

BLYMYER
ENGINEERS, INC.



ALCO
BASEMENT

91 007-5 211111

September 30, 1994
BEI Job No. 94093

Ms. Juliet Shin
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94501-6577

Subject; Quarterly Groundwater Monitoring Report
K/D Cedar Company, Inc.
22008 Meekland Avenue
Hayward, CA

Dear Ms. Shin:

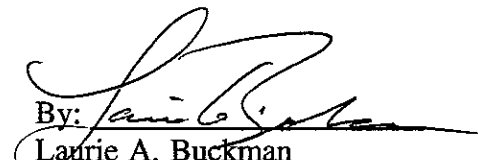
Enclosed is the *Quarterly Groundwater Monitoring Report Third Quarter 1994, (July through September)*, dated September 30, 1994, completed by Blymyer Engineers, Inc. for the above referenced property. This groundwater sampling event is the fourth sampling event conducted at the site where no concentrations of the Total Petroleum Hydrocarbon as gasoline and benzene, toluene, ethylbenzene, and total xylenes were detected above the respective analytical method reporting limits.

Based on the groundwater analytical results for this site, Blymyer Engineers on behalf of K/D Cedar Company request authorization to discontinue groundwater monitoring at the site and properly abandon the groundwater monitoring wells in accordance with all applicable regulations, as part of site closure.

Please call me at 521-3773 with any questions or comments.

Sincerely,

Blymyer Engineers, Inc.

By: 
Laurie A. Buckman
Project Geologist

cc: Mr. Bob Womack, K/D Cedar Company

**Quarterly Groundwater Monitoring Report
Third Quarter 1994 (July through September)**

K/D Cedar Supply Company
22008 Meekland Avenue
Hayward, California

September 30, 1994 BEI Job No. 94093

Prepared by:

Blymyer Engineers, Inc.
1829 Clement Avenue
Alameda, CA 94501

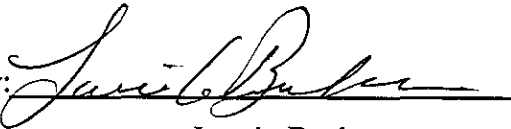
Client:

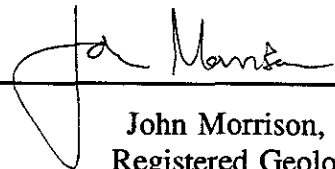
Mr. Robert Womack
K/D Cedar Supply Company
22008 Meekland Avenue
Hayward, CA 94541

Limitations

Services performed by Blymyer Engineers, Inc. have been provided in accordance with generally accepted professional practices for the nature and conditions of similar 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 K/D Cedar Supply Company.

Blymyer Engineers, Inc.

By: 
Laurie Buckman
Project Geologist

And: 
John Morrison, RG
Registered Geologist

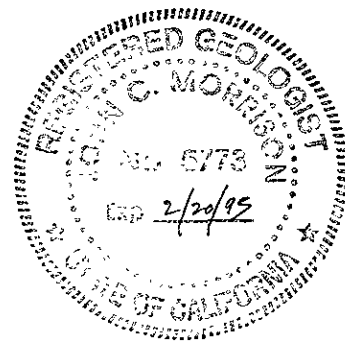


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Appendix B: National Environmental Testing, Inc. Analytical Laboratory Report, dated September 26, 1994

1.0 Introduction

Blymyer Engineers, Inc. was retained by K/D Cedar Supply Company to perform quarterly groundwater sampling of three monitoring wells at its facility located at 22008 Meekland Avenue in Hayward, California (Figures 1 and 2). Blymyer Engineers completed four rounds of quarterly groundwater monitoring from July 16, 1991, through April 29, 1992. All four of the sampling events reported non-detectable concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene, toluene, ethylbenzene, and total xylenes (BTEX) from all three monitoring wells. The groundwater monitoring program was being conducted as a result of a previous subsurface investigation performed by Blymyer Engineers following the removal of two underground storage tanks as required by the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites*, California Regional Water Quality Control Board San Francisco Bay Region, 10 August 1990. Details of the investigation may be found in Blymyer Engineers' *Phase I Subsurface Investigation Report*, dated August 2, 1991.

In a letter dated July 20, 1994, the Alameda County Health Care Services Agency requested that an additional groundwater sampling event be conducted to ensure non-detectable levels of petroleum hydrocarbon concentrations in the groundwater at the site. This report describes the collection of groundwater samples by Blymyer Engineers during the third quarter of 1994, and presents the results of laboratory analyses of those samples and the groundwater gradient calculated at the site on September 7, 1994.

2.0 Data Collection

2.1 Groundwater Sample Collection

Groundwater samples were collected from each of the three groundwater monitoring wells, MW-1, MW-2, and MW-3 (Figure 3), at the subject site by Blymyer Engineers on September 7, 1994. At least three well volumes of groundwater were removed from each monitoring well prior to sampling using a decontaminated Teflon[®] bailer. Temperature, pH, and conductivity were measured initially and after the removal of each well volume. The well was sampled when these parameters were all within 15% of the previous measurement for three consecutive well volumes. Details of the well purging and sampling data are presented as Appendix A. The groundwater samples were placed in laboratory-cleaned, 40-milliliter glass vials preserved with hydrochloric acid and 1-liter unpreserved amber bottles, labeled, and placed on ice in an insulated container for transportation to the analytical laboratory. The sample containers were provided by the laboratory. Proper chain-of-custody procedures were observed. All purge water was stored on the site in labeled Department of Transportation-approved, 55-gallon drums for disposal by the owner.

2.2 Groundwater Analytical Methods and Results

All groundwater samples were analyzed for TPH as gasoline using modified EPA Method 8015, and BTEX using EPA Method 602 by National Environmental Testing, Inc., a California-certified laboratory. A summary of the current and past analytical results is presented in Table I. The full laboratory analytical report for the current sampling event is presented as Appendix B.

2.3 Groundwater Depth Measurements

The depth from the top of the well casing to the top of the water surface in each monitoring well was measured on September 7, 1994, with an oil-water interface probe. The top of each well casing has been surveyed relative to the Alameda County Datum, which is referenced to the National Geodetic Vertical Datum (NGVD). Groundwater depth measurements and elevation from the current and all previous monitoring events are summarized in Table II.

3.0 Data Interpretation

3.1 Discussion of Groundwater Sample Analytical Results

The most recent analyses revealed that the groundwater samples collected from all three wells in September 1994 did not contain detectable concentrations of TPH as gasoline or BTEX. TPH as gasoline and BTEX have not been detected above the respective reporting limits in any of the groundwater samples collected during quarterly monitoring at the site.

3.2 Groundwater Elevation and Gradient

The depth to groundwater at this site ranged from 33.60 to 33.74 feet below the tops of the well casings when it was most recently measured in September 1994. The tops of the well casings range in elevation from 63.61 to 63.77 feet NGVD. Table II summarizes the top-of-casing elevations and the groundwater elevation data. The groundwater gradient is relatively flat and has varied between a northeasterly and southwesterly direction during the previous quarterly monitoring events at the site.

The groundwater flow direction on September 7, 1994, was to the west, as shown on Figure 3. The groundwater gradient on September 7, 1994, was calculated as 3.2×10^{-4} feet/foot.

4.0 Summary and Conclusions

- TPH as gasoline and BTEX were not been detected above the respective reporting limits in any of the groundwater samples collected from the on-site monitoring wells during this sampling event and have not been detected since they were installed in July 1991.
- The groundwater gradient at the site is relatively flat and has varied from a northeasterly and southwesterly direction during quarterly groundwater monitoring at the site.

5.0 Recommendations

- None of the groundwater monitoring results have reported concentrations of petroleum hydrocarbons in the groundwater above the respective reporting levels, since 1991. Blymyer Engineers recommends that this site be considered for case closure.
- A copy of this report should be forwarded to:

Ms. Juliet Shin
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

TABLE I. SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
K/D Cedar Supply Company
22008 Meekland Avenue, Hayward, California
BEI Job No. 94093

Sample Identification	Sampling Date	Modified EPA Method 8015 (mg/L)	EPA Method 602 (µg/L)			
		TPH as gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
MW-1	7/16/91	<0.05	<0.5	<0.5	<0.5	<0.5
	10/7/91	<0.05	<0.5	<0.5	<0.5	<0.5
	1/29/92	<0.05	<0.5	<0.5	<0.5	<0.5
	4/29/92	<0.05	<0.5	<0.5	<0.5	<0.5
	9/7/94	<0.05	<0.5	<0.5	<0.5	<0.5
MW-2	7/16/91	<0.05	<0.5	<0.5	<0.5	<0.5
	10/7/91	<0.05	<0.5	<0.5	<0.5	<0.5
	1/29/92	<0.05	<0.5	<0.5	<0.5	<0.5
	4/29/92	<0.05	<0.5	<0.5	<0.5	<0.5
	9/7/94	<0.05	<0.5	<0.5	<0.5	<0.5
MW-3	7/16/91	<0.05	<0.5	<0.5	<0.5	<0.5
	10/7/91	<0.05	<0.5	<0.5	<0.5	<0.5
	1/29/92	<0.05	<0.5	<0.5	<0.5	<0.5
	4/29/92	<0.05	<0.5	<0.5	<0.5	<0.5
	9/7/94	<0.05	<0.5	<0.5	<0.5	<0.5

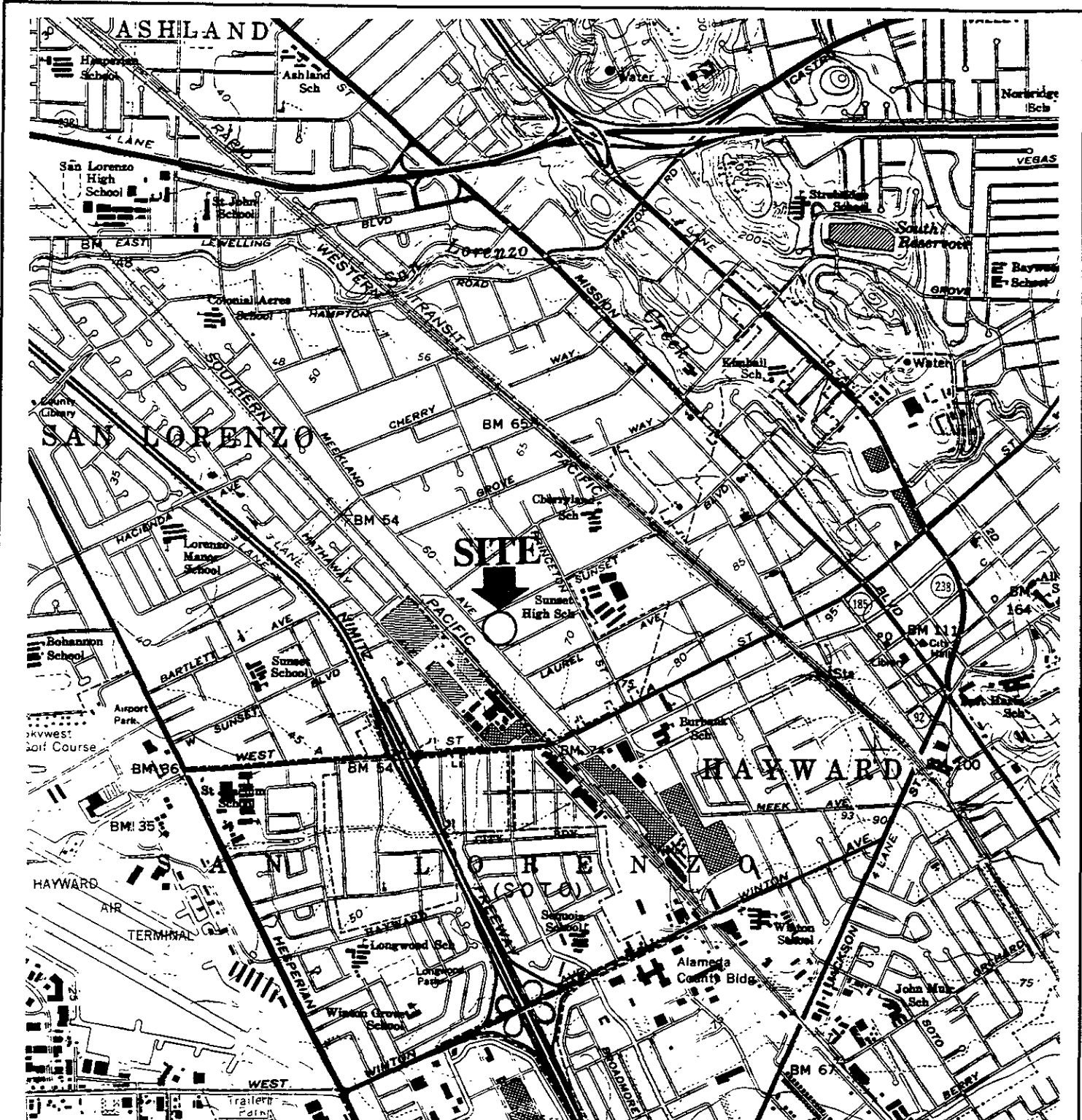
mg/L = milligrams per liter
µg/L = micrograms per liter
TPH = Total Petroleum Hydrocarbons

For results presented as <x, x represents the reporting limit.

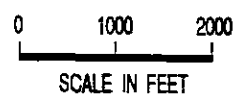
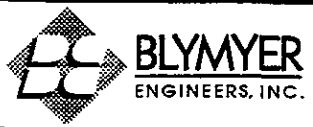
TABLE II, SUMMARY OF GROUNDWATER ELEVATION MEASUREMENTS
K/D Cedar Supply Company
22008 Meekland Avenue, Hayward, California
BEI Job No. 92013

Well Identification	Date Measured	TOC ELEVATION (feet)*	DEPTH TO WATER (feet from TOC)	WATER SURFACE ELEVATION (feet)*
MW-1	7/16/91	63.77	35.54	28.23
	10/7/91	63.77	36.54	27.23
	1/29/92	63.77	36.68	27.09
	4/29/92	63.77	34.18	29.59
	9/7/94	63.77	33.74	30.03
MW-2	7/16/91	63.61	35.41	28.20
	10/7/91	63.61	36.38	27.23
	1/29/92	63.61	35.53	28.08
	4/29/92	63.61	34.04	29.57
	9/7/94	63.61	33.60	30.01
MW-3	7/16/91	63.63	35.49	28.14
	10/7/91	63.63	36.41	27.22
	1/29/92	63.63	36.54	27.09
	4/29/92	63.63	34.03	29.60
	9/7/94	63.63	33.61	30.02

TOC = Top of Well Casing
 * = based on Alameda County Datum (NGVD)



SOURCE: UNITED STATES GEOLOGICAL SURVEY 7.5' QUAD. "HAYWARD, CA" PHOTOREVISED 1980.



SITE LOCATION MAP

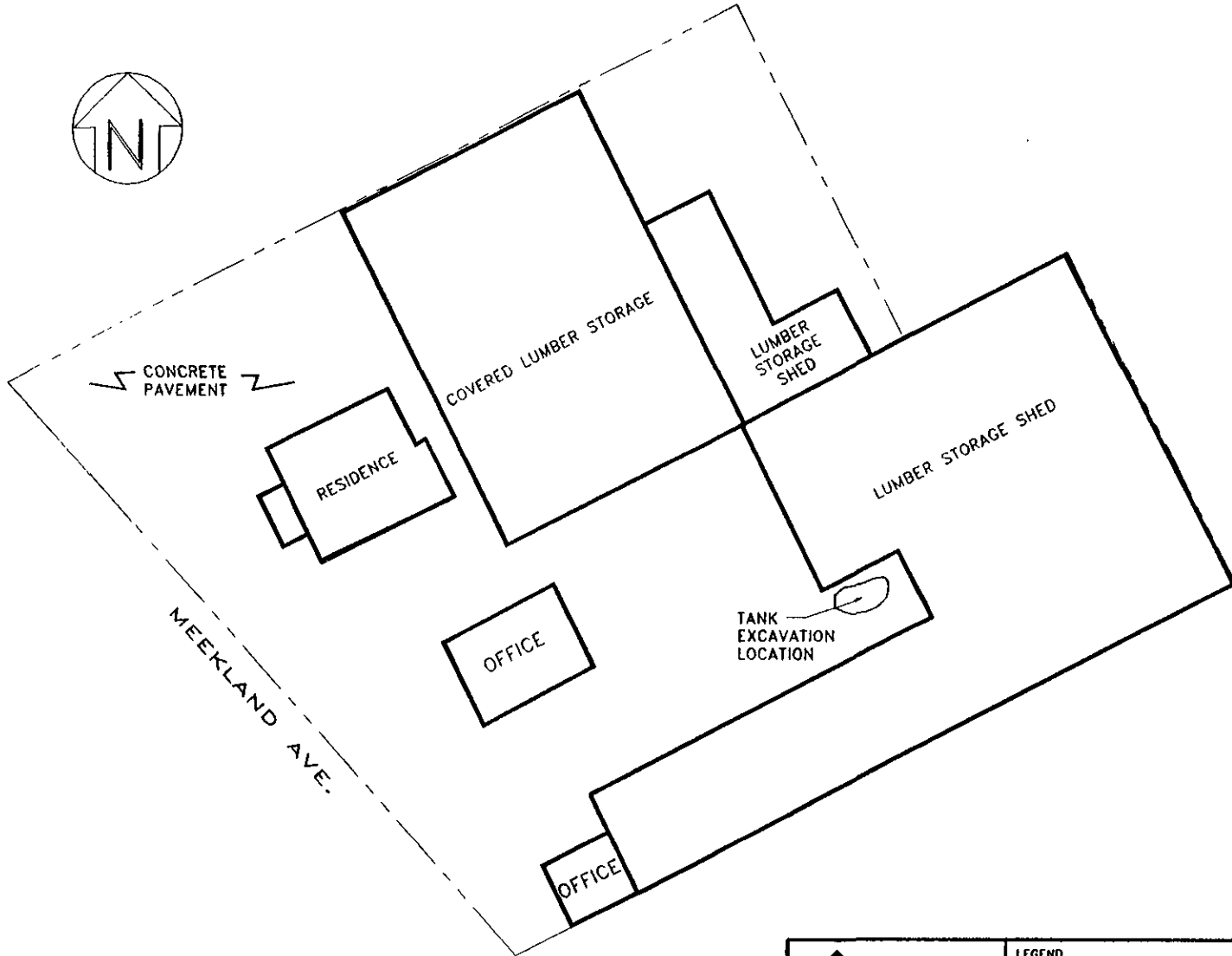
K/D CEDAR SUPPLY CO.
2208 MEEKLAND
HAYWARD, CA

FIGURE

1

BEI JOB NO. 94093 DATE 9/26/94

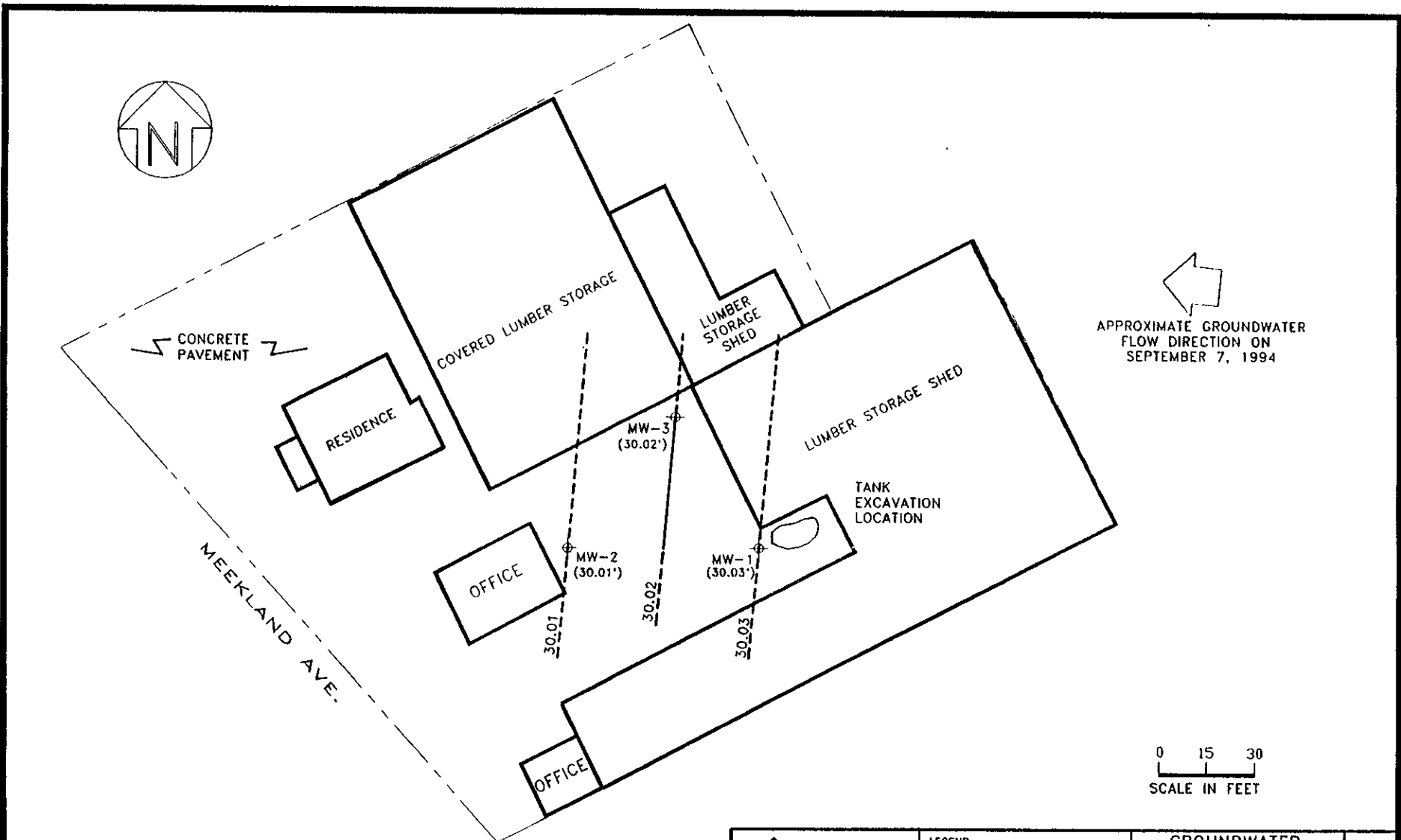
THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL USE FOR WHICH THEY WERE PREPARED. REUSE, REPRODUCTION OR PUBLICATION, IN WHOLE OR IN PART, IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF BLYMYER ENGINEERS, INC.



0 15 30
SCALE IN FEET

 BLYMYER ENGINEERS, INC.	LEGEND		SITE PLAN K/D CEDAR SUPPLY CO. HAYWARD, CA	FIGURE 2
	BEI JOB NO. 94093	DATE 9/26/94		

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.



		LEGEND ⊕ MONITORING WELL (30.01) GROUNDWATER ELEV. (BASED ON ALAMEDA COUNTY DATUM) --- GROUNDWATER CONTOUR	GROUNDWATER GRADIENT SEPTEMBER 7, 1994 K/D CEDAR SUPPLY CO. HAYWARD, CA	FIGURE 3

Appendix A: Well Purging and Sampling Data,
dated September 7, 1994

Well Purging and Sampling Data

Date	9/7/94	Project Number	94093	Project Name	K/D Cedar
Well Number	MW-1	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well	Volume to be Removed
Depth to product	N/A
Depth to water	33.74 ft.
Total depth of well	49.58 ft.
Column of water	15.84 ft.
	Gallons per foot of casing = 0.17 gal/ft.
	Column of water x 15.84 ft.
	Volume of casing = 2.7 gal.
	No. of volumes to remove x 3
	Total volume to remove = 8.1 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Disposable polyethylene bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, tan color, no odor
Final	Silty, tan color, no odor

Field Analysis	Initial	During		Final
Time	10:28	10:36	10:46	10:57
Temperature (F)	65.5	63.9	63.3	63.5
Conductivity (us/cm)	910	900	897	900
pH	7.65	7.15	6.77	6.63
Method of measurement	Hydac meter			
Total volume purged	8.25 gal.			
Comments	Sampled with disposable polyethylene bailer			

Sample Number	Amount of Sample
MW-1	3-40ml VOA w/ HCl

Signed/Sampler	Date
<i>Steph W. Moore</i>	9/7/94
Signed/Reviewer	Date
<i>Janice Becken</i>	9/23/94

Well Purging and Sampling Data

Date	9/7/94	Project Number	94093	Project Name	K/D Cedar
Well Number	MW-3	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well		Volume to be Removed	
Depth to product	N/A	Gallons per foot of casing	= 0.17 gal/ft.
Depth to water	33.61 ft.	Column of water	x 15.85 ft.
Total depth of well	49.46 ft.	Volume of casing	= 2.7 gal.
Column of water	15.85 ft.	No. of volumes to remove	x 3
		Total volume to remove	= 8.1 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Disposable polyethylene bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, tan color, no odor
Final	Silty, tan color, no odor

Field Analysis	Initial	During		Final
Time	11:55	12:06	12:14	12:23
Temperature (F)	65.5	64.5	64.4	64.6
Conductivity (us/cm)	923	927	922	901
pH	6.81	6.86	6.75	6.79
Method of measurement	Hydac meter			
Total volume purged	8.25 gal.			
Comments	Sampled with disposable polyethylene bailer			

Sample Number	Amount of Sample
MW-3	3-40ml VOA w/ HCl

Signed/Sampler	Date
<i>Stephen W. Moran</i>	9/7/94
Signed/Reviewer	Date
<i>John E. Jackson</i>	9/27/94

Well Purging and Sampling Data

Date	9/7/94	Project Number	94093	Project Name	K/D Cedar
Well Number	MW-2	Boring Diameter	N/A	Casing Diameter	2"

Column of Liquid in Well	Volume to be Removed
Depth to product	N/A
Depth to water	33.60 ft.
Total depth of well	48.92 ft.
Column of water	15.32 ft.
	Gallons per foot of casing = 0.17 gal/ft.
	Column of water x 15.32 ft.
	Volume of casing = 2.6 gal.
	No. of volumes to remove x 3
	Total volume to remove = 7.8 gal.

Method of measuring liquid	Oil/water interface probe
Method of purging well	Disposable polyethylene bailer
Method of decontamination	Liqui-nox and distilled water

Physical appearance of water (clarity, color, particulates, odor)	
Initial	Clear, no odor
During	Silty, tan color, no odor
Final	Silty, tan color, no odor

Field Analysis	Initial	During		Final
Time	13:07	13:14	13:23	13:33
Temperature (F)	67.1	66.0	66.2	66.0
Conductivity (us/cm)	943	922	923	934
pH	6.80	6.73	6.81	6.76
Method of measurement	Hydac meter			
Total volume purged	8.0 gal.			
Comments	Sampled with disposable polyethylene bailer			

Sample Number	Amount of Sample
MW-2	3-40 ml VOA w/ HCl

Signed/Sampler	Date
<i>Harold W. Miller</i>	9/7/94
Signed/Reviewer	Date
<i>Steven C. Jackson</i>	9/27/94

Appendix B: NET Analytical Laboratory Report,
dated September 26, 1994

Laurie Buckman
Blymyer Engineers, Inc
1829 Clement Ave
Alameda, CA 94501

From: Linda
At pages 905-
Date: 09/26/1994
NET Client Acct. No: 49500
NET Pacific Job No: 94.04088
Received: 09/09/1994

Client Reference Information

K/D Cedar, Hayward, Job No. 94093

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to these samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

PRELIMINARY REPORT

Client Name: Blymyer Engineers, Inc
 Client Acct: 49500
 NET Job No: 94.04088

Date: 09/26/1994
 ELAP Cert: 1386
 Page: xxx

2

Ref: K/D Cedar, Hayward, Job No. 94093

SAMPLE DESCRIPTION: MW-1
 Date Taken: 09/07/1994
 Time Taken: 11:10
 NET Sample No: 214419

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						09/20/1994
DILUTION FACTOR*	1						09/20/1994
as Gasoline	ND		0.05	mg/L	5030		09/20/1994
METHOD 8020 (GC,Liquid)	--						09/20/1994
Benzene	ND		0.5	ug/L	8020		09/20/1994
Toluene	ND		0.5	ug/L	8020		09/20/1994
Ethylbenzene	ND		0.5	ug/L	8020		09/20/1994
Xylenes (Total)	ND		0.5	ug/L	8020		09/20/1994
SURROGATE RESULTS	--						09/20/1994
Bromofluorobenzene (SURR)	103			% Rec.	5030		09/20/1994

PRELIMINARY REPORT

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Blymyer Engineers, Inc
 Client Acct: 49500
 NET Job No: 94.04088

Date: 09/26/1994
 ELAP Cert: 1386
 Page: xxx

3

Ref: K/D Cedar, Bayward, Job No. 94093

SAMPLE DESCRIPTION: HW-3
 Date Taken: 09/07/1994
 Time Taken: 12:38
 NET Sample No: 214420

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						09/15/1994
DILUTION FACTOR#	1						09/15/1994
as Gasoline	ND		0.05	mg/L	5030		09/15/1994
METHOD 8020 (GC,Liquid)	--						09/15/1994
Benzene	ND		0.5	ug/L	8020		09/15/1994
Toluene	ND		0.5	ug/L	8020		09/15/1994
Ethylbenzene	ND		0.5	ug/L	8020		09/15/1994
Xylenes (Total)	ND		0.5	ug/L	8020		09/15/1994
SURROGATE RESULTS	--						09/15/1994
Bromofluorobenzene (SURR)	89			% Rec.	5030		09/15/1994

PRELIMINARY REPORT

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Blymyer Engineers, Inc
 Client Acct: 49500
 NET Job No: 94.04088

Date: 09/26/1994
 ELAP Cert: 1386
 Page: xxx

4

Ref: K/D Cedar, Hayward, Job No. 94093

SAMPLE DESCRIPTION: MW-2
 Date Taken: 09/07/1994
 Time Taken: 13:55
 NET Sample No: 214421

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						09/15/1994
DILUTION FACTOR*	1						09/15/1994
as Gasoline	ND		0.05	mg/L	5030		09/15/1994
METHOD 8020 (GC,Liquid)	--						09/15/1994
Benzene	ND		0.5	ug/L	8020		09/15/1994
Toluene	ND		0.5	ug/L	8020		09/15/1994
Ethylbenzene	ND		0.5	ug/L	8020		09/15/1994
Xylenes (Total)	ND		0.5	ug/L	8020		09/15/1994
SURROGATE RESULTS	--						09/15/1994
Bromofluorobenzene (SURR)	80			% Rec.	5030		09/15/1994

PRELIMINARY REPORT

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

FACSIMILE MEMORANDUM SHEET

BLYMYER
ENGINEERS, INC.



Date: November 1, 1994

Job No.: 94093

Fax No.: 337-9335

TO: Juliet Shin
Alameda Co. Health Care Services Agency

Subject: K/D Cedar, Hayward, CA

Comments: Enclosed is the chain of custody form for the groundwater samples collected from the site on September 7, 1994

From: Laurie A. Buckman

Total number of pages (including this ~~Original~~ to be mailed yes 1

Carbon Copy:

If this transmission has not arrived as described or is not in readable condition, please contact Blymyer Engineers, Inc. and we will re-transmit.

(510) 521-3773

1829 Clement Avenue, Alameda, CA 94501-1395

Fax (510) 865-2594

BLYMYER

ENGINEERS, INC.

1829 Clement Avenue

Alameda, CA 94501 (415) 521-3773



CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

JOB #		PROJECT NAME/LOCATION				# OF CONTAINERS	TPH AS GASOLINE + BTX (MOD EPA 8015/8020)	TPH AS DIESEL (MOD EPA 8015)	VOC (EPA 624/8240)	SEMI-VOC (EPA 625/8270)	TRPM (EPA 418.1)	BTXE (EPA 8020/602)	HOLD	TURNAROUND TIME <u>Standard</u> (DAYS)
SAMPLERS (SIGNATURE)														REMARKS:
DATE	TIME	COMP	CRAB	SAMPLE NAME/LOCATION										
9/7/94	11:10		X	MW-1	3	X								
9/7/94	12:38		X	MW-3	3	X								
9/7/94	13:55		X	MW-2	5	X								
REQUESTED BY: Laurie Buckman					RESULTS AND INVOICED TO: Blymyer Engineers, Inc									
RELINQUISHED BY: (SIGNATURE)		DATE / TIME		RECEIVED BY: (SIGNATURE)		RELINQUISHED BY: (SIGNATURE)		DATE / TIME		RECEIVED BY: (SIGNATURE)				
<i>Stephen W. Moore</i>		9/8/94/1330		<i>[Signature]</i>										
RELINQUISHED BY: (SIGNATURE)		DATE / TIME		RECEIVED FOR LABORATORY BY: (SIGNATURE)		DATE / TIME		REMARKS:						

WHITE: Accompany Sample YELLOW: BEI, After Lab Signes PINK: Original Sampler

NOV- 1-94 TUE 17:13 BLYMYER ENGINEERS FAX NO. 510 865 2594 P. 02