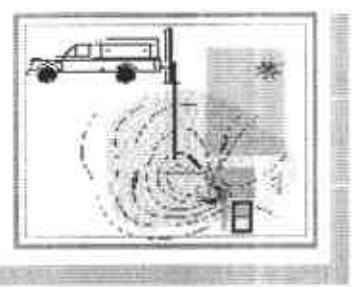


R0382 ✓

Franklin J. Goldman

Environmental and Hydrogeological Consulting
PO Box 725, Sebastopol, CA 95473
Phone: (707) 235-9979
franklingoldman1@yahoo.com



September 14, 2004

Barney M. Chan
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-9335

Telephone: (510) 567-6765
FAX: (510) 337-9335

Subject: Groundwater Monitoring of Hydrocarbons related to the Former Underground Storage Tanks at the FORMER BILL CHUN SERVICE STATION @ 2301 SANTA CLARA AVENUE, ALAMEDA, CA 94501

Dear Barney:

This report summarizes the laboratory results of analyses performed for gasoline constituents in groundwater. Eight (8) groundwater monitoring and four (4) groundwater extraction wells were purged and sampled. Seventeen (17) wells were measured for water level measurements.

Although the overall trend in concentrations of TPHg and benzene identified in groundwater have decreased over time, some wells have undergone an increase. Most notably, TPHg and benzene were identified in EW-14, 16, & 17 located in the vicinity of the existing kiosk located south of the former tank pit.

If you have any questions, please call me.

Sincerely,
Franklin J. Goldman

Franklin J. Goldman
Registered Geologist No. 5557

GROUNDWATER FLOW DIRECTION

On August 05, 2004, a Slope Indicator water level meter was used to measure the depth to groundwater in the groundwater extraction wells prior to well development and sampling. The measurements were read to the nearest 100th of an inch from the top of casing.

Groundwater was encountered at depths of approximately 8 feet bgs in the vicinity of the former tank pit. The predominant groundwater gradient direction is to the southeast at 0.005 feet/foot (See Figure 1 for Gradient Map) and (Table 1 for Depth to Water Level Measurements). Water levels were measured with an electronic water level sounder after sampling and the water levels were allowed to stabilize. A Slope Indicator water level meter was used to measure the depth to groundwater prior to purging and sampling. The measurements were read to the nearest 100th of an inch. The groundwater gradient was determined by comparing water levels with elevations provided by a certified land survey.

WELL PURGING AND DEVELOPMENT

Depth to groundwater was measured prior to purging to use as a reference elevation. Purging of the wells was performed by the use of 1 3/4 inch diameter steel disposable check valve bailors. Each well was sampled after well development which entailed the removal of approximately three (3) or more borehole volumes from each well, allowing the water level to recover to at least 80% of the original, static water level. Temperature, electrical conductivity, and pH was monitored during the bailing process, so that the three parameters demonstrated an error difference of within 10% from one another, over three consecutive readings wells (See Appendix A for Sampling Event Sheets). The recorded data was used to verify that a sufficient volume of groundwater had been removed from the each well casing so that anomalies caused by remnant well casing storage would not preclude us from obtaining a groundwater sample which would be more representative of the aquifer contaminant distribution as a whole.

GROUNDWATER SAMPLING FROM WELLS

Water samples were collected by lowering a plastic disposable bailer down the center of the well casing. Water samples were contained in 40-milliliter VOA vials for TPH-g, MTBE, and BTEX analyses. EPA Method 8260b for 5 oxygenates and two lead scavengers was used to confirm the presence of MTBE on other gasoline constituents. The samples were labeled and stored on ice until delivered, under chain-of-custody procedures, to American Analytics, Inc. of Chatsworth, California, a State-certified analytical laboratory.

LABORATORY RESULTS OF HYDROCARBONS IN GROUNDWATER

Although the overall trend in concentrations of TPHg and benzene identified in groundwater have decreased over time, some wells have undergone an increase. Most notably, TPHg and benzene were identified in EW-14, 16, & 17 located in the

vicinity of the existing kiosk located south of the former tank pit (See Appendix B for Laboratory Data Sheets) and (Table 2 for Lab Results). The plumes of benzene and TPHg in groundwater still appear to be centered in the general vicinity of the former USTs on site (See Figures 2 and 3 for TPHg and benzene concentration maps).

FIELD CLEANUP

Well purge water was placed in properly labeled 55 gallon drums left on-site pending laboratory analysis to determine a legal point of disposal.

CONCLUSIONS

Dissolved benzene may still be migrating to the southeast in the direction of the predominant groundwater gradient direction. Considering the significant decreases in concentrations over the past three years, however, the plume may be degrading at a rate greater than its migration to the east.

RECOMMENDATIONS

Perform an additional round of groundwater sampling.

LIMITATIONS

This report has been prepared in accordance with generally accepted environmental, geological and engineering practices. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analyses, conclusions and recommendations contained in this report are based upon site conditions as they existed at the time of the investigation and they are subject to change.

The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. Franklin J. Goldman, recognizes that the limited scope of services performed in execution of this investigation may not be appropriate to satisfy the needs, or requirements of other state agencies, or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein, is done so at the sole risk of the said user.

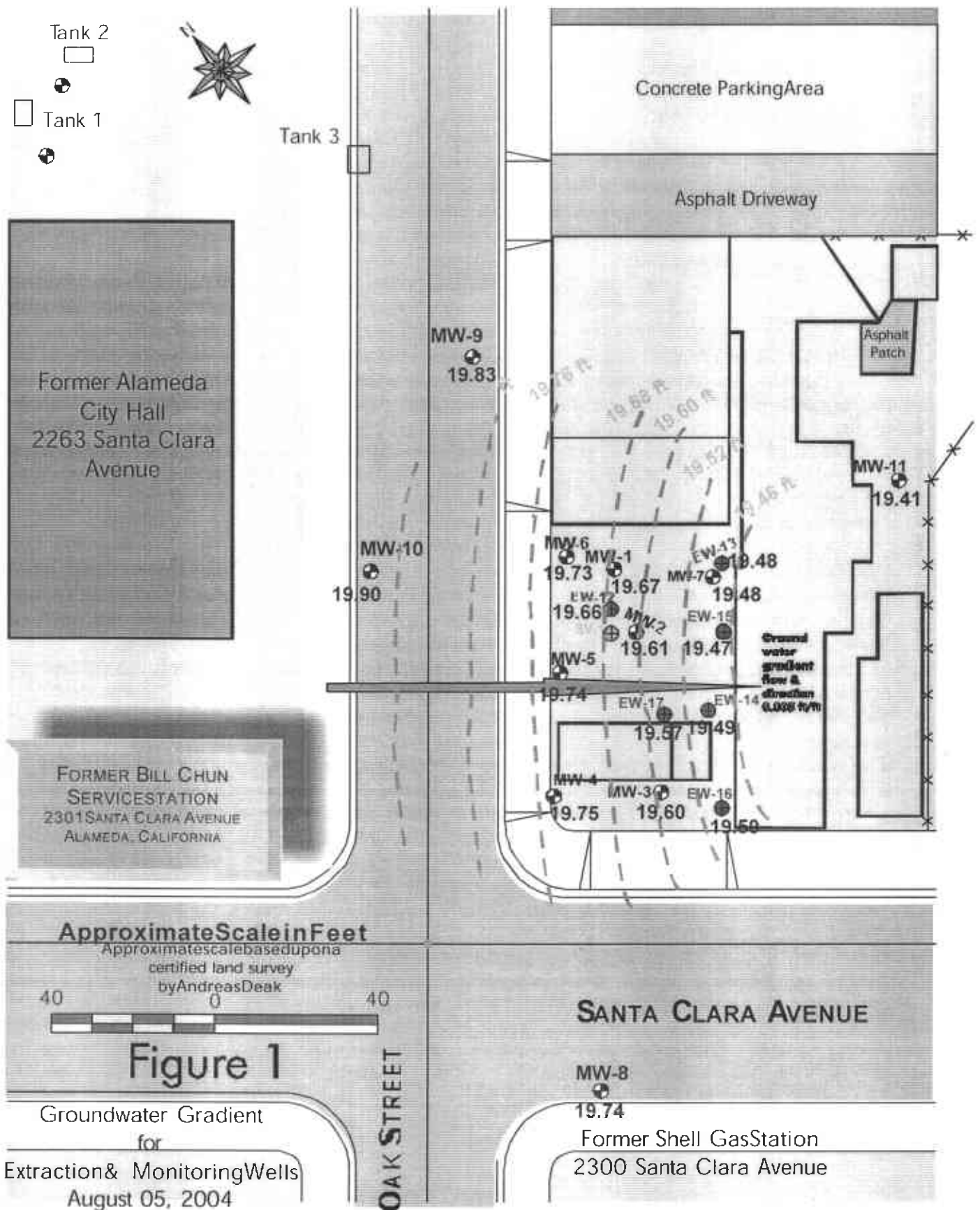



Figure 1

Groundwater Gradient
 for
 Extraction & Monitoring Wells
 August 05, 2004



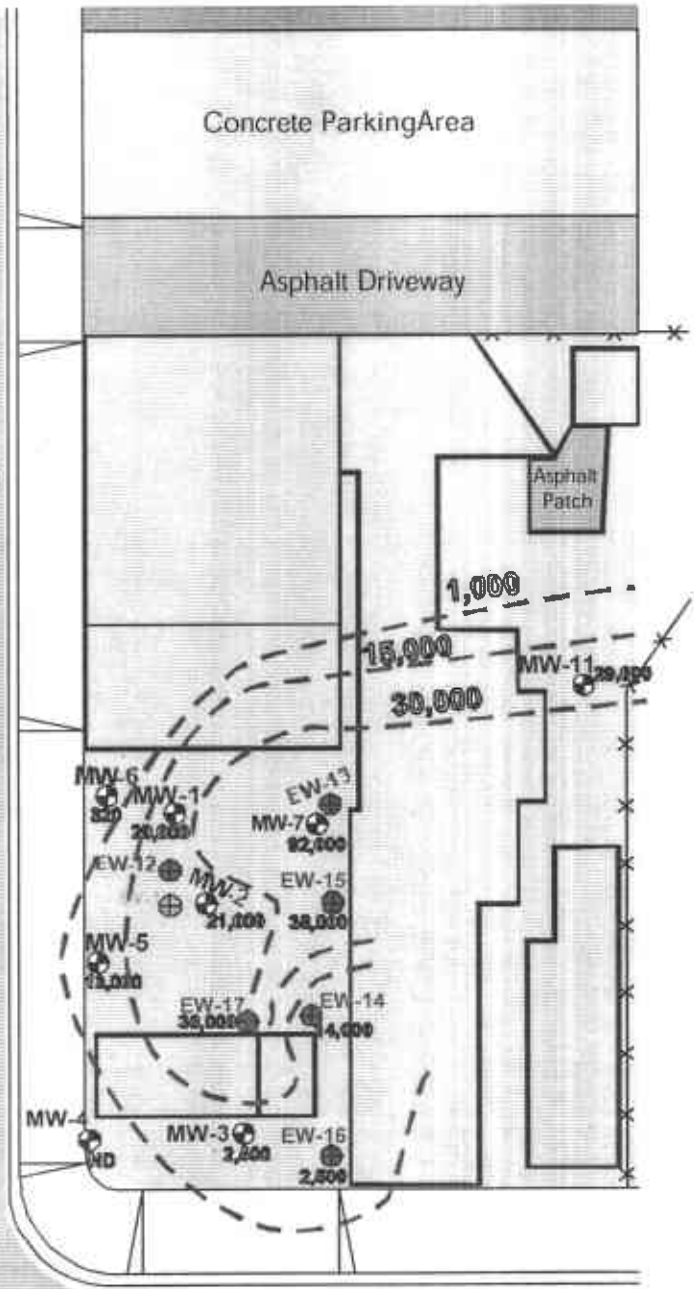
Former Alameda
 City Hall
 2263 Santa Clara
 Avenue

FORMER BILL CHUN
 SERVICESTATION
 2301 SANTA CLARA AVENUE
 ALAMEDA, CALIFORNIA

Tank 3


MW-9

 MW-10

Approximate Scale in Feet




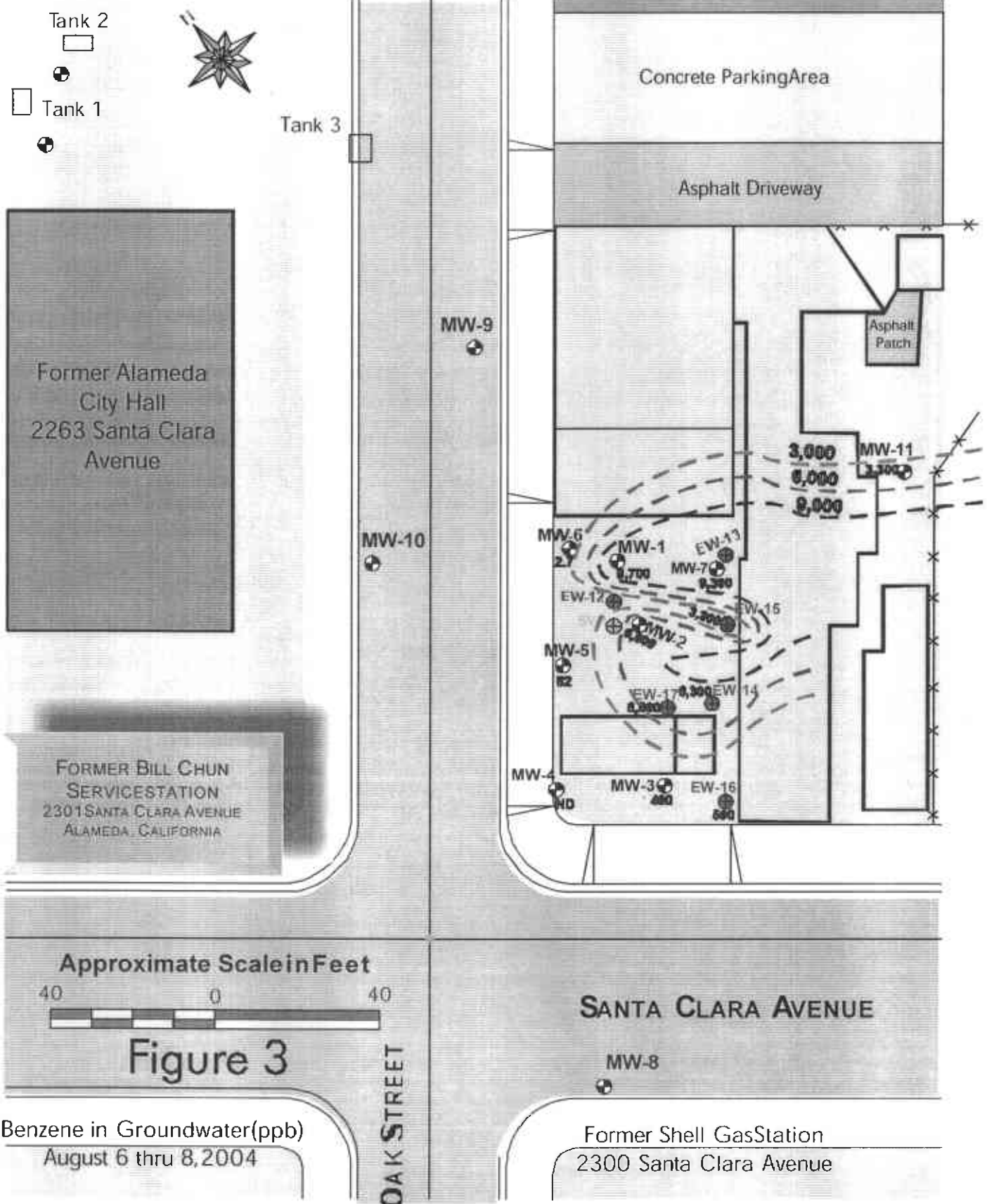
Figure 2

TPH in Groundwater (ppb)
 August 6 thru 8, 2004

OAK STREET

SANTA CLARA AVENUE

MW-8

 Former Shell Gas Station
 2300 Santa Clara Avenue



Benzene in Groundwater (ppb)
 August 6 thru 8, 2004

TABLE 1
Depth to Groundwater Measurements
August 08, 2004

Well No	Depth to Groundwater from TOC (feet bgs)	TOC Elevation (feet) MSN	Water Table Elevation (feet)
MW-1	8.82	28.49	19.67
MW-2	8.86	28.47	19.61
MW-3	9.18	28.78	19.60
MW-4	8.78	28.53	19.75
MW-5	8.59	28.33	19.74
MW-6	8.63	28.36	19.73
MW-7	8.96	28.44	19.48
MW-8	8.43	28.17	19.74
MW-9	7.62	27.45	19.83
MW-10	7.42	27.32	19.90
MW-11	9.15	28.56	19.41
EW-12	8.59	28.25	19.66
EW-13	9.16	28.64	19.48
EW-14	9.72	29.21	19.49
EW-15	9.24	28.71	19.47
EW-16	9.52	29.02	19.50
EW-17	9.38	28.95	19.57

TABLE 2 - Chun
Representative Analytical for Gasoline in Groundwater (ppb)

Well No		TPHg	Benzene
MW-1	(08-08-04)	29,000	9,700
	(04-24-04)	33,000	8,000
	(12-25-03)	12,000	3,400
	(09-20-03)	19,000	4,900
	(07-04-02)	43,000	7,200
	(09-17-00)	65,000	15,000
	MW-2	(08-08-04)	21,000
(04-24-04)		44,000	8,400
(12-25-03)		46,000	6,100
(09-21-03)		27,000	2,400
(07-04-02)		41,000	5,600
(09-17-00)		140,000	21,000
MW-3		(08-08-04)	2,500
	(04-24-04)	3,100	1,000
	(12-25-03)	3,300	290
	(09-21-03)	2,700	320
	(07-04-02)	10,000	2,300
	(09-17-00)	9,300	3,000
	MW-4	(08-08-04)	ND
(04-24-04)		3,000	0.97
(12-25-03)		ND	ND
(09-20-03)		ND	ND
(07-04-02)		ND	ND
(09-17-00)		ND	ND
MW-5		(08-08-04)	13,000
	(04-24-04)	13,000	97
	(12-25-03)	2,300	140
	(09-21-03)	8,700	ND
	(07-04-02)	16,000	89

	<i>(09-17-00)</i>	<i>44,000</i>	<i>490</i>
MW-6	(08-08-04)	320	2.7
	(04-24-04)	110	3.6
	(12-25-03)	1,200	18
	<i>(09-20-03)</i>	<i>500</i>	<i>15</i>
	(07-04-02)	3,900	29
	<i>(09-17-00)</i>	<i>10,000</i>	<i>110</i>
MW-7	(08-08-04)	92,000	9,300
	(04-24-04)	100,000	10,000
	(12-25-03)	110,000	12,000
	<i>(09-21-03)</i>	<i>110,000</i>	<i>4,200</i>
	(07-04-02)	140,000	15,000
	<i>(09-17-00)</i>	<i>220,000</i>	<i>32,000</i>
MW-8	(08-08-04)	NA	NA
	(04-24-04)	ND	ND
	(12-25-03)	ND	ND
	<i>(09-20-03)</i>	<i>ND</i>	<i>ND</i>
	(07-03-02)	ND	1.1
	<i>(09-17-00)</i>	<i>ND</i>	<i>1.4</i>
MW-9	(04-24-04)	NA	NA
	(04-24-04)	ND	ND
	(12-25-03)	ND	ND
	<i>(09-20-03)</i>	<i>ND</i>	<i>ND</i>
	(07-03-02)	ND	ND
	<i>(09-17-00)</i>	<i>ND</i>	<i>ND</i>
MW-10	(04-24-04)	NA	NA
	(04-24-04)	ND	ND
	(12-25-03)	ND	ND
	<i>(09-20-03)</i>	<i>ND</i>	<i>ND</i>
	(07-03-02)	ND	ND
	<i>(09-17-00)</i>	<i>ND</i>	<i>ND</i>
MW-11	(08-08-04)	29,000	3.100

	(04-24-04)	38,000	5,000
	(12-25-03)	14,000	1,400
	(09-22-03)	46,000	1,700
	(10-24-02)	59,000	5,100
SV-1	(08-08-04)	NA	NA
	(04-24-04)	9,600	740
	(12-25-03)	83,000	2,200
	(09-21-03)	89,000	2,300
	(07-04-02)	210,000	7,900
	(09-17-00)	560,000	10,000
EW-12	(08-08-04)	NA	NA
	(04-24-04)	12,000	920
	(12-25-03)	9,900	790
	(09-21-03)	19,000	590
	(10-31-02)	5,840	75.7
EW-13	(08-08-04)	NA	NA
	(04-24-04)	100,000	19,000
	(12-25-03)	110,000	17,000
	(09-21-03)	71,000	10,000
	(10-31-02)	109,200	9,120
EW-14	(08-08-04)	14,000	6,300
	(04-24-04)	9,400	4,100
	(12-25-03)	26,000	5,300
	(09-22-03)	68,000	4,100
EW-15	(08-08-04)	36,000	3,300
	(01-21-04)	72,000	8,400
EW-16	(08-08-04)	2,500	590
	(01-21-04)	1,500	290
EW-17	(08-08-04)	30,000	6,800
	(01-21-04)	18,000	2,600

Appendix A
Sampling Event Sheets

PROJECT	CH2M	EVENT	SAMPLER	FG	DATE	August 04, 2004
<p align="center">WELLYNOROLOGIC SERVICES MW-6</p>						
<p>Action</p> <p>Time</p> <p>Pump Rate</p> <p>WT (see table)</p>		<p>Stop</p> <p>Sampled</p> <p>(Final WL)</p> <p align="center">Purge Calculator</p> <p>gallons _____ n gallons X 3 = _____ gallons</p> <p>liters to BOP or _____ liters purge volume _____ 3 casing</p> <p>Head Pump Calculation (WT, DCR): _____</p> <p>gallons _____ liters _____ gallons _____</p>				
<p>Equipment Used (sampling method/Description of Event)</p> <p>Electronic water level indicator, weighted plastic disposable balls, Hydro-M</p>		<p>Actual Gallons Purged: _____</p> <p>Actual Volume Purged: _____</p> <p>Well Yield: <input checked="" type="checkbox"/> (See below)</p> <p>COC #: _____</p> <p>Bottle ID: Analyte: Lab:</p>				
<p>Additional Comments:</p> <p>Clear slight odor, some turbidity</p>						
Gallons purged	EMP QTY (Casing Depth)	EC (Actual)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.5	70.0	965	6.7			1:20 am
2. 2.6	70.4	968	6.8			2:35
3. 2.5	70.5	971	6.9			3:20
4.						
5.						
<p>Notes: measurement of approximately each casing volume purged <input checked="" type="checkbox"/> EC - minimal WL drop MC - WL drop - cable to purge 3 volumes during one lifting by reducing pump rate or cycling pump LC - cable to purge 3 volumes by returning teler or near day WC - minimal recharge unable to purge 3 volumes</p>						

PROJECT	CH2M	EVENT	SAMPLER	FG	DATE	August 04, 2004
<p align="center">WELLYNOROLOGIC SERVICES MW-4</p>						
<p>Action</p> <p>Time</p> <p>Pump Rate</p> <p>WT (see table)</p>		<p>Stop</p> <p>Sampled</p> <p>(Final WL)</p> <p align="center">Purge Calculator</p> <p>gallons _____ n gallons X 3 = _____ gallons</p> <p>liters to BOP or _____ liters purge volume _____ 3 casing</p> <p>Head Pump Calculation (WT, DCR): _____</p> <p>gallons _____ liters _____ gallons _____</p>				
<p>Equipment Used (sampling method/Description of Event)</p> <p>Electronic water level indicator, weighted plastic disposable balls, Hydro-M</p>		<p>Actual Gallons Purged: _____</p> <p>Actual Volume Purged: _____</p> <p>Well Yield: <input checked="" type="checkbox"/> (See below)</p> <p>COC #: _____</p> <p>Bottle ID: Analyte: Lab:</p>				
<p>Additional Comments:</p>						
Gallons purged	EMP QTY (Casing Depth)	EC (Actual)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	70.1	954	7.0			9:55 pm
2. 2.0	70.1	962	7.0			4:26
3. 1.5	70.5	961	7.0			5:06
4.						
5.						
<p>Notes: measurement of approximately each casing volume purged <input checked="" type="checkbox"/> EC - minimal WL drop MC - WL drop - cable to purge 3 volumes during one lifting by reducing pump rate or cycling pump LC - cable to purge 3 volumes by returning teler or near day WC - minimal recharge unable to purge 3 volumes</p>						

PROJECT	CH2M	EVENT	SAMPLER	FG	DATE	August 04, 2004
<p align="center">WELLYNOROLOGIC SERVICES MW-5</p>						
<p>Action</p> <p>Time</p> <p>Pump Rate</p> <p>WT (see table)</p>		<p>Stop</p> <p>Sampled</p> <p>(Final WL)</p> <p align="center">Purge Calculator</p> <p>gallons _____ n gallons X 3 = _____ gallons</p> <p>liters to BOP or _____ liters purge volume _____ 3 casing</p> <p>Head Pump Calculation (WT, DCR): _____</p> <p>gallons _____ liters _____ gallons _____</p>				
<p>Equipment Used (sampling method/Description of Event)</p> <p>Electronic water level indicator, weighted plastic disposable balls, Hydro-M</p>		<p>Actual Gallons Purged: _____</p> <p>Actual Volume Purged: _____</p> <p>Well Yield: <input checked="" type="checkbox"/> (See below)</p> <p>COC #: _____</p> <p>Bottle ID: Analyte: Lab:</p>				
<p>Additional Comments:</p>						
Gallons purged	EMP QTY (Casing Depth)	EC (Actual)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	70.9	980	7.2			5:45 pm
2. 2.0	71.0	983	7.1			6:20
3. 2.0	71.2	989	7.0			6:55
4.						
5.						
<p>Notes: measurement of approximately each casing volume purged <input checked="" type="checkbox"/> EC - minimal WL drop MC - WL drop - cable to purge 3 volumes during one lifting by reducing pump rate or cycling pump LC - cable to purge 3 volumes by returning teler or near day WC - minimal recharge unable to purge 3 volumes</p>						

PROJECT	CH2M	EVENT	SAMPLER	FG	DATE	August 07, 2004
<p align="center">WELLYNOROLOGIC SERVICES MW-3</p>						
<p>Action</p> <p>Time</p> <p>Pump Rate</p> <p>WT (see table)</p>		<p>Stop</p> <p>Sampled</p> <p>(Final WL)</p> <p align="center">Purge Calculator</p> <p>gallons _____ n gallons X 3 = _____ gallons</p> <p>liters to BOP or _____ liters purge volume _____ 3 casing</p> <p>Head Pump Calculation (WT, DCR): _____</p> <p>gallons _____ liters _____ gallons _____</p>				
<p>Equipment Used (sampling method/Description of Event)</p> <p>Electronic water level indicator, weighted plastic disposable balls, Hydro-M</p>		<p>Actual Gallons Purged: _____</p> <p>Actual Volume Purged: _____</p> <p>Well Yield: <input checked="" type="checkbox"/> (See below)</p> <p>COC #: _____</p> <p>Bottle ID: Analyte: Lab:</p>				
<p>Additional Comments:</p>						
Gallons purged	EMP QTY (Casing Depth)	EC (Actual)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	70.9	1016	6.9			6:20 am
2. 2.0	70.8	1013	7.0			7:10
3. 1.5	71.1	1021	7.1			7:50
4.						
5.						
<p>Notes: measurement of approximately each casing volume purged <input checked="" type="checkbox"/> EC - minimal WL drop MC - WL drop - cable to purge 3 volumes during one lifting by reducing pump rate or cycling pump LC - cable to purge 3 volumes by returning teler or near day WC - minimal recharge unable to purge 3 volumes</p>						

PROJECT: CHLN EVENT: MW-2 DATE: August 07, 2004

WELL HYDROLOGIC SPERICS

8.86

Equipment Used (Pumping method/Description of Event): Electronic water level indicator, weighted plastic disposable balls, Hydac III

Colons Pugged	TEMP C/F (Circle Count)	SC (subset)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	70.3	940	7.0			8:16 am
2. 1.6	70.7	944	7.1			9:00
3. 1.6	70.8	948	7.2			9:36

PROJECT: CHLN EVENT: MW-1 DATE: August 07, 2004

WELL HYDROLOGIC SPERICS

8.82

Equipment Used (Pumping method/Description of Event): Electronic water level indicator, weighted plastic disposable balls, Hydac III

Colons Pugged	TEMP C/F (Circle Count)	SC (subset)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	71.3	960	6.8			10:10 am
2. 1.5	71.5	971	7.0			10:40
3. 1.5	70.4	987	7.1			11:10

PROJECT: CHLN EVENT: MW-7 DATE: August 07, 2004

WELL HYDROLOGIC SPERICS

8.96

Equipment Used (Pumping method/Description of Event): Electronic water level indicator, weighted plastic disposable balls, Hydac III

Colons Pugged	TEMP C/F (Circle Count)	SC (subset)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	70.1	1188	7.0			11:45 am
2. 1.6	70.3	1181	7.0			12:05 pm
3. 1.6	69.8	1177	7.0			12:40

PROJECT: CHLN EVENT: MW-11 DATE: August 07, 2004

WELL HYDROLOGIC SPERICS

9.15

Equipment Used (Pumping method/Description of Event): Electronic water level indicator, weighted plastic disposable balls, Hydac III

Colons Pugged	TEMP C/F (Circle Count)	SC (subset)	PH	TURBIDITY (NTU)	HEAD (FT)	TIME
1. 2.0	70.1	986	6.9			1:20 pm
2. 2.0	69.9	989	7.0			1:40
3. 2.0	70.3	999	7.0			2:10

PROJECT: CHUM EVENT: _____ SAMPLER: RQ DATE: August 07, 2004

WELPHYSIOLOGIC ENTRIES EW-14

Action	Time	Pump Rate	WT flow valve

Stop
Sampled
(Final MW)

Flow Calculator
 gal/s _____ ft _____ gal/s X 3 = _____ gal/s
 MW to BOP or another to BOP _____ one volume _____ purge volume = 3 coatings
 (MW from Collection Point) (MW from _____)
 gal/ft _____ ft _____ gal/ft

Equipment Used/Sampling method/Description of Event: _____
 Electronic water level indicator, weighted plastic disposable balls, Hydro II

Actual Gallons Purged: _____
 Actual Volume Purged: _____
 Wet Yield: (See Below)

COC #1: _____
 Sample ID: _____ Analysis: _____ Lab: _____

Additional Comments: _____

Colors purged	SWP C/P (Cable Code)	SC (meters)	PH	URGENT DATA	HEAD (ft)	TIME
1. 2.5	70.0	1168	7.0			1:40pm
2. 2.5	69.9	1166	7.0			2:30
3. 2.5	69.9	1169	7.0			3:40
4.						
5.						

Wet measurement of approximately each casing volume purged
 Minimum WL drop
 MW - WL drop - able to purge 3 volumes during one string by reducing pump rate or cycling pump
 EW - able to purge 3 volumes by returning later or next day
 WL - minimal recharge unable to purge 3 volumes

PROJECT: CHUM EVENT: _____ SAMPLER: RQ DATE: August 08, 2004

WELPHYSIOLOGIC ENTRIES EW-15

Action	Time	Pump Rate	WT flow valve

Stop
Sampled
(Final MW)

Flow Calculator
 gal/s _____ ft _____ gal/s X 3 = _____ gal/s
 MW to BOP or another to BOP _____ one volume _____ purge volume = 3 coatings
 (MW from Collection Point) (MW from _____)
 gal/ft _____ ft _____ gal/ft

Equipment Used/Sampling method/Description of Event: _____
 Electronic water level indicator, weighted plastic disposable balls, Hydro II

Actual Gallons Purged: _____
 Actual Volume Purged: _____
 Wet Yield: (See Below)

COC #1: _____
 Sample ID: _____ Analysis: _____ Lab: _____

Additional Comments: _____

Colors purged	SWP C/P (Cable Code)	SC (meters)	PH	URGENT DATA	HEAD (ft)	TIME
1. 2.5	70.3	967	6.9			4:10 pm
2. 2.5	70.6	963	6.9			4:40
3. 2.5	70.6	950	6.9			5:10
4.						
5.						

Wet measurement of approximately each casing volume purged
 Minimum WL drop
 MW - WL drop - able to purge 3 volumes during one string by reducing pump rate or cycling pump
 EW - able to purge 3 volumes by returning later or next day
 WL - minimal recharge unable to purge 3 volumes

PROJECT: CHUM EVENT: _____ SAMPLER: RQ DATE: August 07, 2004

WELPHYSIOLOGIC ENTRIES MW-16

Action	Time	Pump Rate	WT flow valve

Stop
Sampled
(Final MW)

Flow Calculator
 gal/s _____ ft _____ gal/s X 3 = _____ gal/s
 MW to BOP or another to BOP _____ one volume _____ purge volume = 3 coatings
 (MW from Collection Point) (MW from _____)
 gal/ft _____ ft _____ gal/ft

Equipment Used/Sampling method/Description of Event: _____
 Electronic water level indicator, weighted plastic disposable balls, Hydro II

Actual Gallons Purged: _____
 Actual Volume Purged: _____
 Wet Yield: (See Below)

COC #1: _____
 Sample ID: _____ Analysis: _____ Lab: _____

Additional Comments: _____

Colors purged	SWP C/P (Cable Code)	SC (meters)	PH	URGENT DATA	HEAD (ft)	TIME
1. 2.5	70.1	967	6.9			6:30 am
2. 2.5	70.6	977	7.0			7:46
3. 2.5	71.0	987	7.1			8:50
4.						
5.						

Wet measurement of approximately each casing volume purged
 Minimum WL drop
 MW - WL drop - able to purge 3 volumes during one string by reducing pump rate or cycling pump
 EW - able to purge 3 volumes by returning later or next day
 WL - minimal recharge unable to purge 3 volumes

PROJECT: CHUM EVENT: _____ SAMPLER: RQ DATE: August 08, 2004

WELPHYSIOLOGIC ENTRIES EW-17

Action	Time	Pump Rate	WT flow valve

Stop
Sampled
(Final MW)

Flow Calculator
 gal/s _____ ft _____ gal/s X 3 = _____ gal/s
 MW to BOP or another to BOP _____ one volume _____ purge volume = 3 coatings
 (MW from Collection Point) (MW from _____)
 gal/ft _____ ft _____ gal/ft

Equipment Used/Sampling method/Description of Event: _____
 Electronic water level indicator, weighted plastic disposable balls, Hydro II

Actual Gallons Purged: _____
 Actual Volume Purged: _____
 Wet Yield: (See Below)

COC #1: _____
 Sample ID: _____ Analysis: _____ Lab: _____

Additional Comments: _____

Colors purged	SWP C/P (Cable Code)	SC (meters)	PH	URGENT DATA	HEAD (ft)	TIME
1. 2.5	70.1	1120	7.0			8:10am
2. 2.5	69.1	1129	7.0			9:20
3. 2.5	69.3	1121	7.1			11:00
4.						
5.						

Wet measurement of approximately each casing volume purged
 Minimum WL drop
 MW - WL drop - able to purge 3 volumes during one string by reducing pump rate or cycling pump
 EW - able to purge 3 volumes by returning later or next day
 WL - minimal recharge unable to purge 3 volumes

Appendix B
Laboratory Data Sheets



LABORATORY ANALYSIS RESULTS

Client: Chun
Project No.: NA
Project Name: Chun
Sample Matrix: Water
Method: EPA 8015M (GRO)

AA Project No.: A57205
Date Received: 08/13/04
Date Reported: 08/24/04
Units: mg/L

AA I.D. No.	Client I.D. No.	Date Sampled	Date Analyzed	DF	Results	MRL
175198	MW-6	08/06/04	08/20/04	1.0	0.32	0.1
175199	MW-4	08/06/04	08/20/04	1.0	<0.1	0.1
175200	MW-5	08/06/04	08/20/04	10.0	13	0.1
175201	MW-3	08/07/04	08/20/04	5.0	2.5	0.1
175202	MW-2	08/07/04	08/20/04	20.0	21	0.1
175203	MW-1	08/07/04	08/20/04	20.0	29	0.1
175204	MW-7	08/07/04	08/20/04	50.0	92	0.1
175205	MW-11	08/07/04	08/20/04	10.0	29	0.1
175206	EW-14	08/07/04	08/20/04	5.0	14	0.1
175207	EW-15	08/07/04	08/20/04	20.0	36	0.1
175208	EW-16	08/08/04	08/20/04	20.0	2.5	0.1
175209	EW-17	08/08/04	08/20/04	20.0	30	0.1

MRL: Method Reporting Limit

J: Estimated Value

DF: Dilution Factor

NOTES:

GRO : Gasoline Range Organics

Viorel Vasile
Project Manager



LABORATORY ANALYSIS RESULTS

Client: Chun
Project No.: NA
Project Name: Chun
Sample Matrix: Water
Method: EPA 8260B

AA Project No.: A57205
Date Received: 08/13/04
Date Reported: 08/24/04
Units: ug/L

Table with 6 columns: Compound, Date Sampled, Date Analyzed, AA ID No., Client ID No., Dilution Factor, and MRL. Rows include Benzene, Di-isopropyl Ether, 1,2-Dibromoethane (EDB), 1,2-Dichloroethane (EDC), Ethyl tert-Butyl Ether, Ethylbenzene, Methyl tert-Butyl Ether, Tert-Amyl Methyl Ether, Toluene, m,p-Xylenes, o-Xylene, and tert-Butanol.

Viorel Vasile
Project Manager



LABORATORY ANALYSIS RESULTS

Client: Chun
Project No.: NA
Project Name: Chun
Sample Matrix: Water
Method: EPA 8260B

AA Project No.: A57205
Date Received: 08/13/04
Date Reported: 08/24/04
Units: ug/L

Date Sampled:	08/07/04	08/07/04	08/07/04	08/07/04	
Date Analyzed:	08/19/04	08/19/04	08/19/04	08/19/04	
AA ID No.:	175202	175203	175204	175205	
Client ID No.:	MW-2	MW-1	MW-7	MW-11	
Dilution Factor:	50.0	50.0	100.0	50.0	MRL
Compounds:					
Benzene	6800	9700	9300	3100	0.5
Di-isopropyl Ether	<100	<100	<200	<100	2
1,2-Dibromoethane (EDB)	<25	<25	<50	<25	0.5
1,2-Dichloroethane (EDC)	<25	<25	<50	<25	0.5
Ethyl tert-Butyl Ether	<100	<100	<200	<100	2
Ethylbenzene	850	1200	3300	2600	0.5
Methyl tert-Butyl Ether	<100	<100	<200	<100	2
Tert-Amyl Methyl Ether	<100	<100	<200	<100	2
Toluene	2100	4100	46000	4200	0.5
m,p-Xylenes	2000	3800	14000	10000	1
o-Xylene	880	1200	6600	2600	0.5
tert-Butanol	<500	<500	<1000	<500	10

Viorel Vasile
Project Manager



LABORATORY ANALYSIS RESULTS

Client: Chun
Project No.: NA
Project Name: Chun
Sample Matrix: Water
Method: EPA 8260B

AA Project No.: A57205
Date Received: 08/13/04
Date Reported: 08/24/04
Units: ug/L

Table with 5 columns: Date Sampled, Date Analyzed, AA ID No., Client ID No., Dilution Factor, and MRL. Rows include various compounds like Benzene, Di-isopropyl Ether, 1,2-Dibromoethane (EDB), etc., with their respective values and MRLs.

MRL: Method Reporting Limit

J: Estimated Value

Viorel Vasile
Project Manager



LABORATORY QA/QC REPORT

Client: Chun
Project Name: Chun
Method: EPA 8015M (GRO)
Sample ID: Reagent Blank

Project No.: NA
AA Project No.: A57205
Date Analyzed: 08/20/04
Date Reported: 08/24/04

Compounds	Results mg/L	MRL
Gasoline Range Organics	<0.1	0.1

MRL: Method Reporting Limit

NOTES:

GRO : Gasoline Range Organics

Viorel Vasile
Project Manager



LABORATORY QA/QC REPORT

Page 1 of 1

Client: Chun
Project Name: Chun
Method: EPA 8260B
Sample ID: Laboratory Control Standard
Concentration: 20 ug/L

Project No.: NA
AA Project No.: A57205
Date Analyzed: 08/19/04
Date Reported: 08/24/04

Compounds	Recovered Amount (ug/L)	Recovery (%)	Acceptable Range (%)
Benzene	19.8	99	50 - 150
Ethylbenzene	19.5	98	50 - 150
Methyl tert-Butyl Ether	21.9	110	50 - 150
Toluene	19.2	96	50 - 150
o-Xylene	20.6	103	50 - 150

Viorel Vasile
Project Manager



LABORATORY QA/QC REPORT

Page 1 of 1

Client: Chun
Project Name: Chun
Method: EPA 8015M (GRO)
Sample ID: Laboratory Control Standard
Concentration: 0.5 mg/L

Project No.: NA
AA Project No.: A57205
Date Analyzed: 08/20/04
Date Reported: 08/24/04

Compounds	Recovered Amount (mg/L)	Recovery (%)	Acceptable Range (%)
Gasoline Range Organics	0.505	101.0	48.0 - 152

A handwritten signature in black ink, appearing to be 'V. Vasile'.

Viorel Vasile
Project Manager

A 57205



AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE, CHATSWORTH, CA 91311

Tel: 818-808-6547 FAX: 818-808-7255

DATE 8/8/04
PAGE 1 OF 1

AA Client <u>Lily & Wayne Chun</u>		Phone <u>5106104807</u>		Sampler's Name (Print) <u>Frank Goldman</u>			
Project Manager <u>Frank Goldman</u>		P.O. No.		Sampler's Signature <u>Frank Goldman</u>			
Project Name <u>Chun</u>		Client's Project No.		Project Manager's Signature <u>Frank Goldman</u>			
Job Name and Address <u>2301 Santa Clara Alameda</u>		ANALYSIS REQUIRED (Test Name)				Client's Comment Special Test Requirements/Comments i.e., Turnaround Time Detection Limits Data Package.....)	
Client's I.D.	AA I.D.	Date	Time	Sample Type	Number of Containers	<div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> EPA 816/17A EPA 816/18B </div>	
MW-6	175198	8/8/04	3:45	Water	4 WBA		
MW-4	175199	8/8/04	5:15				
MW-5	175200	8/8/04	5:30				
MW-3	175201	8/8/04	5:45				
MW-2	175202	8/7/04	4:15				
MW-1	175203	8/7/04	4:30				
MW-7	175204	8/7/04	2:50				
MW-11	175205	8/7/04	2:30				
EW-4	175206	8/8/04	2:30				
EW-15	175207	8/8/04	5:30				
EW-16	175208	8/8/04	9:00				
EW-17	175209	8/8/04	11:00				
LAB COMMENTS				Requested by <u>Frank Goldman</u>	Date <u>8/10/04</u>	Time <u>2:30</u>	Received by <u>[Signature]</u>
				Requested by <u>Red [Signature]</u>	Date <u>08/13/04</u>	Time <u>1:55</u>	Received by <u>[Signature]</u>
Approved as Work Order by: <u>N. [Signature]</u>				Requested by	Date	Time	Received by
AA Project No. <u>A57205</u>				Requested by	Date	Time	Received by

Call Chun & Payment
510 610 4689
FAX Invoice
925 439-2302