BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

Lead
10 t
limit

Denny E. Foust
DEPUTY OIL & GAS INSPECTOR

FEB 0 6 1998

Approved

RECEIVED
OCT 1 5 1997
OIL CON. DIV.
DIST. 3

October 13, 1997

Mr. William C. Olson
N.M. Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Coral No. 2 - M Sec 27 - T25N - R6W
Kimbell Oil Company of Texas - Groundwater Test Results

Dear Mr. Olson:

Pursuant to your correspondence dated July 24, 1997, Blagg Engineering, Inc. (BEI) has conducted further groundwater investigations at the Coral 2 separator pit, located in Unit M, Sec 27 - T25N - R6W, Rio Arriba County, New Mexico. These investigations have included the installation of an additional groundwater monitor well at an upgradient location from the separator pit, groundwater sampling and gradient determination. The NMOCD Aztec District Office was provided a minimum of 48 hours notice prior to field activities. The results of the field investigations and laboratory testing are presented below.

Monitor Well Installation and Sampling Methodology

On September 2, 1997 an additional upgradient groundwater monitor well identified as TMW#3 was installed at the site (Figure 1). The well was installed using a mobile pickup mounted drill unit with 2 ½ - inch solid auger and advancing the boring to 30 feet below ground surface. Well materials included a 2 - inch diameter x 15 foot long slotted screen section and a 15 foot riser. The slotted screen interval was filter packed with 10-20 silica sand, followed by a bentonite seal above the filter pack. After well installation the well was developed to minimize fines. Well logs for monitor wells at the site are attached.

On September 3, 1997 all wells at the location (TMW#1, TMW#2 and TMW#3) were sampled using dedicated disposable bailers. Sampling included purging a minimum of 3 well volumes prior to sample collection. Samples were placed into appropriate containers, labelled, placed into an ice chest with ice and hand delivered to a qualified laboratory for analysis.

The static water level was measured during the September 3, 1997 sampling event. Additionally a well top survey was conducted to determine relative well elevations.

Laboratory Test Results

Laboratory test results indicating constituents of concern from current and prior sample events are summarized in Table 1:

Table 1

Coral No. 2
Summary Analytical Test Results

Sample Identification & Test Date		Chloride (Regulatory Limit = 250mg/L)	Dissolved Lead (Regulatory Limit = 0.05 mg/L)	Total Dissolved Solids (Domestic Use = 1,000 mg/L) (Regulatory Limit = 10,000 mg/L)
TMW#1 (Upgradient)	5/8/97 9/3/97	136 mg/L 1,900 mg/L	0.139 mg/L 0.532 mg/L	8,406 mg/L 18,551 mg/L
TMW #2 (Downgradient)	5/8/97 9/3/97	1,650 mg/L 1,725 mg/L	0.260 mg/L 0.553 mg/L	13,525 mg/L 19,231 mg/L
TMW #3 (Upgradient)	9/3/97	1,130 mg/L	0.529 mg/L	24,022 mg/L

Groundwater test results indicate that dissolved lead is regionally present both up-gradient and down-gradient at concentrations exceeding regulatory standards. Therefore, lead is believed to be naturally occurring in this area.

Total dissolved solids and chlorides are found in uniform concentrations up-gradient and down-gradient from the pit. The Coral No. 2 gas well is located near the Largo Wash and heavy alkali salt deposits are prevalent in this region. The high TDS and chloride concentrations appear to be naturally occurring.

Test results from the additional up-gradient well TMW#3 confirm the presence of high natural concentrations of lead and TDS previously found in the up-gradient well TMW#1. The mean values of TDS, lead and chloride from the up-gradient wells on the September 3, 1997 test date are nearly identical to the down-gradient well TMW#2 values for these constituents.

Recommendations

Based on groundwater sample test results up-gradient and down-gradient from the pit location, BEI recommends closure and termination of groundwater sampling at this location. Elevated levels of dissolved lead, chloride and TDS appear to be naturally occurring and are not the result of operating practices. The up-gradient values of TDS are in excess of NMWQCC Part 3103 Standards for use as a potable aquifer. Additional drilling, sampling and testing at this location is not justified.

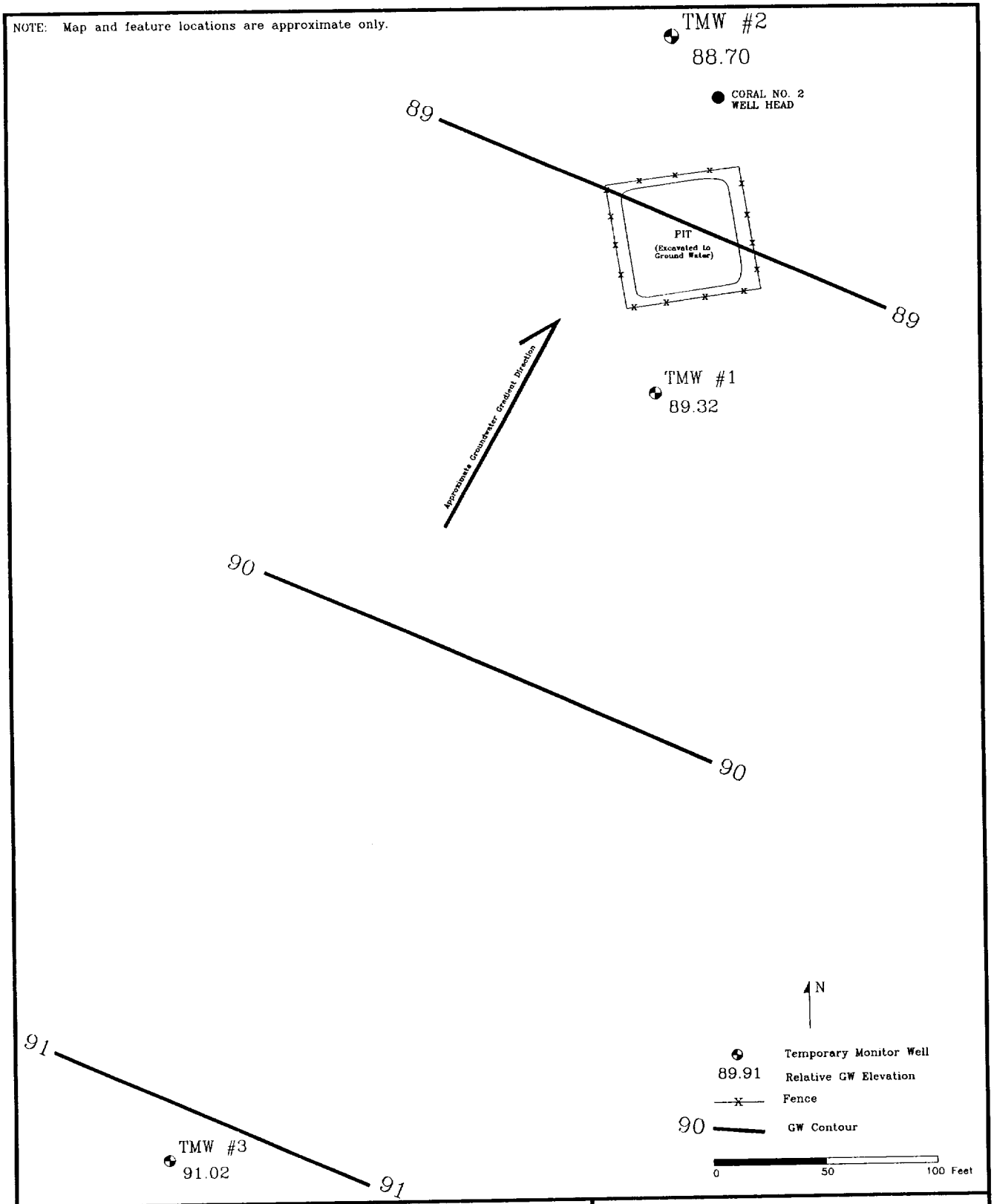
Blagg Engineering, Inc. may be contacted at (505)632-1199 if you have questions or need additional information concerning this transmittal.

Respectfully submitted,
Blagg Engineering, Inc.

Jeffrey C. Blagg, PE
President

Attachments: Site Diagram
Well Logs
Analytical Test Reports

cc: John Stickland, Kimbell Oil of Texas
Denny Foust, NMOCD Aztec



KIMBELL OIL COMPANY OF TEXAS CORAL NO. 2 PIT CLOSURE SW/4 SW/4 SEC 27 - T25N - R6W, RIO ARRIBA CO., NM			*BLAGG ENGINEERING, INC.*
DATE: 9/97	FIGURE 1	BY: JCB	*P.O. BOX 87, BLOOMFIELD, NM* *PHONE: (505)632-1199*

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(505) 632-1199

FIGURE 2

BORING REPORT: TMW#1

PROJECT: CORAL #2 SEPARATOR PIT
CLIENT: KIMBELL OIL COMPANY OF TEXAS
DRILLING CONTRACTOR: Blagg Engineering, Inc.
EQUIPMENT USED: Simco Earthprobe 200 with 2.5-inch diameter solid auger
DATE START: 5/8/97 DATE FINISH: 5/8/97 DRILLER: JCB LOGGED BY: JCB
TOTAL DEPTH: 20 FEET CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: Upgradient monitor well.

DEPTH FEET	USCS	OVM HEADSPACE PPM	GRAPHIC LOG	SAMPLE DESCRIPTION
0	SM			Sand-silt-clay mixture, dark brown, lightly moist, cohesive. No odor or stain of hydrocarbon to total depth.
5		0.0		
10		0.0		Groundwater encountered at approximately 12 feet below ground surface.
15		0.0		
20		0.0		Total Depth augered 20 feet.
25				

WELL CONSTRUCTION DETAILS

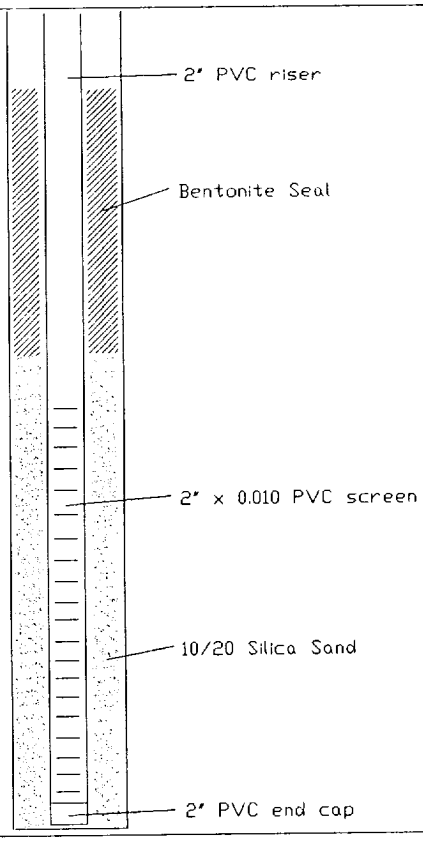

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FIGURE 3

BORING REPORT: TMW#2

PROJECT: CORAL #2 SEPARATOR PIT
CLIENT: KIMBELL OIL COMPANY OF TEXAS
DRILLING CONTRACTOR: Blagg Engineering, Inc.
EQUIPMENT USED: Simco Earthprobe 200 with 2.5-inch diameter solid auger
DATE START: 5/8/97 DATE FINISH: 5/8/97 DRILLER: JCB LOGGED BY: JCB
TOTAL DEPTH: 20 FEET CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: Down gradient monitor well.

DEPTH FEET	USCS	OVM HEADSPACE PPM	GRAPHIC LOG	SAMPLE DESCRIPTION
	SM			Sand-silt-clay mixture, dark brown, lightly moist, cohesive. No odor or stain of hydrocarbon to total depth.
5		0.0		
10		0.0		Groundwater encountered at approximately 11 feet below ground surface.
15		0.0		
20		0.0		
				Total Depth augered 20 feet.
25				

WELL CONSTRUCTION DETAILS

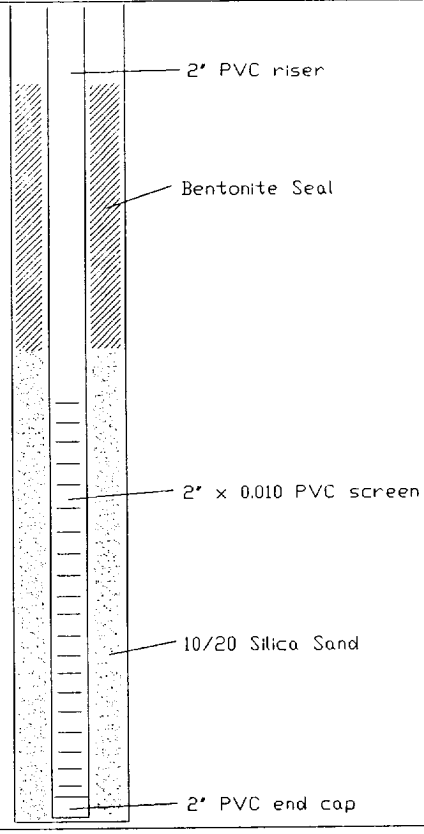

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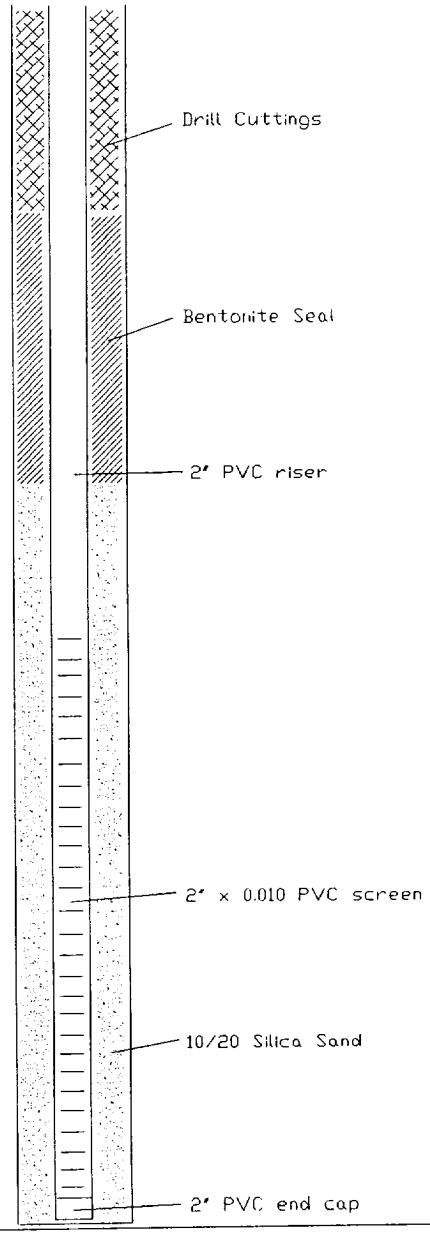
FIGURE 4

BORING REPORT: TMW#3

PROJECT: CORAL #2 SEPARATOR PIT
CLIENT: KIMBELL OIL COMPANY OF TEXAS
DRILLING CONTRACTOR: Blagg Engineering, Inc.
EQUIPMENT USED: Simco Earthprobe 200 with 2.5-inch diameter solid auger
DATE START: 9/2/97 DATE FINISH: 9/2/97 DRILLER: JCB LOGGED BY: JCB
TOTAL DEPTH: 30 FEET CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: Up gradient monitor well.

DEPTH FEET	USCS	OVM HEADSPACE PPM	GRAPHIC LOG	SAMPLE DESCRIPTION
	SM			Sand-silt-clay mixture, dark brown, lightly moist, cohesive. No odor or stain of hydrocarbon to total depth.
5		0.0		
10		0.0		
15		0.0		
20		0.0		Groundwater encountered at approximately 20 feet below ground surface.
25				Total Depth augered 30 feet.



WELL CONSTRUCTION DETAILS

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG/KIMBELL	CORAL 2
Sampler: (Signature) J. C. Blagg	Chain of Custody Tape No. 04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	Dissolved Lead	Cation/Anion					Remarks
TMW #1	9-3-97	1145	B964	WATER	2	X	X					
TMW #2	"	1200	B965	"	2	X	X					
TMW #3	"	1130	B966	"	2	X	X					
				Samples received cool & intact								

ANALYSIS/PARAMETERS

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
J. C. Blagg	9-3-97	1404	Dennis L. Ogburn	9-3-97	1404
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Farmington, New Mexico 87401
(505) 632-0615

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Kimbell	Project #:	04034-10
Sample ID:	TMW #1	Date Reported:	09-05-97
Laboratory Number:	B964	Date Sampled:	09-03-97
Sample Matrix:	Water	Date Received:	09-03-97
Preservative:	Cool	Date Analyzed:	09-04-97
Condition:	Cool & Intact	Chain of Custody:	5371

Parameter	Analytical Result	Units		Units
pH	**7.25**	s.u.		
Conductivity @ 25° C	**38,300**	umhos/cm		
Total Dissolved Solids @ 180C	**18,600**	mg/L		
Total Dissolved Solids (Calc)	**18,551**	mg/L		
SAR	**63.8**	ratio		
Total Alkalinity as CaCO3	**1,110**	mg/L		
Total Hardness as CaCO3	**1,485**	mg/L		
Bicarbonate as HCO3	**1,110**	mg/L	18.19	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.4**	mg/L	0.01	meq/L
Nitrite Nitrogen	**0.004**	mg/L	0.00	meq/L
Chloride	**1,900**	mg/L	53.60	meq/L
Fluoride	**1.94**	mg/L	0.10	meq/L
Phosphate	**0.6**	mg/L	0.02	meq/L
Sulfate	**9,800**	mg/L	204.04	meq/L
Calcium	**380**	mg/L	18.96	meq/L
Magnesium	**131**	mg/L	10.78	meq/L
Potassium	**3.2**	mg/L	0.08	meq/L
Sodium	**5,660**	mg/L	246.21	meq/L
Cations			276.03	meq/L
Anions			275.96	meq/L
Cation/Anion Difference			**0.03%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Coral 2.**

Analyst

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CATION / ANION ANALYSIS

Client:	Blagg / Kimbell	Project #:	04034-10
Sample ID:	TMW #2	Date Reported:	09-05-97
Laboratory Number:	B965	Date Sampled:	09-03-97
Sample Matrix:	Water	Date Received:	09-03-97
Preservative:	Cool	Date Analyzed:	09-04-97
Condition:	Cool & Intact	Chain of Custody:	5371

Parameter	Analytical Result	Units		Units
pH	**7.39**	s.u.		
Conductivity @ 25° C	**38,700**	umhos/cm		
Total Dissolved Solids @ 180C	**19,300**	mg/L		
Total Dissolved Solids (Calc)	**19,231**	mg/L		
SAR	**71.3**	ratio		
Total Alkalinity as CaCO3	**735**	mg/L		
Total Hardness as CaCO3	**1,305**	mg/L		
Bicarbonate as HCO3	**735**	mg/L	12.05	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.003**	mg/L	0.00	meq/L
Chloride	**1,725**	mg/L	48.66	meq/L
Fluoride	**2.03**	mg/L	0.11	meq/L
Phosphate	**0.4**	mg/L	0.01	meq/L
Sulfate	**10,700**	mg/L	222.77	meq/L
Calcium	**294**	mg/L	14.67	meq/L
Magnesium	**139**	mg/L	11.44	meq/L
Potassium	**4.5**	mg/L	0.12	meq/L
Sodium	**5,920**	mg/L	257.52	meq/L
Cations			283.74	meq/L
Anions			283.60	meq/L
Cation/Anion Difference			**0.05%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Coral 2.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Kimbell	Project #:	04034-10
Sample ID:	TMW #3	Date Reported:	09-05-97
Laboratory Number:	B966	Date Sampled:	09-03-97
Sample Matrix:	Water	Date Received:	09-03-97
Preservative:	Cool	Date Analyzed:	09-04-97
Condition:	Cool & Intact	Chain of Custody:	5371

Parameter	Analytical Result	Units		Units
pH	**7.57**	s.u.		
Conductivity @ 25° C	**48,300**	umhos/cm		
Total Dissolved Solids @ 180C	**24,100**	mg/L		
Total Dissolved Solids (Calc)	**24,022**	mg/L		
SAR	**92.9**	ratio		
Total Alkalinity as CaCO3	**718**	mg/L		
Total Hardness as CaCO3	**1,215**	mg/L		
Bicarbonate as HCO3	**718**	mg/L	11.77	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.2**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.006**	mg/L	0.00	meq/L
Chloride	**1,130**	mg/L	31.88	meq/L
Fluoride	**2.03**	mg/L	0.11	meq/L
Phosphate	**1.1**	mg/L	0.03	meq/L
Sulfate	**14,600**	mg/L	303.97	meq/L
Calcium	**260**	mg/L	12.97	meq/L
Magnesium	**138**	mg/L	11.36	meq/L
Potassium	**4.5**	mg/L	0.12	meq/L
Sodium	**7,450**	mg/L	324.08	meq/L
Cations			348.52	meq/L
Anions			347.76	meq/L
Cation/Anion Difference			**0.22%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Coral 2.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

DISSOLVED LEAD ANALYSIS

Client:	Blagg / Kimbell	Project #:	04034-10
Sample ID:	TMW #1	Date Reported:	09-04-97
Laboratory Number:	B964	Date Sampled:	09-03-97
Chain of Custody:	5371	Date Received:	09-03-97
Sample Matrix:	Water	Date Analyzed:	09-03-97
Condition:	Cool and Intact	Analysis Needed:	Dissolved Lead

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Lead	**0.532**	**0.0001**

ND - Parameter not detected at the stated detection limit.

References: Method 7421Analysis of Lead (Atomic Absorption, Furnace Technique) SW-846, USEPA, September 1986.

Comments: **Coral 2.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

DISSOLVED LEAD ANALYSIS

Client:	Blagg / Kimbell	Project #:	04034-10
Sample ID:	TMW #2	Date Reported:	09-04-97
Laboratory Number:	B965	Date Sampled:	09-03-97
Chain of Custody:	5371	Date Received:	09-03-97
Sample Matrix:	Water	Date Analyzed:	09-03-97
Condition:	Cool and Intact	Analysis Needed:	Dissolved Lead

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Lead	**0.553**	**0.0001**

ND - Parameter not detected at the stated detection limit.

References: Method 7421Analysis of Lead (Atomic Absorption, Furnace Technique) SW-846, USEPA, September 1986.

Comments: **Coral 2.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

DISSOLVED LEAD ANALYSIS

Client:	Blagg / Kimbell	Project #:	04034-10
Sample ID:	TMW #3	Date Reported:	09-04-97
Laboratory Number:	B966	Date Sampled:	09-03-97
Chain of Custody:	5371	Date Received:	09-03-97
Sample Matrix:	Water	Date Analyzed:	09-03-97
Condition:	Cool and Intact	Analysis Needed:	Dissolved Lead

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Lead	**0.529**	**0.0001**

ND - Parameter not detected at the stated detection limit.

References: Method 7421Analysis of Lead (Atomic Absorption, Furnace Technique) SW-846, USEPA, September 1986.

Comments: **Coral 2.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

LEAD ANALYSIS
BLANKS

Client:	QA/QC	Project #:	N/A
Sample ID:	Blanks	Date Reported:	09-04-97
Laboratory Number:	09-04-97-Blanks	Date Sampled:	N/A
Sample Matrix:	Water / Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-04-97
Condition:	N/A		

Parameter	Instrument Blank (mg/L)	Method Blank (mg/Kg)	Det. Limit (mg/L)
Lead	**ND**	**ND**	**0.0001**

ND - Parameter not detected at the stated detection limit.

References: Method 3050A, Acid Digestion of Sediments, Sludges and Soils for Total Metals, SW-846, USEPA, July 1992.

Method 7421Analysis of Lead (Atomic Absorption, Furnace Technique) SW-846, USEPA, September 1986.

Comments: **QA/QC for samples B964 - B966 and B975 - B976.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

LEAD ANALYSIS
DUPLICATE

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	09-04-97
Laboratory Number:	B966	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	Dissolved Lead	Date Analyzed:	09-04-97
Condition:	N/A		

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference
Lead	**0.529**	**0.530**	**0.2%**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	Lead	**30 %**

References: Method 7421Analysis of Lead (Atomic Absorption, Furnace Technique) SW-846, USEPA, September 1986.

Comments: **QA/QC for samples B964 - B966 and B975 - B976.**

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LEAD ANALYSIS
SPIKE

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Spike	Date Reported:	09-04-97
Laboratory Number:	B966	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	Dissolved Lead	Date Analyzed:	09-04-97
Condition:	N/A		

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	Spiked Sample Result (mg/L)	Percent Recovery
Lead	**0.100**	**0.529**	**0.628**	**100%**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Acceptance Range %
	Total Lead	**80 - 120 %**

References: Method 7421Analysis of Lead (Atomic Absorption, Furnace Technique) SW-846, USEPA, September 1986.

Comments: **QA/QC for samples B964 - B966 and B975 - B976.**

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