



**BLYMYER**  
ENGINEERS, INC.

JUL 26 2002

RO-210  
LETTER OF TRANSMITTAL

1829 Clement Avenue  
Alameda, California 94501-1396  
(510) 521-3773 FAX: (510) 865-2594

DATE July 24, 2002	BEI Job No. 202016
ATTENTION:	Mr. Michael Fitzpatrick
SUBJECT:	Dolan Property
	6393 Scarlett Ct.
	Dublin, CA
	STID # 4322

Mr. Michael Dolan  
c/o Mr. Michael Fitzpatrick  
P.O. Box 31654  
Walnut Creek, CA 94598

- We are sending you**
- Invoice
  - Report
  - Work Order
  - Specifications
  - Copy of letter
  - Prints
  - Change Order
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  - Plans

Copies	Date	Number	Description
1	7/3/02		Spring 2002 Groundwater Monitoring Event

**These are transmitted as checked below:**

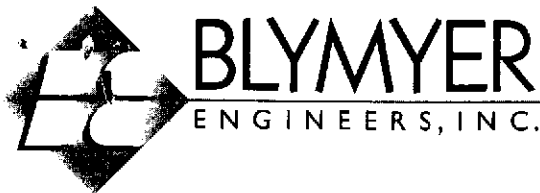
- For signature
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- For your use

REMARKS: For your use. Per your request a copy has been sent to Ms. Eva Chu of the Alameda County Health Care Service Agency.

COPY TO: File  
Ms. Eva Chu, ACHCSA

SIGNED: Mark Detterman

If enclosures are not as noted, kindly notify Blymyer Engineers, Inc. at once.



July 3, 2002  
BEI Job No. 202016

Mr. Michael Dolan  
c/o Mr. Michael Fitzpatrick  
P.O. Box 31654  
Walnut Creek, CA 94598

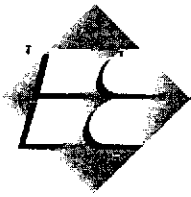
**Subject: Spring 2002 Groundwater Monitoring Event  
Former Dolan Rental Property  
6393 Scarlett Court  
Dublin, California  
ACHCSA Site # 4322**

Dear Mr. Dolan:

This letter documents the Spring 2002 groundwater monitoring event at the subject site (Figure 1). This is the first groundwater sampling event conducted by Blymyer Engineers, Inc. at the former Dolan Rental property in Dublin, California.

### **1.0 Background**

A 600-gallon underground storage tank (UST) was removed in February 1990 from the subject site. Although the UST had reportedly stored diesel more recently, soil and groundwater samples collected for laboratory analysis indicated that the contaminant of concern at the site was gasoline. Files maintained by the Alameda County Health Care Service Agency (ACHCSA) do not contain waste manifests for the disposal of soil, although a *Uniform Hazardous Waste Manifest* is present documenting the disposal of a 600-gallon UST. This suggests that contaminated soil may not have been removed from the site. In October 1990, five soil bores were installed at the site, and soil and grab groundwater samples were collected. Additional delineation work was conducted in November 1991, when groundwater monitoring wells MW-1 through MW-4 were installed to a depth of 20 feet below surface grade (bgs). Soil and groundwater samples were collected. In November 1992, 14 additional soil bores were installed, and soil and grab groundwater samples were collected from selected bore locations. Although there were several data gaps in the perimeter zone of soil and groundwater delineation, the soil and groundwater plumes were largely defined as a result of this investigation. The groundwater plume did not appear to extend offsite; however, a thin free-phase layer was present immediately adjacent to the former UST basin, and at a location approximately 40 feet to the east. Additional wells were proposed to fill the existing data gaps and to monitor the lateral extent of impacted groundwater and free-phase. As a consequence, in March 1995, wells MW-5 and MW-6 were installed to a depth of 10 feet bgs. Intermittent groundwater sample collection or groundwater monitoring has occurred at the facility since 1991. In an August 1998 letter, the ACHCSA suggested that a health risk analysis or the installation of an oxygen releasing compound (ORC) might be appropriate for the site. Also in the August 1998 letter, the



ACHCSA stated that groundwater sampling of wells MW-1, MW-3, MW-5, and MW-6 could be discontinued, stated that the sampling interval could be decreased to a semiannual basis, and requested resumption of groundwater monitoring. Prior to the current groundwater sampling event, groundwater was last sampled at the site in August 1997.

In May 2002, Blymyer Engineers was retained by Mr. Michael Fitzpatrick, on behalf of Mr. Michael Dolan, to conduct semiannual groundwater sampling of wells MW-2 and MW-4, and to conduct a file review to help determine the next appropriate step at the subject site.

## **2.0 Monitoring Well Rehabilitation**

Due to the length of time since the previous groundwater sampling event, Blymyer Engineers conducted a site reconnaissance to determine the condition of the monitoring wells. After locating the wells, it was determined that well MW-5 required significant rehabilitation. In addition, well expansion caps on all wells were found to have rusted shut and no locks were found on any of the well caps. New well caps and locks were placed on each well.

The surface well vault for well MW-5 was found to have been essentially destroyed by the heavy material supply trucks that traffic the area at present. Although the well expansion cap was present, the upper 8 inches of the PVC casing contained a solid plug of soil; however, the PVC casing appears to have remained intact. On May 15, 2002, Blaine Tech Services (Blaine) replaced the well vault with a heavy duty well box set in an approximately 1.5 by 1.5 foot square concrete surface pad. Additionally, the PVC casing had been lowered in the recent past as it had been at or above the elevation of the cover plate of the heavily damaged well vault box. Due to the change in well elevation, and the potential for some casing compression due to the heavy truck traffic, the well will require resurveying to reestablish elevation control at the well. This can be done at the same time all site wells are resurveyed in order to meet the requirements of the recently mandated state GeoTracker program.

## **3.0 Groundwater Sample Collection and Analytical Methods**

Groundwater samples were collected from monitoring wells MW-2 and MW-4 on June 6, 2002. The groundwater samples were collected by Blaine in accordance with Blaine *Standard Operating Procedures* for groundwater gauging and sampling. A copy is included as Appendix A. Depth to groundwater were measured in all wells at the site. Temperature, pH, conductivity, and turbidity were measured initially, and then after removal of each of three well casing volumes for wells MW-2 and MW-4. The groundwater depth measurements and details of the monitoring well purging and sampling are presented on the Well Monitoring Data Sheets and Well Gauging Data sheet generated by Blaine and included as Appendix B. Depth-to-groundwater measurements are presented in Table I. All purge and decontamination water was temporarily stored in Department of Transportation-approved 55-gallon drums for future disposal by the owner.

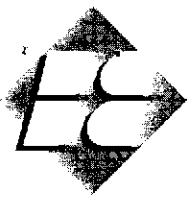


The groundwater samples were analyzed by Sequoia Analytical, Inc., a California-certified laboratory, on a 10-day turnaround time. The samples were analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline by Modified EPA Method 8015; and benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020. Should MTBE have been detected using EPA Method 8020, the highest concentration of MTBE, and additional fuel oxygenates, were to have been confirmed on a one-time basis by EPA Method 8260. Table II summarizes the current and all previous analytical results for groundwater samples. The laboratory analytical report for the current sampling event is included as Appendix C.

#### **4.0 Groundwater Sample Analytical Results and Groundwater Flow Data**

Groundwater from well MW-2 contained 25,000  $\mu\text{g/L}$  TPH as gasoline, 2,900  $\mu\text{g/L}$  benzene, 50  $\mu\text{g/L}$  toluene, 2,700  $\mu\text{g/L}$  ethylbenzene, and 2,200  $\mu\text{g/L}$  total xylenes. Only 1.7  $\mu\text{g/L}$  benzene was present in groundwater obtained from well MW-4. MTBE was not detected in either well, although the limits of detection were elevated in well MW-2 due to the presence of elevated hydrocarbon concentrations. Fuel oxygenates were not analyzed due to the lack of detectable concentrations of MTBE, used as a trigger for further fuel oxygenate analysis. These concentrations represent a significant decrease for each analyte in well MW-2 from the previous groundwater sampling event in August 1997. The concentration of benzene in well MW-4 did not show a statistically significant change from the August 1997 sampling event; however, the concentration of TPH as gasoline decreased from 330  $\mu\text{g/L}$  to a non-detectable concentration at the standard limit of detection (50  $\mu\text{g/L}$ ).

Previously surveyed top-of-casing (TOC) elevations were used to construct a groundwater gradient map (Figure 2). Well MW-5 was not used to construct the map due to the repairs described previously. The groundwater elevation determined for well MW-6 was anomalous and was also not used to generate Figure 2. Based on a review of the case file at the ACHCSA, anomalous groundwater elevations in wells MW-5 and MW-6 appear to have previously been a consistent issue at the site. The difference in the depth of installation between wells MW-1 through MW-4, and wells MW-5 and MW-6 are likely related to the continued difference in groundwater elevations between these well sets. Groundwater depths during this monitoring event ranged between 2.79 to 4.81 feet below the top of the casings. On average, depth to groundwater remained essentially unchanged from the previous monitoring event in August 1997, decreasing by only approximately 0.20 feet across the site. The direction of groundwater flow appears to be towards the east. Historically, groundwater has generally flowed to the south to southwest at the site; however, in November 1993 groundwater is documented to also have flowed to the east. The average groundwater gradient was calculated at 0.009 feet/foot, although the gradient flattens towards the east, further from tenant water use areas at the site.



## 5.0 Recommendations

The following recommendations were generated from the available data discussed above:

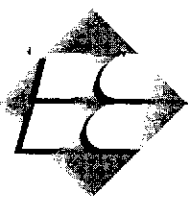
- The next semiannual groundwater sampling event should occur in December 2002.
- Regardless of the detection of MTBE, analysis for fuel oxygenates should be undertaken on groundwater from the most impacted well, historically well MW-2.
- Site wells should be resurveyed to allow the site to be incorporated into the state GeoTracker program.
- A health risk assessment should be performed to develop site-specific target levels (SSTLs).

At your request, a copy of this letter report has been forwarded to:

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Environmental Protection Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

## 6.0 Limitations

Services performed by Blymyer Engineers have been provided in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. The scope of work for the project was conducted within the limitations prescribed by the client. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. This report was prepared for the sole use of the client.

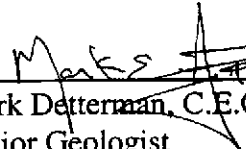


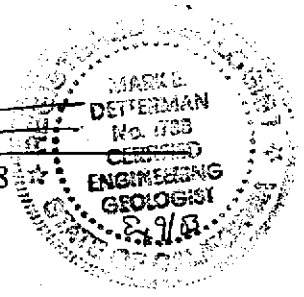
Mr. Michael Dolan  
July 3, 2002  
Page 5

Please call Mark Detterman at (510) 521-3773 with any questions or comments.

Sincerely,

Blymyer Engineers, Inc.

By:   
Mark Detterman, C.E.G. 1788  
Senior Geologist



And:   
Michael S. Lewis  
Vice President, Technical Services

- Enclosures:
- Table I: Summary of Groundwater Elevation Measurements
  - Table II: Summary of Groundwater Sample Hydrocarbon Analytical Results
  
  - Figure 1: Site Location Map
  - Figure 2: Site Plan and Groundwater Gradient, June 6, 2002
  
  - Appendix A: *Standard Operating Procedures*, Blaine Tech Services, Inc.
  - Appendix B: *Well Monitoring Data Sheets and Well Gauging Data*, Blaine Tech Services, Inc., June 6, 2002
  - Appendix C: Analytical Laboratory Report, Sequoia Analytical, Inc., dated June 25, 2002

***Tables***

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**Table I, Summary of Groundwater Elevation Measurements**  
**BEI Job No. 202016, Dolan Rentals**  
**6393 Scarlett Court, Dublin, California**

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-1	11/27/91	326.61	4.82	321.79
	9/30/92		5.34	321.27
	4/7/94		3.38	323.23
	8/12/94		4.23	322.38
	11/29/94		3.44	323.17
	3/21/95		1.00	325.61
	5/22/95		2.20	324.41
	8/24/95		3.45	323.16
	2/12/96		1.95	324.66
	8/6/97		3.60	323.01
	6/6/02*		2.89	323.72
MW-2	11/27/91	326.67	4.92	321.75
	9/30/92		5.42	321.25
	4/7/94		3.48	323.19
	8/12/94		4.18	322.49
	11/29/94		3.76	322.91
	3/21/95		1.25	325.42
	5/22/95		2.20	324.41
	8/24/95		3.57	323.10
	2/12/96		2.60	324.07
	2/5/97		1.72	324.95
	8/6/97		3.72	322.95
6/6/02*	3.46	323.21		



**Table E. Summary of Groundwater Elevation Measurements**  
**RII Job No. 20210, Dublin, Kansas**  
**6393 Scarlett Court, Dublin, California**

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-3	11/27/91	326.58	4.96	321.62
	9/30/92		5.46	321.12
	4/7/94		3.66	322.92
	8/12/94		4.37	322.21
	11/29/94		3.60	322.98
	3/21/95		1.62	324.96
	5/22/95		2.73	323.85
	8/24/95		3.76	322.82
	2/12/96		2.45	324.13
	2/5/97		1.99	324.59
	8/6/97		3.83	322.75
	6/6/02*		3.66	322.92
MW-4	11/27/91	326.92	5.26	321.66
	9/30/92		5.78	321.14
	4/7/94		4.02	322.90
	8/12/94		4.81	322.11
	11/29/94		4.39	322.53
	3/21/95		1.80	325.12
	5/22/95		3.07	323.85
	8/24/95		4.09	322.83
	2/12/96		2.80	324.12
	2/5/97		2.32	324.60
	8/6/97		4.14	322.78
	6/6/02*		3.76	323.16

**Table I, Summary of Groundwater Elevation Measurements  
 BEI Job No. 202016, Dolan Rentals  
 6393 Scarlett Court, Dublin, California**

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-5	3/21/95	326.50	2.10	324.40
	5/22/95		2.93	323.57
	8/24/95		1.57	324.93
	2/12/96		2.78	323.72
	2/5/97		2.24	324.26
	8/6/97		3.02	323.48
	6/6/02*		2.79	323.71
MW-6	3/21/95	327.23	3.24	323.99
	5/22/95		4.70	322.53
	8/24/95		4.95	322.28
	2/12/96		4.50	322.73
	2/5/97		3.68	323.55
	8/6/97		4.79	322.44
	6/6/02*		4.81	322.42

Notes: TOC = Top of casing  
 \* = Initial data set collected under direction of Blymyer Engineers, Inc.  
 Elevations in feet above mean sea level

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results**  
**BEI Job No. 202016, Dolan Rentals**  
**6393 Scarlett Court, Dublin, California**

Sample ID	Date	Modified EPA Method 8015 ( $\mu\text{g/L}$ )	EPA Method 8020 or 8021B ( $\mu\text{g/L}$ )				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-1	11/27/91	<50	<0.3	<0.3	<0.3	<0.3	NA
	9/30/92	<50	<0.3	<0.3	<0.3	<0.3	NA
	4/7/94	<50	<0.5	<0.5	<0.5	<0.5	NA
	8/12/94	<50	1	1	<0.3	<2	NA
	11/29/94	<50	<0.5	<0.5	<0.5	<2	NA
	3/21/95	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/95	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/95	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/96	<50	<0.5	<0.5	<0.5	<2	NA
	6/6/02*	NA	NA	NA	NA	NA	NA
MW-2	11/27/91	170,000	24,000	13,000	3,500	16,000	NA
	9/30/92	120,000	24,000	15,000	3,800	17,000	NA
	4/7/94	120,000	21,000	14,000	4,300	21,000	NA
	8/12/94	140,000	17,000	10,000	4,300	18,000	NA
	11/29/94	90,000	17,000	7,500	3,400	15,000	NA
	3/21/95	83,000	17,000	8,000	3,800	17,000	NA
	5/22/95	82,000	14,000	6,000	4,000	16,000	NA
	8/24/95	86,000	13,000	8,100	3,700	16,000	NA
	2/12/96	78,000	15,000	8,100	4,200	18,000	NA
	2/5/97	58,000	11,000	6,900	3,500	15,000	480
	8/6/97	66,000	7,000	9,200	3,500	16,000	<500
	6/6/02*	25,000 <sup>a</sup>	2,900	50	2,700	2,200	<250

**Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results****BEI Job No. 202016, Dolan Rentals  
6393 Scarlett Court, Dublin, California**

Sample ID	Date	Modified EPA Method 8015 ( $\mu\text{g/L}$ )	EPA Method 8020 or 8021B ( $\mu\text{g/L}$ )				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-3	11/27/91	<50	<0.3	<0.3	<0.3	<0.3	NA
	9/30/92	<50	<0.3	<0.3	<0.3	<0.3	NA
	4/7/94	<50	2.5	5.5	0.9	5.1	NA
	8/12/94	<50	<0.5	<0.5	<0.3	<2	NA
	11/29/94	<50	<0.5	<0.5	<0.5	<2	NA
	3/21/95	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/95	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/95	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/96	<50	<0.5	<0.5	<0.5	<2	NA
	2/5/97	<50	<0.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	NA	NA	NA	NA	NA
MW-4	11/27/91	11,000	100	0.7	250	330	NA
	9/30/92	380	3.5	2.4	8.9	3.4	NA
	4/7/94	1,100	61	5.5	17	12	NA
	8/12/94	1,000	3	1	8	4	NA
	11/29/94	1,100	2	<0.5	10	6	NA
	3/21/95	1,400	200	5	66	18	NA
	5/22/95	1,200	60	1	12	8	NA
	8/24/95	400	1	<0.5	1	<2	NA
	2/12/96	1,500	130	<0.5	120	51	NA
	2/5/97	1,200	250	4.9	94	12	16
	8/6/97	330	1.5	<0.5	<0.5	<0.5	<5
	6/6/02*	<50	1.7	<0.5	<0.5	<0.5	<2.5

**Table 1. Summary of Groundwater Sample Hydrocarbon Analytical Results**

**BEI Job No. 202016, Dolan Rentals**

**6999 Scarlett Court, Dublin, California**

Sample ID	Date	Modified EPA Method 8015 ( $\mu\text{g/L}$ )	EPA Method 8020 or 8021B ( $\mu\text{g/L}$ )				
		TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-5	3/21/95	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/95	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/95	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/96	<50	<0.5	<0.5	<0.5	<2	NA
	2/5/97	<50	<0.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	NA	NA	NA	NA	NA
MW-6	3/21/95	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/95	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/95	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/96	<50	<0.5	<0.5	<0.5	<2	NA
	2/5/97	<50	<0.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	NA	NA	NA	NA	NA

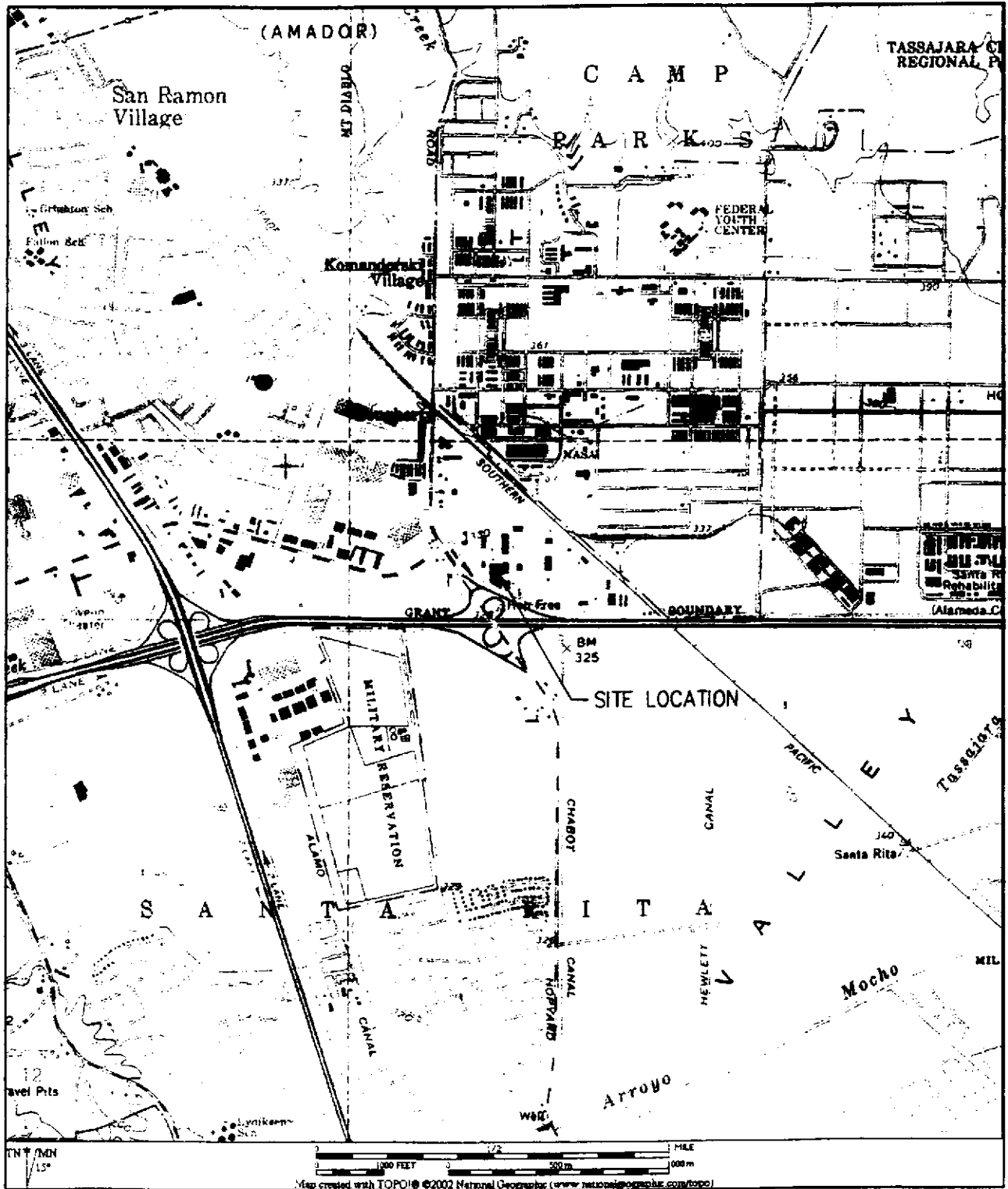
- Notes:  $\mu\text{g/L}$  = Micrograms per liter  
 TPH = Total Petroleum Hydrocarbons  
 MTBE = Methyl *tert*-butyl ether  
 NA = Not analyzed  
 <x = Less than the analytical detection limit (x)  
 EPA = Environmental Protection Agency  
 \* = Laboratory note indicates the result is an unidentified hydrocarbon within the C6 to C10 range  
 \* = Initial data set collected under direction of Blymyer Engineers, Inc.

Bold results indicate detectable analyte concentrations.

*Figures*

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THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL USE FOR WHICH THEY WERE PREPARED. REUSE, REPRODUCTION, OR PUBLICATION, IN WHOLE OR IN PART, IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF BLYMYER ENGINEERS, INC.



**BLYMYER ENGINEERS, INC.**

BEI JOB NO. <b>202016</b>	DATE <b>6-27-02</b>
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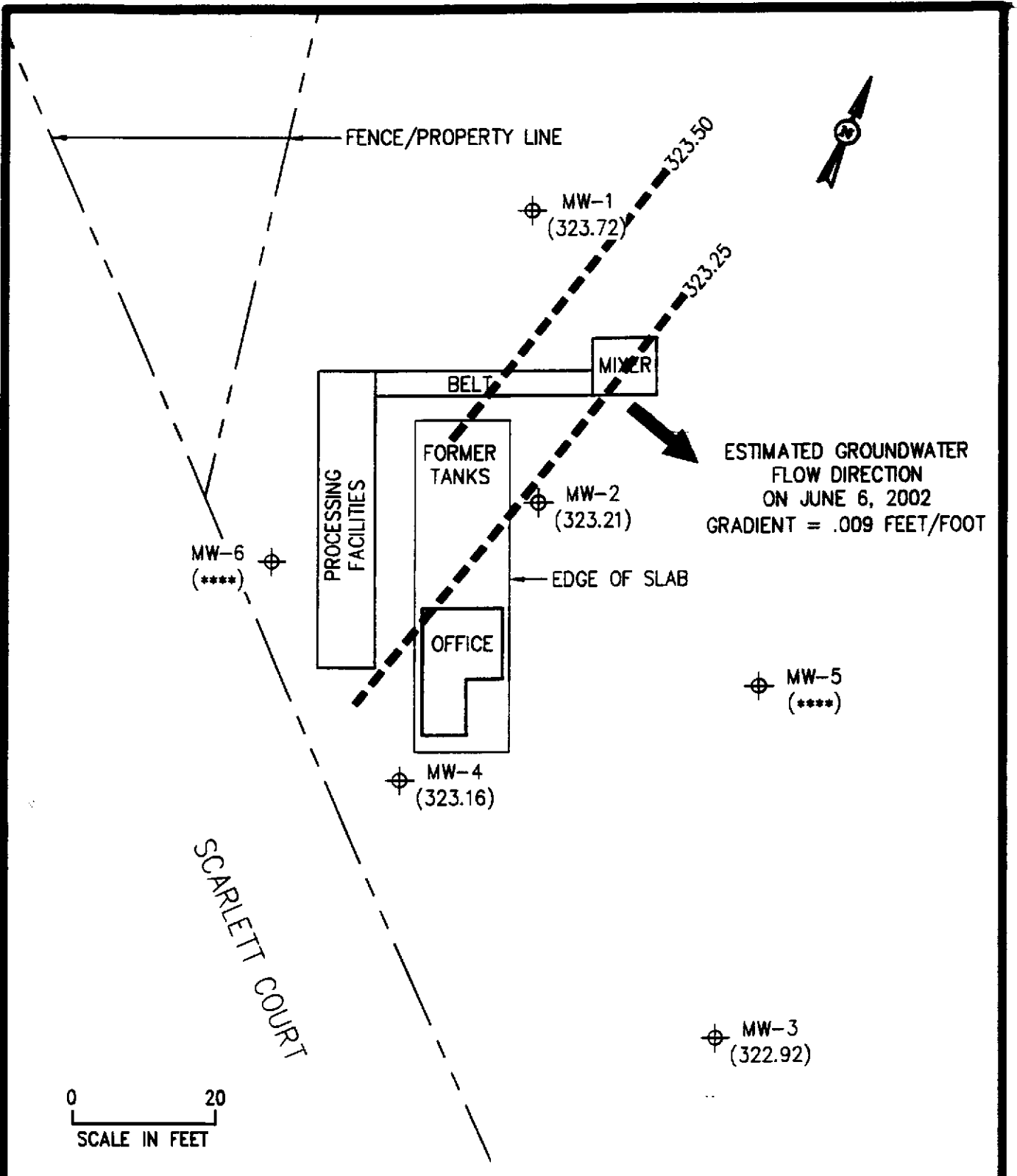
**LEGEND**

**SITE LOCATION MAP**

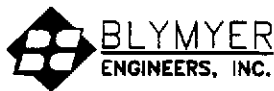
FORMER DOLAN RENTAL PROPERTY  
6393 SCARLETT COURT  
DUBLIN, CA

**FIGURE**  
**1**

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BASED ON SITE PLAN GENERATED BY AQUA SCIENCE ENGINEERS, INC.



- LEGEND**
- ⊕ (323.72) GROUNDWATER MONITORING WELL GROUND WATER ELEV.
  - (\*\*\*\*) GROUNDWATER ELEV. (NOT USED FOR CONTOURING)
  - GROUNDWATER ELEV. CONTOUR
  - ➔ GROUNDWATER FLOW DIRECTION

**SITE PLAN AND GROUNDWATER GRADIENT**  
**JUNE 6, 2002**  
 FORMER DOLAN RENTAL PROPERTY  
 6393 SCARLETT COURT  
 DUBLIN, CA

FIGURE

2

BEI JOB NO. 202016	DATE 6-27-02
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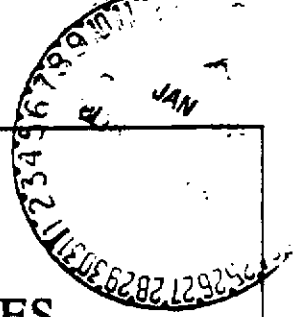


***Appendix A***

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***Standard Operating Procedures***

**Blaine Tech Services, Inc.**



SUMMARY OVERVIEW OF  
**STANDARD OPERATING PROCEDURES**  
FOR THE ROUTINE MONITORING  
OF GROUNDWATER WELLS

APPLIES TO WELLS WHICH ARE SAMPLED AND ANALYZED  
FOR COMPOUNDS ASSOCIATED WITH  
PETROLEUM FUELS,  
HEAVY METALS,  
CHLORINATED SOLVENTS AND  
PRIORITY POLLUTANTS  
AND OTHER COMMON CONTAMINANTS  
RELATED TO INDUSTRY, AGRICULTURE, COMMERCE AND LANDFILL OPERATIONS

REVISED AND REISSUED SEPTEMBER 10, 1995

### 1. OBJECTIVE INFORMATION

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. We intentionally limit the scope of our activities and are primarily engaged in the execution of technical assignments which generate objective information. To avoid conflicts of interest which might compromise our impartiality, Blaine Tech Services, Inc. makes no recommendations, does not participate in the interpretation of analytical results and performs no consulting of any kind.

is defined in individual one-time work orders or in contracts which reference compliance with regulatory requirements, particular client specifications and conformance with our own Standard Operating Procedures. Decisions about what work will be done, how the work will be done and the sequence of events are established in advance of sending personnel to the site. Except where particular procedures and equipment are specified in advance, the determination of how to best complete the individual tasks which comprise the assignment is left to the discretion of our field personnel.

### 2. SPECIFIC ASSIGNMENTS

All work is performed in accordance with the specific request, authorization and informed consent of the client who may be the property owner, the responsible party or the professional consultant overseeing work at the particular site. The scope of services

### 3. INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead will be checked and noted in the degree of detail requested by the client. Measurements include the depth to water

and the total well depth obtained with industry standard electronic sounders which are graduated in increments of tenths of a foot and hundredths of a foot. The surface of the water in each well is further inspected for the presence of immiscibles and any separate phase hydrocarbon layer is measured in situ with an electronic interface probe and confirmed by visual inspection of the separate phase material in a clear acrylic bailer.

Notations are entered in blank areas on forms provided for the collection of instrument readings and included in the specially prepared field notebook. Data collected in the course of our work may be presented in a TABLE OF WELL MONITORING DATA prepared by our personnel or passed to the client or consultant in their original form on the field data sheets.

#### 4. ADEQUATE PURGE STANDARD

Minimum purge volumes and purge completion standards are established by the interested regulatory agency controlling groundwater monitoring in each particular jurisdiction and by the consultant reviewing technical work performed on the project for submission to the interested regulatory agency. Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in several jurisdictions.

#### 5. STABILIZED PARAMETERS

Completion standards include minimum purge volumes, but additionally require stabilization of normal groundwater parameters. Normal groundwater parameter readings include electrical conductivity (EC), pH, and temperature which are obtained at regular intervals during the evacuation process (no less than once per case volume) and at the time of sample collection.

Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is thought to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

Additional completion standards are used in some jurisdictions. Turbidity of <50 NTU is such a completion standard.

#### 6. DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewateres and does not recharge.

In a typical accommodation procedure worked out between the consultants and the regulatory agency, a well which does not recharge to 80% of its original volume within two hours (and any additional time our personnel have reason to remain at the site) will require our personnel to return to the site within twenty four hours to sample the well. In such cases, our personnel return to the site within the prescribed time limit and collect sample material from the water which has flowed back into the well case

without regard to what percentage of the original volume this recharge represents.

There are also instances in which the client, consultant and regulators agree that it is better to collect certain types of water samples (for volatile constituents) from the available water remaining in a dewatered well rather than let the water stand for prolonged periods of times and risk the loss of volatile constituents. These arrangements are client specific and are contained in client directives to our personnel. These are carried as printed directives in reference binders in the sampling vehicle and are on file at our office for use by our project coordination personnel.

## 7. PURGEWATER CONTAINMENT

All purgewater evacuated from each groundwater monitoring well is captured and contained as are all fluids from the on-site decontamination of reusable apparatus (sounders, electric pumps and hoses etc.). Hazardous materials are placed in appropriately labeled DOT drums and left at the site for handling by a licensed hazardous waste hauler who will move the material to a TSDF. Non-hazardous purgewater will be drummed or discharged into an on-site treatment system. Non-hazardous effluent from petroleum industry sites is typically collected in vehicle mounted tanks and transported to the nearest refinery operated by the client.

## 8. EVACUATION

Wells are purged prior to sampling with a variety of evacuation devices. Small diameter wells which contain a relatively small volume of water are often hand bailed. Larger volumes of water found in deeper

wells and larger diameter wells are removed with down hole electric submersible pumps or pneumatic purge pumps.

In a typical evacuation, the well is pumped with a Grundfos brand electrical pump deployed into the well on a long section of hose which is paid out from a reel assembly mounted on the sampling vehicle.

Specialized evacuation devices such as USGS Middleburg bladder pumps can be used in response to special circumstances, but unless specifically dictated by the client, consultant or regulator, the type of device used to evacuate the well will be selected based on its appropriateness and efficiency.

## 9. SAMPLE COLLECTION DEVICES

Irrespective of the type of device used to evacuate the well, samples are always collected with a specialized sampling bailer. Standard sampling bailers are constructed of either stainless steel or PTFE (Teflon®). Some clients request that their samples be obtained with disposable bailers which are made from a variety of materials (PTFE, polyethylene, PVC etc.) which are represented by the manufacturer to be adequate and appropriate for one time use applications after which the disposable bailer is discarded.

Regardless of the type of bailer used to collect sample material, the number of check valves the bailer contains or the presence or absence of a bottom emptying device, the water which is the sample material is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

The exceptions to this rule are samples which must be field filtered (i.e. for metals) prior to preservation or those that must be fixed or manipulated in the field (e.g. Winkler titration). Such samples are handled according to procedures described in STANDARD METHODS, the SW-846 and other texts.

## 10. SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory which will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to intended analysis. Chemicals needed to preserve the sample material are commonly already placed inside the sample containers by the laboratory or glassware vendor. The number of replicates is set by the laboratory.

## 11. QC BLANKS

QC blanks are collected in accordance with the regimen agreed upon by the interested parties and typically include trip blanks, duplicates and equipment blanks.

## 12. CHAIN OF CUSTODY RECORDS

All samples are labeled and logged on a standardized Chain of Custody form. The Blaine Tech Services, Inc., preprinted Chain of Custody form is a multi-page carbonless form, whereas client and laboratory forms are usually single pages which are replicated by making photocopies. All Chain of

Custody forms follow standard EPA conventions set forth in USEPA SW-846 for recording the time, date and signature of the person collecting the samples, and go further to require paired time, date and responsible party entries each time the samples change hands.

According to this convention, each time the samples move from the custody of one person to another person, the Chain of Custody form must record the time, date and signature of the person relinquishing custody of the samples and the time data and signature of the person accepting custody of the samples.

In practice, all samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Chain of Custody form. If the samples are taken charge of by a different party (such as another person from our office, or a courier who will transport the samples to the laboratory) prior to being delivered to the laboratory, appropriate release and acceptance entries must be made on the Chain of Custody form (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person taking possession of the samples).

## 13. SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the analytical laboratory which will perform the intended analytical procedures. These ice chests contain quantities of ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the

custody of the laboratory or laboratory courier.

#### 14. ICE

Temperature in the ice chest is lowered and maintained with ice. Our firm produces ice in a restaurant grade commercial ice maker which is supplied with deionized water which has been filtered and polished and is the same grade of water tanked on our sampling vehicles for use in decontamination procedures.

#### 15. DOCUMENTATION CONVENTIONS

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

Each and every sample container has a label affixed to it. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified (usually with a code specified by the client), as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1, etc.). The time at which the sample was collected and the initials of the person collecting the sample are handwritten onto the label.

Our representative adds the Blaine Tech Services, Inc. Sampling Event Number. This Sampling Event Number also appears on the Chain of Custody form and all other notebook pages and papers associated with the work done at the site on the particular day by this particular technician. The Sampling Event Number also becomes the

number of the Blaine Tech Services, Inc. Sampling Report.

The Sampling Event Number is derived from the date on which the work was done, the specific employee who did the work and what the relationship of this particular assignment was to any other assignments performed on that day by this specific employee.

An example Sampling Event Number is 950910-B-2.

The first six digits indicate the date (yymmdd) which is 950910 for September 10, 1995. The alpha character indicates the letter assigned to the specific employee doing the work (e.g. the letter B is assigned to Mr. Richard Blaine). The final digit indicates that this was the second sampling assignment performed by Mr. Blaine on that particular date.

#### 16. DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. Because high temperature water retains heat better than does a jet of steam and poses fewer hazards to the operator, we have our steam cleaners detuned by the manufacturer to produce hot water several degrees below the transition to live steam.

The steam cleaner / hot pressure washer is operated with high quality deionized water which is produced at our facility and tanked

on our sampling vehicle for use at remote sites.

Decontamination effluent is collected in the same onboard effluent tanks as are used to contain the effluent from purging the groundwater wells at the site. The decon effluent is handled in the same manner as groundwater from the well.

#### 17. FREE PRODUCT SKIMMERS

A skimmer is a free product recovery device sometimes installed in wells with a free product zone on the surface of the water. The presence of the skimmer in the well often prevents normal well gauging and free product zone measurements. The Petro Trap brand 2.0" and 3.0" diameter skimmers which are used on some petroleum industry sites fall into the category of devices that obstruct the well to the extent of preventing normal gauging. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on behalf of the property owner or responsible party.

In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the Petro Trap before putting it back into the well. The recovered free product is measured and recorded. The notation on the amount of free product with subsequently be entered in the VOLUME OF IMMISCIBLES REMOVED column on the TABLE OF WELL GAUGING DATA in the next Blaine Tech Services, Inc. Sampling Report.

#### 18. CERTIFIED LABORATORY

Samples are directed to analytical laboratories which have been certified by the California Department of Health Services as an authorized Hazardous Materials Testing Laboratory and that laboratory's name and DOHS HMTL number should be noted on the Chain of Custody form.

#### 18. REPORTAGE

A typical groundwater monitoring assignment involves the work of several different firms and a series of reports are generated, beginning with a Blaine Tech Services, Inc. Sampling Report. The Sampling Report (whether in extended or abbreviated form) details the particulars of the work that was performed and either presents directly or references descriptions of the methodologies which were used.

An attachment to the Sampling Report is the Chain of Custody form which is a legal document which records that transfer of the samples from Blaine Tech Services, Inc. to the analytical laboratory which will analyze the samples. The laboratory completes its work and issues its own Certified Analytical Report presenting the results of the analyses they conducted. Both our Sampling Report and the laboratory's Analytical Report deal with the objective information. Neither the Sampling Report nor the Analytical Report interprets the data being reported.

Interpretations are provided by professional geologists and engineers who are working as environmental consultants. The consultant reviews the measurements made by our field personnel and plots an updated groundwater gradient map. The most recent analytical results are compared to earlier results to establish trends and information about the presence of various compounds in the groundwater. Anomalous data are examined

with reference to our field data sheets to see if our notes indicate changed site conditions.

In general, the consultant is charged with making sense of the objective information and deciding what it may mean to the property owner and to the people to the State of California. The consultant signs off on is or her review of the objective information, makes whatever recommendations are appropriate and submits the assembled package of related documents to the regulatory agency on behalf of the property owner or responsible party.

The individual reports from Blaine Tech Services, Inc. and the analytical laboratory are distinct objective information documents, linked together by the Chain of Custody. In contrast, groundwater gradient maps require professional judgements and adjustments and are, therefore, within the domain of the professional consultant. Any professional evaluations or recommendation are always made by the consultant under separate cover.

## 20. FIELD PERSONNEL

All Blaine Tech Services, Inc. field personnel are required to have 40 hours of initial training in Hazardous Waste Operations and Emergency Response per 29 CFR 1910. 120 with 8-hour annual refresher courses. They are also given an 8-hour BATT course in refinery safety orientation. They receive several days of on-the-job-training and are given additional in-house training which included study of all the applicable Codes of Safe Practices form our Injury and Illness Prevention Program, review of the written Hazard Communication Program, familiarization with our written Drug Alcohol Free Work Place Policy and orientation on the Blaine

Tech Services, Inc. Comprehensive Quality Assurance Program.

Field personnel also receive 29 CFR 1910 Supervisor Training to better prepare them to establish safe work sites at remote locations and supervise their own work, including compliance with site specific Site Safety Plans (SSP). Client requirement binders and Standard Operating Procedures are also provided. Blaine Tech Services, Inc. Policies and extensive in house training materials covering Basics and Diverse Sampling Assignments are included in advance employee training.

Blaine Tech Services, Inc. field personnel routinely commence work at OSHA level D and can upgrade to appropriate levels of additional protection as needed. They maintain their personal protective equipment in accordance with OSHA requirements and the specific mandates of our Respiratory Protection Program. All field personnel are trained and expected to comply with the requirements of any site specific Safety Plan which is in effect at any given site. Our personnel are prepared and able to follow the directions of any Site Safety Officer (SSO) administering the Site Safety Plan and, in the absence of an SSO, can apply the pertinent provisions of the SSP to themselves and to other Blaine Tech Services, Inc. personnel.

## 21. WORK ORIENTATION

Blaine Tech Services, Inc. field personnel are chosen from applicants who usually have bachelors' degrees in the sciences, environmental studies or related fields. People from the observational sciences (like botanists) often do better field sampling than young engineers who want to learn consulting (and are encouraged to find work



with a good consulting firm). We notice that we employ a disproportionate number of people with degrees in fire science.

The academic concentration, however, has proven less important than the broader aptitude, durability and willingness of the applicant to deal with the range of problems which attend executing exacting procedures in a noisy workplace largely unprotected from sun, wind and rain.

Put simply, there is a lot of physical work that surrounds the science. Those who succeed at field sampling are those who can manage the physical work, handle emergencies and make field repairs without losing track of the particular requirements of the procedure they are performing.

## 22. PLAIN BUT IMPORTANT

Blaine Tech Services, Inc. has concentrated on providing high quality environmental sampling and documentation for well over a decade. During that time we have contributed mechanical and procedural innovations, helped establish higher quality and performance standards and have assisted in the replacement of inefficient sole-source-vendor monopolies with the new practice of separating projects into identifiable modules in which professional, technical and contractor functions are evaluated, bid and awarded individually – on the basis of price and actual performance.

Real as these advances are, sampling remains unglamorous and even misunderstood. Some engineers have expressed the view that field sampling is such a menial activity that it may as well be performed by their newest employees who are paying their dues before being allowed to do *real* work such as data interpretation,

computer modeling, and the design of remediation systems.

We assert the contrary view, that sample collection is at least as important as sample analysis in the laboratory. This is based on the fact that no amount of care in the laboratory can – retroactively – put back into a sample, the integrity and quality that has been lost by indifferent sample collection. It can even be argued that objective scientific information is *more credible* when it is produced by people who are wholly impartial and really have no interest in any particular outcome.

Blaine Tech Services, Inc. exists because there is technical work which needs to be done that is neither glamorous nor highly remunerative, but is still important enough that it needs to be done correctly.

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Any questions can be directed to our senior project coordinator, Mr. Kent Brown who can be reached at: (408) 573-0555.

Select voice mail extension number 203.

***Appendix B***

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***Well Monitoring Data Sheets and Well Gauging Data,***  
**dated June 6, 2002**

**Blaine Tech Services, Inc.**



# WELL GAUGING DATA

Project # 020606-DA-1

Date 6/6/02

Client Blumer Engineers, Inc

Site 6393 Scarlett Ct. Dublin (Dublin Concrete)

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	6/s, order
MW-1	2					2.89	19.36	TOC	
MW-2	<del>2</del>	0				3.46	19.89		S, 2
MW-3	2	Took several minutes for water to stabilize				3.66	18.54		
MW-4	2					3.76	18.60		S, 1
MW-5	2					2.79	9.91		
MW-6	2					4.81	10.00	↓	

## WELL MONITORING DATA SHEET

Project #: 020606-DA-1	Client: Blymer Engineers, Inc
Sampler: David A.	Start Date: 6/6/02
Well I.D.: MW-2	Well Diameter: <input checked="" type="radio"/> 2   3   4   6   8
Total Well Depth: 19.89	Depth to Water: 3.0
Before:                      After:	Before:                      After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="radio"/> PVD                      Grade	D.O. Meter (if req'd):                      YSI                      HACH

Purge Method:

- Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

2.6 (Gals.) X 3 = 7.8  
 Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<input checked="" type="radio"/> 2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp. ( <del>°F</del> or <del>°C</del> )	pH	Conductivity (mS or μS)	Turbidity (NTU)	Gals. Removed	Observations
0950	69.3	7.1	3390MS	7200	3	dark strong light grey, odor
0953	66.2	6.8	3381	7200	6	light grey, " , cloudy
0956	65.4	6.8	3388	7200	8	"

Did well dewater? Yes  No  Gallons actually evacuated: 8

Sampling Time: 1000 Sampling Date: 6/6/02

Sample I.D.: MW-2 Laboratory: Sequoia

Analyzed for: ~~TPH-G BTEX MTBE~~ TPH-D Other: Ethanol, TBA

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

## WELL MONITORING DATA SHEET

Project #: 020606-DA-1	Client: Blymer Engineers, Inc
Sampler: David A.	Start Date: 6/6/02
Well I.D.: MW-4	Well Diameter: ② 3 4 6 8 _____
Total Well Depth: 18.60	Depth to Water: 3.76
Before: _____ After: _____	Before: _____ After: _____
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVS</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

- Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible
- Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

- Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

2.4 (Gals.) X 3 = 7.2  
 Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
②	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp. (°E or °C)	pH	Conductivity (mS or µS)	Turbidity (NTU)	Gals. Removed	Observations
0923	69.1	6.9	3449MS	7200	2.5	tan, cloudy
0924	66.3	7.0	3465	7200	5	"
0927	66.2	7.0	3437	7200	7.5	"

Did well dewater? Yes  No  Gallons actually evacuated: 7.5

Sampling Time: 0930 Sampling Date: 6/6/02

Sample I.D.: MW-4 Laboratory: Sequoia

Analyzed for: ~~TPH-G BTEX MTBE~~ TPH-D Other: Ethanol, TBA

Equipment Blank I.D.: @ \_\_\_\_\_ Time Duplicate I.D.: \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

*Appendix C*

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**Analytical Laboratory Report  
dated June 25, 2002  
Sequoia Analytical, Inc.**



**Sequoia  
Analytical**

885 Jarvis Dr  
Morgan Hill, CA 95037  
(408) 776-9600  
FAX (408) 782-6308  
[www.sequoialabs.com](http://www.sequoialabs.com)

25 June, 2002

Mark Detterman  
Blymyer Engineers  
1829 Clement Street  
Alameda, CA 94501

RE: -  
Sequoia Work Order: MLF0219

Enclosed are the results of analyses for samples received by the laboratory on 06/07/02 12:53. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James Hartley  
Project Manager

CA ELAP Certificate #1210







Blymyer Engineers  
1829 Clement Street  
Alameda CA, 94501

Project: -  
Project Number: Dublin Concrete  
Project Manager: Mark Detterman

**Reported:**  
06/25/02 08:44

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	MLF0219-01	Water	06/06/02 10:00	06/07/02 12:53
MW-4	MLF0219-02	Water	06/06/02 09:30	06/07/02 12:53

Sequoia Analytical - Morgan Hill

James Hartley, Project Manager

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Blymyer Engineers  
 1829 Clement Street  
 Alameda CA, 94501

 Project: -  
 Project Number: Dublin Concrete  
 Project Manager: Mark Detterman

**Reported:**  
 06/25/02 08:44

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (MLF0219-01) Water Sampled: 06/06/02 10:00 Received: 06/07/02 12:53</b>									
Gasoline Range Organics (C6-C10)	25000	5000	ug/l	100	2F13002	06/13/02	06/13/02	8015Bm/8021B	P-03
Benzene	2900	50	"	"	"	"	"	"	
Toluene	50	50	"	"	"	"	"	"	
Ethylbenzene	2700	50	"	"	"	"	"	"	
Xylenes (total)	2200	50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.5 %	70-130		"	"	"	"	
<b>MW-4 (MLF0219-02) Water Sampled: 06/06/02 09:30 Received: 06/07/02 12:53</b>									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2F13002	06/13/02	06/13/02	8015Bm/8021B	
Benzene	1.7	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		104 %	70-130		"	"	"	"	

Blymyer Engineers  
 1829 Clement Street  
 Alameda CA, 94501

 Project: -  
 Project Number: Dublin Concrete  
 Project Manager: Mark Detterman

 Reported:  
 06/25/02 08:44

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2F13002 - EPA 5030B [P/T]</b>										
<b>Blank (2F13002-BLK1)</b> <span style="float:right">Prepared &amp; Analyzed: 06/13/02</span>										
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	9.32		"	10.0		93.2	70-130			
<b>LCS (2F13002-BS1)</b> <span style="float:right">Prepared &amp; Analyzed: 06/13/02</span>										
Benzene	11.1	0.50	ug/l	10.0		111	70-130			
Toluene	11.1	0.50	"	10.0		111	70-130			
Ethylbenzene	11.3	0.50	"	10.0		113	70-130			
Xylenes (total)	33.7	0.50	"	30.0		112	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.5		"	10.0		115	70-130			
<b>LCS (2F13002-BS2)</b> <span style="float:right">Prepared &amp; Analyzed: 06/13/02</span>										
Gasoline Range Organics (C6-C10)	253	50	ug/l	250		101	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	11.5		"	10.0		115	70-130			
<b>Matrix Spike (2F13002-MS1)</b> <span style="float:right">Source: MLF0107-05 Prepared &amp; Analyzed: 06/13/02</span>										
Gasoline Range Organics (C6-C10)	439	50	ug/l	550	ND	79.8	60-140			
Benzene	9.66	0.50	"	6.60	ND	146	60-140			QM-07
Toluene	42.7	0.50	"	39.7	ND	108	60-140			
Ethylbenzene	10.6	0.50	"	9.20	ND	115	60-140			
Xylenes (total)	52.4	0.50	"	46.1	ND	114	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.3		"	10.0		103	70-130			
<b>Matrix Spike Dup (2F13002-MSD1)</b> <span style="float:right">Source: MLF0107-05 Prepared &amp; Analyzed: 06/13/02</span>										
Gasoline Range Organics (C6-C10)	430	50	ug/l	550	ND	78.2	60-140	2.07	25	
Benzene	9.35	0.50	"	6.60	ND	142	60-140	3.26	25	QM-07

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Blymyer Engineers  
 1829 Clement Street  
 Alameda CA, 94501

 Project: -  
 Project Number: Dublin Concrete  
 Project Manager: Mark Detterman

**Reported:**  
 06/25/02 08:44

**Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control  
 Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2F13002 - EPA 5030B [P/T]</b>										
<b>Matrix Spike Dup (2F13002-MSD1)</b>										
Source: MLF0107-05 Prepared & Analyzed: 06/13/02										
Toluene	41.7	0.50	ug/l	39.7	ND	105	60-140	2.37	25	
Ethylbenzene	10.1	0.50	"	9.20	ND	110	60-140	4.83	25	
Xylenes (total)	50.9	0.50	"	46.1	ND	110	60-140	2.90	25	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	9.88		"	10.0		98.8	70-130			



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1829 Clement Street  
Alameda CA, 94501

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**Reported:**  
06/25/02 08:44

### Notes and Definitions

- P-03 Chromatogram Pattern: Unidentified Hydrocarbons C6-C10
- QM-07 The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE  
 SAN JOSE, CALIFORNIA 95112-1105  
 FAX (408) 573-7771  
 PHONE (408) 573-0555

## CONDUCT ANALYSIS TO DETECT

LAB Sequoia DHS # \_\_\_\_\_  
 ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND  
 EPA  RWQCB REGION \_\_\_\_\_  
 LIA  
 OTHER

**MLF 0219**

SPECIAL INSTRUCTIONS  
 Invoice and Report to : Blymyer Engineers, Inc.  
 Attn: Mark Detterman

CHAIN OF CUSTODY  
 BTS # 020606-0A-1  
 CLIENT Blymyer Engineers, Inc.  
 SITE Dublin Concrete  
6393 Scarlett Ct  
Dublin, CA

C = COMPOSITE ALL CONTAINERS

	TPH-G (8015)	BTEX/MtBE (8020)								
	X	X								
	X	X								

SAMPLE I.D.	DATE	TIME	MATRIX	CONTAINERS	
			S=SOIL W=H <sub>2</sub> O	TOTAL	
MW-2	6/6/02	1000	W	6	
MW-4	↓	0930	↓	↓	

ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
Confirm only highest MtBE hit with Oxygenates by 8260			01
Oxygenates = MtBE, DIPE, ETBE, TAME, TBA & Ethanol			02

**SAME DAY  
 PICKUP**

SAMPLING COMPLETED DATE 6/6/02 TIME 1030 SAMPLING PERFORMED BY David Abbott RESULTS NEEDED NO LATER THAN As contracted

RELEASED BY David Abbott DATE 6/7/02 TIME 1033 RECEIVED BY [Signature] DATE 6/7/02 TIME 1033

RELEASED BY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_ RECEIVED BY [Signature] DATE 6/7/02 TIME 1253

RELEASED BY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_ RECEIVED BY \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

SHIPPED VIA \_\_\_\_\_ DATE SENT \_\_\_\_\_ TIME SENT \_\_\_\_\_ COOLER # \_\_\_\_\_