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July 5, 2006

Project No. 328-A

Mr. Sean Coyle
Project Scientist
SECOR International, Inc.
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670

Second Quarter 2006
Ozone Injection System O&M Report
Former 76 Service Station No. 1106
1693 Central Avenue
McKinleyville, California

Dear Mr. Coyle:

Environ Strategy Consultants, Inc. is pleased to submit this ozone injection system operation and maintenance (O&M) report for former 76 Service Station No. 1106, located at 1693 Central Avenue, McKinleyville, California. An ozone injection system was started on January 7, 2004 to remediate hydrocarbon-impacted groundwater.

Type of Remediation System:	Ozone Injection System
Operation Data During: Reporting Period: Apr. 1, 2006 – Jun. 30, 2006	Operated 84 days during the period Hours of Operation: 2,037
System Operation Data Since Startup: January 7, 2004	Total Hours of Operation: 7,504
Note: System re-started on April 3, 2006. System down time due to tripped ozone sensor on April 11, 2006.	

Environ Strategy appreciates the opportunity to be of service. If you have any questions or require additional information regarding this report, please do not hesitate to call us at (949) 581-3222.

Respectfully submitted,

Sonny Nguyen
Project Assistant

Jinghui Niu, P.E.
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
JINGHUI NIU
C 051072
Exp. 9/30/07
CIVIL
STATE OF CALIFORNIA

Attachments: Figure - Site Plan

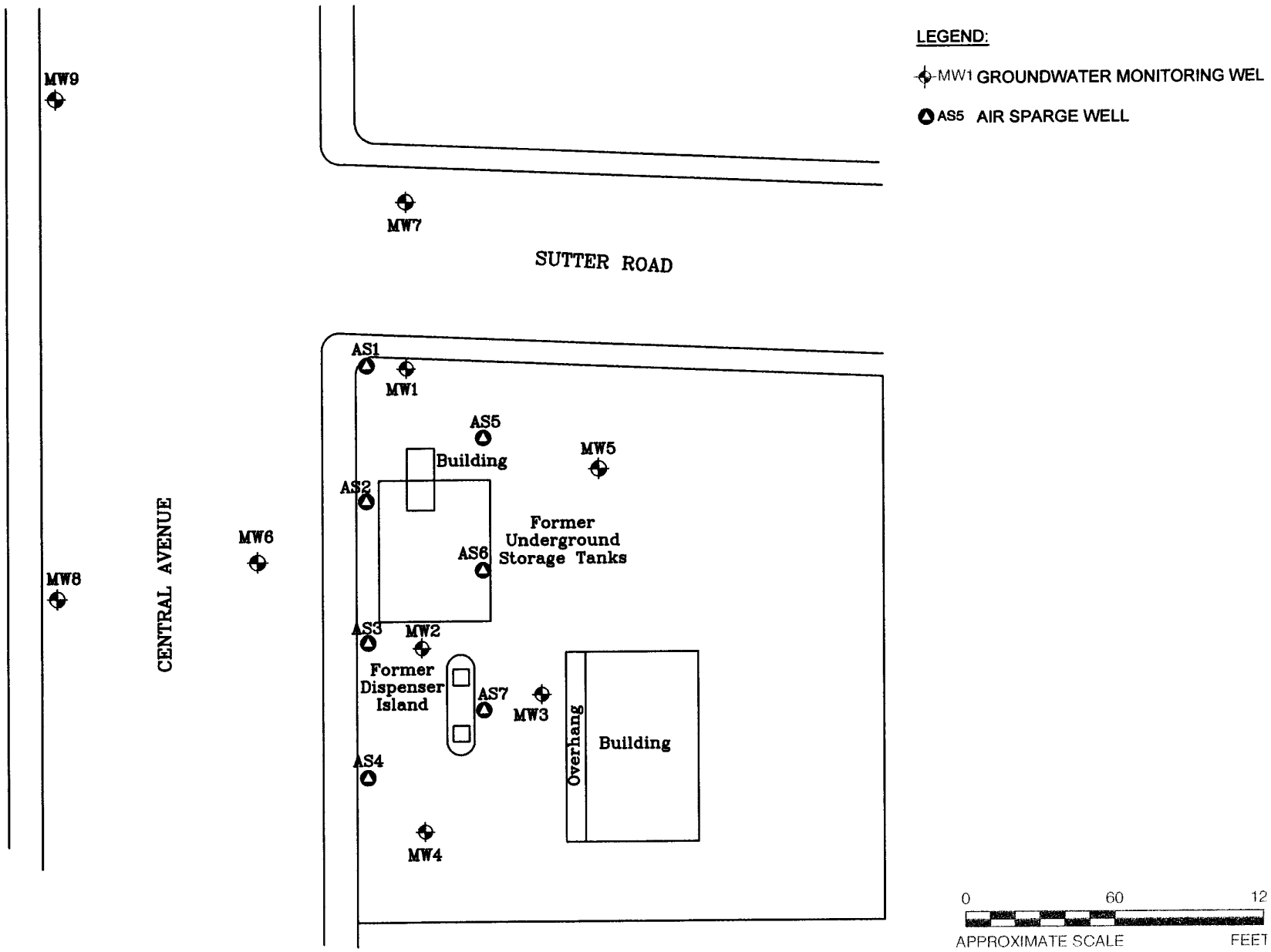
Table 1 – Ozone Injection System Operating Data
Table 2 – Ozone Injection System Groundwater Monitoring Data

Graph 1 – MW-2 Chart
Graph 2 – MW-4 Chart

Appendix A – Field Notes
Appendix B – Laboratory Analytical Reports

cc: Thomas Kosel, ConocoPhillips Company (electronic copy)

Figure



REFERENCE: THIS FIGURE IS BASED ON A MAP PROVIDED BY ERI INC.

DRAWN BY:	DWR
CHECKED:	AG
APPROVED:	RB
DATE:	7/19/04
JOB NO.:	77CP.60004.01.1106
CAD FILE:	M:\ACAD

PREPARED BY:

SECOR

3017 KILGORE ROAD, SUITE 100
RANCHO CORDOVA, CA 95670

PREPARED FOR:

FORMER 76
(CIRCLE K) STORE 01106

1693 CENTRAL AVENUE
McKINLEYVILLE, CALIFORNIA

FIGURE 1

SITE PLAN

Tables

Table 1
Ozone Injection System Operating Data
Former Circle K Store No. 01106
1693 Central Avenue, McKinleyville, California

Date	Notes	OZONE SPARGE SYSTEM					AS-1	AS-2	AS-3	AS-4	AS-5	AS-6	AS-7
		System Status (On/Off) Arrival	Departure	Hourmeter Reading	Period Online Factor	Cumulative Online Factor	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)
1/7/2004		Off	Off	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/12/2004		Off	On	67	NA	NA	36	36	33	35	34	32	36
1/23/2004		On	On	207	0.76	0.76	37	35	32	34	34	32	31
1/30/2004	a	Off	On	233.06	0.22	0.55	39	37	36	36	35	33	32
2/4/2004		On	On	316.00	0.99	0.64	37	34	33	35	35	33	31
2/27/2004	b	Off	On	409.24	0.24	0.44	--	--	--	--	--	--	--
3/25/2004	b	Off	On	754.83	0.76	0.56	--	--	--	--	--	--	--
4/28/2004	b	On	On	1,247.43	0.86	0.66	--	--	--	--	--	--	--
6/1/2004	c	On	On	1,812.92	0.99	0.74	--	--	--	--	--	--	--
6/23/2004	a,b	Off	On	1,963.13	0.41	0.69	--	--	--	--	--	--	--
7/22/2004	d	On	On	2,446.77	0.99	0.74	35	34	30	34	32	31	29
8/25/2004		On	On	2,647.00	0.35	0.68	33	32	29	33	32	29	28
9/22/2004	e	Off	On	3,104.00	0.95	0.71	37	34	32	34	33	32	29
10/20/2004	a	Off	On	3,464.57	0.77	0.72	38	34	31	35	36	32	29
11/17/2004		On	On	3,933.81	1.02	0.74	38	37	33	36	35	33	31
12/16/2004	a	Off	On	4,256.42	0.66	0.74	37	38	32	36	35	32	30
1/12/2005	f	Off	Off	4,509.00	0.56	0.72	--	--	--	--	--	--	--
2/3/2005	f,g	Off	Off	--	--	--	--	--	--	--	--	--	--
2/4/2005	h, i	Off	Off	--	--	--	--	--	--	--	--	--	--
2/18/2005	j	Off	On	4,509.00	--	--	--	--	--	--	--	--	--
2/21/2005		On	On	4,598.00	0.13	0.53	36	34	32	34	32	31	30
3/21/2005	k	Off	On	5,142.91	0.93	0.56	40	35	34	36	35	33	32
4/17/2005	l	Off	On	5,191.17	0.09	0.53	25	24	20	22	21	24	20
5/5/2005	l,m	Off	On	--	--	--	--	--	--	--	--	--	--
5/16/2005	l,m	Off	Off	5,203.26	0.02	0.50	32	30	30	33	32	30	29
5/20/2005	l,m,n	Off	On	--	--	--	--	--	--	--	--	--	--
6/17/2005	l,m	Off	On	--	--	--	36	35	32	33	33	30	30
7/15/2005	l,m	Off	On	5,303.00	0.08	0.45	37	36	32	36	32	30	29
8/11/2005	o,p	Off	On	5,311.01	0.01	0.43	--	--	--	--	--	--	--
8/18/2005		On	On	5,467.00	1.00	0.44	35	33	32	35	34	32	30
9/9/2005	q	Off	Off	--	--	--	--	--	--	--	--	--	--
4/3/2006	r	Off	On	5,467.00	0.00	0.32	32	32	30	31	31	30	30
4/11/2006	a	Off	On	5,604.00	0.82	0.32	30	32	31	32	30	31	29
5/16/2006		On	On	6,572.00	1.32	0.36	36	35	34	33	32	33	32
6/26/2006		On	On	7,504.00	1.08	0.40	35	34	32	34	32	33	30
						Sparge time per cycle (min)	10	10	10	10	10	10	10

Reporting Period: Second Quarter 2006 (4/01/2006 to 6/30/2006)
Total Hours Operational: 7,504
Total Pounds Ozone Injected: 67.5
Period Hours Operational: 2,037
Period Percent Operational: 115%
Period Pounds Ozone Injected: 18.3

Definitions:

psi	Pounds per square inch
--	Data not available
NA	Not applicable

Notes:

	Cycle runs 18 times a day for a total of 1,260 minutes per day, or 87.5% utilization.
a	System down due to tripped ozone sensor.
b	Bad pressure gauge.
c	May system check visit.
d	Ashcroft Pressure Gage installed in sparge cabinet.
e	System down due to bad GFI switch. Replaced and restarted.
f	System down due to faulty wire.
g	Site visit to repair faulty wire.
h	Site visit to repair leaks at compressor outlet, SP-5 solenoid, SP-6 solenoid, and SP-7 solenoid and to re-program system.
i	System reprogrammed to run 10 min. cycles for each well with 18 cycles a day for a total of 1260 min. a day .
j	System restarted.
k	Piston and cylinder replaced and system restarted.
l	System down due to tripped breaker. System restarted.
m	SHN field data.
n	Plugged #8 solenoid with threaded fitting. Check for leaks, none, left system on.
o	Site visit for repairs only. No readings taken.
p	Installed new compressor, replaced 16 amp breaker with time delay fuse, replaced primary power wires.
q	PG&E turned off power to the business the system get it's power from.
r	System start-up.

Table 2
Ozone Injection System Groundwater Monitoring Data
Former Circle K Store No. 01106
1693 Central Avenue, McKinleyville, California

		Monitoring Well: MW-2								Monitoring Well: MW-4							
Date	Notes	ORP (mV)	DO (mg/l)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (total) (µg/l)	MtBE (µg/l)	ORP (mV)	DO (mg/l)	TPHg (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (total) (µg/l)	MtBE (µg/l)
4/28/2004		228	NS	**180**	**38**	**14**	**2.1**	**16**	**57**	NS	NS	NS	NS	NS	NS	NS	NS
5/26/2004		181	NS	**640**	**130**	**50**	**9.1**	**54**	**180**	154	NS	<50	<0.50	<0.50	<0.50	<1.0	<0.50
6/23/2004		180	NS	**1,000**	**45**	**12**	**5.2**	**11**	**860**	133	NS	<50	<0.50	<0.50	<0.50	<1.0	<0.50
7/21/2004		205	4.33	<500	<5.0	<5.0	<5.0	<10	**560**	232	2.94	<50	<0.50	<0.50	<0.50	<1.0	<0.50
8/25/2004	a	179	NS	**450**	**3.5**	<2.5	<2.5	<5.0	**590**	202	NS	<50	<0.50	<0.50	<0.50	<1.0	<0.50
9/22/2004	a	163	4.50	**120**	<0.50	<0.50	<0.50	<1.0	**160**	180	2.75	<50	<0.50	<0.50	<0.50	<1.0	<0.50
10/20/2004	b	126	0.56	**73**	<0.50	<0.50	<0.50	<1.0	**82**	180	1.98	<50	<0.50	<0.50	<0.50	<1.0	<0.50
11/17/2004		62	5.87	<50	<0.50	<0.50	<0.50	<1.0	**28**	119	1.93	<50	<0.50	<0.50	<0.50	<1.0	**5.1**
12/16/2004		152	2.36	<100	<1.0	<1.0	<1.0	<2.0	**290**	173	1.93	<50	<0.50	<0.50	<0.50	<1.0	<0.50
1/12/2005		151	6.36	**150**	**3.6**	**3.1**	**1.8**	**5.1**	**58**	160	2.17	<50	<0.50	<0.50	<0.50	<1.0	<0.50
2/21/2005		90	3.80	**880**	**220**	**88**	**11**	**100**	**460**	99	2.97	<50	<0.50	<0.50	<0.50	<1.0	<0.50
3/21/2005		46	5.16	**500**	**31**	**6.9**	<0.50	**14**	**680**	-15	4.08	<50	<0.50	<0.50	<0.50	<1.0	<0.50
4/17/2005	d	60	6.70	**390**	**88**	**16**	**2.3**	**24**	**80**	13	5.34	<50	<0.50	<0.50	<0.50	<1.0	<0.50
5/16/2005		143	5.91	**4,100**	**830**	**140**	**36**	**260**	**1,000**	135	4.90	<50	<0.50	<0.50	<0.50	<1.0	<0.50
6/17/2005		239	2.81	**13,000**	**1,600**	**1,200**	**250**	**1,100**	**1,800**	244	4.56	<50	<0.50	<0.50	<0.50	<1.0	<0.50
7/15/2005	e	212	3.62	**1,100**	**170**	**170**	**23**	**140**	**110**	206	4.65	<50	<0.50	<0.50	<0.50	<1.0	<0.50
4/12/2006		5.82	221	<50	**0.90**	<0.50	<0.50	<1.0	**24**	3.15	192	<50	<0.50	<0.50	<0.50	<1.0	<0.50
5/16/2006	f	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/26/2006		4.07	270.00	**61**	**1.8**	**1.4**	<0.50	**2.1**	**81**	2.57	255	<50	<0.50	<0.50	<0.50	<1.0	<0.50

Definitions:

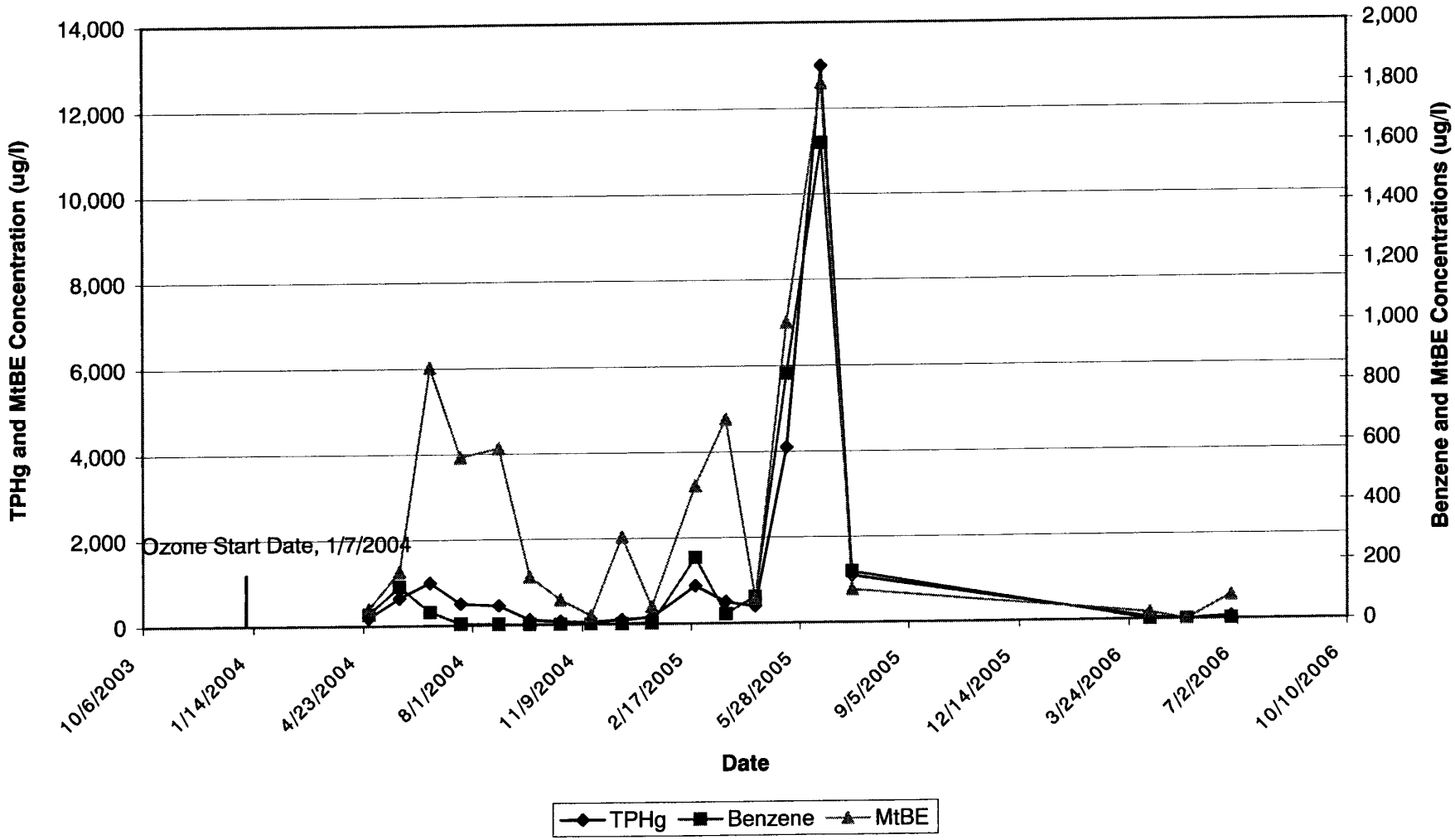
TPHg	Total petroleum hydrocarbons as gasoline
MtBE	Methyl tert-butyl ether
ug/l	Micrograms per liter
mg/l	Milligrams per liter
mV	Millivolts
NS	Not Sampled

Notes:

a	MW-2 Sample contains discrete peak in gasoline range.
b	MW-2 TPHg concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.
c	Data not available at time of reporting.
d	MW-4: MS/MSD spike recoveries were above acceptance limits
e	Monthly sampling discontinued at the request of CoP.
f	No monitoring conducted; wells inadvertently not sampled.

Graphs

Graph 1
MW-2 TPHg, Benzene, and MtBE Groundwater Concentrations
Former Circle K Store No. 01106
1693 Central Avenue, McKinleyville, California



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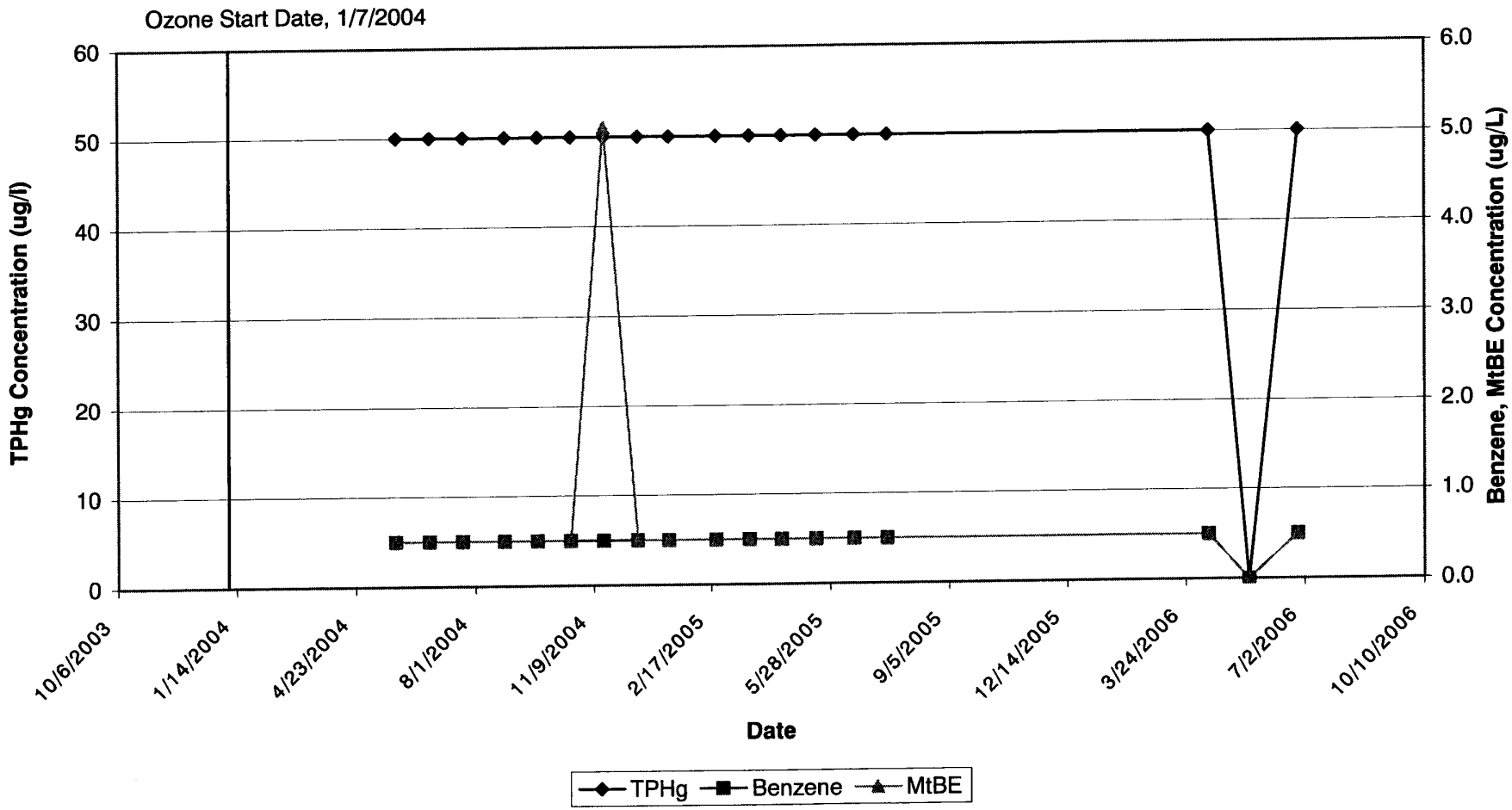
Graph 2
MW-4 TPHg, Benzene, and MtBE Groundwater Concentrations
Former Circle K Store No. 01106
1693 Central Avenue, McKinleyville, California



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Appendix A
Field Notes

ConocoPhillips Ozone Injection System Data Sheet

Station No. T 1106

City: Mc Kinleyville

Date	Notes	Status ON/OFF	Cycles/ Day	Hour Meter	Well I.D. AS-1 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-2 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-3 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
3 Apr 06	start-up	off/on	18	5467	32		11		32		11		30		11	
11 Apr 06	A, 11 Apr 06	off/on	18	5604	30		11		32		11		31		11	
16 Mar 06	no sample	on/on		6572	36		11		35		11		34		4	

Date	Well I.D. AS-4 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-5 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-6 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-7 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
3 Apr 06	31		11		31		11		30		11		30		11	
11 Apr 06	32		11		30		11		31		11		29		11	
16 Mar 06	33		11		32		11		33		11		32		11	

Date	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)

ENTERED

Date	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)

ConocoPhillips Ozone Injection System Data Sheet

Station No. T 1106

City: McKinleyville

Date	Notes	Status ON/OFF	Cycles/ Day	Hour Meter	Well I.D. AS-1 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-2 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-3 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
26 Jun 06	26 Jun 06	on/on	10	7504	35		10		34		10		32		10	

Date	Well I.D. AS-4 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-5 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-6 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. AS-7 Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)
26 Jun 06	34		10		32		10		30		10		30		10	

Date	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)

Date	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)	Well I.D. Pressure (psi)	Temp. (°F)	Run Time (min)	Flowrate (acfm)

ENTERED

Ozone Injection System Maintenance and Inspection Log

Station No. T1106

City: Mckinleyville

Date	Notes - a: Breaker Thrown b: Hour Meter Malfunction c: New Hour Meter d: Rainbird Meter Malfunction	Status Upon Arrival On/Off	Status Upon Departure On/Off	Check Hose Fittings Valves	Measure Blower Running Amperage	Check Electrical Fittings and Controller Operation	Adjust Controller Program	Particle Filter Inspect/ Replace	Check Flow Pressure Assembly	Check Well Head Connect	Test all Safety Override Systems
11 APR 00	A	off	on	ok	–	ok	–	ok	ok	ok	ok
16 May 00		on	on	ok	–	ok	–	ok	ok	ok	ok
26 June 00		on	on	ok	–	ok	–	ok	ok	ok	ok

Comments: system start-up on April 3.

ENTERED

Ozone Injection System Groundwater Monitoring Data

Station No. T1106

City Mckinleyville

Date	Monitoring Well [illegible]					Monitoring Well [illegible]					Monitoring Well				
	ORP (mV)	DO (mg/l)	pH	Electrical Conductivity (uS)	Temp (deg C)	ORP (mV)	DO (mg/l)	pH	Electrical Conductivity (uS)	Temp (deg C)	ORP (mV)	DO (mg/l)	pH	Electrical Conductivity (uS)	Temp (deg C)
11Apr06	5.02	221	—	—	—	3.15	192	—	—	—					
16May06	No	monitoring		conducted		→									
26June06	4.07	270	—	—	—	2.57	255	—	—	—					

Date	Monitoring Well					Monitoring Well					Monitoring Well				
	ORP (mV)	DO (mg/l)	pH	Electrical Conductivity (uS)	Temp (deg C)	ORP (mV)	DO (mg/l)	pH	Electrical Conductivity (uS)	Temp (deg C)	ORP (mV)	DO (mg/l)	pH	Electrical Conductivity (uS)	Temp (deg C)

ENTER

SEVERN TRENT STL

ANALYTICAL REPORT

Job Number: 720-3112-1

Job Description: Conoco Phillips #1106, Mckinleyville

For:
Environ Strategy
30 Hughs
Suite 209
Irvine, CA 92618

Attention: Dr. Kevin O'Malley

Dimple Sharma
Project Manager I
dsharma@stl-inc.com
04/27/2006

cc: Mr. Darren Azarian
Mr. Niu Jinghui
Ms. Lindia Liu
Ms. Sonny Nguyen

Project Manager: Dimple Sharma

METHOD SUMMARY

Client: Environ Strategy

Job Number: 720-3112-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	STL-SF	SW846 8260B	
Purge-and-Trap	STL-SF		SW846 5030B

LAB REFERENCES:

STL-SF = STL-San Francisco

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Environ Strategy

Job Number: 720-3112-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-3112-1	MW-2	Water	04/11/2006 1215	04/12/2006 0935
720-3112-2	MW-4	Water	04/11/2006 1150	04/12/2006 0935

Client: Environ Strategy

Job Number: 720-3112-1

Client Sample ID: **MW-2**

Lab Sample ID: 720-3112-1
Client Matrix: Water

Date Sampled: 04/11/2006 1215
Date Received: 04/12/2006 0935

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 04/25/2006 1332
Date Prepared: 04/25/2006 1332

Analysis Batch: 720-8201

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200604\04
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	0.90		0.50
Ethylbenzene	ND		0.50
MTBE	24		0.50
TAME	4.8		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
TBA	ND		5.0
DIPE	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
Ethyl tert-butyl ether	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	100	77 - 121
1,2-Dichloroethane-d4	119	73 - 130

Client: Environ Strategy

Job Number: 720-3112-1

Client Sample ID: **MW-4**

Lab Sample ID: 720-3112-2
Client Matrix: Water

Date Sampled: 04/11/2006 1150
Date Received: 04/12/2006 0935

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 04/25/2006 1359
Date Prepared: 04/25/2006 1359

Analysis Batch: 720-8201

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200604\04
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
MTBE	ND		0.50
TAME	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
TBA	ND		5.0
DIPE	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
Ethyl tert-butyl ether	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	99	77 - 121
1,2-Dichloroethane-d4	128	73 - 130

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Environ Strategy

Job Number: 720-3112-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS VOA				
Analysis Batch:720-8201				
LCS 720-8201/19	Lab Control Spike	Water	8260B	
LCSD 720-8201/18	Lab Control Spike Duplicate	Water	8260B	
MB 720-8201/20	Method Blank	Water	8260B	
720-3112-1	MW-2	Water	8260B	
720-3112-2	MW-4	Water	8260B	
720-3224-B-6 MS	Matrix Spike	Water	8260B	
720-3224-B-6 MSD	Matrix Spike Duplicate	Water	8260B	

Client: Environ Strategy

Job Number: 720-3112-1

Method Blank - Batch: 720-8201

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-8201/20
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 04/25/2006 1116
Date Prepared: 04/25/2006 1116

Analysis Batch: 720-8201
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200604\04
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
MTBE	ND		0.50
TAME	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
TBA	ND		5.0
DIPE	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
Ethyl tert-butyl ether	ND		0.50

Surrogate	% Rec	Acceptance Limits
Toluene-d8	101	77 - 121
1,2-Dichloroethane-d4	109	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Environ Strategy

Job Number: 720-3112-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-8201

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-8201/19
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 04/25/2006 0954
Date Prepared: 04/25/2006 0954

Analysis Batch: 720-8201
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200604\0
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-8201/18
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 04/25/2006 1022
Date Prepared: 04/25/2006 1022

Analysis Batch: 720-8201
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900C
Lab File ID: c:\saturnws\data\200604\042
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	89	91	69 - 129	2	25		
MTBE	98	103	65 - 165	5	25		
Toluene	100	99	70 - 130	1	25		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	103	101	77 - 121
1,2-Dichloroethane-d4	101	104	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Environ Strategy

Job Number: 720-3112-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-8201

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-3224-B-6 MS	Analysis Batch: 720-8201	Instrument ID: Varian 3900C
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: c:\saturnws\data\200604\(
Dilution:	10		Initial Weight/Volume: 10 mL
Date Analyzed:	04/25/2006 1211		Final Weight/Volume: 10 mL
Date Prepared:	04/25/2006 1211		

MSD Lab Sample ID:	720-3224-B-6 MSD	Analysis Batch: 720-8201	Instrument ID: Varian 3900C
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: c:\saturnws\data\200604\04
Dilution:	10		Initial Weight/Volume: 10 mL
Date Analyzed:	04/25/2006 1238		Final Weight/Volume: 10 mL
Date Prepared:	04/25/2006 1238		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	103	101	69 - 129	0	20		
MTBE	98	104	65 - 165	5	20		
Toluene	91	94	70 - 130	3	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Toluene-d8	103	99	77 - 121
1,2-Dichloroethane-d4	104	102	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

ConocoPhillips Chain Of Custody Record

40578

STL-San Francisco
1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 (925) 484-1096 fax

ConocoPhillips Site Manager:

INVOICE REMITTANCE ADDRESS: 720-3112

CONOCOPHILLIPS
Attn: Dee Hutchinson
3611 South Harbor, Suite 200
Santa Ana, CA 92704

ConocoPhillips Work Order Number

ConocoPhillips Cost Object

DATE 4/11/06

PAGE 1 of 1

SAMPLING COMPANY: SHN	Valid Value ID:
CONOCOPHILLIPS SITE NUMBER: 1106	GLOBAL ID NO.: T0605300379
ADDRESS: 812 W. Wabash Eureka, CA 95501 707-441-8855	SITE ADDRESS (Street and City): 1693 Central Ave., McKinleyville, CA
CONOCOPHILLIPS SITE MANAGER:	
PROJECT CONTACT (Hardcopy or PDF Report to): Kevin O'Malley @ Environmental Strategies 30 Hughes, Suite 209 Irvine, CA 92618	
EDF DELIVERABLE TO (RP or Designee): Kevin O'Malley	PHONE NO.: 949-581-3222
E-MAIL: kevin@environmentalstrategy.com	LAB USE ONLY
TELEPHONE: 949-581-3222	FAX: 949 -581-3207
E-MAIL: kevin@environmentalstrategy.com	
SAMPLER NAME(S) (Print): Jonathan Lagent	CONSULTANT PROJECT NUMBER

TURNAROUND TIME (CALENDAR DAYS): ☑ 14 DAYS ☐ 7 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NEEDED ☑

Field Point name only required if different from Sample ID

REQUESTED ANALYSES

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

LAB USE ONLY	Sample Identification/Field Point Name*	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	8015m - TPHd Extractable	8260B - TPHg/BTEX/5 oxygenates	8260B - TPHg / BTEX / 8 Oxygenates	8260B - TPHg / BTEX / 8 oxygenates + methanol (8015M)	8260B - Full Scan VOCs (does not include oxygenates)	8270C - Semi-Volatiles	8015M / 8021B - TPHg/BTEX/MtBE	Lead ☐Total ☐STLC ☐TCLP	Field Notes
	MW-2	4/11/2006	12:15	Water	3		X							
	MW-4	4/11/2006	11:50	Water	3		X							

TEMPERATURE ON RECEIPT C° 6

Relinquished by (Signature)	Received by (Signature)	Date	Time
J. Lagent		4/11/06	14:30
	Storm Mullen STL SF	4-12-06	935

Page 11 of 12

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Environ Strategy

Job Number: 720-3112-1

Login Number: 3112

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

SEVERN TRENT STL

ANALYTICAL REPORT

Job Number: 720-4301-1

Job Description: Conoco Phillips #1106, Mckinleyville

For:
Environ Strategy
30 Hughs
Suite 209
Irvine, CA 92618

Attention: Dr. Kevin O'Malley

Dimple Sharma
Project Manager I
dsharma@stl-inc.com
06/30/2006

cc: Mr. Darren Azarian
Ms. Lindia Liu
Ms. Sonny Nguyen
Mr. Jinghui Niu

Project Manager: Dimple Sharma

METHOD SUMMARY

Client: Environ Strategy

Job Number: 720-4301-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	STL-SF	SW846 8260B	
Purge-and-Trap	STL-SF		SW846 5030B

LAB REFERENCES:

STL-SF = STL-San Francisco

METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: Environ Strategy

Job Number: 720-4301-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-4301-1	MW-2	Water	06/26/2006 1305	06/27/2006 1251
720-4301-2	MW-4	Water	06/26/2006 1250	06/27/2006 1251

Client: Environ Strategy

Job Number: 720-4301-1

Client Sample ID: MW-2

Lab Sample ID: 720-4301-1
Client Matrix: Water

Date Sampled: 06/26/2006 1305
Date Received: 06/27/2006 1251

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 06/29/2006 1752
Date Prepared: 06/29/2006 1752

Analysis Batch: 720-10542

Instrument ID: Saturn 2100
Lab File ID: c:\saturnws\data\200606\06
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1.8		0.50
Ethylbenzene	ND		0.50
MTBE	81		0.50
TAME	7.9		0.50
Toluene	1.4		0.50
Xylenes, Total	2.1		1.0
TBA	ND		5.0
DIPE	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	61		50
Ethyl tert-butyl ether	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	94	77 - 121
1,2-Dichloroethane-d4	111	73 - 130

Client: Environ Strategy

Job Number: 720-4301-1

Client Sample ID: **MW-4**

Lab Sample ID: 720-4301-2
Client Matrix: Water

Date Sampled: 06/26/2006 1250
Date Received: 06/27/2006 1251

8260B Volatile Organic Compounds by GC/MS

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 06/29/2006 1818
Date Prepared: 06/29/2006 1818

Analysis Batch: 720-10542

Instrument ID: Saturn 2100
Lab File ID: c:\saturnws\data\200606\06
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
MTBE	ND		0.50
TAME	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
TBA	ND		5.0
DIPE	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
Ethyl tert-butyl ether	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8	106	77 - 121
1,2-Dichloroethane-d4	103	73 - 130

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Environ Strategy

Job Number: 720-4301-1

QC Association Summary

Lab Sample ID	Client Sample ID	Client Matrix	Method	Prep Batch
GC/MS VOA				
Analysis Batch:720-10542				
LCS 720-10542/19	Lab Control Spike	Water	8260B	
LCSD 720-10542/6	Lab Control Spike Duplicate	Water	8260B	
MB 720-10542/7	Method Blank	Water	8260B	
720-4301-1	MW-2	Water	8260B	
720-4301-2	MW-4	Water	8260B	
720-4310-B-1 MS	Matrix Spike	Water	8260B	
720-4310-B-1 MSD	Matrix Spike Duplicate	Water	8260B	

Client: Environ Strategy

Job Number: 720-4301-1

Method Blank - Batch: 720-10542

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-10542/7
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/29/2006 1117
Date Prepared: 06/29/2006 1117

Analysis Batch: 720-10542
Prep Batch: N/A
Units: ug/L

Instrument ID: Saturn 2100
Lab File ID: c:\saturnws\data\200606\06
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Benzene	ND		0.50
Ethylbenzene	ND		0.50
MTBE	ND		0.50
TAME	ND		0.50
Toluene	ND		0.50
Xylenes, Total	ND		1.0
TBA	ND		5.0
DIPE	ND		1.0
Gasoline Range Organics (GRO)-C6-C12	ND		50
Ethyl tert-butyl ether	ND		0.50

Surrogate	% Rec	Acceptance Limits
Toluene-d8	94	77 - 121
1,2-Dichloroethane-d4	114	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Environ Strategy

Job Number: 720-4301-1

Laboratory Control/
Laboratory Control Duplicate Recovery Report - Batch: 720-10542

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-10542/19
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/29/2006 1025
Date Prepared: 06/29/2006 1025

Analysis Batch: 720-10542
Prep Batch: N/A
Units: ug/L

Instrument ID: Saturn 2100
Lab File ID: c:\saturnws\data\200606\0
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-10542/6
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 06/29/2006 1051
Date Prepared: 06/29/2006 1051

Analysis Batch: 720-10542
Prep Batch: N/A
Units: ug/L

Instrument ID: Saturn 2100
Lab File ID: c:\saturnws\data\200606\06
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	91	93	69 - 129	2	25		
MTBE	107	111	65 - 165	3	25		
Toluene	95	84	70 - 130	13	25		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8	94	88	77 - 121
1,2-Dichloroethane-d4	103	108	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Environ Strategy

Job Number: 720-4301-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-10542

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-4310-B-1 MS	Analysis Batch: 720-10542	Instrument ID: Saturn 2100
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: c:\saturnws\data\200606\(
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	06/29/2006 1211		Final Weight/Volume: 10 mL
Date Prepared:	06/29/2006 1211		

MSD Lab Sample ID:	720-4310-B-1 MSD	Analysis Batch: 720-10542	Instrument ID: Saturn 2100
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: c:\saturnws\data\200606\0(
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	06/29/2006 1237		Final Weight/Volume: 10 mL
Date Prepared:	06/29/2006 1237		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	107	109	69 - 129	2	20		
MTBE	121	124	65 - 165	2	20		
Toluene	110	113	70 - 130	2	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Toluene-d8	95	95	77 - 121
1,2-Dichloroethane-d4	96	96	73 - 130

Calculations are performed before rounding to avoid round-off errors in calculated results.

STL-San Francisco 720-4301

1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 (925) 484-1096 fax

ConocoPhillips Chain Of Custody Record

100580

ConocoPhillips Site Manager:

INVOICE REMITTANCE ADDRESS: CONOCOPHILLIPS
Attn: Dee Hutchinson
3611 South Harbor, Suite 200
Santa Ana, CA 92704

ConocoPhillips Work Order Number:

ConocoPhillips Cost Object:

DATE: 6/26/06
PAGE: 1 of 1

SAMPLING COMPANY: SHN

Valid Value ID:

CONOCOPHILLIPS SITE NUMBER: 1106

GLOBAL ID NO.: T0605300379

ADDRESS: 812 W. Wabash Eureka, CA 95501 707-441-8855

SITE ADDRESS (Street and City): 1693 Central Ave., McKinleyville, CA

CONOCOPHILLIPS SITE MANAGER:

PROJECT CONTACT (Hardcopy or PDF Report to): Kevin O'Malley @ Environmental Strategies 30 Hughes, Suite 209 Irvine, CA 92618

EDF DELIVERABLE TO (IP or Designee): Kevin O'Malley

PHONE NO.: 949-581-3222

E-MAIL: kevin@environstrategy.com

TELEPHONE: 949-581-3222

FAX: 949 -581-3207

E-MAIL: kevin@environstrategy.com

LAB USE ONLY

SAMPLER NAME(S) (Print):

CONSULTANT PROJECT NUMBER

TURNAROUND TIME (CALENDAR DAYS): ☑ 14 DAYS ☐ 7 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES:

CHECK BOX IF EDD IS NEEDED ☑

REQUESTED ANALYSES

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

* Field Point name only required if different from Sample ID

LAB USE ONLY	Sample Identification/Field Point Name*	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	8015m - TPHd Extractable	8260B - TPHg/BTEX/5 oxygenates	8260B - TPHg / BTEX / 8 Oxygenates	8260B - TPHg / BTEX / 8 oxygenates + methanol (8015M)	8260B - Full Scan VOCs (does not include oxygenates)	8270C - Semi-Volatiles	8015M / 8021B - TPHg/BTEX/MTBE	Lead ☐Total ☐STLC ☐TCLP	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	MW-2	6/26/06	1305	Water	3		X							TEMPERATURE ON RECEIPT C° 6
	MW-4	V	1250	Water	3		X							

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Dustin Sillet 6/26/06			
Relinquished by: (Signature)	Received by: (Signature) Tony Mullen STC SF	6-27-06	1005
Relinquished by: (Signature)	Received by: (Signature)		

9/19/03 Revision

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Environ Strategy

Job Number: 720-4301-1

Login Number: 4301

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	