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KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581

KEI-J91-0304.R1
May 7, 1991

R. W. Johnston
801 - 53rd Avenue
Oakland, California 94601

Attention: Mr. Dick Burge

RE: Soil Sampling Report
Western Stucco Products
5115 E. 8th Street
Oakland, California

Tank Removal Results

Dear Mr. Burge:

This report summarizes the soil and water sampling performed by Kaprealian Engineering, Inc. (KEI) at the referenced site. All work was performed in compliance with the guidelines established by the Regional Water Quality Control Board (RWQCB), and the Alameda County Health Agency.

The scope of the work performed by KEI consisted of the following:

Coordination with regulatory agencies.

Collection of soil samples from the fuel tank pit sidewalls.

Collection of water samples from the fuel storage tank pits.

Delivery of samples, including proper Chain of Custody documentation, to a certified analytical laboratory.

Technical review and preparation of this report.

SITE DESCRIPTION AND BACKGROUND

The subject site is presently used as a stucco product facility, which contains underground fuel storage tanks. A Location Map and Site Plan are attached to this report. The site is situated on gently sloping, southwest trending topography, and is located approximately 2,400 feet northeast of the present shoreline of San Leandro Bay. No leaks or previous subsurface work performed at the site are known to KEI. The previous uses of this property are also unknown to KEI at this time.

FIELD ACTIVITIES

KEI's field work was conducted on March 26, 1991, when two underground fuel storage tanks were removed from the site. The tanks consisted of one 8,000 gallon diesel storage tank, and one 8,000 gallon unleaded gasoline tank. The tanks were made of steel and four holes of a maximum diameter of 1/2-inch were observed in the gasoline storage tank. Ms. Cynthia Chapman of the Alameda County Health Care Services was present during tank removal and subsequent soil sampling.

Water was encountered in the fuel tank pits at a depth of approximately 9 feet below grade, thus prohibiting the collection of any soil samples from immediately beneath the tanks. Four soil samples, labeled SW1 through SW4, were collected from the sidewalls of the fuel tank pits approximately six inches above the observed water table. The undisturbed samples were collected from bulk material excavated by backhoe. The samples were placed in clean, two-inch diameter brass tubes, sealed with aluminum foil, plastic caps and tape, and stored in a cooled ice chest for delivery to a certified laboratory. Sample point locations are as shown on the attached Site Plan.

After soil sampling was completed, approximately 4,000 gallons of ground water were pumped from the fuel tank pits. On March 28, 1991, one water sample, labeled W2, was collected from the gasoline tank pit in two clean glass VOA vials with Teflon screw caps and a one liter amber bottle. The water sample was stored and delivered as described above.

KEI returned to the site on March 29, 1991, in order to collect one water sample from the diesel tank pit. Ms. Cynthia Chapman was present during water sampling. One sample, labeled W1, was collected, stored and delivered as described above.

REGIONAL GEOLOGY AND SUBSURFACE CONDITIONS

The subsurface soils exposed in the excavation appeared to consist primarily of silty clay to the maximum depth explored (9 feet). Ground water was encountered in the tank pit at a depth of approximately 9 feet below grade.

Based on review of regional geologic maps (U.S. Geological Survey Professional Paper 943 "Flatland Deposits of the San Francisco Bay Region, California - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning", by E.J. Helley and K.R. Lajoie, 1979), the subject site is directly underlain by Holocene alluvium. The site is situated at the approximate geologic contact separating Bay Mud (Qhbm) from Fine-Grained

Alluvium (Qhaf). The Bay Mud is described as typically consisting of unconsolidated, water-saturated plastic clay and silty clay rich in organic material, which locally contains lenses of well-sorted silt and sand and beds of peat. The Fine-Grained Alluvium is described as typically consisting of unconsolidated, moderately to poorly sorted silt and clay rich in organic material. These materials are assumed to overlie older alluvial fan and stream terrace deposits on the bay margin.

ANALYTICAL RESULTS

All samples were analyzed by Sequoia Analytical Laboratory in Concord, California and were accompanied by properly executed Chain of Custody documentation. All soil and water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline using EPA method 5030 in conjunction with modified 8015, benzene, toluene, xylenes and ethylbenzene (BTX&E) using EPA method 8020, and TPH as diesel using EPA method 3550 in conjunction with modified 8015.

Analytical results of soil samples SW2 and SW4, indicate non-detectable levels of TPH as gasoline and TPH as diesel. Analytical results of soil samples SW1 and SW3, indicate levels of TPH as gasoline at 120 ppm for both samples, and TPH as diesel at 100 ppm and 21 ppm, respectively. All soil samples had non-detectable levels of benzene. Results of the soil samples are summarized in Table 1.

Analytical results of the water samples W1 and W2, collected from the fuel tank pits, indicated TPH as gasoline at levels of 1,500 ppb and 800 ppb, respectively, and TPH as diesel at levels of 34,000 ppb and 13,000 ppb, respectively. The results of the water analyses are summarized in Table 2. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

DISCUSSION AND RECOMMENDATIONS

Based on the analytical results and in accordance with the guidelines established by the RWQCB, further work is necessary at the site because of the level of contamination found in the soil and ground water. To comply with the requirements of the RWQCB and the Alameda County Health Care Services, KEI recommends the installation of three monitoring wells at the site. The wells are recommended in order to begin to define the extent of the soil and ground water contamination, and to determine the ground water flow direction. KEI's work plan/proposal for this work is attached for your review and consideration.

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May 7, 1991

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DISTRIBUTION

A copy of this report should be sent to Ms. Cynthia Chapman of the Alameda County Health Care Services, and to the RWQCB, San Francisco Bay Region.

LIMITATIONS

Soil deposits and rock formations may vary in thickness, lithology, saturation, strength and other properties across any site. In addition, environmental changes, either naturally-occurring or artificially-induced, may cause changes in the extent and concentration of any contaminants. Our studies assume that the field and laboratory data are reasonably representative of the site as a whole, and assume that subsurface conditions are reasonably conducive to interpolation and extrapolation.

The results of this study are based on the data obtained from the field work and laboratory analyses. We have analyzed this data using what we believe to be currently applicable engineering techniques and principles in the Northern California region. We make no warranty, either expressed or implied, except that our services have been performed in accordance with generally accepted professional principles and practices existing for such work.

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May 7, 1991
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Should you have any questions regarding this report, please feel free to call me at (707) 746-6915.

Sincerely,

Kaprealian Engineering, Inc.



Hagop Kevork
Staff Engineer



Don R. Braun
Certified Engineering Geologist

License No. 1310
Exp. Date 6/30/92



Timothy R. Ross
Project Manager

\jad

Attachments: Tables 1 & 2
Location Map
Site Plan
Laboratory Analyses
Chain of Custody documentation
Work Plan/Proposal

KEI-J91-0304.R1
May 7, 1991

TABLE 1

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on March 26, 1991)

<u>Sample</u>	<u>Depth (feet)</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl- benzene</u>
SW1	8.5	100	120	ND	0.014	0.53	0.028
SW2	8.5	ND	ND	ND	ND	0.009	ND
SW3	8.5	21	120	ND	ND	0.51	0.012
SW4	8.5	ND	ND	ND	ND	0.0060	ND
Detection Limits		1.0	1.0	0.0050	0.0050	0.0050	0.0050

ND = Non-detectable.

Results in parts per million (ppm), unless otherwise indicated.

KEI-J91-0304.R1
May 7, 1991

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on March 28 & 29, 1991)

<u>Sample #</u>	<u>TPH as Diesel</u>	<u>TPH as Gasoline</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>Ethyl-benzene</u>
(diesel) W1	34,000	1,500	240	ND	ND	ND
(gas) W2	13,000	800	1.8	ND	11	ND
Detection Limits	50	30	0.3	0.3	0.3	0.3

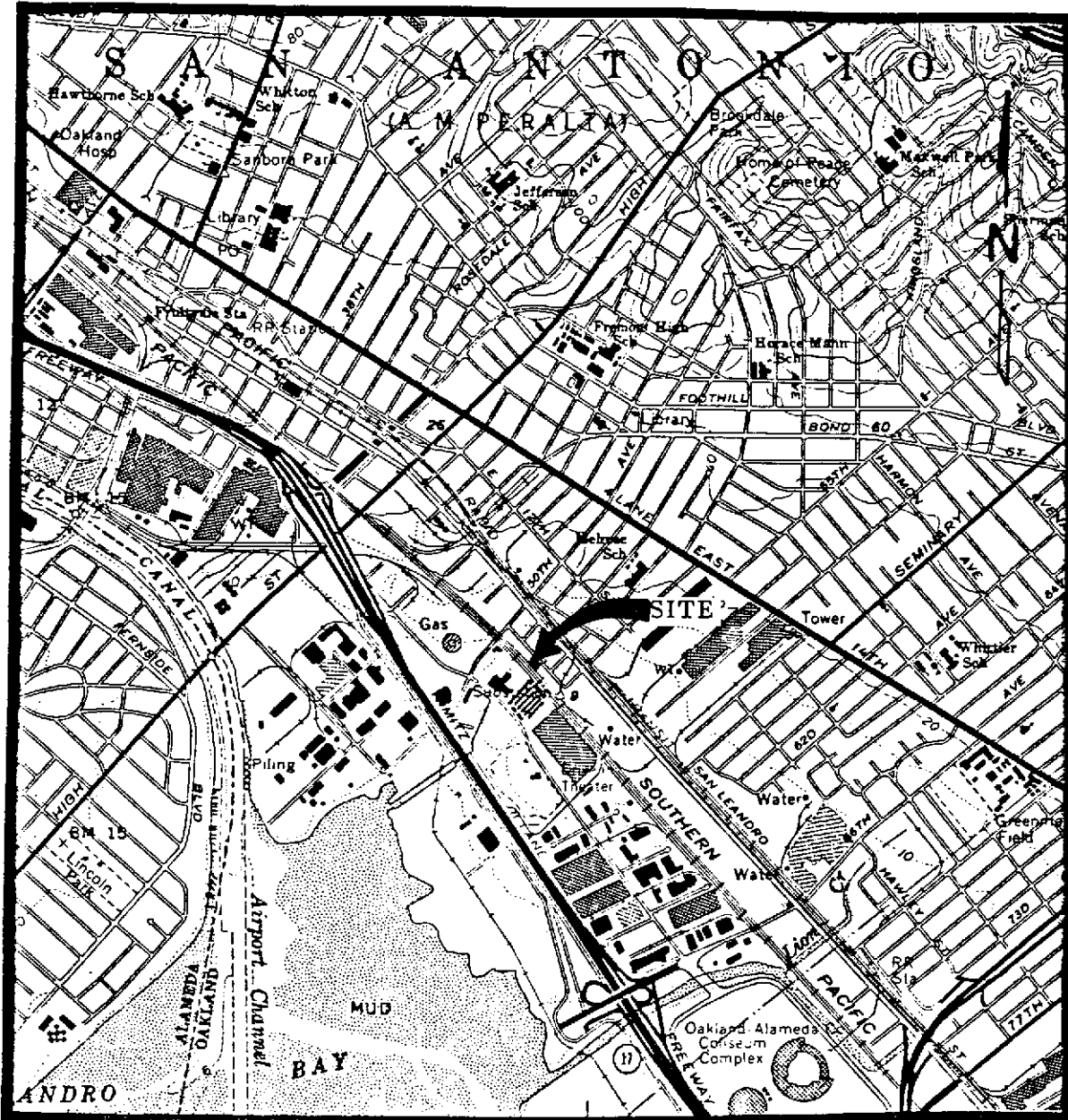
ND = Non-detectable.

Results in parts per billion (ppb), unless otherwise indicated. *ug/l*



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LOCATION MAP

Base modified from U.S.G.S. 7.5 minute Oakland,
California Quadrangle (photorevised 1980)

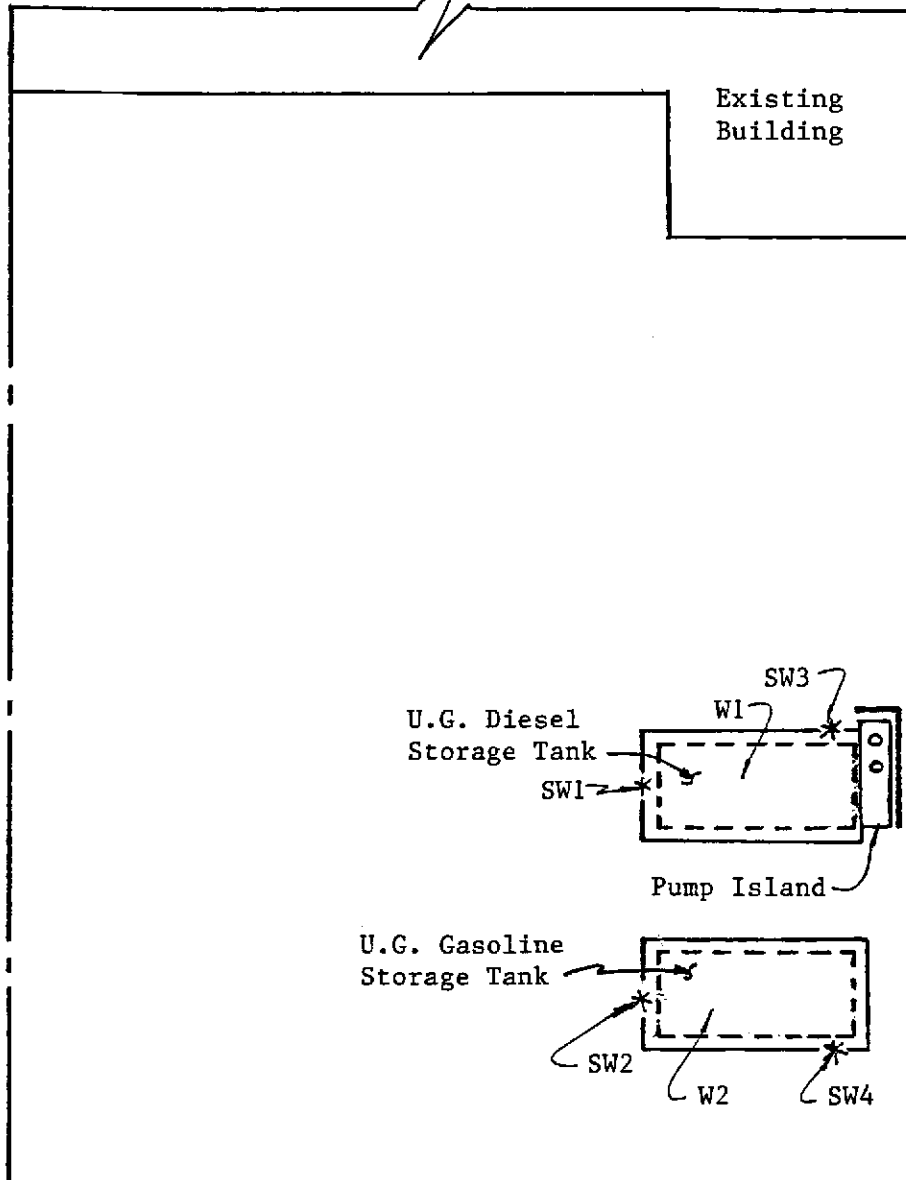
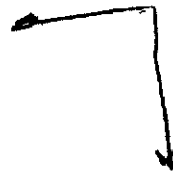
Western Stucco Products
5115 E. 8th Street
Oakland, CA



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Anticipated gradient



SITE PLAN

LEGEND

* Sample Point Location

not to scale

Western Stucco Products
5115 E. 8th Street
Oakland, CA



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(415) 686-9600 • FAX (415) 686-9689

Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: Mar 26, 1991
P.O. Box 996	Matrix Descript: Soil	Received: Mar 27, 1991
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Apr 2, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: 103-0851	Reported: Apr 8, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl	Xylenes
		Hydrocarbons			Benzene	
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
103-0851	SW1	120	N.D.	0.014	0.028	0.53
103-0852	SW2	N.D.	N.D.	N.D.	N.D.	0.0090
103-0853	SW3	120	N.D.	N.D.	0.012	0.51
103-0854	SW4	N.D.	N.D.	N.D.	N.D.	0.0060

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Belinda C. Vega
Laboratory Director

1030851.KEI <1>



SEQUOIA ANALYTICAL

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(415) 686-9600 • FAX (415) 686-9689

Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: Mar 26, 1991
P.O. Box 996	Matrix Descript: Soil	Received: Mar 27, 1991
Benicia, CA 94510	Analysis Method: EPA 3550/8015	Extracted: Mar 29, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: 103-0851	Analyzed: 4/1-4/4/91
		Reported: Apr 8, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
103-0851	SW1	100
103-0852	SW2	N.D.
103-0853	SW3	21
103-0854	SW4	N.D.

Detection Limits:

1.0

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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Belinda C. Vega
Laboratory Director

1030851.KEI <5>



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CHAIN OF CUSTODY

SAMPLER <i>Harjo</i>		SITE NAME & ADDRESS <i>R.W. Johnston (Western Stucco Co.) Oakland - 5115 E. 8th Street</i>						ANALYSES REQUESTED			TURN AROUND TIME: <i>REGULAR</i>	
WITNESSING AGENCY								<i>TPH-C</i>	<i>BTXE</i>	<i>TPH-D</i>		
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION			REMARKS	
<i>SW1</i>	<i>3/26/91</i>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<i>1</i>	<i>Fuel Tank Pit Sidewalk</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>1030851</i>
<i>SW2</i>	<i>3/26/91</i>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<i>1</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>852</i>
<i>SW3</i>	<i>3/26/91</i>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<i>1</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>853</i>
<i>SW4</i>	<i>3/26/91</i>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<i>1</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>854</i>

Relinquished by: (Signature) <i>Harjo</i>	Date/Time <i>3-27-91 8:26</i>	Received by: (Signature) <i>M. Johnson</i>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature) <i>Ken Wimer</i>

- The following MUST BE completed by the laboratory accepting samples for analysis:
- Have all samples received for analysis been stored in ice?
 - Will samples remain refrigerated until analyzed?
 - Did any samples received for analysis have head space?
 - Were samples in appropriate containers and properly packaged?
- Signature: *[Signature]* Title: *SR* Date: *3/27*



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Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: -----
P.O. Box 996	Sample Descript.: Matrix Blank	Received: -----
Benicia, CA 94510	Analysis Method: EPA 5030/8015/8020	Analyzed: Apr 2, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: -----	Reported: Apr 8, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Low to Medium Boiling Point Hydrocarbons.....	1.0	N.D.
Benzene.....	0.0050	N.D.
Toluene.....	0.0050	N.D.
Ethyl Benzene.....	0.0050	N.D.
Xylenes.....	0.0050	0.0050

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director



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Kaprealian Engineering, Inc.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030851-854

Reported: Apr 8, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM	JRM	JRM	JRM	JRM
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Apr 2, 1991	Apr 2, 1991	Apr 2, 1991	Apr 2, 1991	Apr 2, 1991
Sample #:	103-0851	103-0852	103-0853	103-0854	Blank

Surrogate					
% Recovery:	26	110	67	100	97

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Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

1030851.KEI <3>



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Kaprealian Engineering, Inc.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030851-854

Reported: Apr 8, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
	Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM	JRM	JRM	JRM
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Apr 2, 1991	Apr 2, 1991	Apr 2, 1991	Apr 2, 1991
QC Sample #:	103-0727	103-0727	103-0727	103-0727
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.40	0.40	0.40	1.2
Conc. Matrix Spike:	0.42	0.38	0.36	1.1
Matrix Spike % Recovery:	110	95	90	92
Conc. Matrix Spike Dup.:	0.46	0.40	0.38	1.2
Matrix Spike Duplicate % Recovery:	120	100	95	100
Relative % Difference:	9.1	5.1	5.4	8.7

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Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

1030851.KEI <4>



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Kaprealian Engineering, Inc.

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

Matrix Descript: Matrix Blank

Analysis Method: EPA 3550/8015

First Sample #: -----

Sampled: -----

Received: -----

Extracted: Mar 29, 1991

Analyzed: Apr 1, 1991

Reported: Apr 8, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
-----	Matrix Blank	7.7

Detection Limits:

1.0

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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Kaprealian Engineering, Inc.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 1030851-54

Reported: Apr 8, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Diesel

Method: EPA8015

Analyst: K. Lee

Reporting Units: mg/kg

Date Analyzed: Apr 1, 1991

QC Sample #: BLK032991

Sample Conc.: N.D.

Spike Conc.
Added: 10

Conc. Matrix
Spike: 10

Matrix Spike
% Recovery: 100

Conc. Matrix
Spike Dup.: 12

Matrix Spike
Duplicate
% Recovery: 120

Relative
% Difference: 18

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Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

1030851.KEI <7>



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Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Western Stucco Company, 5115 E. 8th St., Matrix Descript: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 104-0035	Oakland	Sampled: Mar 29, 1991 Received: Apr 1, 1991 Analyzed: Apr 11, 1991 Reported: Apr 17, 1991
--	--	---------	--

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P.	Benzene	Toluene	Ethyl Benzene	Xylenes
		Hydrocarbons $\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
104-0035	W1	1,500	240	N.D.	N.D.	N.D.

Detection Limits:

30

0.30

0.30

0.30

0.30

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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Belinda C. Vega
Laboratory Director

1040035.KEI <1>



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Kaprealian Engineering, Inc.

Client Project ID: Western Stucco Company, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 104-0035

Reported: Apr 17, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method: EPA8015/8020
Analyst: J. Dinsay
Reporting Units: ng
Date Analyzed: Apr 11, 1991
Sample #: 104-0035

Surrogate
% Recovery: 103

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Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

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Kaprealian Engineering, Inc.

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P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 104-0035

Reported: Apr 17, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Ethyl			
	Benzene	Toluene	Benzene	Xylenes

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	J. Dinsay	J. Dinsay	J. Dinsay	J. Dinsay
Reporting Units:	ng	ng	ng	ng
Date Analyzed:	Apr 11, 1991	Apr 11, 1991	Apr 11, 1991	Apr 11, 1991
QC Sample #:	GBLK041191	GBLK041191	GBLK041191	GBLK041191

Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	100	100	100	300
Conc. Matrix Spike:	110	110	110	320
Matrix Spike % Recovery:	110	110	110	110
Conc. Matrix Spike Dup.:	100	100	100	300
Matrix Spike Duplicate % Recovery:	100	100	100	100
Relative % Difference:	9.5	9.5	9.5	6.5

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Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

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1900 Bates Avenue • Suite LM • Concord, California 94520
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Kaprealian Engineering, Inc. P.O. Box 996 Benicia, CA 94510 Attention: Mardo Kaprealian, P.E.	Client Project ID: Western Stucco Company, 5115 E. 8th St., Matrix Descript: DI Blank Analysis Method: EPA 3510/8015 First Sample #: -----	Sampled: ----- Received: ----- Extracted: Apr 8, 1991 Analyzed: Apr 9, 1991 Reported: Apr 17, 1991
--	---	--

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
-----	DI Blank	N.D.

Detection Limits:

50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

1040035.KEI <5>



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Kaprealian Engineering, Inc.
P.O. Box 996

Client Project ID: Western Stucco Company, 5115 E. 8th St.,

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 104-0035

Reported: Apr 17, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Diesel

Method: EPA 8015
Analyst: K. Lee
Reporting Units: $\mu\text{g/L}$
Date Analyzed: Apr 9, 1991
QC Sample #: BLK040891

Sample Conc.: N.D.

Spike Conc.
Added: 300

Conc. Matrix
Spike: 300

Matrix Spike
% Recovery: 100

Conc. Matrix
Spike Dup.: 340

Matrix Spike
Duplicate
% Recovery: 110

Relative
% Difference: 13

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Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER Haig		SITE NAME & ADDRESS Western Stucco Company Oakland - 5115 E. 8th Str.					ANALYSES REQUESTED TPH - C BTX - E TPH - D			TURN AROUND TIME: REGULAR
WITNESSING AGENCY										REMARKS
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	CONT.	SAMPLING LOCATION		
W1	3/29/91		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				2+1 Fuel tank Pit	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Water Sample was collected in two VOA's and one liter amber bottle.
Relinquished by: (Signature) Haig	Date/Time APR 91 0830	Received by: (Signature) [Signature]	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? YES 2. Will samples remain refrigerated until analyzed? YES 3. Did any samples received for analysis have head space? NO 4. Were samples in appropriate containers and properly packaged? YES							
Relinquished by: (Signature)	Date/Time	Received by: (Signature)								
Relinquished by: (Signature)	Date/Time	Received by: (Signature)								
Relinquished by: (Signature)	Date/Time	Received by: (Signature)								
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	[Signature]	Analyst	1 APR 91					
			Signature	Title	Date					



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Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: Mar 28, 1991
P.O. Box 996	Sample Descript.: Water, W2 <i>gas pit</i>	Received: Mar 29, 1991
Benicia, CA 94510	Analysis Method: EPA 5030/ 8015/8020	Analyzed: Apr 11, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: 103-1047 AB	Reported: Apr 15, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit $\mu\text{g/L}$ (ppb)	Sample Results $\mu\text{g/L}$ (ppb)
Low to Medium Boiling Point Hydrocarbons.....	30	800
Benzene.....	0.30	1.8
Toluene.....	0.30	N.D.
Ethyl Benzene.....	0.30	N.D.
Xylenes.....	0.30	11

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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Belinda C. Vega
Laboratory Director



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Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: -----
P.O. Box 996	Sample Descript.: DI Blank	Received: -----
Benicia, CA 94510	Analysis Method: EPA 5030/ 8015/8020	Analyzed: Apr 11, 1991
Attention: Mardo Kaprealian, P.E.	Lab Number: -----	Reported: Apr 15, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit µg/L (ppb)	Sample Results µg/L (ppb)
Low to Medium Boiling Point Hydrocarbons.....	30	N.D.
Benzene.....	0.30	N.D.
Toluene.....	0.30	N.D.
Ethyl Benzene.....	0.30	N.D.
Xylenes.....	0.30	0.0058

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

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Belinda C. Vega
Laboratory Director



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Kaprealian Engineering, Inc.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-1047

Reported: Apr 15, 1991

QUALITY CONTROL DATA REPORT

SURROGATE

Method:	EPA8015/8020	EPA8015/8020
Analyst:	JRM/EH	JRM/EH
Reporting Units:	µg/L	µg/L
Date Analyzed:	Apr 11, 1991	Apr 11, 1991
Sample #:	103-1047	Blank

Surrogate		
% Recovery:	70	93

SEQUOIA ANALYTICAL

Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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Kapreallan Engineering, Inc.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kapreallan, P.E. QC Sample Group: 103-1047

Reported: Apr 15, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
---------	---------	---------	---------------	---------

Method:	EPA8015/8020	EPA8015/8020	EPA8015/8020	EPA8015/8020
Analyst:	JRM	JRM	JRM	JRM
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Apr 11, 1991	Apr 11, 1991	Apr 11, 1991	Apr 11, 1991
QC Sample #:	103-1036	103-1036	103-1036	103-1036

Sample Conc.:	N.D.	N.D.	N.D.	0.50
Spike Conc. Added:	20	20	20	60
Conc. Matrix Spike:	19	18	18	54
Matrix Spike % Recovery:	95	90	90	89
Conc. Matrix Spike Dup.:	19	18	17	54
Matrix Spike Duplicate % Recovery:	95	90	85	89
Relative % Difference:	0	0	5.7	0

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Belinda C. Vega
Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

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Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: Mar 28, 1991
P.O. Box 996	Matrix Descript: Water	Received: Mar 29, 1991
Benicia, CA 94510	Analysis Method: EPA 3510/8015	Extracted: Apr 1, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: 103-1047 C	Analyzed: Apr 4, 1991
		Reported: Apr 15, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
103-1047 C	W2	13,000

Detection Limits:

50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

1031047.KEI <5>



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Kaprealian Engineering, Inc.	Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland	Sampled: -----
P.O. Box 996	Matrix Descript: DI Blank	Received: -----
Benicia, CA 94510	Analysis Method: EPA 3510/8015	Extracted: Apr 1, 1991
Attention: Mardo Kaprealian, P.E.	First Sample #: -----	Analyzed: Apr 3, 1991
		Reported: Apr 15, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons $\mu\text{g/L}$ (ppb)
-----	DI Blank	N.D.

Detection Limits:

50

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

1031047.KEI <6>



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Kaprealian Engineering, Inc.

Client Project ID: R. W. Johnston, 5115 E. 8th St., Oakland

P.O. Box 996

Benicia, CA 94510

Attention: Mardo Kaprealian, P.E. QC Sample Group: 103-1047

Reported: Apr 15, 1991

QUALITY CONTROL DATA REPORT

ANALYTE

Diesel

Method: EPA 8015

Analyst: K. Lee

Reporting Units: $\mu\text{g/L}$

Date Analyzed: Apr 3, 1991

QC Sample #: BLK040191

Sample Conc.: N.D.

Spike Conc.
Added: 300

Conc. Matrix
Spike: 290

Matrix Spike
% Recovery: 97

Conc. Matrix
Spike Dup.: 350

Matrix Spike
Duplicate
% Recovery: 120

Relative
% Difference: 19

SEQUOIA ANALYTICAL

Belinda C. Vega
Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



KAPREALIAN ENGINEERING, INC.

CHAIN OF CUSTODY

SAMPLER <i>Hoag</i>		SITE NAME & ADDRESS <i>R.W.J. (Western Stucco Company) Oakland - 5115 E. 8th Street</i>						ANALYSES REQUESTED				TURN AROUND TIME: <u>REGULAR</u>						
WITNESSING AGENCY								<i>TPH-C</i> <i>BTXE</i> <i>TPH-D</i>	REMARKS									
SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION										
<i>W2</i>	<i>3/28/91</i>			<i>✓</i>	<i>✓</i>		<i>2+1</i>	<i>Fuel Tank Pit 1031047ΔC</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	Water sample was collected in two VOA's and one liter amber bottle.						

Relinquished by: (Signature) <i>Hoag</i>	Date/Time <i>3/29 8:45</i>	Received by: (Signature) <i>Jan Wimmer</i>	The following MUST BE completed by the laboratory accepting samples for analysis: 1. Have all samples received for analysis been stored in ice? <u>✓</u> 2. Will samples remain refrigerated until analyzed? <u>✓</u> 3. Did any samples received for analysis have head space? <u>NO</u> 4. Were samples in appropriate containers and properly packaged? <u>✓</u>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

Signature <i>Jan Wimmer</i>	Title <i>SP</i>	Date <i>3/29</i>	
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