

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: LM-3
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: LM-3-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain windy Temperature: 55°F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	12:16	8.1	1.25	6.85		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 <u>1.1</u>
X3 <u>3.3</u>

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.1	4.85	14.6	2850	9.67	3.5	
2	PP	2.2	4.67	14.6	2970	5.42	2.7	
3	↓	3.3	4.64	14.6	3010	3.24	2.5	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
Total Metals	11/28/95	1305	PP	1	16	poly	HNO3	yes	NO
TDS/TSS	}	}	PP	1	16	poly	-	↓	NO
Diss Metals			PP	1	16	poly	HNO3	↓	YES
BTEX/TPH-G			DB	3	40	4 Glass	HCL	↓	NO
TPH-D+O			DB	1	16	↓	-	↓	NO
PAHs			DB	2	16	↓	-	↓	NO

Total Bottles (include duplicate count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	Clear	musty -	D.I. Water	Distilled water	Hexane	

Notes: purged with small peristaltic pump on #3

SAMPLER: Russ Hebert
(PRINTED NAME)

Russ Hebert
(SIGNATURE)

FIELD SAMPLING DATA SHEET



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Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-7
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-7-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/10/95	11:12	15.2	5.55			
		13.0 + 2.2				

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.57
X3	4.7

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	P.P.	1.6	5.99	12.1	200	5	1.50 *	
2	#2	2.2	6.07	12.5	240	12	1.87	
3		4.8	6.20	12.4	201	9	1.93	Pumped 1st 2nd 3rd
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) * Duplicating

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/TPH-G	11/30/95	12:00	DB	3	40	Ambu	HCl	yes	no
TPH-D				1	1000		None		
PAH				2			None		
T-Met			P.P.	1		poly	HNO3		
D-Met				1			HNO3		yes
TSS/TDS				1			None		no

Total Bottles (include duplicate count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
slit	Clear	petrol like odor	D.I. Water	Distilled water	Hexane	

Notes: water contained bacterial like growth.
 screws protruding through PVC casing at splice
 bailer hung up about 1 ft down

SAMPLER: Gregory S. Mack
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: *mw-8*
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: *mw-8-1195*
 EMCON Contact: Bill Haldeman Client Contact: Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain *windy* Temperature: *cool* °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/20/95	14:00	15.1	6.56	8.54		
		15.1				

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
	Volume (gal)
X1	1.4
X3	4.17

stick up. 2.5 + 12.6 = ~~15.1~~

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	P.P	1.4	5.85	12.8	160	-10	1.24	sheen
2		2.8	6.01	12.9	130	-10	1.54	
3		4.2	6.01	12.9	150	-10	1.51*	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

*Pump
Suction
0.2*

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/TPH-C	11/30/95	16:30	DB	3	400	Amber	HCl	yes	no
TPH-D			↓	1	1000	↓	none		↓
PAH			↓	2	↓	↓	none		↓
T-met			P.P	1	↓	Poly	HNO ₃		↓
D-met			↓	1	↓	↓	HNO ₃		yes
TDS/TSS			↓	1	↓	↓	none	↓	no

* - evapitic - red clay
Tugs arrived

Total Bottles (include duplicate count): **9** Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
	<i>slightly cloudy</i>	<i>(Heavy Petro)</i>	D.I. Water	Distilled water	Hexane	

Notes: *like*
- Bacterial growth at water surface

SAMPLER: *R. Scott Pofford Gregory S. Mudd* *[Signature]*
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

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Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-10
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: no sample collected.
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035. 023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95						
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X 1
X 3

WATER QUALITY DATA No water removed from well.

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Product detected.

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
Total Bottles (include duplicate count):					Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Product present in well. Did not measure dtw or dtp due to time constraints.

SAMPLER: R. SCOTT Telford Holly Corner Holly Corner
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-20
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-20-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035. 023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/ /95	1500	14.00	8.24	5.76	sheen-film?	

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
x1 0.94
x3 2.82

WATER QUALITY DATA *cumulative*

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	<i>Peristaltic Pump</i>	1	6.57	13.8	3930	-1	0.93	
2		2	5.82	14.0	3570	-1	0.51	
3		3	6.01	14.0	3840	21	9.66	
4		4	6.27	14.0	4310	-1	0.95	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

looks like anomalous readings for D.O., turb.

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
gas/BTEX	11-30-95	1700	<i>disp. bailer</i>	3	90	VDA	HCl	Yes	no
TPH-D ext.				2	1000	<i>amber glass</i>	none		no
PAH				2	1000	<i>amber glass</i>	none		no
tot. met			<i>Perist. Pump</i>	1	1000	poly	HNO ₃		no
TDS/TSS				1	1000	poly	none		no
diss. met.				1	1000	poly	HNO ₃		Yes

Total Bottles (include duplicate count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: *Noted hydrocarbon-like odor at well head when opening. Noted slight sheen on solinst probe when measuring dtw. Noted sheen on surface of pumpwater. Parameters did not quite stabilize - anomalous readings on 3rd pv? - but had to*

SAMPLER: (no) R. Scott-Telford Holly Corner Holly Corner
 (PRINTED NAME) (SIGNATURE)

Sample because light was failing. Pumped at approx. 0.8 gpm; no significant drawdown noted. Brown, viscous product-like substance observed on bailer (outside of bailer) when sampling.

Note: *Man not submit sample due to presence of visible product on*

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
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Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: *mw-22*
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: *mw-22-1195*
 EMCON Contact: Bill Haldeman Client Contact: *Joe Comstock* Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain Temperature: *55* °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	1515	15.0	7.59			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

	Volume (gal)
X1	<i>1.2</i>
X3	<i>3.6</i>

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.2	<i>6.91</i>	<i>15.2</i>	<i>355</i>	<i>14.4</i>	<i>4.0</i>	<i>Clear</i>
2	PP	2.4	<i>6.94</i>	<i>15.4</i>	<i>352</i>	<i>9.68</i>	<i>3.1</i>	<i>Clear</i>
3	PP	3.6	<i>6.94</i>	<i>15.5</i>	<i>349</i>	<i>4.01</i>	<i>4.61</i>	<i>Clear</i>
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
	<i>11/29/95</i>	<i>1630</i>							
Total Bottles (include duplicate count):				<i>12</i>	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<i>Amber</i>	<i>Clear</i>	<i>milky white</i>	D.I. Water	Distilled water	Hexane	

Notes: *150 mL every 25 seconds = 1L every 2.75 minutes*
1 gal every 11 minutes, 13.2 water a day
1 gal + sample with small pump in 3 settings
Completed at 16:30 3 min in filter

SAMPLER: *Russ Hebert*
(PRINTED NAME)

Russ N. Hebert
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: BNRR-MW-28
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: BNRR-MW-28
 EMCON Contact: Bill Haldeman Client Contact: Joe Lemstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/195						
12/7/95	12:00	15.04	6.48	8.56		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

	Volume (gal)
X1	1.4
X3	

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	16.5	5.94	12.0	195	5.50	3.42	
2		18.0	5.97	12.0	185	5.04	3.50	
3	↓	19.5	5.96	12.0	180	5.10	3.38	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

5 gal +

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	12-7-95	12:45	DB	3	40	VOL	HCl	Yes	NO
TPH-D EXT			↓	1	1000	HMBAL			↓
PAH's			↓	2	1000	HMBAL			↓
Total Metals			PP	1	1000	POLY	HNO3		↓
Dissolved Metals			↓	1	1000	POLY	HNO3		YES
TDS/TSS			↓	1	1000	POLY	-	↓	NO
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Melhanol	HCl	Nitric
Colorless	Clear	no odor	D.I. Water	Distilled water	Hexane	

Notes: A shot of dark grey sand in 1st P.V. 5g/6'45"
 Then cleared up. Tubing @ bottom PP #5
 move tubing up 3' lower PP #2
 DTW = 10.62'

SAMPLER: R. Scott Telford
(PRINTED NAME)

(SIGNATURE) R. Scott Telford

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-101
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-101-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain windy Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1240	15.2	8.13	7.07		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)	
X1	1.1
X3	3.5

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	^S PP	1.1	6.70	14.4	1672	6.80	3.2	clear - scr color
2	^S PP	2.3	6.77	14.6	3700	3.30	2.8	" "
3	^S PP	3.5	6.75	14.5	4810	1.86	2.7	" "
4	^S PP	4.8	6.84	14.3	5260	1.69	2.6	" "
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

SPP
↓
small
resistatic
pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-GATEP	11/30/95	1350	DB	3	40	Alkuss	HCl	yes	N/C
PAHs			DB	2	16	Alkuss	-	yes	N/C
TPH-DET			DB	1	16	Alkuss	-	yes	N/C
TSS/ONS			^S PP	1	16	poly	-	yes	N/C
TOTAL SOLIDS			^S PP	1	16	poly	HNO3	yes	N/C
Disinfectants			^S PP	1	16	poly	HNO3	yes	yes
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: 150 ml each 16 sec, 7 minutes per gal
 Small pump with settings on #5 pulse + 50 samples.
 4.5 min volume taken up to High cond.
 water turns black in air.

SAMPLER: Russ Hebert
 (PRINTED NAME)

Russ Hebert
 (SIGNATURE)

FIELD SAMPLING DATA SHEET

Product



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: *MW-102*
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: *NO SAMPLE*
 EMCON Contact: Bill Haldeman Client Contact: Project #: 40324-035. *023*

Weather: (Part) Sun (Part) Cloudy Rain *WIND* Temperature: *50^os* °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1500	15.2	9.19		9.17	0.02
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

NO SAMPLING

§ METHOD: (SB) Submersible Pump (P) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter

NO SAMPLING

Total Bottles (include duplicate count): _____ Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: *Kerosene product clear not visible on probe checked 3 times 2 probes Joe comstock noted the odor to verify*

SAMPLER: R. Scott Telford
(PRINTED NAME)

R. Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET PRODUCT

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal **Well ID:** MU-103
Site Address: 11720 Unoco Rd, Edmonds, Washington **Sample ID:** MU-103-1175
EMCON Contact: Bill Halderman **Client Contact:** **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain WIND Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1530	15.2	6.49	8.71		
Well dia. = Gal/ft: 1"=0.047 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

	Volume (gal)
X1	1.42
X3	4.25

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.55	14.5	736	6.56	1.15	0.25 gm
2	↓	3.0	6.50	14.5	691	5.53	0.66	0.25 gm
3	↓	4.5	6.49	14.5	673	3.74	0.52	0.25 gm
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G	11-30-95	1545	DB	3	40	VOLA	HCl	YES	NO?
BTEX	↓	↓	↓	-	-	-	-	↓	↓
TPH-D X	↓	↓	↓	1	1000	Amber	-	↓	↓
PAHs	↓	↓	↓	2	1000	Amber	-	↓	↓
Btal metals	↓	↓	PP	1	1000	Poly	HNO ₃	↓	↓
Dissolved Metal	↓	↓	↓	1	1000	Poly	HNO ₃	↓	YES
TDS TSS	↓	↓	↓	1	1000	Poly	-	↓	NO

Total Bottles (include duplicate count):

Duplicate ID: -

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	Clear	H ₂ S-like	D.I. Water	Distilled water	Hexane	

Notes: Tubing @ 10' below TOC PP # 1-2 = 0.25 gm

NOTED Product on well casing and on bailer.
 Smear Product. SAMPLE TO BE DISCARDED
 Product on well casing

SAMPLER: R. Scott Telford
 (PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: nw-104
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: nw-104-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain Windy Temperature: 48 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	0905	15.2	7.78	7.42		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)	
X1	1.2
X3	3.6

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	DB	1.2	4.63	13.2	264	1.15	3.2	Clear - <u>slt color</u>
2	DB	2.4	4.59	13.6	255	0.79	3.5	" "
3	DB	3.6	4.55	13.5	256	0.81	3.4	" "
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (If product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
DBE / ppm	11/30/95	10:15	DB	3	40	A Glass		Yes	No
9260			DB	2	40				No
DBE			DB	2	16				
7.07 Antic			DB	1	16				Yes
Diss metal			DB	1	16				No
FDS / FSS			DB	1	16				
TCH - D CRT			DB	1	16				

Total Bottles (include duplicate count): 20 Duplicate ID: nw-104-1195 Time: 10:20

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	Clear	mild w/ant water	D.I. Water	Distilled water	Hexane	

Notes: No visible product in probe pump setting # 5 (small pump)
 150 ml per 25 sec.
 Sample nw-104 includes 9260 (2.4ml) = 11 Bottles
 Sample nw-401 (duplicate) = 9 Bottles

SAMPLER: Russ Hebert Joe Comstock
 (PRINTED NAME) (SIGNATURE)

11/15 Barbara from DOE asked for a pH check with paper on the metals for prep. intent of preservative. nw-104-1195 Diss metal = 262
 & was observed during set up and sampling by Barbara and Joe Comstock.

FIELD SAMPLING DATA SHEET DUPLICATE



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-105.1295

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-105.1295

EMCON Contact: Bill Haldeman Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
12-27-95	0900	14.60	7.80	6.80		
Well dia. = Gal/ft: 1"=0.041 2"=0.166 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 <u>1.1</u>
X3 <u>3.3</u>

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
10	PP	11.0	6.04	11.0	400	391	3.67	PP=9
2		12.1	6.23	10.0	161	281	3.60	PP=2
3		13.2	6.23	10.0	154	314		PP=1
30X		33.0				109		~ 0.25gpm
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	12-27-95	1000	DB	3	40	VOA	HCl	Y	N
WTPH-D (ext)			↓	2	1000	Amber	—	↓	↓
PAHs			↓	2	1000	Amber	—	↓	↓
Total Metals			PP	1	1000	Poly	HNO3	↓	↓
Dissolved Metals			↓	1	1000	Poly	HNO3	↓	Y
TSS/TDS			↓	1	1000	Poly	—	↓	N
Total Bottles (include duplicate count):				<u>20</u>	Duplicate ID: <u>MW-601.1295</u> Time: <u>0900</u>				

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
DK BRWN	TURBID	NONE	D.I. Water	Distilled water	Hexane	

Notes: Tubing @ Bottom for 1st 10 PV - Then 3.0' off.
Slow pumping water remained turbid

Drummed water and labeled w/ paint pen & Unocal marker label
SAMPLER: R. Scott Telford R. Scott Telford
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-106
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-106-1295
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain WIND Temperature: 40's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
12-27-95	1100	16.0	8.96	7.04		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
	Volume (gal)
X1	1.15
X3	3.45

WATER QUALITY DATA

Pump Rate

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
10	PP	11.50	6.10	11.0	142	236	1.88	PP=8
11	↓	12.65	6.01	11.0	144	141	1.45	PP=2
12	↓	13.80	5.81	11.0	140	46.2	2.26	PP=1
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	12-27-95	1300	DB	3	40	VOA	HCl	Y	N
WTPH-D (ext)			↓	2	1000	Amber	-	↓	↓
PAHs			↓	2	1000	Amber	-	↓	↓
Total Metals			PP	1	1000	Poly	HNO3	↓	↓
Dissolved Metals			↓	1	1000	Poly	HNO3	↓	Y
TSS/TDS			↓	1	1000	Poly	-	↓	N
Total Bottles (include duplicate count):				10	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
DK BROWN	Turbid	None	D.I. Water	Distilled water	Hexane	

Notes: Cleared up relatively well by 12th PV
Sampled, re-developed and purged 5 PVS.

SAMPLER: R. Scott Telford
(PRINTED NAME)

R. Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: *MW-107*
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: *MW-107-1295*
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain- Temperature: *40* °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
<i>12-27-95</i>	<i>1105</i>	<i>16.0</i>	<i>8.28</i>	<i>7.72</i>		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.533 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1 <i>1.26</i>
X3 <i>3.78</i>

WATER QUALITY DATA

Pore Vol	Method ⁵	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
10	PP	<i>12.5</i>	<i>6.86</i>	<i>12.0</i>	<i>454</i>	<i>1118 *</i>	<i>1.42</i>	<i>PP=8</i>
2	↓	<i>13.75</i>	<i>6.90</i>	<i>12.0</i>	<i>509</i>	<i>1103 *</i>	<i>0.52</i>	<i>PP=1</i>
3	↓	<i>15.00</i>	<i>6.47</i>	<i>11.0</i>	<i>380</i>	<i>786</i>	<i>2.25</i>	<i>PP<1</i>
<i>421</i>		<i>30.00</i>				<i>386</i>		<i>PP<1</i>
<i>132</i>		<i>40.00</i>				<i>279</i>		<i>~ 0.25 ppm</i>

⁵ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

** out of range*

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ⁵	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	<i>12-27-95</i>	<i>1615</i>	<i>DB</i>	3	40	VOA	HCl	<i>Y</i>	<i>N</i>
WTPH-D (ext)	↓	↓	↓	2	1000	Amber	-	↓	↓
PAHs	↓	↓	↓	2	1000	Amber	-	↓	↓
Total Metals	↓	↓	<i>PP</i>	1	1000	Poly	HNO3	↓	↓
Dissolved Metals	↓	↓	↓	1	1000	Poly	HNO3	↓	<i>Y</i>
TSS/TDS	↓	↓	↓	1	1000	Poly	-	↓	<i>N</i>

Total Bottles (include duplicate count): *10* Duplicate ID: _____ Time: *0900*

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<i>DK Grey</i>	<i>Turbid</i>	<i>Musty</i>	D.I. Water	Distilled water	Hexane	

Notes:

*Start Purge @ 1130 v. turbid → pumping rate after 10 PV
 raise tubing 3' off bottom. Raise tubing 2' more off for 1hr.
 lower pumping rate. Pumped until 1610*

SAMPLER: R. Scott Telford
(PRINTED NAME)

(SIGNATURE)

R. Scott Telford

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-108
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-108-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) cloudy Rain windy Temperature: 55°F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	1415	13.9	5.63	8.27		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

	Volume (gal)
X1	0.3
X3	1.0

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.3	6.06	13.6	2800	64.5	3.5	
2	PP	0.6	6.11	13.3	2140	29.2	2.9	
3	PP	1.0	6.19	13.4	2130	18.6	2.3	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TOTAL metals	11/28/95	1500	PP	1	1L	poly	HNO3	yes	NO
FOS/TSS			PP	1	1L	poly	—		NO
DISS metal			PP	1	1L	poly	HNO3		yes
BTEX TPH-G			DTB	3	40	amber glass	HCL		NO
TPH-D40			DTB	1	1L	amber glass	—		NO
PAHs			PTB	2	1L	amber glass	—		NO

Total Bottles (include duplicate count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Amber	Clear	Slight musty	D.I. Water	Distilled water	Hexane	

Notes:

well purged with small peristaltic pump on #3 setting

SAMPLER: Ross Hebert
(PRINTED NAME)

Ross Hebert
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-109

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-109-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock Project #: 40324-035

Weather: (Part) Sun (Part) Cloudy Rain Windy Temperature: 55°F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	0901	14.0	11.32	2.68		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 0.1
X3 0.3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.1	4.13	13.0	1335	2.24	4.9	
2	PP	0.2	4.06	13.1	1343	1.27	2.9	
3	PP	0.2	4.37	13.1	1372	1.26	3.9	
4	PP	0.4	4.46	13.1	1382	1.04	4.0	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TOTAL metals	11/28/95	1030	PP	101	1L	Poly	HNO3	YES	NO
TDS / TSS			PP	101	1L	Poly	-		NO
Diss metals			PP	101	1L	Poly	HNO3		YES
BTEX / TPH-G			PTB	103	40	AmbiFlow	HCL		NO
TPH -D+O			PTB	101	1L		-		NO
PAHs			DTB	102	1L		-		NO

Total Bottles (include duplicate count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	Clear	NONE	D.I. Water	Distilled water	Hexane	

Notes: pH checked with 2 DIFFERENT meters. well purged with small pump on #2 section.

SAMPLER: Russ Hebert
(PRINTED NAME)

Russ Hebert
(SIGNATURE)

FIELD SAMPLING DATA SHEET Product

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal	Well ID: <u>MU-110</u>
Site Address: 11720 Unoco Rd, Edmonds, Washington	Sample ID: <u>NO SAMPLE</u>
EMCON Contact: Bill Haldeman Client Contact:	Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain WIND Temperature: SDS °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/7/95	1445	14.1	6.21		4.54	1.67

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
Volume (gal)	
X 1	
X 3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: DARK Brown to black product.
Medium viscosity. Wiped product off 1.5 feet of
tape + probe then proceeded to decon

SAMPLER: R. Scott Telford R. Scott Telford
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-112
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-112-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035

Weather: (Part) Sun (Part) Cloudy Rain Windy Temperature: 5C °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	11:00	14.4	3.97	10.43		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.7
X3 5.1

3.4

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.7	6.83	13.6	574	5.39	2.6	clear - SLT color
2	PP	3.4	7.10	13.9	602	3.98	4.1	" "
3	PP	5.2	7.30	13.7	603	3.80	3.2	" "
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (If product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TDIH-GATEX	11/30/95	12:15	DB	3	40	ABESS	HCL	yes	NO
PAH			DB	2	16	ABESS	-	yes	NO
TDIH-EXT			DB	1	16	ABESS	-	yes	NO
TOTAL METALS			PP	1	16	Poly	HNO3	yes	NO
DISINTEGRANTS			PP	1	16	Poly	HNO3	yes	yes
TRIS/TDS			PP	1	16	Poly	H-	yes	NO
QC TDIH-13			DB	2	16	ABESS	-	yes	NO

Total Bottles (include duplicate count): 11 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	clear	Slight musty	D.J. Water	Distilled water	Hexane	

Notes: 1st 16 min box is sec 1 16 every 1min + 40 sec

1st 16 every 6.6 min

TDIH-EXT GC TAKEN

DOING SMALL - IN #14 SETTING FOR DOUSE & SAMPLING

SAMPLER: Russ Hobert
(PRINTED NAME)

William Nibel
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-115 ~~EST~~

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-115-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain windy Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1435	14.2	4.35			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.6
X3 4.8

3.2

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.6	6.53	14.0	827	3.19	3.6	clear - slight odor
2	PP	3.2	6.39	14.1	813	2.17	3.0	" "
3	PP	4.8	6.50	13.9	803	1.89	2.4	" "
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TDH-6 BTEX	11/30/95	1540	DB	3	40	Affix	HCC	yes	NC
PAH's			DB	2	16	Affix	-		
TSS/TDS			PP	1	16	poly	-		
7-17 metals			PP	1	16	↓	HNO ₃		↓
Diss metals			PP	1	16	poly	↓		yes
TDH-DEXT			DB	1	16	Affix	-		NC
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor (ppm/l)	Liquinox	Methanol	HCl	Nitric
None	clear	slight odor	D.I. Water	Distilled water	Hexane	

Notes: 150 ml every 20 Sec. & light, broken sheen on surface. Sampled & passed with small pump in setting #5

SAMPLER: Russ Hebert

(PRINTED NAME)

Russ Hebert

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-117

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-117-1195

EMCON Contact: Bill Haldeman Client Contact:

Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain wind Temperature: 48 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	15:58	14.5	3.71	10.79		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.7
X3 5.2

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.7	6.19	13.4	966	3.12	2.4	Clear - LT color
2	PP	3.5	6.77	13.8	972	2.40	2.0	" "
3	PP	5.3	6.95	14.0	974	1.44	2.4	" "
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-GISTEX	11/30/95	1645	DIB	3	40	Alkox	HCL	YES	NO
PAHs			DIB	2	16	Alkox	-		
TPH-DECT			DIB	1	16	Alkox	-		
T. ENDOXINS			PP	1	11	poly	HNO3		
Dissimetal			PP	1	16	poly	HNO3		YES
TDS/TSS			PP	1	16	poly	HNO3		NO
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
None	Clear	Maintain color	D.I. Water	Distilled water	Hexane	

Notes: 150 ml every 15 seconds

16.4 every 6.6 minutes

Small pump setting on & for purge & sample

Russ Haldeman

SAMPLER: Russ Haldeman
(PRINTED NAME)

Russ Haldeman
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-119
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-119-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain Temperature: *cel* °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	13:45	13.8	3.98	9.82		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

	Volume (gal)
X1	1.6
X3	4.8

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	P.P	1.6	6.04	13.0	750	51	1.01	Pumping at 1.5
2		3.2	6.35	12.9	740	32	2.40	* on P.P.
3		4.8	6.21	12.8	800	-10	1.59	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

* Drawing Air Turbidity pump down to 1.5

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/TPH-G	11/30/95	14:30	DB	3	40	Amber	HCl	yes	no
TPH-D			↓	1	1000	↓	none		
PAH			↓	2		↓	none		
T-Met			P.P.	1		Poly	HNO ₃		↓
D-Met			↓	1		↓	HNO ₃		yes
TDS/TSS			↓	1		↓	none	↓	no.
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Amber	slightly cloudy	petro like	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gregory S. Mook
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-120
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-120-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50s °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	1345	41.0	4.71	36.29		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]
Volume (gal)
x1 5.92
x3 17.75

WATER QUALITY DATA (cumulative)

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	peristaltic	6	6.88	12.7	2340	-2	1.71	
2	↓	12	7.02	12.5	2130	-10	1.55	
3	↓	18	6.87	12.2	1970	-10	1.48	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/TPH-G	11-29-95	1530	disp. bailer	3	40	VOA	HCl	yes	no
TPH-G D ext.			↓	3	1000	amber glass	none		
PAH			↓	2	1000	amber glass	none		
total metals			peristaltic pump	1	1000	poly	HNO ₃		↓
dis. metals			↓	1	1000	poly	HNO ₃		yes
TDS/TSS			↓	1	1000	poly	none	↓	no

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	none noted	D.I. Water	Distilled water	Hexane	

Notes: No sheen or product observed on water surface. Well did not pump drip running peristaltic at approx. 0.5 gpm for 3 pore volumes. Slight organic(?) - like odor 0.4 ft noted when well 1st opened. Collected two extra TPH-D ext. samples for lab QA

SAMPLER: Holly Corner (PRINTED NAME) Holly Corner (SIGNATURE)

buckets removed 111 3/4

solix

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-121
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-121-1195
 EMCON Contact: Bill Haldeman Client Contact: Project #: 40324-035. 023

Weather: (Part) Sun (Part) Cloudy Rain WIND Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1330	70.0	09.01	30.99		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 5.05
X3 15.15

WATER QUALITY DATA

Purge Rate

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	SB	40	7.08	14.0	522	13.3	0.68	7 gpm
2	↓	45	7.09	14.5	513	6.74	0.47	0.6 gpm
3	↓	50	7.13	14.5	526	5.51	0.38	0.6 gpm
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G	11-30-95	1430	DB	3	40	VOA	HCl	YES	ND
DTEX				-	-	-	-		
TPH-D X				1	1000	Amber	-		
PAHS				2	1000	Amber	-		
TOTAL METALS			PP	1	1000	Poly	HNO3		
DISSOLVED METALS				1	1000	Poly	HNO3		YES
TDS				1	1000	Poly	-		ND
TSS				-	-	-	-	✓	ND

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Clear (grey)	Sulphur	D.I. Water	Distilled water	Hexane	

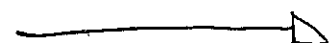
Notes: Purged ~ 35 gallons sandy silty water grey w/ odor note trace up coming. Pumped @ 7 gpm for 35 gallons very odorous. JOE COMSTOCK & HOWARD STORP R

SAMPLER: R. Scott Telford
(PRINTED NAME)

R. Scott Telford
(SIGNATURE)

over

FILED



Pumped 35 gallons → clearing
 Pump @ 5' from bottom

343 DTW = 10.33

Set pump to 70 Hz Start new bucket
 Water clear

1351 + 5 gal $5 \text{ gal} / 8 \text{ min} = 0.625 \text{ gpm}$

pH = 7.08 Cond = 522 Turb = 13.3 DO = 0.68 Temp = 14.0

Faint odor Joe agreed noted Sulphur odor.

1357

pH = 7.09 Cond = 513 Turb = 6.74 DO = 0.47 Temp = 14.5

1359 + 5 gallons $5 \text{ gal} / 8 \text{ min} = 0.625$

105

pH = 7.13 Cond = 526 Turb = 5.51 DO = 0.38 Temp = 14.5

DTW = 10.26

1407 + 5 gallons $5 \text{ gal} / 8 \text{ min} = 0.625$

Sampled

Inorganic collected

1415

1430 Volat etc. collected

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-122
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-122-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	09:29	40.0	7.54	32.5		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Water Col x Gal/ft	
Volume (gal)	
X1	5.19
X3	15.6

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	Per Pump	5.2	7.93	11.8	904	4	1.06	
2	Pump	10.4	7.58	11.7	906	39	1.23	
3		15.6	7.76	11.8	948	3032	0.61	8.9'
4		20.8	7.64	11.8	944	27	1.28	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

X-DSPH-3 OTHERS HORIZA

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPA-G/BTEX	11/28/95	12:30		3	40	HEX	HCL		
TPH-DerT				1	1000	Amb			
PAN				2	1000	Amb			
T-metals				1	1000	HEX	HNO3		
D-metals				1	1000	HEX	HNO3		
TDS/TSS		✓		1	1000	Poly			
Total Bottles (include duplicate count):				4	Duplicate ID: MW-622-1195		Time: 13:30		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	Clear color	none	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gregory S. Moeke
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-123
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-123-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Product Thickness]	[Water Col x Gal/ft]
Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW	Volume (gal)	
11/30/95	0925	<u>5.67</u>	<u>5.67</u>	<u>9.03</u>			X1 <u>1.47</u>	
		<u>14.7</u>					X3 <u>4.42</u>	
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875								

WATER QUALITY DATA *(cumulative)*

Pore Vol	Method ^s	Purged (gal)	pH	Temp. (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	<u>peristaltic pump</u>	<u>1.5</u>	<u>6.33</u>	<u>14.9</u>	<u>1430</u>	<u>2</u>	<u>1.42</u> ^{HC}	<u>0.88 = D.O.</u>
2	↓	<u>4</u>	<u>6.28</u>	<u>15.0</u>	<u>1330</u>	<u>0</u>	<u>1.02</u>	
3	↓	<u>5.5</u>	<u>6.50</u>	<u>14.9</u> ^{HC}	<u>1150</u>	<u>0</u>	<u>0.94</u>	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
<u>BTEX/TPH-6</u>	<u>11-30-95</u>	<u>1030</u>	<u>bailer</u>	<u>3</u>	<u>40</u>	<u>VOA</u>	<u>HCl</u>	<u>Yes</u>	<u>no</u>
<u>TPH-D ext.</u>	↓	↓	↓	<u>3</u>	<u>1000</u>	<u>amber glass</u>	<u>none</u>	↓	↓
<u>pH</u>				<u>2</u>	<u>1000</u>	<u>amber glass</u>	<u>none</u>		
<u>tot. met.</u>				<u>1</u>	<u>1000</u>	<u>poly</u>	<u>HNO₃</u>		
<u>dis. met.</u>				<u>1</u>	<u>1000</u>	<u>poly</u>	<u>HNO₃</u>		
<u>TDS/TSS</u>				<u>1</u>	<u>1000</u>	<u>poly</u>	<u>none</u>		
<u>VOC</u>				<u>2</u>	<u>40</u>	<u>VOA</u>	<u>HCl</u>		
Total Bottles (include duplicate count):				<u>13</u>	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<u>slightly yellow</u>	<u>clear to v. slightly hazy</u>	<u>slight to moderate Hydrocarbon-like</u>	<u>D.I. Water</u>	<u>Distilled water</u>	<u>Hexane</u>	

Notes: Noted slight hydrocarbon-like odor at well head upon opening.
No product on solinst. Pumped at approx. 0.7 gpm.
 * Collected VOCs (2 VOA vials) per Joe Comstock. Also collected Oak QC sample (2 amber glass).

SAMPLER: Holly Corner (PRINTED NAME) Holly Corner (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-124
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-124-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	1625	14.6	5.23	9.37		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875

[Product Thickness] (Water Col x Gal/ft)

Volume (gal)
X1 1.53
X3 4.58

WATER QUALITY DATA (Cumulative)

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	peristaltic pump	1.6	6.08	12.5	640	0	0.84	DO=1.03
2	peristaltic pump	2.4	5.87	12.6	590	-10	1.02	turb=3.00 NTU
3	peristaltic pump	8.6	5.92	12.8	610	-10	0.98	turb=24 NTU
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
	11-29-95	1700							

Total Bottles (include duplicate count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
slightly yellow	v. slightly cloudy	Slight HC like odor	D.I. Water	Distilled water	Hexane	

Notes:

↳ hydrocarbon-like

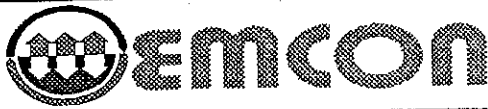
SAMPLER: Holly Corner
(PRINTED NAME)

Holly Corner
(SIGNATURE)

measured on Hach 2100 P used by R. Hebe

measured with Horiba

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-125

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-125-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock Project #: 40324-035.013

Weather: (Part) Sun (Part) Cloudy ^{and} Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	13:48	14.4	5.33	9.1		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.46
X3 4.4

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	P.P.	1.5	6.38	14.3	1000	-10	0.88	1.43
2		3.0	6.40	14.0	950	-10	7.67	1.35
3		4.5	6.38	14.0	920	-10	0.83	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/TPH-G	11/29/95	14:45	DB	3	40	glass	HCL	yes	no
TPH-D				1	1000	Amber	none		
PAH				2	1000	Amber	none		
Total Met			PP	1	1000	Poly	HNO ₃		↓
Dis. Met				1	1000	poly	HNO ₃		yes
TDS/TSS				1	1000	poly	none		no
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	clear color	Petro like - heavy	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gregory S. Meek
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-126
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-126-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035

Weather: (Part) Sun (Part) cloudy Rain Temperature: cool °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	9:02	14.2	4.42	9.78		

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1 1.59
X3 4.78

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O ₂ (mg/l)	Other
1	PP	1.5	6.14	13.86	460	89	2.55	Pumped past intake
2	#2	3.0	6.36	13.7	470	97	0.93	
3	DB	4.5	6.50	13.2	430	184	1.96	
4	DB	6.0	6.35	13.4	390	515	1.96	Pumping at #1
5		7.5	6.27	13.3	360	272	2.78	

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

* - Drifting - erratically

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
DBTEX/TPH/G	11/30/95	10:30	DB	3	40	Amber	HCl	yes	no
TPH-D				1	1000		none		
PAH				2	1000				
T-MET			PP	1	1000	Poly	HNO ₃		YES
D-MET				1			HNO ₃		NO
TDS/TSS				1			none		

Total Bottles (include duplicate count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Brown	cloudy	none	D.I. Water	Distilled water	Hexane	

Notes: pumps past intake (sum at 7.5")

SAMPLER: Gregory S. Meall
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-127

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-127-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40.2 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/ /95	15.53	14.7	5.62	9.08		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

	Volume (gal)
X1	1.48
X3	4.4

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.75	12.7	1507	-10	0.91	
2		3.0	6.74	12.4	1570	-10	1.21	
3		4.5	6.95	12.3	1420	40	1.32	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/W/PHG	11/29/	17:00	DB	3	40 ml	B-Glass	HCl	yes	no
TPH-D			↓	1	1000	Amber	none	↓	↓
PAH			↓	2	1000	Amber	none	↓	↓
Total Met			PP	1	1000	Poly	HNO ₃	↓	↓
Dis. Met			↓	1	1000	Poly	HNO ₃	↓	yes
TDS/TSS			↓	1	↓	Poly	none	↓	no
VOA			DB	2	40	glass	HCl	↓	↓

Total Bottles (include duplicate count): 11 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	clear color	putty like	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gregory S. Woch
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-128

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-128-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Cornstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1300	5.54 15.00	5.54	9.46		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

Volume (gal)
X1 1.54
X3 4.63

WATER QUALITY DATA cumulative

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	peristaltic pump	2	6.60	15.4	720	2	1.46	
2	↓	4	6.49	15.4	720	1	1.38	
3	↓	6	6.27	15.4	720	0	0.69	
4	↓	8	6.46	15.3	710	0	0.75	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
gas/BTEX	11-30-95	1400	dup bailer	36	40	VOA	HCl	Yes	no
TPH-D ext.			↓	2	1000	amber glass	none		no
part			↓	4	1000	↓	none		no
tot. met.			perist. pump	1	1000	poly	HNO ₃		no
diss. met			↓	1	1000	poly	HNO ₃		yes
TDS/TSS			↓	1	1000	poly	none		no
Total Bottles (include duplicate count):				18	Duplicate ID: MW-690-1195		Time: 0800		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
slightly yellow	clear	Slight Hydrocarbon like	D.I. Water	Distilled water	Hexane	

Notes: No odor at well head when opened. Pumped at ~ 0.5 gpm.
No product in well.

SAMPLER: ~~R. Scott Tolford~~ (HC)

(PRINTED NAME)

Holly Corner

(SIGNATURE)

Holly Corner

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-129
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-129-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Constack Project #: 40324-035

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	09:10	14.6	7.96	6.6		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.06
X3 3.2

WATER QUALITY DATA

09:50
10:26

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	P. Pump	1.2	6.41	12.6	1260	-3	1.98	
2		2.7	6.53	12.5	900	-6	0.89	
3		3.7	6.73	12.5	1000	-9	0.47	9.81'
4		4.7	6.81	12.6	1300 902	-9	0.43	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

*-DSPH-3 - other's Horiba

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/wTPH-C	11/28/95	10:45	D.P. Bailer	3	400ml	glass	HCl		NO
TPH-D				1	1000	Amber			NO
PAH				2	1000	Amber			NO
T-metals			P. Pump	1	1000	poly	HNO3		NO
D-metals				1	1000	poly	HNO3		Yes
TDS/TSS				1	1000	poly			NO

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	Water color	none	Dist. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gregory S. Muelk
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-130
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: no sample
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F 11/29/95

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	9:04		8.94		4.81	4.13
Well dia. = Gal/ft. 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X 1	
X 3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
Total Bottles (include duplicate count):					Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

no sample collected because of product in well
 Product was black and low molecular weight

SAMPLER: Gregory S. Wack
 (PRINTED NAME)

[Signature]
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-131

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-131-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy Rain windy Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	15:38	14.9	4.41	10.5		

Water Col x Gal/ft
Volume (gal)
X1 1.0
X3 5.0

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

WATER QUALITY DATA

^{#5} DSPH-3 DSPH-3 HACK HORIBA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	P.P	3.7	6.65	13.6	1580	12	0.54	
2		3.4	6.58	13.6	1160	9.0	1.21	DO - Bad Read
3		5.1	6.57	13.7	1210	7.9	0.44	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX/TPH-G	11/28/95	16:15	PTB	3	40	glass	HCL	yes	no
TPH-D			DB	1	1000	Amber	none		
PAH's			DB	2	1000	Amber	none		
Total-met			PP	1	1000	Poly	HNO ₃		↓
Diss-met			PP	1	1000	Poly	HNO ₃		yes
TDS/TSS			PP	1	1000	Poly	none	↓	no

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
light yellow	clear color	slight pet. Lk	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gary S. Mack
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal **Well ID:** MW-132
Site Address: 11720 Unoco Rd, Edmonds, Washington **Sample ID:** MW-132-1195
EMCON Contact: Bill Halderman **Client Contact:** JDS Construction **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/20/95	1615	19.7	5.88	882		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.4
X3 4.3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.48	14.0	389	27.5	1.13	0.25gpm
2	↓	7.0	6.50	14.0	323	11.3	0.72	0.25gpm
3	↓	4.5	6.50	14.0	360	24.8	0.50	0.25gpm
4								
5								

Purge Rate

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G	11-20-95	1645	DB	3	40	VJA	HCl	Yes	NO
DTEX	↓	↓	↓	-	-	-	-	↓	↓
TPH-DX	↓	↓	↓	1	1000	Amber	-	↓	↓
PAHs	↓	↓	↓	2	1000	Amber	-	↓	↓
Total Metals	↓	↓	PP	1	1000	Poly	HNO3	↓	↓
Dissolved Met	↓	↓	↓	1	1000	Poly	HNO3	↓	YES
TDS / TSS	↓	↓	↓	1	1000	Poly	-	↓	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Clear	Sulfur-like	D.I. Water	Distilled water	Hexane	

Notes: PP @ 1/2" ⇒ 0.25 gpm
 Strong Asphalt-like Odor
 Noted turbidity while bailing
 DTW = 7.25 after sampling
SAMPLER: R. Scott Telford *R. Scott Telford*
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-133

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: MW-133-1195

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock Project #:

40324-035.

Weather: (Part) Sun (Part) Cloudy **Rain** Windy Temperature: Windy °F

For November

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	10:02	14.2	4.56	9.6		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

Volume (gal)
X1 1.5
X3 4.6

WATER QUALITY DATA

#5
DSPH-3 Horiba DSPH-3 Horiba

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.35	13.6	1420	999	0.78	
2	#2	3.0	6.24	13.8	1390	999	0.96	
3		4.6	6.28	14.1	1390	999	0.54	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BETR/PH-G	11/29/95	11:00	D.P.P.	3	40	Glass	HCl	Yes	no
TPH-D			Bailer	1	1000	Amber	none	Yes	no
PH-H			↓	2	1000	Amber	none	Yes	no
Total-mer			P.P.	1	1000	Poly	HNO3	Yes	no
Diss-mer			↓	1	1000	Poly	HNO3	Yes	Yes
TD/TSS			↓	1	1000	Poly	none	Yes	no
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Brown	Turbid	Petro like	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Gregory S. Meek
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-134
Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-134.1195
EMCON Contact: Bill Halderman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain W, ND Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	1040	29.7	21.4	8.3		
Well dia. = 6"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

	Volume (gal)
x1	1.35
x3	4.06

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
18	SB	25	6.47	13.0	180	285	5.12	0.63 gpm
22	↓	30	6.36	13.5	320	131	4.46	0.56 gpm
26	↓	35	6.37	13.0	200	135	4.25	0.38 gpm
4	↓							
5								

§ METHOD: (SB) Submersible Pump (FP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX	11-30-95	1200	DB	3	40	VOL	HCl	YES	NO
TPH-G	↓	↓	↓	-	-	-	-	↓	↓
TPH-DX	↓	↓	↓	1	1000	Amb	-	↓	↓
PAHs	↓	↓	↓	2	1000	Amb	-	↓	↓
Tot. Metals	↓	↓	SB	1	1000	Poly	HNO3	↓	↓
Diss. Metals	↓	↓	↓	1	1000	Poly	HNO3	↓	YES
TDS	↓	↓	↓	1	1000	Poly	-	↓	NO
TSS	↓	↓	↓	+	-	-	-	↓	NO
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Brown/Tan	turbid	NONE	D.I. Water	Distilled water	Hexane	

Notes: Pumped 5 gallon ↓ silty water @ < 5 gpm well went dry several times. ↓ 27' set pump @ 125 Hz 1 foot off bottom 1100 start again well went dry @ 1107 Pump went off line pulled cleaned ✓. Set pump @ lower rate < 0.5 gpm

SAMPLER: R. Scott Telford

(PRINTED NAME)

(SIGNATURE)

OVER →

Pumped 20 gallons then
Pump 1' off bottom

1125 start @ 117 Hz

1127 DTW 23.7 ↓

1129 DTW 24.2 ↓

1133 5 gallons

1134 DTW = 24.57 ↓

$$5 \text{ gal} / 8 \text{ min} = 0.63 \text{ gpm}$$

? 25 gallons

pH = 6.47 Cond = 180
check cal on pH ✓

Turb = 285 ntu DO = 5.12 Temp = 13

1140 DTW = 24.75 ↓

1142 + 5 gallons

$$5 \text{ gal} / 9 \text{ min} = 0.56 \text{ gpm}$$

Tried adjusting pump ↓ to 100 Hz No WATER 100' hose
resistance! ⇒ 112 Hz

1147 pH = 6.36 Cond = 320 Turb = 131 DO = 4.46 Temp = 13.5

1154 DTW = 23.64 -

1155 + 5 gallons @ 112 Hz

$$5 \text{ gal} / 13 \text{ min} = 0.38 \text{ gpm}$$

pH = 6.37 Cond = 200 Turb = 135 DO = 4.25 Temp = 13.0

1200 Collected Indigunics

1 Pulled pump + hose

1214 DTW = 21.41

1220 Sampled vials etc.

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-135
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-135-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.

Weather: (Part) Sun (Part) Cloudy (Rain) Temperature: 55 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/ /95	11:14	16.0	12.7	3.3		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]

Volume (gal)
X1 <u>0.1</u>
X3 <u>0.4</u>

0.2

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.1	6.27	13.3	1386	221	3.5	
2	PP	0.26	6.33	13.2	1384	40.3	3.2	
3	PP	0.4	6.49	13.2	1381	22.0	2.8	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (FTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
	11/29/95	1345							
				Total Bottles (include duplicate count):	9	Duplicate ID:		Time:	

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
None	Clear		D.I. Water	Distilled water	Hexane	

Notes: ~40 sec 150ml flow rate with small pump on 2.5 setting. Samples taken with compressed air. Samples taken with bailer were grey & silty.

SAMPLER: Russ Hebert (PRINTED NAME) [Signature] (SIGNATURE)

~40 sec = 150ml

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: *mw-136*

Site Address: 11720 Unoco Rd, Edmonds, Washington

Sample ID: *mw-136-1195*

EMCON Contact: Bill Haldeman

Client Contact: *Joe Comstock* Project #: 40324-035.

Weather: (Part) Sun (Part) cloudy Rain Wind Temperature: 57°F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	1045	15.5	8.94	6.66		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 0.2
X3 0.8

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.2	6.58	12.8	3120	68.5	1.9	LTsheen-LTodor
2	PP	0.5	6.51	12.8	3140	50.6	1.6	Nosheen-LTodor
3	PP	0.8	6.42	13.0	3150	19.9	2.4	LTodor
4	PP	1.1	6.50	12.8	3120	23.3	2.7	LTodor
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
	11/29/95	1200							
Total Bottles (include duplicate count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
LT Amber	clear	LT product odor	D.I. Water	Distilled water	Hexane	HCL

Notes: *purged + sampled with small pump on #2 setting*
4 pore volume purged because of turbidity + D.O. on
3rd plv. Very fizzy. Samples taken from pump were clear -
Samples taken from bailer were grey + very silty.

SAMPLER: Russ Hebert
(PRINTED NAME)

Russ Hebert
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-137
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-137.1295
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40.5 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
12-27-95	11:10	16.0	8.51	7.49		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 <u>1.22</u>
X3 <u>3.66</u>

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
10	PP	12.0	6.38	14.0	241	33.8	1.77	PP=2
2	↓	13.25	6.35	11.0	247	50.8	1.05	PP=1
3	↓	14.50	6.28	11.0	256	40.4	1.10	PP=1
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	12-27-95	1530	DB	3	40	VOA	HCl	Y	N
WTPH-D (ext)	↓	↓	↓	2	1000	Amber	-	↓	↓
PAHs	↓	↓	↓	2	1000	Amber	-	↓	↓
Total Metals	↓	↓	PP	1	1000	Poly	HNO3	↓	↓
Dissolved Metals	↓	↓	↓	1	1000	Poly	HNO3	↓	Y
TSS/TDS	↓	↓	↓	1	1000	Poly	-	↓	N

Total Bottles (include duplicate count): _____ Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Clear	None	D.I. Water	Distilled water	Hexane	

Notes: Dark Brown & Grey → Cleared up
Sampled. Re-developed and purged additional
10 gallons. Water remained turbid.

SAMPLER: R. Scott Telford
(PRINTED NAME)

R. Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal

Well ID: MW-138

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-138.1295

EMCON Contact: Bill Haldeman Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain WIND Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
12-27-95	11:15	15.8	7.91	7.89		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 <u>1.3</u>
X3 <u>4.0</u>

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
10	PP	13.0	6.21	11.0	9290	53.1	0.5	PP=8
2	↓	14.3	6.26	11.5	9000	26.0	0.5	PP=2
3	↓	15.6	6.27	11.5	9190	20.8	1.6	PP=1
4	↓							
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	12-27-95	1420	DB	3	40	VOA	HCl	Y	N
WTPH-D (ext)			↓	2	1000	Amber	-	↓	↓
PAHs			↓	2	1000	Amber	-	↓	↓
Total Metals			PP	1	1000	Poly	HNO3	↓	↓
Dissolved Metals			↓	1	1000	Poly	HNO3	↓	Y
TSS/TDS			↓	1	1000	Poly	-	↓	N

Total Bottles (include duplicate count): 10 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	None	D.I. Water	Distilled water	Hexane	

Notes: DARK BROWN FOIE FIRST ~3 PVS -> cleared up
Sampled. Re-developed and purged 6 more PVS

SAMPLER: R. Scott Telford
(PRINTED NAME)

R. Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: *MW-139*
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: *MW-139.1295*
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloud Rain Temperature: *70* °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
<i>12-28-95</i>	<i>1147</i>	<i>15.0</i>	<i>5.80</i>	<i>9.20</i>		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.853 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
Volume (gal)	
X1	<i>1.5</i>
X3	<i>4.5</i>

WATER QUALITY DATA Pump Rate

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
10	PP	<i>15.0</i>	<i>6.39</i>	<i>12.0</i>	<i>3420</i>	<i>16.1</i>	<i>1.3</i>	<i>PP=8</i>
2	↓	<i>16.5</i>	<i>6.41</i>	<i>13.0</i>	<i>3330</i>	<i>8.47</i>	<i>1.1</i>	<i>PP=2</i>
3	↓	<i>18.0</i>	<i>6.42</i>	<i>13.0</i>	<i>3340</i>	<i>7.47</i>	<i>0.8</i>	<i>PP=1</i>
4								
5								

1.33 gpm
0.50 gpm
0.25 gpm

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/ETEX	<i>12-27-95</i>	<i>1224</i>	<i>DB</i>	3	40	VOA	HCl	Y	N
WTPH-D (ext)	↓	↓	↓	2	1000	Amber	-	↓	↓
PAHs	↓	↓	↓	2	1000	Amber	-	↓	↓
Total Metals	↓	↓	<i>PP</i>	1	1000	Poly	HNO3	↓	↓
Dissolved Metals	↓	↓	↓	1	1000	Poly	HNO3	↓	Y
TSS/TDS	↓	↓	↓	1	1000	Poly	-	↓	N

Total Bottles (include duplicate count): *10* Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color <i>Yellow</i>	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<i>Colorless</i>	<i>Clear</i>	<i>Organic</i>	D.I. Water	Distilled water	Hexane	

Notes: *Brown sandy silty during first 3 pvs then cleared up. Re developed => Dark Brown Cleared up After ~4 pvs. Slight asphaltic-like odor*

Total of 3 drums generated for sampling event

SAMPLER: R. Scott Telford *R. Scott Telford*

(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-7U
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-7U-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Constock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy (Rain) WINDY Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	0830	93.0	75.25	14.75		
11/29			75.25			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675

[Water Col x Gal/ft]

Volume (gal)
X1 2.4
X3 7.2

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	SB	2.5	6.85	14.0	516	196	1.22	0.28 gpm
2	↓	5.0	6.86	14.0	529	78.7	0.78	0.28 gpm
3	↓	7.5	6.85	14.0	499	43.2	0.45	0.28 gpm
4								
5								

§ METHOD: (SB) Submersible Pump (P) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX	11-28-95	1000	DR	3	40	VOL	HCL	✓	—
TPH-h		↓	↓	1	1000	Amb	—	✓	—
TPH-Dx		↓	↓	2	1000	Amb	—	✓	—
PAH's		↓	↓	1	1000	Poly	HNO3	✓	—
Total Metals		0940	SB	1	1000	Poly	HNO3	✓	—
Diss Metals		0940	↓	1	1000	Poly	HNO3	✓	YES
TDS		0940	↓	1	1000	Poly	—	✓	—
TSS		0940	↓	—	—	—	—	—	—

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Grey	Slight Turbid	None	D.I. Water	Distilled water	Hexane	

Notes: Start Purge @ 0906 @ 190Hz 100 flow 5 gal @ 0724
 Cleared up after 15" PV. Rate = 0.28 gpm
 DTW Pumping @ 0945 = 75.48

SAMPLER: R. Scott Telford
 (PRINTED NAME)

R. Scott Telford
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-13U
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-13U-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035. 023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Product Thickness]	[Water Col x Gal/ft]
Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW		Volume (gal)
11/29/95	1600	24.0	17.33	6.67				X1 1.1
								X3 3.3
Well dia. = Gal/ft: 2"=0.041 2"=0.163 4"=0.653 6"=1.459 10"=4.080 12"=5.875								

? meter NOT working correctly ? meter NOT working correctly WET purge rate

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.1	↓	14.0	622	33.2	3.04	0.25 gpm
2	↓	2.2	↓	14.0	619	17.0	2.33	0.25 gpm
3	↓	3.3	6.75	14.0	510	17.0	2.47	0.25 gpm
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter:
BTEX	11-29	1630	DB	3	40	VDA	HCl	Yes	NO
TPH-G	↓	↓	↓	-	-	-	-	↓	↓
TPH-DX	↓	↓	↓	1	1000	Amber	-	↓	↓
PAHS	↓	↓	↓	2	1000	Amber	-	↓	↓
Tot. Metals	11-29	1620	PP	1	1000	Poly	HNO ₃	↓	↓
Diss Metals	↓	↓	↓	1	1000	Poly	HNO ₃	↓	Yes
TDS	↓	↓	↓	1	1000	Poly	-	↓	NO
TSS	↓	↓	↓	-	-	-	-	↓	NO
Total Bottles (include duplicate count):					Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Clear	no odor	D.I. Water	Distilled water	Hexane	

Notes: PP set @ 1.5 → 2nd 0.25 gpm Purge rate.

notice turbidity aft 2nd bailer during sampling
 DTU aft sampling = 17.33

SAMPLER: R. Scott Telford (PRINTED NAME) R. Scott Telford (SIGNATURE)

FIELD SAMPLING DATA SHEET + RINSEASE



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-134
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-134-1195
 EMCON Contact: Bill Haldeman Client Contact: JOE COMSTOCK Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain WIND Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/30/95	0900	24.0	17.33	6.67		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
x1	1.1
x3	3.3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.1	6.38	14.0	245	49.1	3.30	0.25 gpm
2	↓	2.2	6.39	14.0	247	33.9	2.58	0.25 gpm
3	↓	3.3	6.41	14.0	265	19.5	2.80	0.25 gpm
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
VOC	11-30-95	1005	DB	2	40	VDA	HCl	Y	-
TPH-6	11-30-95	0930	PB	3	40	VDA	HCl	Y	-
BTEX			DB	-	-	-		Y	-
TPH-D x			DB	1				Y	-
PAHs			DB	2				Y	-
TOTAL metals			PP	1			HNO3	Y	-
DISS metals			PP	1			HNO3	Y	Yes
TDS / TSS			PP	1				Y	-

Total Bottles (include duplicate count):

Duplicate ID:

Time:

rinseate field blank

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	No ODOOR	D.I. Water	Distilled water	Hexane	

Notes: Collected Rinseate field blank prior to sampling well for VOCs Purged well at 1-2" on PP. 0.25 gpm

SAMPLER: R. Scott Telford

(PRINTED NAME)

R. Scott Telford

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-201
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-201-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain WINDY Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	0850	119.3	103.09	16.21		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 2.64
X3 7.92

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other	
1	SB	75	7.07		415				
2		+2.75	6.96	12.5	391	965	4.48		
3		+2.75	7.15	13.0	428	715	4.08	665 NTU	
4	✓	+2.75	7.07	13.0	411	508	4.24		
5		Pump @	0.14 gpm to sample parameters						0.14 gpm

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX	11-28-95	1120	DB	3	40	Volt	HCl	Yes	NO
TPH-G		1120		-	-	-	-		
TPH-Dx		1120		1	1000	Amber	-		
PAHs		1120	✓	2	1000	Amber	-		
Total Metals		1100	SP	1	1000	Poly	HNO ₂		✓
Diss Metals		1100		1	1000	Poly	HNO ₃		Yes
TDS		1100		1	1000	Poly	-		NO
TSS		1100	✓	-	-	-	-	✓	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
TAN	TURBID	NONE	D.I. Water	Distilled water	Hexane	

Notes: Pump set at 350 Hz v. Silty water 25 gal →

@ 10⁰⁰ pump directly into drum @ 350 Hz + 55 gal @ 1018 = 3gpm

@ 10⁴⁰ pump @ 200 Hz begin water quality parameters

1.00 NTU FILTERED

DTW = 102.93 after sampling.

SAMPLER: R Scott Telford

(SIGNATURE) R. Scott Telford 1/20

lowest pumping rate = 200 Hz

8.25 gal / 20 min = 0.14 gpm

col off / slow @ 10³⁰ DO / TURB ✓ ✓

75 gpm
440 gpm

Calibrated pH / Cond probe ✓ ✓ 1036

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-202
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-202-1195
 EMCON Contact: Bill Halderman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind: WIND Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/28/95	1300	97.5	87.87	9.63		
Well dia. = 6" dia. 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
x1 1.57
x3 4.71

WATER QUALITY DATA

VER
PURGED

? remained slightly turbid.

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	SB	1.57	6.38	13.5	463	931	2.60	
2*	↓	9.00	6.35	14.0	497	E3	1.46	
3*	↓	18.00	6.40	14.0	530	172	1.60	0.70 gpm?
4								
5								

§ METHOD: (SB) Submersible Pump (FP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-6	11-28-95	1520	DB	3	40	VOA	HCl	Yes	ND
BTEX		1520	↓	-	-	-	=	↓	↓
TPH-Dx		1520	↓	1	1000	Amber	-	↓	↓
PAHs		1520	↓	2	1000	Amber	-	↓	↓
Total Metals		1500	SB	1	1000	Poly	HNO3	↓	↓
Diss Metals		1500	SB	1	1000	Poly	HNO3	↓	Yes
TDS		1500	SB	1	1000	Poly	-	↓	ND
TSS		1500	SB	-	-	-	-	↓	ND

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
LT TAN	TURBID	LT TAN/2	D.I. Water	Distilled water	Hexane	

Notes: DTW during pumping = 95" pump dry - release

1.9 gpm @ 280 Hz pulsing. Pump 1 foot off bottom

DTW after sampling = 88.12 1541

Lowest pumping rate possible to purge = 280 Hz

SAMPLER: R. Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-203
Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-203-1195
EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain W,WD Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	1350	29.4	22.72	6.68		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 1.09
X3 3.3

WATER QUALITY DATA

METRY NOT WORKING WSP * USED Russ' ORION FOR PH

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	6B	41.1	*	15.0	375	934	2.45	4 gpm
2	8B	42.2	6.65	15.0	373	797	2.04	0.15 gpm
3	9B	43.3	6.67	15.0	374	199	2.14	↓
4	5B	44.4	6.77	15.0	380	71.7	2.51	↓
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX	11-29-95	1520	DB	3	40	VOA	HCl	YES	NO
TPH-6i	↓	↓	↓	-	-	-	-	-	-
TPH-DX	↓	↓	↓	1	1000	Amb	-	YES	↓
PAHs	↓	↓	↓	2	1000	Amb	-	↓	↓
Total Metals	↓	1500	SB	1	1000	Poly	HNO3	↓	↓
Diss Metals	↓	↓	↓	1	1000	Poly	HNO3	↓	YES
TDS	↓	↓	↓	1	1000	Poly	-	↓	NO
TSS	↓	↓	↓	-	-	-	-	↓	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
TAN/Brown	Turbid → clear	None	D.I. Water	Distilled water	Hexane	

Notes: Start @ 1400 Pump @ 360 Hz v silty pump 20 gal 4 gpm
by 1405 ↓ 108 Hz ⇒ Pump @ 360 Hz + 20 gal
↓ 108 Hz DTW = 22.97 → 98 Hz 3 gal in 20 min 0.15 gpm
Pump set at 3' above bottom

SAMPLER: R. Scott Telford
(PRINTED NAME)

R. Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds - Bulk Fuel Terminal Well ID: MW-204
 Site Address: 11720 Unoco Rd, Edmonds, Washington Sample ID: MW-204-1195
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **Rain** WIND Temperature: 50°s °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
11/29/95	1100	30.0	31.76	8.97		
		40.7				

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
	Volume (gal)
X1	1.75
X3	4.32

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	SB	35						7.5 gal
2		40	6.59	13.0	370	183	2.20	2 gal
3		41	6.41	13.0	370	111	2.28	0.13 gal
4		42	6.43	13.0	336	98.2	1.67	0.13 gal
5								

§ METHOD: (SB) Submersible Pump (FP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
BTEX	11-29	1200	PB	3	40	VOA	HCl	Yes	NO
TPH-6	↓	↓	↓	-	1000	-	-	Yes	↓
TPH-Dx	↓	↓	↓	1	1000	Amb	-	Yes	↓
PAHs	↓	↓	↓	2	1000	Amb	-	Yes	↓
Tot Metals	11-29	1150	PP	1	1000	POLY	HNO ₃	Yes	↓
Diss Metals	↓	1150	PP	1	1000	POLY	HNO ₃	Yes	Yes
TDS	↓	1150	PP	1	1000	POLY	HNO₃	Yes	NO
TSS	↓	1150	PP	-	-	-	-	Yes	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Tan	Turbid	None	D.I. Water	Distilled water	Hexane	

Notes: 150 ml / 18 sec low pumping rate ~ 120 Hz Sampling
 @ 35' bgs 5 @ 2 gal 35 gal @ 7.5 gal silk Purging
 Pump 5' off bottom

Bill Haldeman assisted sampling - *R. Scott Telford*
 SAMPLER: R. Scott Telford (PRINTED NAME) *R. Scott Telford* (SIGNATURE)

0 ml/min

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: ~~MW-LM-2~~
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-LM-2-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/23/96	0826	8.0	1.55			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 <u>108</u>
X3 <u>3.24</u>

Time of P
1350
1304
1310
1316

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.1	2.97	10.0	4350	5.31	3.2	pale 1.35
2	PP	2.2	3.72	10.1	3930	2.90	1.6	clear colorless 3.08
3	PP	3.2	3.95	9.8	3750	2.44	2.6	clear colorless 2.98
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	1330	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
pale amber	clear	NONE	D.I. Water	Distilled water	Hexane	

Notes: pumped with large peristaltic settings #1 = 0.2 gpm
5.5 min per pore volume.

SAMPLER:

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- **LM-3**
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Halderman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **(Rain)** Wind Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	09:30		0.87		0.84	0.03
Well dia. = G=1/4" 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X 1	
X 3	

WATER QUALITY DATA NOT SAMPLED

Pore Vol	Method ⁵	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

5 METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ⁵	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/ /96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: **Noted 0.03' product. Well casing not set.**

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-7

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-7-0296

EMCON Contact: Bill Hakdeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 39 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/23/96	0905	13.0	4.82			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675

Volume (gal)
X1 1.3
X3 4.0

WATER QUALITY DATA

START TIME 0910
0915
0922
0929

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.3	6.55	8.4	110	73.7	2.6	NO odor pale yellow
2	PP	2.6	6.49	8.0	111	16.4	3.0	NO odor clear, colorless
3	PP	4.0	6.52	8.0	114	12.4	2.0	NO odor clear, colorless
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

APV
6.84
7.17
7.31

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	0935	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	clear	NONE	D.I. Water	Distilled water	Hexane	

Notes: pump rate = large peristaltic pump on setting #1 = 0.29 gal/min approx. 6.5 min per pore volume. small patches of brown film like substance, only small amount.

SAMPLER: Russ Hickey
(PRINTED NAME)

Russ Hickey
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-8
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-8-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/2/96	1411	12.6	7.10			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 <u>0.9</u>
X3 <u>2.6</u>

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.0	6.10	8.3	137	5.17	1.3	pale yellow
2	DB	2.0	6.12	8.1	131	5.44	1.9	pale yellow
3	PP	3.0	6.16	8.1	129	4.77	2.1	pale yellow
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/2/96	1630	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): _____ Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<u>pale yellow</u>	<u>Good</u>	<u>Mild</u>	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER:

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal **Well ID:** MW- 10
Site Address: 11720 Unoco Rd. Edmonds, Washington **Sample ID:** MW-
EMCON Contact: Bill Haldeman **Client Contact:** Joe Comstock **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: _____ °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	1353		5.12		4.74	0.38
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Water Col x Gal/ft
Volume (gal)
X 1
X 3

WATER QUALITY DATA NOT SAMPLED

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/ 196		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): _____ Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Registered 0.38' product

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 20
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/ 196	10:09		7.68			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method ⁵	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ⁵	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/ 196		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Tested for product-sheen with disposable bailer
 Bailer came up brown with sheen on water.

SAMPLER: _____
 (PRINTED NAME)

 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 22

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW- 22-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	1418	15.0	7.61	7.39		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1: 1.2
X3: 3.6

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.2	7.47	10.5	370	43.3	1.64	
2	↓	2.4	7.21	10.5	330	20.7	1.09	
3	↓	3.6	6.80	11	314	14.5	0.95	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	11:45	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
VOCS	↓	↓	DB	2		VOA	HCL	YES	NO

Total Bottles (include duplicate count): 10

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Slightly turbid	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER:

Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 28
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 28- 0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	0939	15.0	5.166	9.34		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.52
X3 4.56

WATER QUALITY DATA

Pore Vol	Method #	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	5.76	8.0	344	2.17	7.61	
2	↓	3.0	5.69	8.0	358	1.83	6.85	
3	↓	4.5	5.84	8.0	359	1.33	5.87	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method #	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1145	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-101

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-101-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/13/96	850	15.2	7.77	4.43		
Well dia. = Galrit: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.2
X3 3.6

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.2	6.58	9.0	835	18.7	3.53	900 ml/min
2	↓	2.4	6.73	9.5	968	8.34	3.66	690 ml/min
3	↓	3.6	6.77	9.5	1031	8.65	2.21	690 ml/min
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/13/96	0930	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: 703 Time: 0800

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
		odor	D.I. Water	Distilled water	Hexane	

Notes: Iron slime in suspension when first started pumping
Per: pump set below #1 & lower

SAMPLER:

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-102
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Hakeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	1301		9.02		8.99	0.03
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)

X 1

X 3

WATER QUALITY DATA **NOT SAMPLED**

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Registered 0.03' of product on probe

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 103
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	0942		6.10			Film

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

Volume (gal)
X 1
X 3

WATER QUALITY DATA NOT SAMPLED

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Lowered disposable bailer into well pulled out first 2' of water and noted a film of product coating bailer.

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-104
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-104-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/27/96	10:45	15.2	6.97			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.35
X3

not pvc
1052
1059
1107
1116

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.35	6.45	9.6	114	6.22	2.2	pale milky color
2	DB	2.70	6.60	9.8	111	1.77	2.1	clear milky color
3	DB	4.07	6.80	9.9	112	1.97	2.2	clear milky color
4								
5								

dfwe
plv
7.61
7.60
7.44

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/27/96	11:30	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: large peristaltic pump on Sittling #1 = 0.26cm

Approx 7 min per pore volume

SAMPLER:

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-105

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-105-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	0935	14.6	7.35	7.25		
Well dia. = Galfc 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.18
X3 3.54

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.2	6.21	9	157	36.1	3.96	
2	↓	2.4	6.01	8.5	140	21.1	4.13	3.81
3	↓	3.6	6.07	8.5	137	21.1	4.22	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1045	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	✓	✓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange

(PRINTED NAME)

Michelle Lange

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-106
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-106-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	0938	16.0	8.33	7.67		
Well dia. = Gall: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 1.25
X3 3.75

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.25	6.09	8.5	244	21.1	1.90	
2	↓	2.50	5.91	8.5	269	1.72	1.73	
3	↓	3.75	5.67	8.5	275	1.41	1.88	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1115	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-107
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-107-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW	[Water Col x Gal/ft] Volume (gal)
02/21/96	0941	16.0	7.28	8.72			X1: 1.42 X3: 4.26
Well dia. = Garft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875							

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.42	5.93	10.0	300	3.20	1.98	
2	↓	2.84	5.99	10.0	297	9.44	1.40	
3	↓	4.26	6.03	10.0	298	4.30	1.28	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (CP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1200	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO
Rem. Param	↓	↓		3		Poly			
Total Bottles (include duplicate count):				11	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCL	Nitric
clear	clear	no noticable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange Michelle Lange
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-108
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-108-0294
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 42 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/24/96	1338	13.9	5.39			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 0.34
X3 1.0

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.33	5.94	10.7	1393	189	2.8	DTW
2	PP	0.77	6.33	11.1	1444	70.8	2.0	6.72
3	PP	7.0	6.44	11.0	1473	44.0	0.9	
4	PP	8.0	6.42	10.4	1453	28.3	1.6	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/24/96	1450	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
brown	very turbid	uncharacteristic	D.I. Water	Distilled water	Hexane	


Notes: lg. pore volumes due to high turbidity.
 purge water turns black when exposed to air.
 DTW = 6.24 after purged.

SAMPLER: _____

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 109
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 109-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: *F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW	[Water Col x Gal/ft]
02/23/96	1255	14.0	6.09				X1 0.32
							X3

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.459 10"=4.080 12"=5.875

WATER QUALITY DATA

Time of PIV 1400
 1409
 1421
 1431

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.32	5.40	10.2	1335	49.7	3.1	pale, musty 8.27
2	PP	0.64	5.55	9.9	1340	15.4	2.0	pale, musty 8.15
3	PP	1.0	5.60	9.8	1376	21.5	2.8	pale, musty 8.04
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	1450	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: pumped using small peristaltic - rate = 150 ml every 30 Sec - 300 ml per min.

SAMPLER: _____ (PRINTED NAME) _____ (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 110

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	12:46		5.96		4.02	1.94
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X 1
X 3

WATER QUALITY DATA NOT SAMPLED

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:


Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Registered 1.94' product with the O/U interface probes.

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal **Well ID:** MW- 112
Site Address: 11720 Unoco Rd. Edmonds, Washington **Sample ID:** MW-112-0296
EMCON Contact: Bill Haldeman **Client Contact:** Joe Comstock **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain **Temperature:** 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	1640	14.4	11.5	2.9		
Well dia. = Gauff: 1"=0.041 <u>2"=0.163</u> 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X1	2.0
X3	6.0

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	2.0	6.31	9.0	563	7.42	1.45	
2	↓	4.0	6.57	9.0	544	5.13	0.84	
3	↓	6.0	6.55	9.5	531	2.49	0.49	
4							0.41	
5								

§ METHOD: (SB) Submersible Pump; (PP) Peristaltic Pump; (DB) Disposable Bailor; (PTB) PVC/Teflon Bailor; (Ded B) Dedicated Bailor; (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/22/96	1715	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)		↓	DB	1	1000	AMBER		YES	NO
PAHs		↓	DB	2	1000	AMBER		YES	NO
Total Metals		↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals		↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow yellow	clear	organic	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-115
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy (Rain) Wind Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	0952		4.22		FILM	

[Water Col x Gal/ft]

Volume (gal)
X1
X3

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

WATER QUALITY DATA NOT Sampled

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Product Film

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-117

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-117-0291

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	1645	14.5	3.47	11.5		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1 2
X3 6

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	2	6.60	9.5	555	5.34	1.56	
2		4	6.43	9.0	684	4.07	0.49	
3	↓	6	6.47	9.5	708	3.79	0.59	
4			6.46	9.5	696	—	0.49	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/22/96	1725	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS	✓	✓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	clear	organic	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange

(PRINTED NAME)

Michelle Lange

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-119

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-119-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	0837	13.8	2.96			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.7
X3

WATER QUALITY DATA

0850
0907
0914

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.7	6.45	8.4	598	21.9	1.9	clear mild
2	PP	3.53	6.53	8.3	522	7.23	1.9	clear mild
3	PP	5.1	6.58	8.2	479	10.9	1.8	clear mild
4								
5								

dtwe
NW

4.33
4.63
4.80

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/22/96	0925	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 16 Duplicate ID: MW-701-0296 Time: 0935

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
1/20/1000	Clear	mild product	D.I. Water	Distilled water	Hexane	

Notes: 150ml/10sec 0.96 psi min. large peristaltic pump
Setting on # 15

SAMPLER: Russ Helbert

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-120

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-120-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	1400	41.0	5.32	35.68	5.32	

Well dia. = Galfit: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1: <u>5.9</u>
X3:

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	6	7.37	11	1167	21.7	1.62	
2	↓	12	8.52	10.5	1520	16.3		
3	↓	18	7.22	9.5	1464	11.2	1.91	
4			7.15	10.0	1524	8.19	1.88	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1530	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS	✓	✓	PP	1		POLY		YES	NO
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER:

Michelle Laner
(PRINTED NAME)

(SIGNATURE)

Michelle Laner

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-121
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-121-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/23/96	0848	40.0	8.58	31.42		

Well dia. = 6"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/ft]

	Volume (gal)
X1	5.12
X3	15.36

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	5.1	6.96	13	632	3.79	2.57	
2	↓	10.2	7.06	12.5	611	3.25	2.34	
3	↓	15.3	7.03	12.5	605	3.68	2.51	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	0945	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO


Total Bottles (include duplicate count): 11 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	odor	D.I. Water	Distilled water	Hexane	

Notes: ac

SAMPLER: Michelle Lange (PRINTED NAME) Michelle Lange (SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal **Well ID:** MW-122
Site Address: 11720 Unoco Rd. Edmonds, Washington **Sample ID:** MW-122-0296
EMCON Contact: Bill Haldeman **Client Contact:** Joe Comstock **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain **Temperature:** 39 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/23/96	10:28	40.0	7.19			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X1	5.3
X3	16.0

WATER QUALITY DATA

Time of PV
 10:30
 11:00
 11:20
 11:40

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other	
									7.19
1	PP	5.5	7.36	10.6	695	5.13	1.7	Amber, Clear	7.57
2	PP	11.0	7.52	10.6	1045	3.11	1.9	Amber, Clear	7.54
3	PP	16.5	7.59	10.8	1118	3.52	2.4	Amber, Clear	7.56
4									
5									

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	11:55	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Amber	Clear	NONE	D.I. Water	Distilled water	Hexane	

Notes: pumped with large peristaltic at settings of #1 = 0.2 Gpm
 Approx 76 min per pore volume - pump settings increased to
 #1.5 approx 0.25 Gpm 21 min per pore volume.

SAMPLER: Russ Hebert Russ Hebert
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 123
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-123-0291
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	1900	14.7	5.41	9.29		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.5
X3	4.5

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	7.00	12	1212	26.9	0.93	
2	↓	3.0	6.88	12	1083	10.9	0.90	
3	↓	4.5	6.95	11	1095	7.1	0.97	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1525	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
VOCS	↓	↓		2		VOA	HCL		
Total Bottles (include duplicate count):				10	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellowish	clear	hydrocarbon-like odor	D.I. Water	Distilled water	Hexane	
Notes:						

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-124
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/27/96	1426		5.52		5.51	0.01
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]

Volume (gal)
X1
X3

WATER QUALITY DATA NOT SAMPLED

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Product registered interface probe.

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-125
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-125-02910
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **Rain** Temperature: **40** °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/19/96	1403	14.4	4.48	9.92		

Well dia. = Galv. 1"=0.041 2"=0.163 4"=0.653 6"=1.459 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/l]

Volume (gal)
X1: 1.6
X3: 4.8

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.6	5.87	8.0	773	17.1	2.25	
2	↓	3.2	6.11	8.0	879	14.9	1.40	
3	↓	4.8	6.28	8.0	888	14.2	1.52	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1435	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)		1530	DB	1	1000	AMBER		YES	NO
PAHs		1438	DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): **8** Duplicate ID: _____ Time: _____


Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	hydrocarbon like odor	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-126
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-126-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	0914	14.2	3.14			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.80
X3	

START TIME WATER QUALITY DATA

0955
10:04
10:12
10:22

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.80	6.78	9.0	353	86.8	1.2	pale mild
2	PP	3.60	6.85	9.2	349	36.2	1.6	pale mild
3	PP	5.40	6.86	9.3	347	35.8	1.8	pale mild
4								
5								

5.65
6.25
6.35
 HW & PLU

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/22/96	1025	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
pale yellow	clear	mild product	D.I. Water	Distilled water	Hexane	

Notes: Large peristaltic pump in section # 1.0 = 0.76pm
9 min per pore volume.

SAMPLER: Russ Helbert Russ Helbert
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-127
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-127-0296
 EMCON Contact: Bill Hakeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	1400	14.7	6.11			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.468 10"=4.080 12"=5.875

Water Col x Gal/ft
Volume (gal)
X1 1.4
X3 4.2

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.65	9.9	665	12.6	5.4	LT Brown/Cloud
2	PP	3.0	6.75	10.2	731	11.3	2.1	LT Brown/Cloud
3	PP	4.8	6.96	10.2	788	8.57	2.5	" " "
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1445	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
VOCS				1		VOA	HCL		

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Pale yellow	Fair	NONE	D.I. Water	Distilled water	Hexane	


Notes: purple water was LT Brown - TAN, 5% maybe was pale yellow.

SAMPLER:

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016	Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-128
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-128-0796
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Product Thickness]	[Water Col x Gal/m]
Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW		Volume (gal)
02/21/96	1455	15.0	5.55					X1 1.54
								X3 4.62
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875								

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.54	6.32	10.9	657	37.0	4.6	LTTAN
2	PP	3.1	6.36	11.4	652	15.1	2.8	LTTAN
3	PP	4.62	6.48	11.9	643	16.5	2.9	LTTAN
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (FTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1550	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
Rem. Param				3		Poly			

Total Bottles (include duplicate count): _____ Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
LTTAN	slightly cloudy	NO ODE	D.I. Water	Distilled water	Hexane	

Notes: _____

SAMPLER: _____ (PRINTED NAME) _____ (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 129
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy (Rain) Wind Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	0824		7.53		FILM	
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X 1	
X 3	

WATER QUALITY DATA NOT SAMPLED

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Noted a film of product. Solid tone on interface probe < 0.01' of product

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal **Well ID:** MW- 131
Site Address: 11720 Unoco Rd. Edmonds, Washington **Sample ID:** MW- 131-0296
EMCON Contact: Bill Haldeman **Client Contact:** Joe Comstock **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/23/96	1025	14.9	4.41	10.49		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.71
X3 5.13

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.7	6.50	10	1090	33.6	3.45	640 ml/kg
2	↓	3.4	6.62	9.5	1121 (1035)	35.9	4.11	
3	↓	5.1	6.62	7.5	992	6.98	3.37	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	1115	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 11 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Slightly turbid	Slight hydrocarbon-like odor	D.I. Water	Distilled water	Hexane	

Notes: Iron suspension

- +3 QC Note: DTW after sampling 5.32
Turbidity = 1.67 NTU after bailing
SAMPLER: Michelle Lange Michelle Lange
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 132
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 132-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/23/96	855	14.7	5.90	8.80		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X 1 1.4
X 3 4.2

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.4	6.26	9.5	319	107.2	3.25	
2	↓	2.8	6.63	10	328	102.0	1.97	
3	↓	4.2	6.66	9.5	338	23.2	2.24	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/23/96	930	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO
Rem. Param	↓	↓		3		POLY			
Total Bottles (include duplicate count):				11	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	strong product-like	D.I. Water	Distilled water	Hexane	

Notes: -Probe smelled strongly of product.
-Sheen on purge water

SAMPLER: Michelle Lange (PRINTED NAME) Michelle Lange (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-133

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-133-02916

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/27/96	1534	14.2	3.72	10.48		

Volume (gal)
X1 1.7
X3 5.1

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	2	6.40	9.5	1690	108	1.27	
2	↓	4	6.41	10.0	1700	480	0.97	
3	↓	6	6.40	9.5	1675	63.9	0.90	
4		7	6.41	9.5	1665	43.1	0.94	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/27/96	1630	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO
Total Bottles (include duplicate count):				10	Duplicate ID: QA/QC		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
tan	very turb	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Larger pore volumes due to high turbidity

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-134
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-134-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 45 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	1415	29.7	21.31	8.39		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
	Volume (gal)
X1	1.37
X3	4.11

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.4	6.36	11	244	11.2	5.59	
2	↓	2.8	6.31	11	219	13.7	5.33	
3	↓	4.2	6.27	11	212	12.8	5.60	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/22/96	1500	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: 1425 - calibrated pH meter to 7 and 9.
E Cond to zero and 720 µS.

SAMPLER: Michelle Langs
(PRINTED NAME)

Michelle Langs
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-135

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-135-0296

EMCON Contact: Bill Hakeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 38 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/27/96	1305	16.0	10.80			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 0.2
X3 0.6

WATER QUALITY DATA

13.23
13.00
1400
1454
1510

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.2	6.90	9.1	1577	12.6	3.3	dark yellow
2	PP	0.5	6.74	8.6	363	63.2	3.6	clear colorless
3	PP	1.0	6.72	8.7	352	9.53	3.0	clear colorless
4								
5								

RAH
11.73
11.82

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/27/96	1530	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	clear	NONE	D.I. Water	Distilled water	Hexane	


Notes: pump rate = 150ml every 30 sec. RAH
pump rate = 150ml every 50 seconds, time between ple #1
& ple #2 accounts for sampling mw-136 and pump change
in mw-135-

SAMPLER: _____

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-136
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-136-0296
 EMCON Contact: Bill Hakdeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/19/96	1310	15.5	8.05			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Water Col x Gal/ft	
Volume (gal)	
X1	0.3
X3	0.9

WATER QUALITY DATA

13:23
 13:30
 13:44

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.3	6.57	9.1	401	509	2.4	black, silty 10.9
2	PP	1.0	6.60	8.3	479	66.1	3.0	pale, clear 11.17
3	PP	1.5	6.65	8.4	528	49.8	2.5	clear, colorless 11.30
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/19/96	1420	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: pump rate = 150 ml every 30 seconds = 300ml every min. pump rate decreased to 150ml every 45 sec. Insufficient water to sample after purge 3/PP - allowed 30min recovery before sampling.

SAMPLER: Russ Hebert Russ Hebert
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-~~138~~ ^{RAT} 137

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-137-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	0946	15.8	7.38	8.42		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.37
X3 4.11

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.4	6.34	8.5	381	10.7	7.6	
2	↓	2.8	6.38	8.0	405	12.5	7.7	
3	↓	4.2	6.31	8.0	344	12.0	7.0	
4			6.32	8.1	351	9.16	7.4	
5								

^s METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1235	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange

(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-~~138~~ 138
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-138-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/21/96	0943	16.0	7.69	8.31		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
x1 1.35
x3 4.05

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1		1.35	6.15	8.1	643	8.86	4.3	cloudy, odorous
2		2.70	6.38	8.7	689	6.93	4.2	clear, odorous
3		4.05	6.29	9.5	727	6.76	4.9	clear, odorous
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1215	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER:

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-74-

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-74-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/26/96	1540	90.0	75.15	15.0		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 2.45
X3 7.35

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	SB	15.0	6.63	11.5	599	74.7	1.50	188 Hz
2	↓	17.5	6.90	13.0	559	43.3	0.91	
3	↓	20.0	6.91	13.0	572	14.5	0.98	
4		20.225				11.8		
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/26/96	1630	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1	500	POLY	HNO3	YES	NO
Dissolved Metals			PP	1	500	POLY	HNO3	YES	YES
TDS/TSS			PP	1	500	POLY		YES	NO
Total Bottles (include duplicate count):				13	Duplicate ID: QL		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
blue gray	turbid	none	D.I. Water	Distilled water	Hexane	

Notes:

5 gallons / 13.5 min

Cleared up during purging

Broke 1 1/2 amber for D-ext QL

SAMPLER: Scott Telford

(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-13U
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-13U-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rainy Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/24/96	1100	24.0	16.82	7.18		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.090 12"=5.875						

Volume (gal)
X1 1.17
X3 3.51

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.2	6.50	13	289	26.5	2.95	
2	↓	2.4	6.48	13	294	12.6	3.14	
3	↓	3.6	6.47	13.5	295	5.32	3.35	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
VOCS		1200		2	40	VOA	HCL	YES	NO
TPH-G/BTEX	02/22/96		DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS	✓	✓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 10 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-201
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-201-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Cornstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/28/96	1330	119.3	102.31	17.0		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

	Volume (gal)
X1	2.77
X3	8.31

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Do. Other
1	SB	10.0	6.91	13.0	448	35.3	3.75	3.26
2	↓	15.0	6.95	13.0	421	22.2	3.05	3.09
3	↓	20.0	7.09	13.0	422	14.4	2.93	2.84
4		23.0				12.5		
5						365		After Sample

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1440	DB	2 2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1 1	1000	AMBER		YES	NO
PAHs			DB	2 2	1000	AMBER		YES	NO
Total Metals			PP	1 1	500	POLY	HNO3	YES	NO
Dissolved Metals			PP	1 1	500	POLY	HNO3	YES	YES
TDS/TSS			PP	1 1	500	POLY		YES	NO
Total Bottles (include duplicate count):				16	Duplicate ID: 704		Time: 1300		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
brown	Slightly turbid	NONE	D.I. Water	Distilled water	Hexane	

Notes: Min. pumping rate 225 Hz 5gal / 8min : 5g / 8min
 532 NTU Turbidity after bailing 1 l ambers

SAMPLER: Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-202
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-202-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/27/96	825	97.5	87.63	9.87		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.6
X3 4.8

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	Ground	5.1	6.31	12	467	60.3	1.79	
2	↓	9.0	6.33	13	462	21.6	1.81	
3	↓	13.0	6.33	13	466	25.8	1.25	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/27/96	0915	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)	↓	↓	DB	1	1000	AMBER		YES	NO
PAHs	↓	↓	DB	2	1000	AMBER		YES	NO
Total Metals	↓	↓	PP	1		POLY	HNO3	YES	NO
Dissolved Metals	↓	↓	PP	1		POLY	HNO3	YES	YES
TDS/TSS	↓	↓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 16 Duplicate ID: MW-202-DW Time: 800

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	slightly turbid	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: calibrated pH meter at 0845 to 4 and 7. E Cond. to 0 and 720.

• Lg pore vol. due to high turbidity
 SAMPLER: Michelle Lange (PRINTED NAME) Michelle Lange (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 203

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW- 203- 0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/22/96	1147	29.4	22.59			

[Water Col x Gal/ft]

Volume (gal)
X1 1.1
X3

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.1	6.10	11.5	196	4.16	1.26	PP § 1
2	↓	2.2	6.21	11.0	189	4.64	1.02	150ml/5sec
3	↓	3.3	6.22	11.0	189	3.95	1.03	150ml/9sec
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/22/96	1210	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1+2	1000	AMBER		YES	NO
PAHs			DB	2+4	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO
DLW	02/22/96	1210	22.81						

Total Bottles (include duplicate count): 14 Duplicate ID: 203 QC Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	slight clear	NO odor	D.I. Water	Distilled water	Hexane	

Notes:

QC on PAHs & TPHD ext
During bailing, water became & turbid, silty, brown.

SAMPLER: Scott Telford
(PRINTED NAME)

S. Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 204
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 204-0296
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/27/96	1025	40.5	30.98	9.52		
		40.5	30.98			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Water Col x Gal/ft	
Volume (gal)	
X1	1.55
X3	4.65

WATER QUALITY DATA

2/22
2/23

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	Ground	8.0	6.55	12	251	657		120 Hz (pump rate)
10		15	6.32	12.5	285	42.1	5.35	< 1,000 ml/min
3		16.5	6.47	13	301	33.5	5.99	
4		18.0	6.51	13.5	304	29.7	5.15	
5	✓	19.5	6.51	13.5	309	32.9		

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/27/96	1310	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS	✓	✓	PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
tan	very turbid	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Pumped large pore volumes due to high turbidity.

2/27/96 1245 - calibrated pH meter to 7 and 4.
µS to zero and 720.

✓ DO readings questionable - must stabilize

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-Rinse Blank

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-RB-01-0296

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 40 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
02/ /96						

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)

X 1

X 3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1			8.37	7.6	0.11	0.53	6.4	
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	02/21/96	1640	DB	2	40	VOA	HCL	YES	NO
TPH-D (ext)			DB	1	1000	AMBER		YES	NO
PAHs			DB	2	1000	AMBER		YES	NO
Total Metals			PP	1		POLY	HNO3	YES	NO
Dissolved Metals			PP	1		POLY	HNO3	YES	YES
TDS/TSS			PP	1		POLY		YES	NO

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clear	Clear	NONE	D.I. Water	Distilled water	Hexane	

Notes: Aqua Cool Dist Water

SAMPLER: Russ Hebert
(PRINTED NAME)

Russ Hebert
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- LM-2

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: LM-2 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) 6 Sun (Part) Cloudy Rain Temperature: 60° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/14/1996	9:45	8.0	2.99	5.01		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

Volume (gal)
X1 0.82
X3 2.46

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.0	4.62	13.0	25100	1.14	3.46	
2	↓	2.0	4.63	13.0	2450	1.66	2.70	
3	↓	3.0	4.75	13.0	2400	1.60	3.10	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (If product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	10:30	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	N/A	D.I. Water	Distilled water	Hexane	

Notes: Dark TDS observed

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016
Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 7
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW- 7 -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy (Rain) Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/19/1996	1532	13.0	6.47	6.53		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.06
X3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	DP	1	6.67	11	172	1.2	15.4	
2	↓	2	6.73	13	166	0.8	8.64	
3	↓	3	6.76	13	169	0.7	7.71	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/19/96	1100	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				8	Duplicate ID: QA/QC		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	strong HCL	D.I. Water	Distilled water	Hexane	

Notes: QA/QC 4 l - PAHs
2 l - WTPH-D ext

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-8

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-8-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1458	12.6	7.92	4.68		
5-14-96	1510		7.95			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Volume (gal)
X1 0.76
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.75	5.75	14	201	1.4	4.48	
2	↓	1.5	5.83	14	176	1.0	2.46	
3	↓	2.25	5.93	14	180	0.8	1.51	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1530	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	product-like	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 22
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW- 22 -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1446	15.0	8.89	6.11		
5-14-96	1400		9.14			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 1.0
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.0	6.73	13.5	455	1.5	7.77	
2	↓	2.0	6.55	13.5	491	0.8	2.82	
3	↓	3.0	6.53	13.5	452	0.6	1.71	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1430	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
8260			DB	2	40	glass	HCL	Yes	NO

Total Bottles (include duplicate & QA/QC count): 911 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	Slight HCL	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 28 (BNRR)
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW- 28 -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50° F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/11/1996	1958	15.0	7.62	7.38		
5/14/96			7.89			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

Water Col x Gal/ft
Volume (gal)
X1 1.2
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.2	6.22	12.0	255	5.6	18.1	
2	↓	2.4	6.26	12.0	252	6.2	9.98	
3	↓	3.6	6.16	12.0	253	5.0	8.04	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1110	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-101
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-101-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	1345	15.2	9.54	5.66		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 0.92
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1	6.57	14	1510	1.2	3.05	
2		2	6.43	14	1576	1.1	2.5	
3	↓	3	6.50	14	1700	1.1		
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1410	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				915	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
nm	clear	HCLD	D.I. Water	Distilled water	Hexane	

Notes: QA/QC 4L PAHs
2L TPH-D ext

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-104
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-104-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: 57 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/14/96	1408	15.2	8.63	6.57		
5/14/96	1459		8.71			

[Water Col x Gal/ft]

Volume (gal)
X1 1.07
X3

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.1	6.93	14.0	184	1.8	3.82	
2	↓	2.2	6.24	14.0	158	1.4	2.07	
3	↓	3.3	6.22	14.0	178	1.4	1.24	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (If product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1540	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
8260			DB	2	40	glass	HCL	Yes	No
Total Bottles (include duplicate & QA/QC count):				11	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanoi	HCl	Nitric
Colorless	Clear	HCL	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-105
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-105 -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **Rain** Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1553	14.6	8.80	5.8		
5/14/96	1130		8.99			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 0.95
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.0	6.29	11.5	203	3.7	13.2	
2	↓	2.0	6.32	11.5	203	3.2	9.61	
3	↓	3.0	6.31	11.5	205	3.0	8.22	
4							315.0	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1150	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
- Color Yellowish	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	odorless	D.I. Water	Distilled water	Hexane	

Notes: Iron slug
 * after bailing to collect PAHs & D ext

SAMPLE Michelle Lange/Scott Telford
 (PRINTED NAME)

Scott Telford
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-106
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-106-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/14/1996	1556	16.0	9.76	6.24		
5/14/96	1115		9.72			

Well dia. = Gal/ft. 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1 1.02
X3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1	5.21	13	239	3.0	5.63	
2	↓	2	5.20	13	248	3.4	7.22	
3	↓	3	5.15	13	228	5.0	3.43	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1145	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-107

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-107-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/14/1996	1000	16.0	9.20	6.8		
5/14/96			9.24			

Volume (gal)
X1 1.11
X3

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.459 10"=4.080 12"=5.875

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1	5.98	13	453	5.08	3.24	
2	J	2	5.96	13	178	5.1	2.57	
3	J	3	5.96	13	172	3.2	3.13	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1040	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 8 Duplicate ID: Time: 15

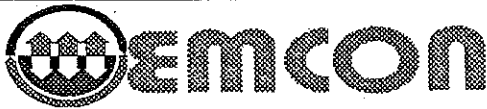
Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
clear	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: QA/QC - 6 bottles 9-PAHs 2 WTPH-D ext

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-108

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-108-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/1/1996	1130	13.9	6.73	7.17		

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675

Volume (gal)
x1 0.30
x3 0.90

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	0.33	6.17	13.0	13170	1.70	54.8	
2	↓	0.66	6.22	12.5	13130	1.40	34.4	
3	↓	1.00	6.24	12.5	13050	0.83	19.1	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/01/96	1212	DB	3	40	glass	HCL	Yes	No
TPH-D ext.	↓	↓	DB	1	1000	amber	no	Yes	No
PAHs	↓	↓	DB	2	1000	amber	no	Yes	No
Total Metals	↓	↓	PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals	↓	↓	PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS	↓	↓	PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Purge water turned rusty orange and became more turbid when exposed to air. Suspended solids

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 109

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-109 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	1135	14.0	7.63	6.37		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

Volume (gal)
X1 0.26
X3 0.78

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	0.50	6.43	12.5	14110	0.58	121	
2	↓	1.00	6.39	12.5	14310	0.46	34.6	
3	↓	1.50	6.42	12.5	14350	0.20	13.8	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1320	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Grey-Black	Turbid	H ₂ S-like	D.I. Water	Distilled water	Hexane	

Notes: Water was clear then turned grey-black

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-~~111~~ 111
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-111-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

X
JHP

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	1:245	14.5	6:91	7.59		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.24
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.25	7.93	13	109		17.5	
2	↓	2.50	7.86	13	90		11.2	
3	↓	3.75	7.81	13	89		11.8	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1330	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
8260			DB	2	40	glass	HCL	Yes	No
Total Bottles (include duplicate & QA/QC count):				11	Duplicate ID: 111-596 111-596		Time: 1330 1330		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 112

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-112 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/11/1996	0835	14.4	4.39	10.01		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.63
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.6	6.52	13	855	1.0	8.20	
2	↓	3.2	6.41	13	847	0.8	9.31	
3	↓	4.8	6.34	13	859		4.04	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pbmp (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/1996	0900	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	strong product-like	D.I. Water	Distilled water	Hexane	

Notes: Bolts missing

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-117
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-117-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	0750	14.5	4.53	9.97		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.63
X3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.6	6.01	13	1006	2.0	177	
2	↓	3.2	6.31	13	1034	1.7	5.94	
3	↓	4.8	6.39	13	1037	1.2	4.02	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	830	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear		D.I. Water	Distilled water	Hexane	

Notes: Bolts missing

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-119

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-119-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/19/1996	1325	13.8	3.70	10.1		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 <u>1.65</u>
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.7	7.20	15	720	1.2	55.8	
2	↓	3.4	6.63	15	796	1.2	194	
3	↓	5.1	6.66	15	735	1.2	4.93	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volumes (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/19/96	1400	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 8

Duplicate ID: 703-0590 Time: 1300

18 mw

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<u>lig. + yellow</u>	<u>clear</u>	<u>HCLD</u>	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 120
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW- 120 -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1448	41.0	6.24	34.74		
5/14/96	1330		6.44			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1 5.66
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	5.7	7.80	13.5	1620	0.6	15.0	
2	↓		7.45	13.5	1644	0.4	4.35	
3	↓		7.24	14.0	1562		6.79	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1440	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-121

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-121 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	1315	40.0	10.85	29.24		

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

	Volume (gal)
X1	4.77
X3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	5	6.70	14	602	1.3	0.56	
2	↓	10	7.01	14	570	1.0	1.41	
3	↓	15	7.16	14	594	0.6	1.15	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1430	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	Strong product-like	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-122
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-122-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1135	40.0	7.96	37.04	5.22	
5-15-96	1110		7.93			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675

[Product Thickness]		Water Col x Gal/ft
		Volume (gal)
X1		5.22
X3		

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	5.25	7.49	12.5	1377	1.0	4.10	
2	↓	10.50	6.79	12.5	1398	0.8	4.90	
3	↓	15.75	7.12	12.5	1411	1.1	5.50	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/15/96	1150	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal	Well ID: MW-123
Site Address: 111720 Unoco Rd. Edmonds, WA	Sample ID: MW-123 -596
EMCON Contact: Bill Haldeman	Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Wind Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1443	14.7	6.85	7.85		
5/14/96	1444		6.80			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.28
X3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PB	1.3	6.57	14.0	1088	1.00	5.54	
2	J	2.6	6.59	14.0	1125	1.20	3.52	
3	↓	3.9	6.55	14.0	1122	0.70	2.53	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

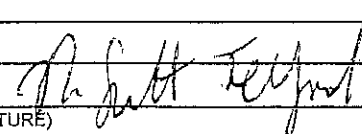
Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/11/96	1455	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
8260			DB	2	40	glass	HCL	Yes	No

Total Bottles (include duplicate & QA/QC count): 11 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	Clear	HCL	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)


 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 125

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-125 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1451	14.4	5.83	8.57		
5/14/96	1335		5.94			

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Volume (gal)
X1 1.39
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.4	6.45	13	955	2.60	117	
2	↓	2.8	6.48	13	960	1.1	46.0	
3	↓	4.2	6.53	13	934	1.0	29.2	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1350	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	clear	slight	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-126

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-126-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy (Rain) Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/19/1996	1470	14.2	3.92	10.28		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.68
X3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.7	6.83	14	424	0.8	18.1	
2	↓	3.4	6.75	13.5	382	0.7	46.5	
3	↓	6.1	6.85	14	364		33.4	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/19/96	1450	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	clear/cloudy	slight	D.I. Water	Distilled water	Hexane	

Notes: Purged below 1.0 gal with peristaltic pump on last 300 volume. (pumped)

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-127

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-127 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1454	14.7	6.98	7.72		
5/14/06	1330		7.41			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875

Volume (gal)
X1 1.26
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.26	6.74	11.0	1517	1.00	37.2	
2	↓	2.52	6.78	11.5	1520	0.70	11.60	
3	↓	3.78	6.81	11.5	1434	0.70	7.21	
4								
5								

§ -METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1355	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
8260			DB	2	40	glass	HCL	Yes	No

Total Bottles (include duplicate & QA/QC count): 11 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	Clear	Not Noticeable	D.I. Water	Distilled water	Hexane	

Notes: Slight odor
Rusty yellow

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016	
	Office: (206) 485-5000	Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal **Well ID:** MW-131
Site Address: 111720 Unoco Rd. Edmonds, WA **Sample ID:** MW-131-596
EMCON Contact: Bill Haldeman **Client Contact:** Joe Comstock **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1240	14.9	5.16	9.74		
5/15/96	1208		4.95			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]
 Volume (gal)
 X1 ~~0.5~~ 1.59
 X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.5	6.65	13	1136	1.2	23.3	
2	↓	3.0	6.64	13	1088	0.8	4.9	
3	↓	4.5	6.65	13	1042	0.6	11.2	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/15/96	1240	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 **Duplicate ID:** **Time:**
15

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: QA/QC - 4 PAHs
 2 WTPH-D ext

SAMPLE Michelle Lange/Scott Telford (SIGNATURE)
 (PRINTED NAME)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-133 * Dup
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-133 -596 704
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60.5°F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	1125	14.2	4.48	9.72		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 1.58
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.5	5.81	14	1903	1.0	199	
2	↓	3.0	6.37	14	1950	0.5	179	
3	↓	4.5	6.45	14	1934	0.5	28.8	
4								
5							874	after bailine.

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump ... (sampling PAHs)

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1215	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):					X18	Duplicate ID: 704-0596 Time: 1100			

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	cloudy	Strong HCLD	D.I. Water	Distilled water	Hexane	

Notes: Set peristaltic pump just above zero to clear up water.

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-134

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-134 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/15/1996	1615	29.7	20.77	8.93		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.45
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.5	6.76	11	195	2.0	23.0	
2	↓	3.0	6.60	11	211	5.8	3.97	
3	↓	4.5	6.63	11	209		4.37	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/15/96	1700	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NDA	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 135

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW- 135 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	15:30	16.00	11.09	4.91		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=6.875						

[Water Col x Gal/ft]

	Volume (gal)
X1	0.2
X3	0.6

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	0.75	6.48	12.0	1210	1.30	1,000+	
2	↓	1.00	6.49	12.0	1178	1.23	222	
3	↓	1.25	6.40	12.0	1073	0.98	212	
4	↓	2.00	6.41	12.0	1131	1.07	19.0	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	16:30	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
(colorless) *	clear *	NA	D.J. Water	Distilled water	Hexane	

Notes: Plasty suspension Red
Grey sediment in bottom
Pump Low rate in well cleared up
PB-0596 = Rinseate Blank @ 15:30

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE) *Michelle Lange*

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-135-136
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-135-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain — Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1124	Ho. 0-15.5	4.24	4.76		
5/15/96	1116		8.08			

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=6.675

[Water Col x Gal/ft]	
Volume (gal)	
X 1	0.2
X 3	

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1			6.48	12	2580	1.43	505	
2			6.56	11	2730	1.18	352	
3			6.58	11	2740	1.15	35.4	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/15/96	1130	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): **9** Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Grey	Turbid	HCLD	D.I. Water	Distilled water	Hexane	

Notes: 150 ml / 70 sec

Water reacted with acid in vials bubbles effervescent. Bubbles in vials

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-137
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-137-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1602	16.0	9.92	6.08		
5/17/96	0930		9.85			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Water Col x Gal/ft

Volume (gal)
X1 0.99
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1	6.69	12	1079	3.3	40.0	
2	↓	2	6.66	13	1176	3.4	21.2	
3	↓	3	6.56	13	1450	4.1	10.5	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	1000	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 8 Duplicate ID: 701 Time: 0900

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-138

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-138 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rainy Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1604	15.8	9.44	6.36		
5/14/96			9.32			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Volume (gal)
X1 1.04
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.0	6.20	13.0	510	4.0	37.6	
2	↓	2.0	6.21	13.0	480	4.6	20.1	
3	↓	3.0	6.34	13.0	524	4.2	9.28	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/14/96	0945	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-139
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-139-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60'S °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996		15.0	6.44	8.56		
Well dia. = Gal/ft 1"=0.047 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
	Volume (gal)
X1	1.4
X3	

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.4	5.98	12.5	3,760	1.2	15.0	
2	↓	2.8	6.15	12.5	3,190	1.1	8.55	
3	↓	4.2	6.34	12.5	2970		4.36	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1010	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
NONE	slightly turbid	HCLD	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- HA-5

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW- HA-5 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1717	8.0	6.18	1.82		
5/15	1000		6.02			

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875

Volume (gal)
x1 0.3
x3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	0.3	5.95	12	104	6.0	56.4	
2	↓	0.6	5.89	12	105	4.3	34.5	
3	↓	0.9	5.96	12	101	4.6	21.6	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/15/96	1025	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	Odorless	D.I. Water	Distilled water	Hexane	

Notes:

150 mL / no sel

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW HA-12
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW HA-12-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/ /1996		<u>7.2</u>				

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1								
2								
3								
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/ /96		DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<u>Brown</u>	<u>Turbid</u>	<u>---</u>	D.I. Water	Distilled water	Hexane	

Notes: Plunged less than 150ml
Not sampled
Water in bottom cap of PVC casing

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

(SIGNATURE) [Signature]

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-5u

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-5u-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50°s °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)						(Product Thickness)
Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/17/1996	1700	26.0	15.01	10.99		
5-13-96	1335		14.68			

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
X1	Volume (gal)
	1.8
X3	5.4

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1		1.8	6.97	14	281	0.65	30.2	
2		3.6						
3		5.4						
4								
5								

§ METHOD: 603 Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (P78) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-TEXT	05/ /96		DB	3	40	glass	HCL	Yes	No
TPH-TEXT			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/SS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Dry after 1 3/4 gallons. Very slow recharge. 45 min +
NO sample taken. 14:40 Terminate

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

(SIGNATURE) *M. Scott Telford*

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- Fu
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW- Fu -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50°F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	75.50	90.0	75.50	14.5		
5/13/96	75.4 1200		75.11			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
Volume (gal)	
x1	2.310
x3	

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	ground	3.0	7.03	15	670	0.8	430	
2	↓	6.0	7.07	17	660	0.8	90.4	
3	↓	9.0	7.04	17	622	0.75	34.4	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/13/96	1245	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Pump @ 220 Hz 15 PV → 187 Hz low pumping rate
 Grey turbid water 150 mL / 10 sec ~ 900 mL/min

SAMPLE Michelle Lange/Scott Telford
 (PRINTED NAME)

Scott Telford
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-10u
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-10u -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/1/1996	1440	18.5	9.04	9.76		
5/13/96						

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.54
X3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.5	5.99	13	287	2.0	23.2	
2	↓	4.0	6.24	13	247	1.4	25.1	
3	√	6.0	6.46	13	261		13.8	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/13/96	1530	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Rusty at first (first gallon)

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-11u
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-11u -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50S °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/1/1996		61.0	51.65			
5/13/96	1315			9.35		

Well dia. = Gal/ft: 1"=0.041 2"=0.168 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]
 Volume (gal)
 X 1 1.52
 X 3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	gravel	4	6.74	14.5	424	1.0	124	
2		8	6.85	14.0	296	0.6	45.9	
3		12	6.83	14.5	288	0.6	30.2	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/13/96	1350	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Purged 15 gal at high rate. Slowed to ~ 190

SAMPLE Michelle Lange/Scott Telford
 (PRINTED NAME)

Michelle Lange
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-13u

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-13u-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50° > °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/13/1996	1605	24.0	17.14	6.86		
Well dia. = Gal/ft. 1"=0.041 2"=0.163 4"=0.653 6"=1.459 10"=4.080 12"=5.875						

Volume (gal)
X1 1.12
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1.1	6.28	15	406	5.05	2.64	
2	↓	2.2	6.50	15	402	4.4	2.21	
3	↓	3.3	6.57	15	398		1.05	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/13/96	1630	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
8260			DB	2	40	glass	HCL	Yes	No

Total Bottles (include duplicate & QA/QC count): 11 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
non	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-201 * Dup

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-201-596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/10/1996	1721	119.3	103.41	15.89		
5-15-96	0850		104.42			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

Volume (gal)
x1 2.59
x3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	SB	15	7.02	12	422	4.7	>1,000	
2	↓	25	6.99	12	396	4.2	782	
3	↓	30	6.80	12	400	3.6	283	
4	↓	40					169	
5		50					94.5	

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/15/96	0930	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 98 Duplicate ID: MW-702-096 Time: 0800

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Brown	Turbid	No	D.I. Water	Distilled water	Hexane	

Notes: DWA purged to lower turbidity

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 202
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW-202-596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **Rain** Temperature: 50° °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/17/1996	1705	97.5	87.01	10.49		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
X 1	Volume (gal)
	171
X 3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	gravel box	5.0	6.44	14.0	530	1.1	642.0	
2	↓	7.0	6.50	14.5	550	0.7	57.1	
3	↓	9.0	6.51	14.5	520	0.7	17.8	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/17/96	5454	DB	3	40	glass	HCL	Yes	No
TPH-D ext.		1740	DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Brown	Turbid	None	D.I. Water	Distilled water	Hexane	

Notes: V. Turbid. & cleared up
Over purged slightly

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 203

Site Address: 111720 Unoco Rd. Edmonds, WA

Sample ID: MW-203 -596

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/16/1996	1518	29.4	23.50	5.9		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]

Volume (gal)
X1 0.96
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	PP	1	6.87	13	241	4.5	13.6	
2	↓	2	6.95	13	240	4.4	7.23	
3	↓	3	6.85	13	235	4.0	5.66	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/16/96	1545	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No
Total Bottles (include duplicate & QA/QC count):				9	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLE Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 204
 Site Address: 111720 Unoco Rd. Edmonds, WA Sample ID: MW- 204 -596
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
5/11/96	1438	30.0	31.46	9.04		
5/13/96		40.5				

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.47
X3	

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	DO (mg/l)	Turbidity (NTU)	Other
1	ground/bs	25	6.61	14.0	340	2.5	28.0	
2		26.5	6.61	14.5	291	3.0/2.6	9.80	
3		28.0	6.62	15.0	294	2.75	6.90	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-G/BTEX	05/12/96	1530	DB	3	40	glass	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber	no	Yes	No
PAHs			DB	2	1000	amber	no	Yes	No
Total Metals			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly	no	Yes	No

Total Bottles (include duplicate & QA/QC count): 9 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Clean	Clear	odorless	D.I. Water	Distilled water	Hexane	

Notes: Very turbid. Over purged

SAMPLE Michelle Lange/Scott Telford
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: EMCON LM-2
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: LMV-2 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/10/1996	1255	8.0	3.27	4.73		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]	
Volume (gal)	
X1	0.77
X3	2.3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.75	6.07	15	17,750	5.97	0.99	
2	↓	1.50	6.02	15	18,470	2.46	0.66	
3	↓	2.25	6.02	15	18,820	1.92	0.68	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-76-96	1320	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 2 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	Strong organic/ sulfur-like	D.I. Water	Distilled water	Hexane	

Notes: _____

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 7

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW- 7 -896

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather:

(Part) Sun (Part) Cloudy Rain Temperature: 70'S °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1155	13.0	7.59	5.41		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X 1 0.88
X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.50	19.0	375	34.6	1.94	
2	↓	2	7.26	19.0	325	40.0	1.82	
3	↓	3	6.96	18.5	325	43.2	1.62	DTW=11.92
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ica	Filter
TPH-G/BTEX	8-15-96	1215	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
lt grey	Slightly turbid	Organic	D.I. Water	Distilled water	Hexane	

Notes:

150 ml / 13 sec / 692 ml / min
Grey organic floating material / suspension

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 22
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 22 -896
 EMCON Contact: Bill Halderman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/14/1996	1456	15.0	9.47	5.53		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X 1 <u>0.9</u>
X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.15	17	452	22.6	1.12	
2	↓	2	7.05	17	450 476	20.2	0.81	
3	↓	3	7.21	17	460	14.6	0.73	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14	1510	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
VOCS			DB	2	40	VOA		Yes	NO
Total Bottles (include duplicate count):				10	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 28

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW- 28 -896

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

 Weather: (Part) Sun (Part) Cloudy Rain Temperature: 70's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/12/1996		15.0	8.55			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)

X 1

X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.33	15	315	9.99	2.23	
2	↓	2	7.26	15	295	7.83	1.13	DTW=10.81
3	↓	3	7.02	15	294	5.35	1.32	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	1015	DB	2	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	-HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
light yellow	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: PP set at 1

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-101
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-101 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1227	15.2	9.50	5.4		-
Well dia. = Gal/Ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/Ft]

Volume (gal)
X1 0.88
X3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	6.30	19.0	7160	4.86	1.51	
2	↓	2	6.25	19.0	6930	2.91	0.48	
3	↓	3	6.40	19.0	17150	1.41	0.35	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8.15.96	1240	DB	3/2	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Grey	Slightly turbid	Asphaltic like	D.I. Water	Distilled water	Hexane	

Notes: 150 ml / 16 sec Sulfur odor H₂S

Cal pH meter ✓

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Scott Telford
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-104
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-104-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/14/1996	1532	15.2	9.18	6.02		

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 0.98
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	8.07	16.5	208	4.40	0.85	
2	↓	2	8.02	17.0	205	2.10	0.73	
3	↓	3	7.70	17.0	199	1.54	0.81	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	1550	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
VOCs			DB	2	1000 1000	voa		Yes	No

Total Bottles (include duplicate count): 14 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	Organic	D.I. Water	Distilled water	Hexane	

Notes: + 4 PAHs
 2 TPH-D ext for QA/QC
 black specks suspended in water
 sulfur odor H₂S

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

Michelle Lange (SIGNATURE) PP# 1-2 150ml/10 sec.

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-105
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-105-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 70's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/12/1996		14.60	9.35			
8-14-96	0900		9.11			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.66	14	288	22.8	0.83	
2	✓	2	7.46	14	249	11.2	0.50	
3	✓	3	7.24	14	246	7.79	0.49	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	0930	DB	3	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Calibrate pH meter, conductivity, D.O. & Turbidity meter
Pumping rate = 1

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-106
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-106 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/12/1996		16.0	10.43	5.95		
8/14/96	9:18		10.05			

Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875

Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.68	14	369	2.02	1.43	
2	↓	2	7.26	14	370	1.95	1.38	
3	↓	3	7.17	14	374	1.95	1.32	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	9:42	DB	3	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes:

Dtw = 11.69 740

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-107
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-107-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/1/1996		16.0	9.69			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.55	15.0	496	9.99	1.00	
2	↓	2	7.27	15.0	467	7.59	0.87	
3	↓	3	7.25	15.0	454	6.84	0.68	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-17-96	1020	DB	3	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.J. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



Emcon

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-108
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-108-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 70 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/1/1996	1:10	13.9	6.82			
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]
Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	6.08	13.0	22300	31.5	0.98	
2		2	6.14	13.0	22000	91.2	0.43	
3		3	6.18	13.0	21900	105	0.38	
4						59		
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-16-96	1330	DB	32	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
black	turbid	Org. <	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-109
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-109-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60.5 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/16/1996	1340	14.0	6.58	7.42		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875						

Volume (gal)
X1 0.30
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.3	5.92	15	16,620	88	0.97	DTW=10.14
2	↓	0.6	6.28	14	18,160	47	0.85	
3	↓	0.9	6.31	14	18,260	31	0.78	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-16-96	1400	DB	2	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	suspended particles	strong organic	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-111
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-111-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1310	14.5	7.29	7.21		-
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)

X1 1.18
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.2	6.51	18.5	179	24.1	3.36	
2	↓	2.4	6.40	19	111	10.4	2.57	DTW=7.72
3	↓	3.0	6.38	18.5	104	7.55	2.62	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded-B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1320	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Pumping @ 150 ml / 10 sec

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-112
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-112 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/ /1996	1547	Min	5.05	9.35		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 152
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.44	17	834	13.3	0.53	
2	↓	3.0	6.42	17	812	8.58	0.49	
3	↓	4.5	6.43	17	799	3.38	0.39	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX		1630	DB	2	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				14	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	clear	organic	D.I. Water	Distilled water	Hexane	

Notes: + 4 l PAHs
2 l TPH-D ext > QA/QC

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW- 117

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW- 117 -896

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1544	14.5	4.95	9.55		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 1.5
X3 4.5

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.41	16.5	1030	41.1	1.34	
2	↓	3.0	6.45	16.5	1036	23.5	1.02	
3	↓	4.5	6.39	16.5	998	14.9	0.83	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1620	DB	32	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				16	Duplicate ID: MW-703-088 Time: 1500				

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	Clear	Offensive	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 119
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 119 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996		13.8	4.60	9.2		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.5
X3	4.5

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	7.13	20	808	80.2	0.96	
2	↓	3.0	6.68	20	824	83.2	1.27	DTW=7.26
3	↓	4.5	6.75	20	805	76.1	2.55	
4						15.3		
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1030	DB	3/2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				14	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	Cloudy	slight HCL	D.I. Water	Distilled water	Hexane	

Notes: + 4 L PAHs → QA/QC
2 L TPH-D ext

pp # < 1 150ml / 15 sec Well goes dry
Sandy Muddy bottom

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

Michelle Lange

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016
	Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal **Well ID:** MW-120
Site Address: 11720 Unoco Rd. Edmonds, Washington **Sample ID:** MW-120 -896
EMCON Contact: Bill Haldeman **Client Contact:** Joe Comstock **Project #:** 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain **Temperature:** 70.5 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)							[Product Thickness]	[Water Col x Gal/ft]
Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW		Volume (gal)
8/14/1996	1320	41.0	7.12	33.88				X1 5.52
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875								X3

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	5.5	6.18	14.0	1261	6.41	1.24	
2	↓	11.0	6.65	14.5	1430	6.58	1.26	
3	↓	16.5	7.57	14.5	1613	2.61	1.15	DTW=17.60
4							0.49	
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (If product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	1420	DB	8	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	Odorless	D.I. Water	Distilled water	Hexane	

Notes: Pumped below 30' with Peristaltic ~ dry

SAMPLER: Michelle Lange/Scott Telford *Michelle Lange*
 (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-121
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-121 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1223	40.0	10.95	29.05		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 4.74
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	4.8	5.74	16	628	8.84	0.89	
2		9.6	6.94	17	727	4.96	0.73	
3		14.4	7.04	17	673	2.26	0.59	DTW=11.03
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1250	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none-yellow	clear	sulfur-like	D.I. Water	Distilled water	Hexane	

Notes: PP set at 4 = 0.6 gpm

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100

Bothell, Washington 98011-8016

Office: (206) 485-5000

Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal

Well ID: MW-122

Site Address: 11720 Unoco Rd. Edmonds, Washington

Sample ID: MW-122-896

EMCON Contact: Bill Haldeman

Client Contact: Joe Comstock

Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/16/1996	0909	40.0	8.37	31.63		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X1 5.16
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	5.2	7.31	12.0	1506	13.6	1.18	
2		10.4	7.48	12.0	1521	7.59	0.98	
3		15.6	7.52	12.0	1527	4.57	0.77	8.77 DEU
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8.16.96	0940	DB	32	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				22	Duplicate ID: MW-704-896 Time: 0900				

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Orange	Clear	None	D.I. Water	Distilled water	Hexane	

 Notes: + 4 l PAHs → QA/QC
 2 l TPH-D ext →

150ml / 8 sec

Field blank collected @ 0945

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 123
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 123 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75° *F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	0910	14.7	16.32	8.38		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X1	1.37
X3	

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.4	6.13	17.5	1169	5.58	0.94	
2	↓	2.8	6.18	17.5	1196	3.23	0.63	
3	↓	3.2	6.28	17.5	1190	2.49	0.47	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (FTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8/15/96	0930	DB	2	40	voc	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
VOCs			DB	2	40	voc	HCL	Yes	No

Total Bottles (include duplicate count): 18 Duplicate ID: MW-702-0891 Time: 0900

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	effervescent	HCLO	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-125 *
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-125 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW	[Water Col x Gal/ft] Volume (gal)
8/14/1996	1319	14.4	6.36	8.04			X1 1.31 X3
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875							

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.3	6.18	17.5	940	9.99	0.61	
2	↓	2.6	6.34	18.0	970	9.99	0.29	
3	↓	3.9	6.39	18.0	973	9.99	0.27	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8.14.96	1340	DB	32	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				16	Duplicate ID: MW-701-0896 ^{ime} : 1300				

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow	Clear	Organic	D.I. Water	Distilled water	Hexane	

Notes:

PP# 1 → 2 150 mL / 7 sec 1285 mL/min

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-126
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-126-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	0945	14.2	4.90	9.3		
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Water Col x Gal/ft	
Volume (gal)	
X1	1.52
X3	

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	7.55	18.0	373	81.8	0.78	
2	↓	3.0	7.25	18.5	412	90.9	0.71	
3	↓	4.5	7.00	18.5	404	17.2	0.68	DTW=11.80
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1000	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		


Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
14 pc	Turbid	NONE	D.I. Water	Distilled water	Hexane	

Notes: 150ml / 9 sec → 150ml / 15 sec
 Sanitary water well must be pumped @ ~6" from bottom (and slowly)

SAMPLER: Michelle Lange/Scott Telford
 (PRINTED NAME)

Michelle Lange
 (SIGNATURE)

FIELD SAMPLING DATA SHEET

	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-127
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-127-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW	[Water Col x Gal/ft] Volume (gal)
8/ /1996		14.7					X1 1.26
			6.94	14.7	7.76		X3 3.8

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	↓	1.25	7.50	14.0	1961	72.5	0.42	
2	↓	2.50	7.36	14.0	1697	21.0	0.34	
3	↓	3.75	7.28	14.0	1418	7.61	0.23	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	1430	DB	32	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
VOCS			DB	2	40	voa	HCL	Yes	No

Total Bottles (include duplicate count): 10 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellow		Organic	D.I. Water	Distilled water	Hexane	

Notes: Bamy
PP #1-2 ~ 150 ml / 9 sec.

SAMPLER: Michelle Lange/Scott Telford (PRINTED NAME)
Michelle Lange (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-131
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-131-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1412	14.9	5.65	9.25		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Water Col x Gal/ft
Volume (gal)
X1 1.5
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.34	18.5	1085	41.9	0.95	
2	↓	3.0	6.40	16.5	1080	13.4	0.72	7.50 Dea
3	↓	4.5	6.41	16.5	989	14.4	0.58	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1420	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color <u>Yellow</u>	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
<u>Colorless</u>	<u>Clear</u>	<u>None</u>	D.I. Water	Distilled water	Hexane	

Notes: 150ml / 9 sec.

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-133
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-133-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 70's °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1343	14.2	5.27	8.93		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X 1 1.46
X 3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.5	6.30	17.0	1835	1000+	0.85	
2	↓	3.0	6.34	17.5	1847	726	0.53	9.16 dtc
3	↓	4.0 10.0	6.25	17.5	1697	2.06	1.40	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1440	DB	32	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (Include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Drawn	V. Turbid	Organic	D.I. Water	Distilled water	Hexane	

Notes: Pumped 5 gallons of turbid water before recording first pore volume.
Pump at 0.1 gpm

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-134
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-134-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/13/1996	1629	29.7	21.01	8.69		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875						

Volume (gal)
X 1 1.42
X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.4	7.78	13.5	221	13.7	5.59	
2	↓	2.8	7.65	13.0	214	4.62	5.30	
3	↓	3.2	7.32	13.0	219	14.1		
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-13-96	1650	DB	2	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticable	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 135
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 135 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60⁵ °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/16/1996	1105	16.0	11.19	4.81		-
Well dia. = Gal/ft. 1"=0.041 2"=0.163 4"=0.653 6"=1.489 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1 0.2
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.2	6.47	13	2600	34.1	1.27	
2	↓	0.4	6.50	13	2520	14.6	2.12	
3	↓	0.6	6.45	13	2560	5.68	1.15	12.22 DTW
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-16-96	1140	DB	3	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellowish	Clear	-	D.I. Water	Distilled water	Hexane	

Notes:

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-136
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-136-896
 EMCON Contact: Bill Halderman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 70 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/16/1996	1020	15.5	9.01	6.49		
Well dia. = Gal/ft. 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]	
Volume (gal)	
X 1	0.27
X 3	

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	0.3	6.40	13.0	3270	138	1.03	
2		0.6	6.43	13.0	3440	83.0	0.57	
3	↓	0.9	6.41	13.0	3200	88.0	0.48	
4						81.7		
5								

§ METHOD: (SB) Submersible Pump, (PP) Peristaltic Pump, (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-16-96	1100	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
Total Bottles (include duplicate count):				8	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Yellowish	Clear-turbid	—	D.I. Water	Distilled water	Hexane	

Notes: Pumping rate 150 ml / 32 sec.
Well dry on 2nd PV.

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-137
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-137-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 70.5 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/1/1996		16.0	10.33			
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X 1
X 3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	7.27	16.0	1984	9.99	0.90	
2	↓	2	6.81	16.5	4520	7.50	0.58	
3	↓	3	6.80	16.5	5050	7.30	0.60	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	1100	DB	3-2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow-murky	some suspended	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Pump set ^{saline} < 1

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 138
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 138 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 75° F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/ 1996		15.8	9.79			
8.14.96	11:00		9.43			

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)

X 1

X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1	6.42	17	15050	7.47	2.04	
2		2	6.13	17	14760	2.65	1.75	
3	↓	3	6.04	17	14570	2.16	1.63	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailor (PTB) PVC/Teflon Bailor (Ded B) Dedicated Bailor (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-14-96	1120	DB	3	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	None	D.I. Water	Distilled water	Hexane	

Notes: 150 ml / 12 sec

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-139
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-139-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Col x Gal/ft]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/15/1996	1533	15.0	7.27	7.73		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Volume (gal)
X 1 1.26
X 3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.3	5.94	17	15,300	133	0.42	
2	↓	2.6	6.04	15.5	14,160	3.95	0.35	
3	↓	3.9	6.05	15.0	13,105	3.25	0.35	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-15-96	1600	DB	32	40	voc	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
yellow	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: Purged 5 gallons before measuring water quality data
 - very turbid at first w/ red suspended solids

* Tide going out
 Pumped @ 0.2 gal/min

SAMPLER: Michelle Lange/Scott Telford
 (PRINTED NAME)

Michelle Lange
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- Fu
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- Fu -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/13/1996	1230	90.0	75.95	14.05		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 2.29
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	Ground Pbs	3.5	7.63	15	1090	935	1.34	
2	↓	10.0	7.28	15	673	352	0.43	
3	↓	13.0	7.05	15	669	41.2	0.38	
4	↓							
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-13-96	1320	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: _____ Time: _____

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
b-gray	turbid	None	D.I. Water	Distilled water	Hexane	
Notes: Pumping rate 150 ml / 5 sec 10 gallons 1800 ml / min						
Pumping rate 150 ml / 30 sec 5 gal / min 300 ml / min						
Dtc 7/6, 10 13 15						

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-13U
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-13U-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/13/1996	1512	24.0	17.80	6.2		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Product Thickness]

[Water Col x Gal/ft]

Volume (gal)
X1: <u>1.01</u>
X3:

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.0	7.40	16.0	409	537	4.410	
2	↓	3.0	7.03	15.5	420	25.3	4.41	
3	↓	4.0	6.69	15.5	408	58.9	4.22	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-13-96	1530	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No
VOCs			DB	2	40	VOA	HCL	YES	NO
Total Bottles (include duplicate count):				10	Duplicate ID:		Time:		

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Crusty yellow	turbid	None	D.I. Water	Distilled water	Hexane	

Notes: Pumping rate = 10 # 2 < 150ml / 10-11 sec. 900ml/min

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

Michelle Lange

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-201
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-201-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/13/1996	1041	103.77	103.77	15.58		
		119.3		15.58		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

Water Col x Gal/ft	
	Volume (gal)
X 1	2.5
X 3	

WATER QUALITY DATA

Pore Vol	Method ^s	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	grndfbs							
2	↓							
3	↓							
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded-B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8/13/96		DB	2	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
			D.I. Water	Distilled water	Hexane	

Notes: Calibrated pH meter @ 1044 7.15 → 7.00 3.80 → 4.00 -002 → 0 * Pump not long enough. Return on 8-16-96

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

752 → 720
Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-201
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-201-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 60.5 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/16/1996	1517	119.3	103.85	15.45		-
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]
Volume (gal)
X1 2.5
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	ground	5.0	7.21	14	455	411	2.25	
2	↓	10.0	7.15	15	447	169	2.53	
3	↓	12.0	7.15	15	447	90.7	2.46	
4	↓					82.5		
5	↓							

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DF) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-16-96	1600	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Tan	turbid	None	D.I. Water	Distilled water	Hexane	

Notes: 10 gallons purged before recording water quality data - very turbid

SAMPLER: Michelle Lange/Scott Telford
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW-202
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-202-896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/13/1996	1115	97.5	87.67	9.83		-
Well dia. = Gal/ft 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875						

[Water Col x Gal/ft]

Volume (gal)
X1 1.6
X3

WATER QUALITY DATA

Pore Vol	Method [§]	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	ground/ps	5 gal	7.07	15.0	542	129	0.82	
2		7 gal	6.77	15.5	540	26.4	0.68	
3		10 gal	6.68	16.0	540	20.2	0.55	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-13-96	1145	DB	32	40	vca	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
lt tan	slightly turbid	None.	D.I. Water	Distilled water	Hexane	

Notes: Pumping rate @ 220 Hz 150ml / 6 sec = 1.5 L/min
 Pumping rate @ 213 Hz 150ml / 9 sec = 1 L/min MIN
 Water remained turbid after 5 gallons
 Dth 89.98 1144 7 gallons

SAMPLER: Michelle Lange/Scott Telford
 (PRINTED NAME)

(SIGNATURE) *Scott Telford*

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 203
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW-203 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/12/96	1555	29.4	23.20	6.2		
Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.675						

[Water Col x Gal/ft]

Volume (gal)
x1 1.01
x3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	PP	1.0	7.91	14	250	58.9	2.61	
2		2.0	7.60	13	249	10.1	2.30	
3		3.0	7.56	13	249	6.93	2.20	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-13-96	1620	DB	2	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count): 8 Duplicate ID: Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
none	clear	no noticeable	D.I. Water	Distilled water	Hexane	

Notes: * Slope indicator malfunctioning. Cannot get new reading.
 Pumping rate = pp # 2 ~ 150 ml / 1.3 sec

SAMPLER: Michelle Lange/Scott Telford
 (PRINTED NAME)

Michelle Lange
 (SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: UNOCAL Edmonds Bulk Fuel Terminal Well ID: MW- 204
 Site Address: 11720 Unoco Rd. Edmonds, Washington Sample ID: MW- 204 -896
 EMCON Contact: Bill Haldeman Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 80 °F

WATER LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness]

Date	Time	DT-Bottom	DT-Water	DTB-DTW	DT-Product	DTP-DTW
8/13/1996	1356	90.60	32.21	8.39		-

Well dia. = Gal/ft: 1"=0.041 2"=0.163 4"=0.653 6"=1.469 10"=4.080 12"=5.875

[Water Col x Gal/ft]

Volume (gal)
X1 1.310
X3

WATER QUALITY DATA

Pore Vol	Method §	Purged (gal)	pH	Temp (°C)	E Cond (µS)	Turbidity (NTU)	Diss O2 (mg/l)	Other
1	ground	5.0	7.92	15	296	41.2	2.64	
2	↓	10.0	7.94	15	300	38.1	3.42	
3	↓	15.0	7.72	15	301	3.01	2.33	
4								
5								

§ METHOD: (SB) Submersible Pump (PP) Peristaltic Pump (DB) Disposable Bailer (PTB) PVC/Teflon Bailer (Ded B) Dedicated Bailer (DP) Dedicated Pump

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Parameter	Date	Time	Method §	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
TPH-G/BTEX	8-13-96	1420	DB	32	40	voa	HCL	Yes	No
TPH-D ext.			DB	1	1000	amber		Yes	No
PAHs			DB	2	1000	amber	HCL	Yes	No
Total Metal			PP	1	1000	poly	HNO3	Yes	No
Dissolved Metals			PP	1	1000	poly	HNO3	Yes	Yes
TDS/TSS			PP	1	1000	poly		Yes	No

Total Bottles (include duplicate count):

Duplicate ID:

Time:

Water Characterization			Decontamination Materials			
Color	Clarity	Odor	Liquinox	Methanol	HCl	Nitric
Colorless	Clear	None	D.I. Water	Distilled water	Hexane	

Notes: Pumped @ 188 Hz 150 ml / 15 sec.

SAMPLER: Michelle Lange/Scott Telford

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET



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Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: Unocal Storm/Surface Water Sampling

Well ID: SW-1

Site Address: Edmonds, Washington

Sample ID: SW-1-*ella*

EMCON Contact: Linda Dawson

Client Contact: Joe Comstock

Project #: 40324-035.02#5

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50 °F

Water Characterization								
Replicate	Color	Clarity	Odor	Sheen	Water Depth	pH	Conductivity	Temperature
A	<i>brown</i>	<i>cloudy</i>	<i>NO</i>	<i>no</i>	—	<i>5.80</i>	<i>85</i>	<i>11</i>
B	<i>brown</i>	<i>cloudy</i>	<i>NO</i>	<i>no</i>	—	<i>5.85</i>	<i>85</i>	<i>11.5</i>
C	<i>brown</i>	<i>cloudy</i>	<i>no noticeable</i>	<i>no</i>	—	<i>5.69</i>	<i>158</i>	<i>11.5</i>

SURFACE WATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	<i>4-23-96</i>	<i>830</i>	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX			PP	3	40	glass	HCl	yes	no
Total Metals			PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals			PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260			PP	2	40	glass	none	yes	no
Oil & Grease - 413.2			PP	1	1000	amber glass	HCL	yes	no
TSS			PP	1	1000	poly	none	yes	no
PAH's - 8310	✓	✓	PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				<i>12</i>	Duplicate ID: <i>NA</i>		Time:		

QA/QC			Decontamination Materials			
Duplicate	MS/MSD	Field Blank	Liquinox	Methanol	HCl	Nitric
<i>NA</i>	<i>yes</i>	<i>NA</i>	D.I. Water	Distilled water	Hexane	<i>NA</i>


Notes: *2 extra for WTPH-D ext.*
4 extra for PAHs
2 extra for oil & grease

Started sampler @ 0748 hrs

SAMPLER: *Michelle Lange*
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET

 <b style="font-size: 2em; margin-left: 10px;">EMCON	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: Unocal Storm/Surface Water Sampling	Well ID: SW-2
Site Address: Edmonds, Washington	Sample ID: SW-2
EMCON Contact: Linda Dawson	Client Contact: Joe Comstock
	Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50 °F

Water Characterization								
Replicate	Color	Clarity	Odor	Sheen	Water Depth	pH	Conductivity	Temperature
A	yellow	turbid	no	no	/	6.49	98	12
B	↓	↓	↓	↓	/	6.03	102	12
C	↓	↓	↓	↓	/	6.49	99	12

SURFACE WATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	0945	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
TSS	↓	↓	PP	1	1000	poly	none	yes	no
PAH's - 8310	↓	↓	PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				12	Duplicate ID: NA		Time:		

QA/QC			Decontamination Materials			
Duplicate	MS/MSD	Field Blank	Liquinox	Methanol	HCl	Nitric
NA	NA	NA	D.I. Water	Distilled water	Hexane	NA

Notes:

SAMPLER: Michelle Lange (PRINTED NAME) Michelle Lange (SIGNATURE)

FIELD SAMPLING DATA SHEET # duplicate



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Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: Unocal Storm/Surface Water Sampling Well ID: SW-3
 Site Address: Edmonds, Washington Sample ID: SW-3
 EMCON Contact: Linda Dawson Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **Rain** Temperature: 50 °F

Water Characterization								
Replicate	Color	Clarity	Odor	Sheen	Water Depth	pH	Conductivity	Temperature
A	yellow	clear	no	no	/	7.18	132	12
B	↓	↓	↓	↓	/	7.20	134	12
C	↓	↓	↓	↓	/	7.16	137	12

SURFACE WATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	1045	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
TSS	↓	↓	PP	1	1000	poly	none	yes	no
PAH's - 8310	↓	↓	PP	2	1000	amber glass	HCl	yes	no

Total Bottles (include QA/QC count): ~~10~~ 12 Duplicate ID: ~~86042A~~ Time: ~~ML~~

QA/QC			Decontamination Materials			
Duplicate	MS/MSD	Field Blank	Liquinox	Methanol	HCl	Nitric
YES NA	NA	NA	D.I. Water	Distilled water	Hexane	NA

Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: Unocal Storm/Surface Water Sampling Well ID: SW-4
 Site Address: Edmonds, Washington Sample ID: SW-4
 EMCON Contact: Linda Dawson Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy **Rain** Temperature: 50 °F

Water Characterization								
Replicate	Color	Clarity	Odor	Sheen	Water Depth	pH	Conductivity	Temperature
A	tan	cloudy	no	no	/	8.01	350	12
B	↓	↓	↓	↓	/	8.07	153	12
C	↓	↓	↓	↓	/	7.85	140	12

SURFACE WATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method #	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	1400	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
TSS	↓	↓	PP	1	1000	poly	none	yes	no
PAH's - 8310	↓	↓	PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				20	Duplicate ID: SW-4		Time: 1400		

QA/QC			Decontamination Materials			
Duplicate	MSMSD	Field Blank	Liquinox	Methanol	HCl	Nitric
NA	yes	NA	D.I. Water	Distilled water	Hexane	NA

Notes: 2 extra for WTPH-D ext.
 4 extra for PAH_s
 2 extra for O&G

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

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Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: Unocal Storm/Surface Water Sampling

Well ID: SW-5

Site Address: Edmonds, Washington

Sample ID: SW-5

EMCON Contact: Linda Dawson

Client Contact: Joe Comstock

Project #: 40324-035.0245

Weather:

(Part) Sun

(Part) Cloudy

Rain

Temperature: 50 °F

Water Characterization

Replicate	Color	Clarity	Odor	Sheen	Water Depth	pH	Conductivity	Temperature
A	yellow	clear	no	no		7.00	3030	12
B	↓	↓	↓	↓		7.00	3410	12
C	↓	↓	↓	↓		6.99	4520	12

SURFACE WATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method ^s	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	1245	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
TSS	↓	↓	PP	1	1000	poly	none	yes	no
PAH's - 8310	↓	↓	PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				12	Duplicate ID: NA		Time:		

QA/QC			Decontamination Materials			
Duplicate	MS/MSD	Field Blank	Liquinox	Methanol	HCl	Nitric
NA	NA	NA	D.I. Water	Distilled water	Hexane	NA

Notes:

SAMPLER:

Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET



EMCON

18912 North Creek Parkway, Suite 100
Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: Unocal Storm/Surface Water Sampling Well ID: SW-6
 Site Address: Edmonds, Washington Sample ID: SW-6
 EMCON Contact: Linda Dawson Client Contact: Joe Comstock Project #: 40324-035.023

X
Dup

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50 °F

Water Characterization								
Replicate	Color	Clarity	Odor	Sheen	Water Depth	pH	Conductivity	Temperature
A	tan	cloudy	no	no		7.81	165	13
B	↓	↓	↓	↓		7.71	159	13
C	↓	↓	↓	↓		7.68	159	13

SURFACE WATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method ¹	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	1500	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
TSS	↓	↓	PP	1	1000	poly	none	yes	no
PAH's - 8310	↓	↓	PP	2	1000	amber glass	HCl	yes	no

Total Bottles (include QA/QC count): ~~20~~ 44 Duplicate ID: SW-7-1a Time: 1430

QA/QC			Decontamination Materials			
Duplicate	MS/MSD	Field Blank	Liquinox	Methanol	HCl	Nitric
#A	yes	yes	NA	D.I. Water	Distilled water	Hexane
						NA


Notes: 2 extra for WTPH-D ext. QC.
 24 extra for PAH
 2 extra for Oil & Grease

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET

Dup

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Project Name: Unocal Storm/Surface Water Sampling	Well ID: <u>STW-L32</u>
Site Address: Edmonds, Washington	Sample ID: <u>STW-L32-</u>
EMCON Contact: Linda Dawson	Client Contact: Joe Comstock
Project #: 40324-035.0235	

Weather: (Part) Sun (Part) Cloudy Rain Temperature: 50 °F

Water Characterization						QA/QC		
Replicate	Color	Clarity	Odor	Sheen	Water Depth	Duplicate	MS/MSD	Field Blank
	<u>yellow</u>	<u>turbid</u>	<u>no</u>	<u>no</u>		<u>No</u>	<u>No</u>	<u>No</u>

STORMWATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	<u>4-23-96</u>	<u>0744</u>	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
Total Bottles (include QA/QC count):				<u>9</u>	Duplicate ID: <u>STW-U200-4</u> Time: <u>800</u>				

STORMWATER SAMPLING DATA - COMPOSITE

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	<u>4-23-96</u>	<u>0754</u>	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX			PP	3	40	glass	HCl	yes	no
Total Metals			PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals			PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260			PP	2	40	glass	none	yes	no
TSS			PP	1	1000	poly	none	yes	no
PAH's - 8310			PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				<u>11</u>	Duplicate ID: _____ Time: _____				

Notes:

SAMPLER: Michelle Lange (PRINTED NAME) Michelle Lange (SIGNATURE)

FIELD SAMPLING DATA SHEET

Duplicate



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Bothell, Washington 98011-8016

Office: (206) 485-5000 Fax: (206) 486-9766

Project Name: Unocal Storm/Surface Water Sampling Well ID: **STW-444**
 Site Address: Edmonds, Washington Sample ID: **STW-444**
 EMCON Contact: Linda Dawson Client Contact: Joe Comstock Project #: 40324-035.0285

Weather: (Part) Sun (Part) Cloudy **Rain** Temperature: **50** °F

Water Characterization						QA/QC		
Replicate	Color	Clarity	Odor	Sheen	Water Depth	Duplicate	MSMSD	Field Blank
	yellow	turbid	no	no		No	No	No

STORMWATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method ⁵	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	1817	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
Oil & Grease - 413.2	↓	↓	PP	1	1000	amber glass	HCL	yes	no
Total Bottles (include QA/QC count):				9	Duplicate ID: NA		Time:		

STORMWATER SAMPLING DATA - COMPOSITE

Parameter	Date	Time	Method ⁵	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	4-23-96	1825	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	↓	↓	PP	3	40	glass	HCl	yes	no
Total Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals	↓	↓	PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260	↓	↓	PP	2	40	glass	none	yes	no
TSS	↓	↓	PP	1	1000	poly	none	yes	no
PAH's - 8310	↓	↓	PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				11	Duplicate ID: NA		Time:		


Notes:

SAMPLER: Michelle Lange
(PRINTED NAME)

Michelle Lange
(SIGNATURE)

FIELD SAMPLING DATA SHEET

Duplicate

	<h2 style="margin: 0;">EMCON</h2>	18912 North Creek Parkway, Suite 100 Bothell, Washington 98011-8016 Office: (206) 485-5000 Fax: (206) 486-9766
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Project Name: Unocal Storm/Surface Water Sampling Well ID: *API Separator*
 Site Address: Edmonds, Washington Sample ID: *STW-API-*
 EMCON Contact: Linda Dawson Client Contact: Joe Comstock Project #: 40324-035.023

Weather: (Part) Sun (Part) Cloudy (Rain) Temperature: 50 °F

Water Characterization						QA/QC		
Replicate	Color	Clarity	Odor	Sheen	Water Depth	Duplicate	MS/MSD	Field Blank
	<i>yellow</i>	<i>turbid</i>	<i>no</i>	<i>no</i>		<i>yes</i>	<i>NO</i>	<i>NO</i>

STORMWATER SAMPLING DATA - GRAB

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	<i>X</i>	<i>X</i>	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX			PP	3	40	glass	HCl	yes	no
Total Metals			PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals			PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260			PP	2	40	glass	none	yes	no
Oil & Grease - 413.2			PP	1	1000	amber glass	HCL	yes	no
Total Bottles (include QA/QC count):					Duplicate ID: <i>NA</i>		Time:		

STORMWATER SAMPLING DATA - COMPOSITE

Parameter	Date	Time	Method [§]	# Bottles	Volume (ml)	Type	Preservative	Ice	Filter
WTPH-D Ext.	<i>4-23-96</i>	<i>2327</i>	PP	1	1000	amber glass	none	yes	no
WTPH-G/BETX	<i>↓</i>	<i>↓</i>	PP	<i>3</i>	40	glass	HCl	yes	no
Total Metals			PP	1	1000	poly	HNO ₃	yes	no
Diss. Metals			PP	1	1000	poly	HNO ₃	yes	yes
VOC's - 8260			PP	2	40	glass	none	yes	no
TSS			PP	1	1000	poly	none	yes	no
PAH's - 8316*			PP	2	1000	amber glass	HCl	yes	no
Total Bottles (include QA/QC count):				<i>22</i>	Duplicate ID:		Time:		

Notes: *Min. water required for composite samples due to malfunctioning autosampler. (tot. = 4L)*

SAMPLER: *Michelle Lange* *Michelle Lange*
(PRINTED NAME) (SIGNATURE)



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-01

Date: 6/12/95

Coordinates: North Tidal basin
East _____

Water depth: _____ ft

Time: 1 2 2 7

Weather: partly cloudy

Replicate No.: 0 1
0 2

Sampler type: _____

Penetration depth: 16.8 cm
② 11.5 *

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth Fine / Coarse

Grain size: fine to med. sand

Color: _____

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: _____

Vertical profile: 0-6cm fine to med sand with silt, fines, some rounded gravel, no coal chips
② 0-3.5cm - gray, 3.5-8cm - blackish, organic rich sand with some rounded gravel

Biological Structures Type: sheep/corals

Amount: 2 live on surface (percent)

Debris Type: large wood fragments at 16cm

Amount: _____ (percent)

Oily Sheen Type: no

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature] Date: 6/12/95

* ② - indicates 2nd core sample characteristics



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-01

Date: 6/12/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1 2 3 6

Weather: _____

Replicate No.: 0 3

Sampler type: _____

Penetration depth: 11.4 cm

Sample depth: 0-10 cm

12.5

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine sand to med gravel

Color: grey sand with brownish/black

Redox layer: Yes (No) Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: (0-6 cm - fine to med graded sand w/ few small rounded gravel)
(6-10 cm - increasing gravel and increasing size)
(0-3.5 cm - fine to med grey sand with few rounded gravel)
(3.5-10 cm - brown/black silty sand with wood debris and some med to coarse rounded gravel)

Biological Structures Type: 2+ redox ① ② - >10 chepalswimmers in

Amount: Widely in water (percent)

Debris Type: None - some wood chips in dark

Amount: 10% at core 2 (percent)

Oily Sheen Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/12/95



EMCON

Northwest, Inc.

Sediment Field Sampling Data

Station No.: LS-02

Date: 6/12/95

Coordinates: North east of discharge pipe
East _____

Water depth: _____ ft

Time: 1318

Weather: partly cloudy, warm (~65°F)

Replicate No.: 01
02

Sampler type: modified

Penetration depth: 23 cm
27 cm

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth/Fine Coarse

Grain size: 0-10 cm fine to medium sand

Color: gray/dark grey

Redox layer: Yes/No Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-10 cm fine sand with few fines, trace rounded,
0-2 - fine gravel, trace roots

Biological Structures Type: rhizox
Amount: 2-15/core (percent)

Debris Type: none / roots below 10 cm
Amount: _____ (percent)

Oily Sheen Type: _____
Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/12/95



Sediment Field Sampling Data

Station No.: W5-02

Date: 6/12/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1330

Weather: _____

Replicate No.: 03
04

Sampler type: _____

Penetration depth: 22 cm
20

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine to med sand with some fines, trace fine rounded gravel

Color: gray; brown-green

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-10 cm - well sorted fine-med sand, some fines,

trace fine rounded gravel and trace roots below

8 cm

Biological Structures

Type: none seen @ 4- rhizox

Amount: _____ (percent)

Debris

Type: none

Amount: _____ (percent)

Oily Sheen

Type: none

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: H. V. Jr.

Date: 6-12-95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-03

Date: 6/12/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1420

Weather: _____

Replicate No.: $\frac{\text{Ø} 1}{\text{Ø} 2}$

Sampler type: _____

Penetration depth: 14.5 cm
② 20 cm

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine Coarse

Grain size: fine to med sand with some

Color: _____

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: _____

Vertical profile: 0-7 med/fine to coarse black brown soil with fine and rounded gravel
7-10 cm - same as 0-7, increasing wood debris
② 0-8 cm - fine to med sand, lens of clay w/ large rounded
2" cobble, gtz, increasing root and organics below 10cm.

Biological Structures Type: none seen / ②

Amount: 5-6 redox (percent)

Debris Type: wood

Amount: 15-25% (percent)

Oily Sheen Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/12/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: W-03

Date: 6/12/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1450

Weather: _____

Replicate No.: 03

Sampler type: _____

Penetration depth: 11 cm

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth Fine / Coarse

Grain size: fine to med grey sand with fine rounded gravel

Color: grey, brown below 6 cm

Redox layer: Yes No _____ Depth of Redox potential discontinuity layer: _____ cm

Odors: _____

Vertical profile: 0-6 cm = fine to med grey sand with some fine rounded gravel, 6-10 cm brown and with roots and some roots

Biological Structures Type: _____

Amount: ~ 6-10 Rhizopods (percent)

Debris Type: none

Amount: _____ (percent)

Oily Sheen Type: some oily spots on water

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/12/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-03

Date: 06/12/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1455

Weather: _____

Replicate No.: 04

Sampler type: _____

Penetration depth: 26 cm

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine to med sand, some fine rounded gravel

Color: grey/black, brown at depth

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: _____

Vertical profile: 0-6 cm sand w/ gravel

6-10 cm, increasing fines, increasing peat

Biological Structures Type: _____

Amount: _____ (percent)

Debris Type: _____

Amount: _____ (percent)

Oily Sheen Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/12/95



Station No.: US-04

Date: 06/13/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1100

Weather: pty clay

Replicate No.: 01

Sampler type: _____

Penetration depth: 20.5 cm
12

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine to med sand, trace rounded gravel

Color: gray / olive gray

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-10 gray fine to med sand, trace rounded gravel, few diva
fine, lots of worm casts

Biological Structures

Type: amphipods

Amount: > 20 / core (percent)

Debris

Type: _____

Amount: _____ (percent)

Oily Sheen

Type: slight sheen off bottom of sample

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: W5-04

Date: 06/13/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1 12 0

Weather: _____

Replicate No.: 0 2
0 4

Sampler type: _____

Penetration depth: 12 cm
13

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine Coarse

Grain size: fine to med sand, few fines, trace fine rounded gravel

Color: gray / olive green

Redox layer: Yes No Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-10 cm gray fine to med sand, few olive fines,
3, 4 some root structures, trace rounded, fine gravel

Biological Structures Type: some plants / amphipods -

Amount: some > 40-50/core (percent)

Debris Type: none

Amount: _____ (percent)

Oily Sheen Type: none seen

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-05

Date: 6/13/95

Coordinates: North near NPDES outfall 001
East _____

Water depth: _____ ft

Time: 1155

Weather: _____

Replicate No.: 01
02

Sampler type: _____

Penetration depth: 18 cm
14

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth Fine Coarse

Grain size: fine sand with some fines

Color: green/olive grey

Redox layer: Yes No Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-8 cm fine grey sand with some olive grey
1/2 in fines, few roots
8-10 - organic rich layer - w/ wood chips / plant
fragments,

Biological Structures Type: none seen
Amount: _____ (percent)

Debris Type: _____
Amount: _____ (percent)

Oily Sheen Type: spots of sheen
Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: J. V. L.

Date: 6/13/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: WS-05

Date: 06/13/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1210

Weather: _____

Replicate No.: 03
04

Sampler type: _____

Penetration depth: 24 cm
28

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth Fine Coarse

Grain size: gray fine to med sand, some fines

Color: gray, olive gray, black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: hydrocarbon like

Vertical profile: 0-10 fine to med gray sand with olive gray fines

3-4

① - Increased fines, gray and black streaks

Biological Structures Type: none seen

Amount: _____ (percent)

Debris Type: root

Amount: 1 lg (3 in long x 1/4" wide) (percent)

Oily Sheen Type: on H₂O surface in sampler

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



Station No.: U5-06

Date: 06/13/95

Coordinates: North mid-point between MPDES
East outfalls

Water depth: _____ ft

Time: 1310

Weather: ptly cldy

Replicate No.: 01

Sampler type: _____

Penetration depth: ^① 18 cm
^② 32 cm

Sample depth: 0-110 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine sand with some fines / loose fines with some organics, few sand

Color: grey, grey black / black, olive

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: _____

Vertical profile: 0-10 cm homogenous fine grey sand with some fines, few roots

0-10 cm loose fines with some organics, few ^{fine} sand, black and brown/olive brown mixture

Biological Structures Type: fine roots interlaced throughout core /

Amount: _____ (percent)

Debris Type: _____

Amount: _____ (percent)

Oily Sheen Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: MS-06

Date: 06/13/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1325

Weather: _____

Replicate No.: 03
04

Sampler type: _____

Penetration depth: 26 cm
22

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: finer, few sand, loose

Color: black, grey sand

Redox layer: Yes No Depth of Redox potential discontinuity layer: _____ cm

Odors: H₂S - slight, at depth

Vertical profile: 0-10 cm loose black fines with some organic, few sand, trace roots

Biological Structures Type: none seen

Amount: _____ (percent)

Debris Type: _____

Amount: _____ (percent)

Oily Sheen Type: none seen

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



Station No.: W5-07

Date: 06/13/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1405

Weather: _____

Replicate No.: 01

Sampler type: _____

Penetration depth: 22 cm

Sample depth: 10 cm

30

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: med to coarse sand, few to some rounded fine gravel

Color: dark grey, olive brown

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: none / hydrocarbon-like

Vertical profile: 0 - 0.5 cm fine layer / with organics

0.5 - 10 med to coarse sand, few fines, few to some fine rounded gravel / removed two large, rounded gravel from core 2

Biological Structures Type: none seen

Amount: _____ (percent)

Debris Type: _____

Amount: _____ (percent)

Oily Sheen Type: none / some strong spot of sheen

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



Sediment Field Sampling Data

Station No.: US-02

Date: 06/13/95

Coordinates: North UPAES outfall 002
East _____

Water depth: _____ ft

Time: 1340

Weather: _____

Replicate No.: 03

Sampler type: _____

Penetration depth: 23 cm

Sample depth: 0-10 cm

0-18

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: finer with some sand

Color: black, grey black

Redox layer: Yes No _____ Depth of Redox potential discontinuity layer: _____ cm

Odors: strong Hydrocarbon like

Vertical profile: 0-10 cm loose ^{black} fines with some fine to medium grey sand, some organic debris
(3)(4)

Biological Structures Type: _____

Amount: _____ (percent)

Debris Type: organic - leaves twigs

Amount: some to trace (percent)

Oily Sheen Type: spots

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/13/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-08

Date: 06/14/95

Coordinates: North upstream from outfall 002,
East ~~main~~ 002 to corner

Water depth: _____ ft

Time: 0925

Weather: cloudy

Replicate No.: 01

Sampler type: _____

Penetration depth: 15.5 cm

Sample depth: 0-10 cm

Ⓟ 18

Sediment Characteristics

Texture: Smooth Fine Coarse

Grain size: fine sand with fines

Color: olive grey to grey

Redox layer: Yes No Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-10 cm fine sand with fines and some
roots/peat-like structure

Biological Structures

Type: none seen

Amount: ~ 8-10 amphipods on surface (percent)

Debris

Type: peat-like

Amount: _____ (percent)

Oily Sheen

Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: J. V. J.

Date: 6/14/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-08

Date: 06 / 14 / 95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 0943

Weather: _____

Replicate No.: 03

Sampler type: _____

Penetration depth: 20 cm
(4) - 14

Sample depth: 0 - 10 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine to med sand, fines

Color: gray / olive grey

Redox layer: Yes No _____ Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-10 cm very fine to med sand with some fines and some dark (black) organics, cohesive to look

Biological Structures

Type: juvenile shrimp, amphipods

Amount: (1) 2-10 ea (percent)

Debris

Type: roots, plant fragments

Amount: 20-35% (percent)

Oily Sheen

Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/14/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-09

Date: 06/15/95

Coordinates: North NW corner of Int. basin 1
East _____

Water depth: _____ ft

Time: 09:25

Weather: _____

Replicate No.: 01

Sampler type: _____

Penetration depth: 28 cm

Sample depth: 0-10 cm

(2) 32

Sediment Characteristics

Texture: Smooth Fine / Coarse

Grain size: finer with some organics & fine sand

Color: black / olive brown

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: hydrocarbon-like

Vertical profile: 0-4 cm loose, ~50% organics with fines, some sand
4-10 brown fines in mat-like mat structure

Biological Structures Type: _____

Amount: amphipods (2-10) (percent)

Debris Type: _____

Amount: _____ (percent)

Oily Sheen Type: droplets in bottom (10-28), sheen on

Amount: none after core removal (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/16/95



Station No.: US-09

Date: 06/16/95

Coordinates: North _____
East _____

Water depth: 2.4 ft

Survey

Time: 0945

Weather: overcast, drizzle

Replicate No.: 03
04

Sampler type: _____

Penetration depth: 34 cm
14

Sample depth: 10 cm

Sediment Characteristics

Texture: Smooth Fine Coarse

Grain size: finest with organics

Color: olive brown, brown

Redox layer: Yes No Depth of Redox potential discontinuity layer: _____ cm

Odors: hydrocarbon-like, little H₂S

Vertical profile: 0-3 cm loose organic debris with some fines
3-10 cm mat-like with fines, few fine to med sand

Biological Structures

Type: _____

Amount: amphipod 1 (20-30) (percent)

Debris

Type: organic

Amount: 20-60% (percent)

Oily Sheen

Type: droplets, sheen on H₂O with sample removal

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/16/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-10

Date: 06 / 14 / 95

Coordinates: North ^{first} opening cut to marsh
East upgradient from corner

Water depth: _____ ft

Time: 10:35

Weather: cloudy

Replicate No.: 01
02-

Sampler type: _____

Penetration depth: 25.5 cm

Sample depth: 0-10 cm

②-24.5 ③-18.5cm ④-19.5

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: finer

Color: black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: 0 cm

Odors: strong H₂S

Vertical profile: 0-8 cm black, very loose organic with fines
8-10 cm olive gray, pent-like root structure with
fines and fine sand
coarser cores looser with dept to med sand at
215 cm and below

Biological Structures Type: _____

Amount: 1 amphipod w/ core 1 (percent)

Debris Type: _____

Amount: _____ (percent)

Oily Sheen Type: _____

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: 5 cores collected @ this station - based on
loss of liquid approx 8 cm

Sampler's name: Paul J.

Date: 6/14/95



Station No.: US-11

Date: 06/14/95

Coordinates: North ~100 ft east (upgradient)
East of US-10

Water depth: _____ ft

Time: 11:30

Weather: _____

Replicate No.: 01

Sampler type: _____

Penetration depth: 26.5 cm Sample depth: 0-10 cm

② 36 ③ -38 ④ 34.5

Sediment Characteristics

Texture: Smooth Fine Coarse

Grain size: finer with ~50% organics

Color: dark brown black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: ~1.5 cm

Odors: H₂S

Vertical profile: 0-~1.5 very loose brown fines with organics
~1.5-~8 loose brown to black, organic enriched
fines and very fine sand
8-10 increasing consolidation, increasing fines relative
to organics

Biological Structures Type: _____

Amount: ~20-30 amphipods in surface (percent)

Debris Type: rock/rocks, wood chips/fine

Amount: 10-40 (percent)

Oily Sheen Type: none observed

Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: gray clay with black mottling ^{lenses} / ~~lenses~~ of
black organic material below 15cm depth

Sampler's name: [Signature]

Date: 6/14/95



Station No.: US-12

Date: 06/14/95

Coordinates: North per site figure at
East opend location

Water depth: _____ ft

Time: 13:25

Weather: _____

Replicate No.: 01

Sampler type: _____

Penetration depth: 35 cm Sample depth: 0-10 cm
②-38 ③-37 ④-45

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: finer with fine sand

Color: black/olive black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: 0? cm

Odors: H₂S

Vertical profile: 0-10 cm loose to slightly consolidated, fines with ~50% organic matter, few fine sand

Biological Structures

Type: _____

Amount: few amphipods (0.5/core) (percent)

Debris

Type: plant and organic debris, twigs to 1/4" dia, 3" long

Amount: 10-50% (percent)

Oily Sheen

Type: couple of spots (possibly organic) at dept

Amount: of ~ 20-30 cm (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: ③ - more peat-like, with increased olive brown fines from 8-7-10 cm ④ - increased sand at 7-15 cm

Sampler's name: M. V. [signature]

Date: 6/14/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-13

Date: 06/14/95

Coordinates: North southeast corner of
East detention basin 1

Water depth: _____ ft

Time: 14:30

Weather: _____

Replicate No.: 01

Sampler type: _____

Penetration depth: 33 cm
② 44

Sample depth: 0-10 cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: finer with fine sand

Color: black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: H₂S - strong

Vertical profile: 0-10 cm - (base), organic rich black fines,
few fine sand

Biological Structures

Type: _____

Amount: 4-5 rhizomes / core (percent)

Debris

Type: large decaying organic matter in D, ~1.5 in dia x

Amount: 3 in long, ~ 30-60% organic (percent)

Oily Sheen

Type: droplets of oil sheen on water in sample area,

Amount: small droplets in sample (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: collected grain size, TOC field duplicate,
labeled as US-20 (also chemistry archive)

Sampler's name: [Signature]

Date: 6/14/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: US-13

Date: 6/14/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 1440

Weather: _____

Replicate No.: 03

Sampler type: _____

Penetration depth: 32 cm

Sample depth: 0-10 cm

36

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: finer with few to trace fine sand

Color: black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: 0 cm

Odors: H₂S

Vertical profile: 0-15 loose, black fines with 30-60% organics, few fine to medium sand

Biological Structures Type: _____
Amount: _____ (percent)

Debris Type: >0-60% decaying organics
Amount: _____ (percent)

Oily Sheen Type: small droplets in sample - few, increase with depth
Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/14/95



EMCON Northwest, Inc.

Sediment Field Sampling Data

Station No.: 45-14

Date: 06/16/95

Coordinates: North _____
East _____

Water depth: _____ ft

Time: 11:20

Weather: _____

Replicate No.: 01

Sampler type: _____

Penetration depth: 24 cm Sample depth: 10 cm
② 32 ③ 34 ④ 26

Sediment Characteristics

Texture: Smooth / Fine Coarse

Grain size: fine

Color: black

Redox layer: Yes / No Depth of Redox potential discontinuity layer: 0.5 cm

Odors: H₂O

Vertical profile: 0-0.5 loose brown fines with organics
0.5-10 black fines, peat-like, strong H₂S

Biological Structures Type: none seen - roots / peat like
Amount: _____ (percent)

Debris Type: twigs, plant debris
Amount: 10-40 (percent)

Oily Sheen Type: none observed
Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature]

Date: 6/16/95



Station No.: WS-15

Date: 6/16/95

Coordinates: North up gradient as far as Water depth: _____ ft
East possible in stream bed

Time: 1 0.40 Weather: _____

Replicate No.: B 1 Sampler type: _____
0 2

Penetration depth: 22 cm Sample depth: 0-10 cm
②-16 ②-19 ②-17

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: fine to coarse sand

Color: gray/brown

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: slight H₂S

Vertical profile: 0-2 brown, loose fines with organics and
some fine to med sand
2-10 grey brown fine to medium sand, 0.5cm
lenses of black organics (twigs, leaves)

Biological Structures Type: _____
Amount: none seen (percent)

Debris Type: twigs
Amount: + (percent)

Oily Sheen Type: none
Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: _____

Sampler's name: [Signature] Date: 6/16/95



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: Nisqually

Date: 6/17/95

Coordinates: North no survey coords available:
East ~ 1.5 mi down path a refuge

Water depth: _____ ft

Time: 10:35

Weather: overcasty raining

Replicate No.: 01

Sampler type: _____

Penetration depth: 24 cm

Sample depth: 0-10 cm

ⓐ 17 ⓑ 28 ⓒ 22

Sediment Characteristics

Texture: (Smooth) (Fine) Coarse

Grain size: fine to med sand

Color: grey

Redox layer: Yes (No) Depth of Redox potential discontinuity layer: _____ cm

Odors: none

Vertical profile: 0-0.5 cm fines with organics
0.5-10 fine fine to medium sand, few
fines

Biological Structures Type: none observed
Amount: _____ (percent)

Debris Type: few twigs
Amount: _____ (percent)

Oily Sheen Type: _____
Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: sample = NISO

Sampler's name: J. V. J.

Date: 6/17/95

sample time = 10:50
Field grain size: 39 ml / 49 ml → 63 μm



EMCON
Northwest, Inc.

Sediment Field Sampling Data

Station No.: CARR

Date: 6/18/95

Coordinates: North 47° 19.982' N Water depth: _____ ft
 East 122° 40.563' W

Loran TD's: 27953.8, 42214.7

Time: 1420

Weather: _____

Replicate No.: _____

Sampler type: _____

Penetration depth: _____ cm Sample depth: _____ cm

Sediment Characteristics

Texture: Smooth / Fine / Coarse

Grain size: _____

Color: grey (TV)

Redox layer: Yes / No Depth of Redox potential discontinuity layer: _____ cm

Odors: _____

Vertical profile: Field grain size (COE): 50% fines

Biological Structures Type: _____
 Amount: _____ (percent)

Debris Type: _____
 Amount: _____ (percent)

Oily Sheen Type: _____
 Amount: _____ (percent)

Sample Quality

Leakage: _____

Winnowing: _____

Disturbance: _____

Additional comments: Sample collected by Bio-Marine Enterprises, Charles Eaton. Form completed by ju.

Sampler's name: [Signature]

Date: 6/19/95

A Grain Size, wet-seive : 50% fines

MEMORANDUM

TO: Charlie Eaton

DATE: June 15, 1995

FROM: John Virgin *JV*

PROJECT: 40324-035.014

RE: Carr Inlet Reference Sample

CR-23 47°19.982'N
122°40.563'W

Loran TD's 27953.8, 42214.7

This memo is to confirm EMCON's request that you collect a reference sample from Carr Inlet for pick-up by EMCON on June 19, 1995. I would like to request that the sediment grain size, as determined by the COE field procedure, contain approximately 40 to 45 percent fines. Please complete the sample labels with date and time collected, plus initials. Also, please keep a record of the station coordinates, field grain size determination, and water depth for me. I included a chain-of-custody form that should be completed when transferring the sample.