	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	17.6	
	02/02/01	4.76	93.08	63.0	413	<750	<0.500	<0.500	0.503	<1.00		<1.
	02/08/02	4.59	93.25	91.5	410	<500	<0.500	<0.500	<0.500	<1.00	22.3	<1.
MW4	03/11/99	6.39	93.05	<50	<250	<750	<0.500	<0.500	<0.500	<1.00	29.0	
99.44	05/25/99	6.62	92.82	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00		_
JJ.77	08/12/99	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	-
	02/10/00	6.48	92.96	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00	23.6	-
	02/02/01	6.37	93.07	<50.0	<250	<750	<0.500	<0.500	<0.500	<1.00		<1.
	02/08/02	6.03	93.41	<50.0	<250	<500	<0.500	<0.500	<0.500	<1.00	3.30	<1.
	A Cleanup Level				1,000ª		5	40	30	20	5	5

EXPLANATION:

All concentrations in ug/L (ppb).

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 NWTPH-Gx.

TPH-D and TPH-O = Total Petroleum Hydrocarbons as Diesel and Oil, respectively, by Ecology Method NWTPH-Dx.

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

BTEX = Aromatic compounds by EPA Method 8021B.
Total Pb = Total lead by EPA Method 6020.

Diss.Pb = Dissolved lead by EPA 6020.

-- = Not analyzed or sampled.

< = Less than the stated laboratory reporting limit.

Shaded values equal or exceed MTCA Method A Cleanup Levels.

a Total Petroleum Hydrocarbons.

Data collected before 05/25/99 are taken from prior consultants.



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

27 February 2002

John Meyer **ERI**

815 Industry Dr

Tukwila, WA/USA 98188

RE: Tosco #6380

Enclosed are the results of analyses for samples received by the laboratory on 02/08/02 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill Project Manager



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Tukwila WA/USA, 98188

Project: Tosco #6380

Project Number: 1065

Project Manager: John Meyer

Amended Report

Issued: 02/27/02 10:35

ANALYTICAL REPORT FOR SAMPLES - Ameneded

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	B2B0194-01	Water	02/08/02 12:00	02/08/02 15:00
MW2	B2B0194-02	Water	02/08/02 12:00	02/08/02 15:00
MW3	B2B0194-03	Water	02/08/02 12:00	02/08/02 15:00
MW4	B2B0194-04	Water	02/08/02 13:00	02/08/02 15:00

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Project: Tosco #6380

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Project Manager: John Meyer

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Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B North Creek Analytical - Bothell

. 1.	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte	Kesuit	Limit							
MW1 (B2B0194-01) Water	Sampled: 02/08/02 12:00	Received	1: 02/08/02	15:00					
Gasoline Range Hydrocarbo		50.0	ug/l	1	2B19003	02/19/02		NWTPH-Gx/8021B	
Benzene	128	2.50	*	5	n	**	02/19/02		
Toluene	2.15	0.500	**	. 1	Ħ	"	02/19/02	u	
Ethylbenzene	85.4	0.500	• #	Ħ	*	"	**	u	
Xylenes (total)	6.55	1.00	n	Ħ	**	#	n	"	
Surrogate: 4-BFB (FID)	127%	62-139			"	n	"	Ħ	
Surrogate: 4-BFB (PID)	109 %	62-125			"	. #	. #	n .	
MW2 (B2B0194-02) Water	Sampled: 02/08/02 12:00	Received	d: 02/08/02	15:00					
Gasoline Range Hydrocarbons		50.0	ug/l	1	2B19003	02/19/02	02/19/02	NWTPH-Gx/8021B	
Benzene	ND	0.500	**	**	Ħ	**	#	Ħ	
Toluene	ND	0.500	н .	Ħ	**		**	Ħ	
Ethylbenzene	ND	0.500	n	**	11	n ^	#	п	
Xylenes (total)	ND	1.00	н	"	н	**	**	#	
Surrogate: 4-BFB (FID)	96.0 %	62-139			"	"	n	"	
Surrogate: 4-BFB (PID)	97.7 %	62-125			"	"	"	n .	
MW3 (B2B0194-03) Water	Sampled: 02/08/02 12:0	0 Receive	d: 02/08/02	15:00					
Gasoline Range Hydrocarbo	ons 91.5	50.0	ug/l	1	2B19003	02/19/02	02/19/02	NWTPH-Gx/8021B	
Benzene	ND	0.500	**	"	Ħ	Ħ	**	**	
Toluene	ND	0.500	**	11	# ·	11	**	"	
Ethylbenzene	ND	0.500	"	Ħ	#	Ħ	n	11	
Xylenes (total)	ND	1.00		**	**	#	"	H	
Surrogate: 4-BFB (FID)	105 %	62-139			"	n	"	m .	
Surrogate: 4-BFB (PID)	100 %	62-125			"		"	"	

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Tukwila WA/USA, 98188

Project: Tosco #6380

Project Number: 1065

Project Manager: John Meyer

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Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B North Creek Analytical - Bothell

		Reporting						,	
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW4 (B2B0194-04) Water	Sampled: 02/08/02 13:00	Receive	1: 02/08/02	15:00					
Gasoline Range Hydrocarbons	ND	50.0	ug/l	1	2B19003	02/19/02	02/19/02	NWTPH-Gx/8021B	
Benzene	ND	0.500	Ħ	**	**	n	**	п	
Toluene	ND ND	0.500	n	Ħ	#	**	**	**	
Ethylbenzene	ND	0.500	11	n	#	"	11	11	
Xylenes (total)	ND	1.00	*	н	"	#	"	n	
Surrogate: 4-BFB (FID)	83.5 % 6	2-139			#	"	"	"	
Surrogate: 4-BFB (PID)	85.8 %	2-125			•	#	#	. "	•

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Project: Tosco #6380

Project Number: 1065

Project Manager: John Meyer

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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1 (B2B0194-01) Water	Sampled: 02/08/02 12:	00 Received	l: 02/08/02	15:00					
Diesel Range Hydrocarbons	1.60	0.250	mg/l	1	2B12024	02/12/02	02/13/02	NWTPH-Dx	D-03
Lube Oil Range Hydrocarbons	ND	0.500	•	п	11	#	#	**	
Surrogate: 2-FBP	82.0 %	50-121			"	п	"	"	
Surrogate: Octacosane	77.5 %	56-123		•	n	n	"	"	
•	Sampled: 02/08/02 12:	00 Received	1: 02/08/02	15:00					
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	2B12024	02/12/02	02/13/02	NWTPH-Dx	
Lube Oil Range Hydrocarbons	, ND	0.500	**	Ħ	Ħ	#	Ħ	#	
Surrogate: 2-FBP	78.7 %	50-121			"	"	#	**	
Surrogate: Octacosane	82.9 %	56-123			"	"	n	rr .	
-	Sampled: 02/08/02 12:	00 Received	1: 02/08/02	15:00					
Diesel Range Hydrocarbons	0.410	0.250	mg/l	1	2B12024	02/12/02	02/13/02	NWTPH-Dx	
Lube Oil Range Hydrocarbons	ND ND	0.500	11	**	17	n		п	
Surrogate: 2-FBP	89.7 %	50-121			n	"	n	n	
Surrogate: Octacosane	87.6%	56-123			n	"	"	n	
MW4 (B2B0194-04) Water	Sampled: 02/08/02 13:	00 Received	1: 02/08/02	15:00			•		
Diesel Range Hydrocarbons	ND	0.250	mg/l	1	2B12024	02/12/02	02/13/02	NWTPH-Dx	
Lube Oil Range Hydrocarbons	s ND	0.500	**	**		Ħ		n 	
Surrogate: 2-FBP	84.3 %	50-121			#	"	"		
Surrogate: Octacosane	82.6 %	56-123			. #	n	"		

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 Portland
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Project: Tosco #6380

Project Number: 1065

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Total Metals by EPA 6000/7000 Series Methods

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1 (B2B0194-01) Water	Sampled: 02/08/02 12:00	Received	: 02/08/02	15:00					
Lead	0.00770	0.00100	mg/l	1	2B13035	02/13/02	02/14/02	EPA 6020	
MW2 (B2B0194-02) Water	Sampled: 02/08/02 12:00	Received	: 02/08/02	15:00					
Lead	0.0406	0.00100	mg/l	1	2B13035	02/13/02	02/14/02	EPA 6020	
MW3 (B2B0194-03) Water	Sampled: 02/08/02 12:00	Received	: 02/08/02	15:00					
Lead	0.0223	0.00100	mg/l	1	2B13035	02/13/02	02/14/02	EPA 6020	
MW4 (B2B0194-04) Water	Sampled: 02/08/02 13:00	Received	1: 02/08/02	15:00				<u></u>	
Lead	0.00330	0.00100	mg/l	1	2B13035	02/13/02	02/14/02	EPA 6020	

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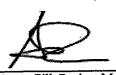
Project Number: 1065 Project Manager: John Meyer

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Dissolved Metals by EPA 6000/7000 Series Methods

North Creek Analytical - Bothell

Amalista	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte									
MW1 (B2B0194-01) Water	Sampled: 02/08/02 12:00	Received	l: 02/08/02	15:00					Q-30
Lead	ND	0.00100	mg/l	1	2B14028	02/14/02	02/15/02	EPA 6020	
MW2 (B2B0194-02) Water	Sampled: 02/08/02 12:00	Received	1: 02/08/02	15:00					Q-30
Lead	ND	0.00100	mg/l	1	2B14028	02/14/02	02/15/02	EPA 6020	
MW3 (B2B0194-03) Water	Sampled: 02/08/02 12:00	Received	1: 02/08/02	15:00					Q-30
Lead	ND	0.00100	mg/l	1	2B14028	02/14/02	02/15/02	EPA 6020	
MW4 (B2B0194-04) Water	Sampled: 02/08/02 13:00	Received	1: 02/08/02	15:00					Q-30
Lead	ND	0.00100	mg/l	1 .	2B14028	02/14/02	02/15/02	EPA 6020	





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Project Number: 1065

Project Manager: John Meyer

Amended Report

Issued: 02/27/02 10:35

Conventional Chemistry Parameters by APHA/EPA Methods North Creek Analytical - Bothell

		Reporting					•		
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1 (B2B0194-01) Water	Sampled: 02/08/02 12:00	Received	: 02/08/02	15:00				····	
Turbidity	326	1.00	NTU	1	2B12002	02/09/02	02/09/02	EPA 180.1	
MW2 (B2B0194-02) Water	Sampled: 02/08/02 12:00	Received	: 02/08/02	15:00					
Turbidity	1520	3.00	NTU	3	2B12002	02/09/02	02/09/02	EPA 180.1	
MW3 (B2B0194-03) Water	Sampled: 02/08/02 12:00	Received	: 02/08/02	15:00				,,,	
Turbidity	545	1.00	NTU	1	2B12002	02/09/02	02/09/02	EPA 180.1	
MW4 (B2B0194-04) Water	Sampled: 02/08/02 13:00	Received	1: 02/08/02	15:00		<u></u>			
Turbidity	251	1.00	NTU	1	2B12002	02/09/02	02/09/02	EPA 180.1	

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Issued: 02/27/02 10:35

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B - Quality Control North Creek Analytical - Bothell

=		Reporting		Spike	Source		%REC		RPD	NT :
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Prepared 02/19/02	Using EP	A 5030B	(P/T)							
K1)										
arbons	ND	50.0	ug/l							
	ND	0.500	**							
	ND	0.500	#7						•	
	ND	0.500	tr							
	ND	1.00	**							
)	43.9		п	48.0		91.5	62-139			
	46.8		H	48.0		97.5	62-125		•	
)										,
	500	50.0	ug/l	500		100	80-120			
	6.49	0.500	**	6.01		108	80-120			
	33.3	0.500	Ħ	35.8		93.0	80-120			
	8.70	0.500	n	8.37		104	80-120			
	41.1	1.00	π	41.4		99.3	80-120			
)	43.5		"	48.0		90.6	62-139			
	42.8		"	48.0		89.2	62-125			
-BSD1)	•									
	522	50.0	ug/l	500		104	80-120	4.31	25	
	6.16	0.500	**	6.01		102	80-120	5.22	40	
	32.1	0.500	n	35.8		89.7	80-120	3.67	40	
	8.42	0.500	11	8.37		101	80-120	3.27	40	
	39.7	1.00	**	41.4		95.9	80-120	3.47	40	
)}	47.9		"	48.0		99.8	62-139			
	43.9		"	48.0		91.5	62-125			
•					Source: I	B2B0194-	02			
	496	50.0	ug/l	500	ND	99.2	70-130			
	6.00		11	6.01	ND	99.8	80-120			
			17	35.8	ND	86.5	75-117			
			**	8.37	ND	96.4	80-120			
	38.2	1.00	**	41.4	ND	92.3	80-120			
) i				48.0		100	62-139			
<i>y</i>))	40.2 44.6		"	48.0		92.9	62-125			
	Prepared 02/19/02 K1) arbons arbons BSD1) carbons 0) 003-MS1) carbons	Result Prepared 02/19/02 Using EF K1) arbons ND ND ND ND ND A3.9 46.8 carbons 500 6.49 33.3 8.70 41.1 9) 43.5 42.8 -BSD1) carbons 522 6.16 32.1 8.42 39.7 9) 47.9 9) 47.9 9) 47.9 9) 47.9 9) 48.2	Result Limit Prepared 02/19/02 Using EPA 5030B (K1) arbons ND 50.0 ND 0.500 ND 0.500 ND 0.500 ND 1.00 43.9 46.8 arbons 500 50.0 6.49 0.500 33.3 0.500 8.70 0.500 41.1 1.00 2) 43.5 42.8 -BSD1) arbons 522 50.0 6.16 0.500 32.1 0.500 8.42 0.500 32.1 0.500 8.42 0.500 39.7 1.00 20 47.9 20 47.9 20 47.9 21 0.500 8.47.9 22 50.0 6.00 0.500 31.1 0.500 8.07 0.500 31.1 0.500 8.07 0.500 38.2 1.00	Result Limit Units	Result Limit Units Level	Result Limit Units Level Result	Result Limit Units Level Result %REC	Result Limit Units Level Result %REC Limits	Result Limit Units Level Result %REC Limits RPD	Result Limit Units Level Result %REC Limits RPD Limit

North Creek Analytical - Bothell



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%REC

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815 Industry Dr

Tukwila WA/USA, 98188

Project: Tosco #6380

Spike

Source

Project Number: 1065

Reporting

Project Manager: John Meyer

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RPD

Volatile Petroleum Products and BTEX by NWTPH-Gx and EPA 8021B - Quality Control North Creek Analytical - Bothell

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2B19003: Prepared 02/19/02	Using EI	PA 5030B	(P/T)							
Matrix Spike Dup (2B19003-MSD1)					Source: I	32B0194-0	02			
Gasoline Range Hydrocarbons	500	50.0	ug/l	500	ND	100	70-130	0.803	25	
Benzene	6.05	0.500	**	6.01	ND	101	80-120	0.830	40	
Toluene	31.4	0.500	· ·	35.8	ND	87.4	75-117	0.960	40	
Ethylbenzene	8.12	0.500	Ħ	8.37	ND	97.0	80-120	0.618	40	
Xylenes (total)	38.5	1.00	n	41.4	ND	93.0	80-120	0.782	40	
Surrogate: 4-BFB (FID)	48.5		"	48.0		101	62-139			
Surrogate: 4-BFB (PID)	45.0		#	48.0		93.8	62-125			

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Project Manager: John Meyer

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Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	NT-4
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2B12024:	Prepared 02/12/02	Using E	PA 3520C								
Blank (2B12024-BL	K1)										
Diesel Range Hydrocar	bons	ND	0.250	mg/l							
Lube Oil Range Hydrod	carbons	ND	0.500	'n							
Surrogate: 2-FBP		0.254		"	0.320		79.4	50-121			
Surrogate: Octacosane	•	0.249		"	0.320		77.8	56-123			
LCS (2B12024-BS1))			·							
Diesel Range Hydrocar	bons	1.67	0.250	mg/l	2.00		83.5	62-122			
Surrogate: 2-FBP		0.265		п	0.320	.,	82.8	50-121			
LCS Dup (2B12024	-BSD1)										
Diesel Range Hydrocar	bons	1.69	0.250	mg/l	2.00		84.5	62-122	1.19	40	
Surrogate: 2-FBP		0.259		"	0.320		80.9	50-121			

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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 2B13035:	Prepared 02/13/02	Using I	EPA 3020A					<u>,</u>			
Blank (2B13035-BL	K1)										
Lead		ND	0.00100	mg/l					-		
LCS (2B13035-BS1))										
Lead		0.203	0.00100	mg/l	0.200		102	80-120			
LCS Dup (2B13035	-BSD1)		•								
Lead		0.202	0.00100	mg/l	0.200		101	80-120	0.494	20	
Matrix Spike (2B13	035-MS1)					Source: B	2B0194-	01			,
Lead		0.204	0.00100	mg/l	0.200	0.00770	98.2	75-125			
Matrix Spike Dup (2B13035-MSD1)					Source: B	2B0194-	01			
Lead		0.206	0.00100	mg/l	0.200	0.00770	99.2	75-125	0.976	20	

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Project Number: 1065

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Dissolved 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 2B14028: Prepared 02/14/02	Using I	EPA 3005A	V							
Blank (2B14028-BLK1)					,					
Lead	ND	0.00100	mg/l						-	
LCS (2B14028-BS1)										
Lead	0.204	0.00100	mg/l	0.200		102	80-120			
LCS Dup (2B14028-BSD1)										
Lead	0.205	0.00100	mg/l	0.200		102	80-120	0.489	20	
Matrix Spike (2B14028-MS1)					Source: 1	B2B0194-0	D1			
Lead	0.204	0.00100	mg/l	0.200	ND	102	75-125			
Matrix Spike Dup (2B14028-MSD1)					Source: 1	B2B0194-0	01			
Lead	0.203	0.00100	mg/l	0.200	ND	102	75-125	0.491	20	

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Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
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Project: Tosco #6380

Project Number: 1065

Project Manager: John Meyer

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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 2B12002:	Prepared 02/09/02	Using (General Pre	paration				<u></u>			
Blank (2B12002-BI	_K1)										
Turbidity		ND	1.00	NTU							
LCS (2B12002-BS1)			•							<u> </u>
Turbidity		18.3	1.00	NTU	20.0		91.5	90-110			
LCS Dup (2B12002	-BSD1)										
Turbidity		18.6	1.00	NTU	20.0		93.0	90-110	1.63	20	
Duplicate (2B12002	2-DUP1)					Source: E	32B0194-0	04			
Turbidity		257	1.00	NTU		251			2.36	20	

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Project: Tosco #6380

815 Industry Dr

Project Number: 1065

Tukwila WA/USA, 98188

Project Manager: John Meyer

Amended Report

Issued: 02/27/02 10:35

Notes and Definitions

The hydrocarbon concentration result in this sample is partially due to one or more individual peaks eluting in the diesel/heavy oil D-03

range. Quantitation by EPA method 8270 is recommended.

This sample was laboratory filtered since it was not field filtered as is required by the methodology. Q-30

Analyte DETECTED DET

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

Sample results reported on a dry weight basis dry

Relative Percent Difference **RPD**

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(541) 383-9310

FAX 924-9290 (503) 906-9200

FAX 906-9210 FAX 382-7588

TOSCO CHAIN OF CUSTODY REPORT Q TO 194

	1050													Da	4 D					·	Ш	Quality Assurance Data Lev	/e1:
TOSC	CONSULTANT INFORMATION															A B							
Facility Number: 3028	Fir	Firm: ELL Project# 1065														A: Standard Summary							
Site Address: 200 S 36	Address: 815 InDUSTRY DR														B: Standard + Chromatogra	ıms							
City, State, ZIP: Bulling	Show WA	•			TOKWIAS WA 38188														D, Olimonia i Cinolialogia				
Project/AWO Code	/ (Firm: FLT Project# 1065 Address: 815 FNDUSTRY DR TUKWRA, WA 98189 Phone: (200) 515-6220 Fax: X6423															Laboratory Turnaround Day	ve.			
Tosco Manager: 11 M	Johnson		·	Phone: (200) 575-6270 Fax: X 6425															10 5 3 2	1			
FACILITY TYPE: (check one)	BP/®	Terminal/I	Bulk Plant	Project Manager: E-mail:														-	10 Day - Standard	ا			
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Nev. 1085.5,2199	ution: White - Laboratory	Yellow - Consu	ıltant Photocor	v - Tos	co						3												

GROUNDWATER SAMPLING - FIELD LOG

	t Nam tion: Crew:	e: TO BELLI Loy	SCO YShan YOUSE	4		ERI Fiel Ana	Job No d Clean alysis:	na Dar	fa	~ d .		 Page of (* - Case Volume = (d _{met} - d _{meter}) _{lo R} X F where F = 0.163 for a 2" inside diameter well casing 0.652 for a 4" inside diameter well casing 1.467 for a 6" inside diameter well casing	EST
Sell Ro.	Time	Depth Water (ft.)	Well	Case Dia. (in)	Case Vol* gal	Purge Vol. (gal)	Conduct. #\$/CH (X1000)	Temp. Deg F	рК	TURB HTU		1. Comments	
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