

NM - 34

MONITORING REPORTS

YEAR(S):

1996-1989



Pollution Control

1-28-87



Pollution Control

1-28-87



Pollution Control

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RECEIVED
CONSERVATION DIVISION

APR 15 1996

American Environmental Network, Inc.

AEN I.D. 603376

April 15, 1996

New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Project Name/Number: LAGUNA QUATRO LAGUNA GATUNA

Attention: Bill Olson

On 03/28/96, American Environmental Network (NM), Inc., (ADHS License No. AZ0015) (formerly ATI-NM), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

For EPA method 8020, sample "9603261300", Benzene is an estimated value above linear range. Sufficient sample was not available for re-analysis due to headspace in sample vial.

EPA method 8020 analyses were performed by American Environmental Network (NM), Inc., Albuquerque, NM.

All other analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.



Kimberly D. McNeill
Project Manager



H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

American Environmental Network, Inc.

CLIENT : NMOCD DATE RECEIVED : 03/28/96
PROJECT # : LAGUNA GATUNA
PROJECT NAME : LAGUNA QUATRO REPORT DATE : 04/15/96

AEN ID: 603376

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	603376-01	9603261100	AQUEOUS	03/26/96
02	603376-02	9603261300	AQUEOUS	03/26/96

---TOTALS---

<u>MATRIX</u>	<u>#SAMPLES</u>
AQUEOUS	2

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

"FINAL REPORT FORMAT - SINGLE"

Accession: 603590
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 603376
Project Name: NM OIL CONSERVATION DIV.
Project Location: LAGUNA QUATRO
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 603376-01

Sample Date/Time: 26-MAR-96 1100
Received Date: 29-MAR-96

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
SILVER (6010)	MG/L	ND	0.05	*	A6W070	JR
ALUMINUM (6010)	MG/L	ND	0.3	*	L6W070	JR
ARSENIC (6010)	MG/L	ND	0.25	*	R6W070	JR
BORON (6010)	MG/L	2.3	0.45	*	O6W070	JR
BARIUM (6010)	MG/L	0.03	0.01	*	B6W070	JR
BERYLLIUM (6010)	MG/L	ND	0.02	*	Y6W070	JR
CALCIUM (6010)	MG/L	1300	5	+	I6W070	JR
CADMIUM (6010)	MG/L	0.040	0.025	*	C6W070	JR
COBALT (6010)	MG/L	ND	0.05	*	T6W070	JR
CHROMIUM (6010)	MG/L	ND	0.05	*	H6W070	JR
COPPER (6010)	MG/L	ND	0.05	*	F6W070	JR
IRON (6010)	MG/L	0.1	0.1	*	N6W070	JR
POTASSIUM (6010)	MG/L	7400	40	+	X6W070	JR
MAGNESIUM (6010)	MG/L	2400	1	+	J6W070	JR
MANGANESE (6010)	MG/L	0.20	0.05	*	G6W070	JR
MOLYBDENUM (6010)	MG/L	ND	0.05	*	D6W070	JR
SODIUM (6010)	MG/L	36000	20	+	16W070	JR
NICKEL (6010)	MG/L	ND	0.1	*	E6W070	JR
LEAD (6010)	MG/L	ND	0.25	*	P6W070	JR
ANTIMONY (6010)	MG/L	ND	0.3	*	36W070	JR
SELENIUM (6010)	MG/L	ND	0.5	*	S6W070	JR
SILICON (6010)	MG/L	24	0.5	+	26W070	JR
THALLIUM (6010)	MG/L	ND	0.5	*	46W070	JR
VANADIUM (6010)	MG/L	0.2	0.05	*	V6W070	JR
ZINC (6010)	MG/L	ND	0.1	*	56W070	JR

Comments:

"Method Report Summary"

Accession Number: 603590
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 603376
Project Name: NM OIL CONSERVATION DIV.
Project Location: LAGUNA QUATRO
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
603376-01	BORON (6010)	MG/L	2.3
	BARIUM (6010)	MG/L	0.03
	CALCIUM (6010)	MG/L	1300
	CADMIUM (6010)	MG/L	0.040
	IRON (6010)	MG/L	0.1
	POTASSIUM (6010)	MG/L	7400
	MAGNESIUM (6010)	MG/L	2400
	MANGANESE (6010)	MG/L	0.20
	SODIUM (6010)	MG/L	36000
	SILICON (6010)	MG/L	24
	VANADIUM (6010)	MG/L	0.2

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	SILVER	ALUMINUM	ARSENIC	BORON	BARIUM	BERYLLIUM
Batch Id:	A6W070	L6W070	R6W070	O6W070	B6W070	Y6W070
Blank Result:	<0.01	<0.06	<0.05	<0.09	<0.01	<0.004
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96
Prep. Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96

Sample Duplication

Sample Dup:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<0.01	<0.06	<0.05	<0.09	<0.01	<0.004
Sample Result:	2.0	2.1	1.8	2.2	2.2	2.0
Dup Result:	2.0	2.0	1.9	2.2	2.2	1.9
Sample RPD:	0	5	5	0	0	5
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<0.01	<0.06	<0.05	<0.09	<0.01	<0.004
Sample Result:	<0.01	<0.06	<0.05	0.18	0.13	<0.004
Spiked Result:	2.0	2.1	1.8	2.2	2.2	2.0
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	100	105	90	101	104	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

ICV

ICV Result:	5.0	4.9	5.0	5.0	5.0	5.0
True Result:	5.0	5.0	5.0	5.0	5.0	5.0
% Recovery:	100	98	100	100	100	100
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110

LCS

LCS Result:	2.0	2.0	1.9	1.9	2.1	2.0
True Result:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	100	100	95	95	105	100
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"

Parameter:	CALCIUM	CADMIUM	COBALT	CHROMIUM	COPPER	IRON
Batch Id:	I6W070	C6W070	T6W070	H6W070	F6W070	N6W070
Blank Result:	<1	<0.004	<0.01	<0.01	<0.01	<0.02
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96
Prep. Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96

Sample Duplication

Sample Dup:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<1	<0.004	<0.01	<0.01	<0.01	<0.02
Sample Result:	130	2.0	2.0	2.0	2.0	2.1
Dup Result:	130	2.0	2.0	2.0	2.0	2.1
Sample RPD:	0	0	0	0	0	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<1	<0.004	<0.01	<0.01	<0.01	<0.02
Sample Result:	110	<0.004	<0.01	<0.01	<0.01	0.11
Spiked Result:	130	2.0	2.0	2.0	2.0	2.1
Spike Added:	20F	2.0	2.0	2.0	2.0	2.0
% Recovery:	100	100	100	100	100	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

ICV

ICV Result:	10.1	5.0	5.1	5.0	5.1	5.1
True Result:	10	5.0	5.0	5.0	5.0	5.0
% Recovery:	101	100	102	100	102	102
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110

LCS

LCS Result:	20	0	2.1	2.0	2.0	2.1
True Result:	20	0	2.0	2.0	2.0	2.0
% Recovery:	100	0	105	100	100	105
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"						
Parameter:	POTASSIUM	MAGNESIUM	MANGANESE	MOLYBDENUM	SODIUM	NICKEL
Batch Id:	X6W070	J6W070	G6W070	D6W070	16W070	E6W070
Blank Result:	<2	<0.2	<0.01	<0.01	<0.2	<0.02
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96
Prep. Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96

Sample Duplication

Sample Dup:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<2	<0.2	<0.01	<0.01	<0.2	<0.02
Sample Result:	22	43	2.0	1.8	78	2.0
Dup Result:	22	42	2.0	1.8	76	2.0
Sample RPD:	0	2	0	0	3	0
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<2	<0.2	<0.01	<0.01	<0.2	<0.02
Sample Result:	2	22	0.04	0.01	58	<0.02
Spiked Result:	22	43	2.0	1.8	78	2.0
Spike Added:	20	20	2.0	2.0	20	2.0
% Recovery:	100	105	98	90	100	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

ICV

ICV Result:	50	5.0	5.1	5.0	9.8	4.9
True Result:	50	5.0	5.0	5.0	10	5.0
% Recovery:	100	100	102	100	98	98
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110

LCS

LCS Result:	20	21	2.0	1.9	20	2.0
True Result:	20	20	2.0	2.0	20	2.0
% Recovery:	100	105	100	95	100	100
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

American Environmental Network, Inc.

"Metals Quality Control Report"						
Parameter:	LEAD	ANTIMONY	SELENIUM	SILICON	THALLIUM	VANADIUM
Batch Id:	P6W070	36W070	S6W070	26W070	46W070	V6W070
Blank Result:	<0.05	<0.06	<0.1	<0.1	<0.1	<0.01
Anal. Method:	6010	6010	6010	6010	6010	6010
Prep. Method:	3010	3010	3010	3010	3010	3010
Analysis Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96
Prep. Date:	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96	04-APR-96

Sample Duplication

Sample Dup:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<0.05	<0.06	<0.1	<0.1	<0.1	<0.01
Sample Result:	2.0	1.9	2.0	6.1	1.8	2.1
Dup Result:	2.0	1.9	2.0	6.0	1.8	2.0
Sample RPD:	0	0	0	2	0	5
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	604015-1	604015-1	604015-1	604015-1	604015-1	604015-1
Rept Limit:	<0.05	<0.06	<0.1	<0.1	<0.1	<0.01
Sample Result:	<0.05	<0.06	<0.1	4.3	<0.1	<0.01
Spiked Result:	2.0	1.9	2.0	6.1	1.8	2.1
Spike Added:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	100	95	100	90	90	105
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

ICV

ICV Result:	5.2	4.9	5.1	4.6	5.0	5.0
True Result:	5.0	5.0	5.0	5.0	5.0	5.0
% Recovery:	104	98	102	92	100	100
% Rec Limits:	90-110	90-110	90-110	90-110	90-110	90-110

LCS

LCS Result:	2.0	1.8	2.0	1.9	1.9	2.1
True Result:	2.0	2.0	2.0	2.0	2.0	2.0
% Recovery:	100	90	100	95	95	105
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	80-120

"Metals Quality Control Report"

Parameter:	ZINC
Batch Id:	56W070
Blank Result:	<0.02
Anal. Method:	6010
Prep. Method:	3010
Analysis Date:	04-APR-96
Prep. Date:	04-APR-96

Sample Duplication

Sample Dup:	604015-1
Rept Limit:	<0.02

Sample Result:	2.0
Dup Result:	2.0
Sample RPD:	0
Max RPD:	20
Dry Weight%	N/A

Matrix Spike

Sample Spiked:	604015-1
Rept Limit:	<0.02
Sample Result:	<0.02
Spiked Result:	2.0
Spike Added:	2.0
% Recovery:	100
% Rec Limits:	75-125
Dry Weight%	N/A

ICV

ICV Result:	5.2
True Result:	5.0
% Recovery:	104
% Rec Limits:	90-110

LCS

LCS Result:	2.0
True Result:	2.0
% Recovery:	100
% Rec Limits:	80-120

American Environmental Network "Quality Control Comments"

Batch Id:

Comments:

A6W070	ANALYST: JR
A6W070	The results reported under "Sample Duplication" are the MS/MSD.
L6W070	ANALYST: JR
L6W070	The results reported under "Sample Duplication" are the MS/MSD.
R6W070	ANALYST: JR
R6W070	The results reported under "Sample Duplication" are the MS/MSD.
O6W070	ANALYST: JR
O6W070	The results reported under "Sample Duplication" are the MS/MSD.
B6W070	ANALYST: JR
B6W070	The results reported under "Sample Duplication" are the MS/MSD.
Y6W070	ANALYST: JR
Y6W070	The results reported under "Sample Duplication" are the MS/MSD.
I6W070	ANALYST: JR
I6W070	The results reported under "Sample Duplication" are the MS/MSD.
C6W070	ANALYST: JR
C6W070	The results reported under "Sample Duplication" are the MS/MSD.
T6W070	ANALYST: JR
T6W070	The results reported under "Sample Duplication" are the MS/MSD.
H6W070	ANALYST: JR
H6W070	The results reported under "Sample Duplication" are the MS/MSD.
F6W070	ANALYST: JR
F6W070	The results reported under "Sample Duplication" are the MS/MSD.
N6W070	ANALYST: JR
N6W070	The results reported under "Sample Duplication" are the MS/MSD.
X6W070	ANALYST: JR
X6W070	The results reported under "Sample Duplication" are the MS/MSD.
J6W070	ANALYST: JR
J6W070	The results reported under "Sample Duplication" are the MS/MSD.
G6W070	ANALYST: JR
G6W070	The results reported under "Sample Duplication" are the MS/MSD.
D6W070	ANALYST: JR
D6W070	The results reported under "Sample Duplication" are the MS/MSD.
16W070	ANALYST: JR
16W070	The results reported under "Sample Duplication" are the MS/MSD.
E6W070	ANALYST: JR
E6W070	The results reported under "Sample Duplication" are the MS/MSD.
P6W070	ANALYST: JR
P6W070	The results reported under "Sample Duplication" are the MS/MSD.
36W070	ANALYST: JR
36W070	The results reported under "Sample Duplication" are the MS/MSD.
S6W070	ANALYST: JR
S6W070	The results reported under "Sample Duplication" are the MS/MSD.
26W070	ANALYST: JR
26W070	The results reported under "Sample Duplication" are the MS/MSD.
46W070	ANALYST: JR
46W070	The results reported under "Sample Duplication" are the MS/MSD.
V6W070	ANALYST: JR
V6W070	The results reported under "Sample Duplication" are the MS/MSD.
56W070	ANALYST: JR
56W070	The results reported under "Sample Duplication" are the MS/MSD.

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATI REPORTING LIMIT;
THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND
THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT
OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY
BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
= ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR
TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO
DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE
ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING
LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER,
THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT
AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI
REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
SAMPLE IS NON-HOMOGENEOUS.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF
THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM ANALYSIS REPORT:

RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

Q= QUALIFIER (FOOTNOTE)

FROM QUALITY CONTROL REPORT:

RPD= RELATIVE PERCENT DEVIATION.

RPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS
RUN BASIS.

SW-846, 3rd Edition, September 1986 and Revision 1, July 1992.

EPA 600/4-79-020, Revised March 1983.

NIOSH Manual of Analytical Methods, 3rd Edition.

GJ = GARY JACOBS
JLH = JAMES L. HERED
CD = CHRISTY DRAPER

JR = JOHN REED
LV = LASSANDRA VON APPEN

GAS CHROMATOGRAPHY RESULTS

TEST : PURGEABLE AROMATICS (EPA 8020)
 CLIENT : NMOCD AEN I.D.: 603376
 PROJECT # : LAGUNA GATUNA
 PROJECT NAME : LAGUNA QUATRO

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9603261100	AQUEOUS	03/26/96	NA	04/03/96	1
02	9603261300	AQUEOUS	03/26/96	NA	04/03/96	1

PARAMETER	UNITS	01	02
BENZENE	UG/L	<0.5	120 E
CHLOROBENZENE	UG/L	<0.5	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5	<0.5
ETHYLBENZENE	UG/L	<0.5	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5	<2.5
TOLUENE	UG/L	<0.5	<0.5
TOTAL XYLENES	UG/L	<0.5	<0.5

SURROGATES:

TRIFLUOROTOLUENE (%)	86	87
----------------------	----	----

E=ESTIMATED VALUE, OVER RANGE

GAS CHROMATOGRAPHY RESULTS - QUALITY CONTROL

REAGENT BLANK

TEST	: EPA 8020	AEN I.D.	: 603376
BLANK I.D.	: 040396	MATRIX	: AQUEOUS
CLIENT	: NMOCD	DATE EXTRACTED	: NA
PROJECT #	: LAGUNA GATUNA	DATE ANALYZED	: 04/03/96
PROJECT NAME	: LAGUNA QUATRO	DIL. FACTOR	: 1

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
CHLOROBENZENE	UG/L	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
TOLUENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATES:

TRIFLUOROTOLUENE (%)	98
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GAS CHROMATOGRAPHY RESULTS - QUALITY CONTROL

REAGENT BLANK

TEST	: EPA 8020	AEN I.D.	: 603376
BLANK I.D.	: 040296B	MATRIX	: AQUEOUS
CLIENT	: NMOC	DATE EXTRACTED	: NA
PROJECT #	: LAGUNA GATUNA	DATE ANALYZED	: 04/03/96
PROJECT NAME	: LAGUNA QUATRO	DIL. FACTOR	: 1

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
CHLOROBENZENE	UG/L	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
TOLUENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATES:

TRIFLUOROTOLUENE (%)	102
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GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST : (EPA 8020)

MSMSD # : 60336101

AEN I.D. : 603376

CLIENT : NMOCD

DATE EXTRACTED : NA

PROJECT # : LAGUNA GATUNA

DATE ANALYZED : 04/01/96
04/02/96

PROJECT NAME : LAGUNA QUATRO

SAMPLE MATRIX : AQUEOUS

REF. I.D. : 60336101

UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.5	10.0	12.0	120	11.7	117	3
ETHYLBENZENE	<0.5	10.0	12.5	125	12.1	121	3
TOLUENE	<0.5	10.0	12.0	120	11.8	118	2
TOTAL XYLENES	<0.5	30.0	36.9	123	35.9	120	3
METHYL-t-BUTYL ETHER	<2.5	10.0	11.2	112	11.0	110	2

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

01/30/95 ATL Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary, ATI Pink, ORIGINAL



Analytical Technologies, Inc., Albuquerque, NM
 San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN OF CUSTODY
 DATE: 3/27/96 PAGE 1 OF 1

ATI LAB ID: 605376

PROJECT MANAGER: Bill Olson

COMPANY:

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

SAMPLE ID

DATE

TIME

MATRIX

LAB ID

960326 1100 3/26/96 1100 water -01
 960326 1300 3/26/96 1300 water -02

Petroleum Hydrocarbons (418.1)

(MOD 8015) Gas/Diesel

Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)

BTXE/MTBE (8020)

Chlorinated Hydrocarbons (601/8010)

Aromatic Hydrocarbons (602/8020)

SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.

Pesticides/PCB (608/8080)

Herbicides (615/8150)

Base/Neutral/Acid Compounds GC/MS (625/8270)

Volatile Organics GC/MS (624/8240)

Polynuclear Aromatics (610/8310)

SDWA Primary Standards - Arizona

SDWA Secondary Standards - Arizona

SDWA Primary Standards - Federal

SDWA Secondary Standards - Federal

ICAP Metals (6010)

The 13 Priority Pollutant Metals

RCRA Metals by Total Digestion

RCRA Metals by TCLP (1311)

NUMBER OF CONTAINERS

PROJECT INFORMATION

SAMPLE RECEIPT

PROJ. NO.:

NO. CONTAINERS

PROJ. NAME:

CUSTODY SEALS

P.O. NO.:

RECEIVED INTACT

SHIPPED VIA:

RECEIVED COLD

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK

(NORMAL) ☒ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1

RELINQUISHED BY: 2

RELINQUISHED BY: 3

Signature: [Signature] Time: 1650

Signature: [Signature] Time: 10:05

Signature: [Signature] Time: 10:06

Printed Name: William Olson Date: 3/27/96

Printed Name: [Signature] Date: 3/28

Printed Name: [Signature] Date: 3-28-96

Company: [Signature] Phone: 827-7154

Company: [Signature]

Company: [Signature]

RECEIVED BY: 1

RECEIVED BY: 2

RECEIVED BY: (LAB) 3

Signature: [Signature] Time: 1650

Signature: [Signature] Time: 10:06

Signature: [Signature] Time: 10:06

Printed Name: [Signature] Date: 3/27/96

Printed Name: [Signature] Date: 3-28-96

Printed Name: [Signature] Date: 3-28-96

Company: [Signature]

Company: [Signature]

Company: [Signature]

Company: [Signature]

Company: [Signature]

Company: [Signature]

Analytical Technologies, Inc.

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-6335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

WATER CHEMISTRY ANALYTICAL REQUEST FORM

SCIENTIFIC LABORATORY DIVISION

700 CAMINO DE SALUD, ALBUQUERQUE, NM 87106

Water Chemistry Section - Telephone: (505) 841-2555

SLD No. 1

Date Received: _____

2 User Code #: <u>710131210</u>	3 Request ID No.: _____	4 Priority Code #: _____
5 Facility Name: <u>Laguna Gattuna</u>	6 County: <u>Lea</u>	7 City: <u>Hobbs</u>
8 State: <u>NM</u>		
9 Sample Location: <u>Laguna Gattuna Seep</u>		
10 Collected By: <u>Bill O'Brien</u> On: <u>93/09/30</u> At: <u>11130</u> hrs.		
11 Codes:		
Submitter: _____ WSS #: _____ Organization: _____	12 Latitude (DDMMSS): _____ Longitude (DDMMSS): _____	
13 Report To: <u>David G. Boyer</u> 14 Phone #: <u>(505) 827-5812</u>		
Address: <u>New Mexico Oil Conservation Division</u>		
<u>P. O. 2088</u>		
City, State Zip: <u>Santa Fe, New Mexico 87504-2088</u>		
15 Sampling Information:		
Sample Purpose:		
☐ Compliance ☐ Check ☐ Monitoring ☐ Special		
☐ Grab ☐ Composite ☐ Flow Proportioned ☐ Equal Aliquot ☐ Sample Split w/Permittee ☐ Chain of Custody		
16 Field Data: pH: <u>6.5</u> Conductivity: <u>>50,000</u> umhos @ _____ °C. Temperature: _____ °C. Residual: _____ mg/l. Flow: _____		
17 Sample Source:		
☐ Stream ☐ Lake ☐ Drain ☐ Pool ☐ WWTP		
☐ Well; Depth: _____ ☐ Spring ☐ Distribution ☐ Point-of-Entry ☐ Other: <u>Seep</u>		
18 Field Notes/ Sample #:		
19 Sample Type: ☐ Water, ☐ Soil, ☐ Food, ☐ Wastewater, ☐ Other		
This form accompanies a <u>single sample</u> consisting of:		
☐ 1 liter cubitainers (1 quart) ☐ 4 liter cubitainers (1 gallon)		
20 Preservation:		
☐ WNF Water Not Preserved; Filtered ☐ WNN Water Not Preserved; Not Filtered ☐ WPF Water Preserved with Sulfuric Acid (H2SO4); Filtered ☐ WPN Water Preserved with Sulfuric Acid; Not Filtered ☐ WNL Water Not Preserved in Field; Please Add H2SO4 at Lab ☐ ICE Water Iced ☐ Other		
21 Analyses Requested: Please check the appropriate box(es) below to indicate the type of analyses required.		
Group Analyses:		
☐ (854) SDWA Group II (Nitrate as N) ☐ (859) SWQB SS Anion - Cation Group + ☐ (861) SDWA Group III (Fluoride) ☐ (868) SWQB NPS Anion, Cation, Physical + TSS ☐ (860) SDWA Complete Secondary ☐ (869) SWQB Nutrient Analysis Group + ☐ (867) Major Anions & Cations		
Cations:	Physical Parameters:	Surface and Waste Water:
☐ Calcium (as Ca) ☐ Magnesium (as Mg) ☐ Potassium (as K) ☐ Sodium (as Na) ☐ Total Hardness (as CaCO3)	☐ Color ☐ Conductance (Micromhos @ 25 °C) ☐ Odor ☐ pH ☐ Surfactants ☐ Total Dissolved Solids ☐ Turbidity	☐ Biological Oxygen Demand ☐ Total Suspended Solids ☐ Chemical Oxygen Demand ☐ Total Organic Carbon ☐ Cyanide
Anions:	Other:	Nutrients:
☐ Alkalinity (as CaCO3) ☐ Bicarbonate (as HCO3) ☐ Carbonate (as CO3) ☐ Chloride (as Cl) ☐ Fluoride (as F) ☐ Sulfate (as SO4) ☐ Ion Charge Balance	☐ Nitrate + Nitrite (as N) ☐ Ammonia (as N) ☐ Total Kjeldahl (as N) ☐ Nitrite (as N) ☐ Orthophosphate (as P) ☐ Total Phosphorus (as P)	
Remarks:		

AIR & HEAVY METALS ANALYTICAL REQUEST FORM

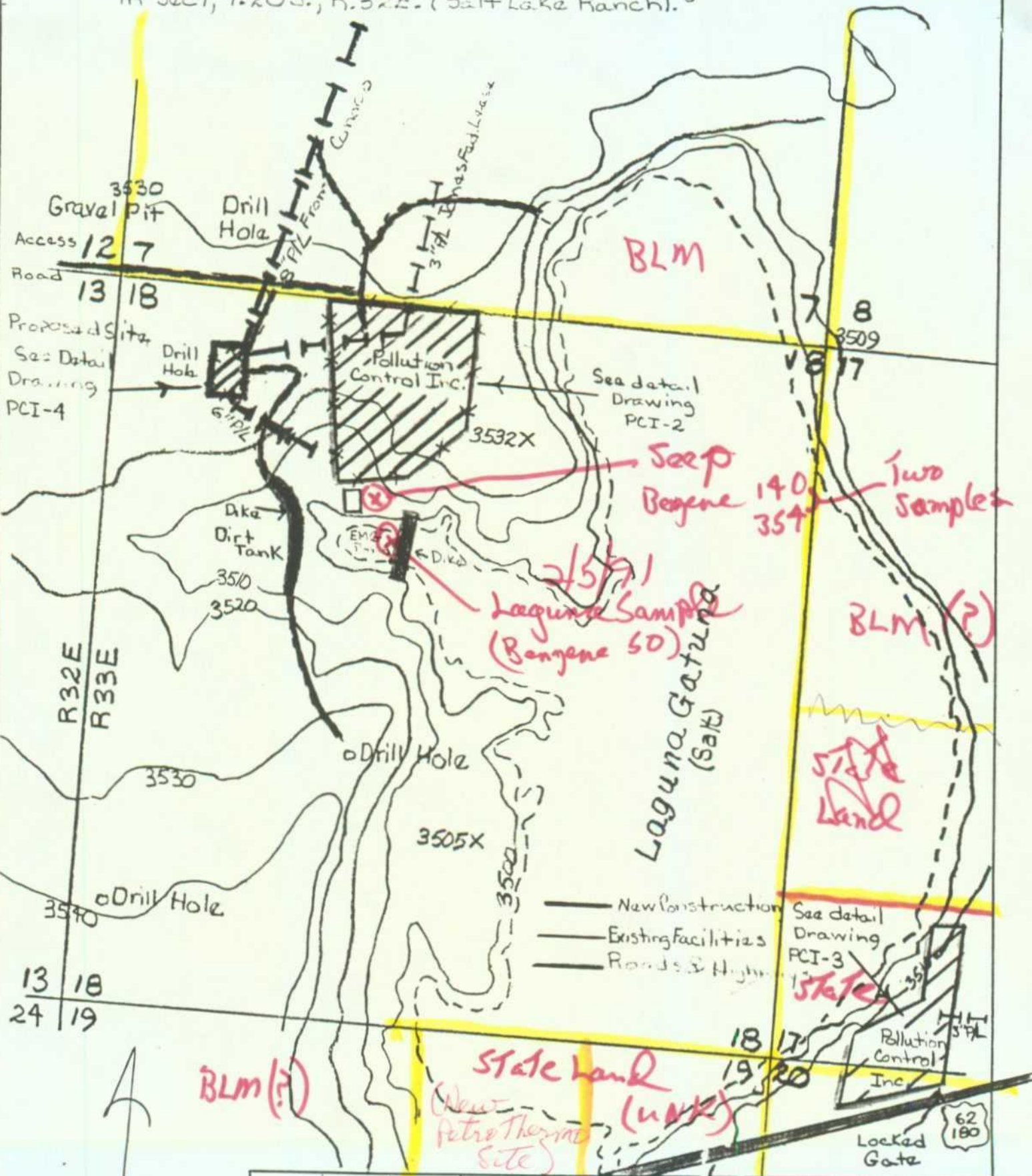
SCIENTIFIC LABORATORY DIVISION
700 CAMINO DE SALUD N.E., ALBUQUERQUE, NM 87106
Air & Heavy Metals Section - Telephone: (505) 841-2553

SLD No. 1

Date Received: _____

2 User Code #: 710131210		3 Request ID No.: _____		Place Form ID Sticker Here		4 Priority Code #: 1		(If "1" or "2", call EID-SLD Coordinator)	
5 Facility Name: Laguna Gatuna				6 County: Lea		7 City: Hobbs		8 State: NM	
9 Sample Location: Laguna Gatuna Seep									
10 Collected By: Bill		101510n		On: 93109130		At: 111310 hrs		Date: (YY/MM/DD) Time: 24 hr. clock 3:00 pm = 1500 hrs.	
11 Codes:					12 Latitude (DDMMSS)				
Submitter		WSS #		Organization			Longitude (DDMMSS)		
13 Report To: David G. Boyer					14 Phone #: (505) 827-5812				
Address: New Mexico Oil Conservation Division									
P. O. Box 2088									
City, State Zip: Santa Fe, New Mexico 87504-2088									
16 Field Data: pH: 6.5 , Conductivity: 5000 umhos @ _____ °C, Temperature: _____ °C, Residual: _____ mg/l, Flow: _____									
17 Sample Source:					18 Field Notes/ Sample #:				
☐ - Stream ☐ - Lake ☐ - Drain ☐ - Pool ☐ - WWTP					☐ - Well; Depth: _____ ☐ - Spring ☐ - Distribution ☐ - Point-of-Entry ☒ - Other: Seep				
19 Sample Type: ☒ - Water, ☐ - Soil, ☐ - Food, ☐ - Wastewater, ☐ - Other					20 Preservation:				
This form accompanies a <u>single sample</u> consisting of: _____ - 1 liter cubitainers (1 quart) _____ - 4 liter cubitainers (1 gallon)					☐ - WNF Water Not Preserved; Filtered ☒ - WNN Water Not Preserved; Not Filtered ☐ - WPF Water Preserved with Nitric Acid (HNO ₃); Filtered ☐ - WPN Water Preserved with Nitric Acid; Not Filtered ☐ - WNL Water Not Preserved in Field; Please Add HNO ₃ at Lab ☐ - ICE Water Iced ☐ - Other				
21 Analyses Requested: Please check the appropriate box(es) below to indicate the type of analyses required.									
☒ - (704) ICAP Scan ☐ - (720) SDWA Group I Only									
☐ - (721) SDWA Group I + other parameter(s) marked below									
☐ - Aluminum ☐ - Arsenic ☐ - Barium ☐ - Cadmium ☐ - Chromium ☐ - Cobalt ☐ - Copper ☐ - Iron			☐ - Lead ☐ - Manganese ☐ - Mercury ☐ - Molybdenum ☐ - Nickel ☐ - Selenium ☐ - Silver ☐ - Uranium			☐ - Vanadium ☐ - Zinc ☐ - _____ ☐ - _____ ☐ - _____ ☐ - _____ ☐ - _____			
Remarks:									

Note: All Grazing Permits & Leasing around Lake are owned by Snyder Ranches. Snyder Ranch Headquarters is located in Sec 1, T.20S., R.32E. (Salt Lake Ranch).



DWN	8-12-88	RA	Laguna Gatuna Showing Pollution Control Inc. Facilities	SCALE 1"=1000'
			Rice Engineering & Operating, Inc.	DWG NO.



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

03/14/91

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: 9102051625 HOBBS AMERICA
Collected By: O/A/B
Date & Time Taken: 02/05/91 1625
On Site Data: WEST END LAGUNA GATUNA INC.
Other:

LOW DETECTION LIMIT REQUESTED, CONDUCTIVITY(UNCORRECTED) <50,000 umho

OIL CONSERVATION DIVISION
RECEIVED
91 MAR 19 AM 11 02

Lab Sample Number: 181398

Received: 02/11/91

Client: SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Benzene	50	ppb	0800	02/18/91	EPA Method 8020	KB
Ethyl benzene	8	ppb	0800	02/18/91	EPA Method 8020	KB
Toluene	30	ppb	0800	02/18/91	EPA Method 8020	KB
Xylenes	4	ppb	0800	02/18/91	EPA Method 8020	KB
Acrolein	ND(100) *	ug/l	1231	02/15/91	EPA Method 624	PM
Acrylonitrile	ND(100) *	ug/l	1231	02/15/91	EPA Method 624	PM
Benzene	80	ug/l	1231	02/15/91	EPA Method 624	PM
Bromoform	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Bromomethane	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
Carbon Tetrachloride	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chlorobenzene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chloroethane	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
2-Chloroethylvinyl ether	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chloroform	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chloromethane	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

181398 Continued

Page 2

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Dibromochloromethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Bromodichloromethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,1-Dichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 8240	PM
1,2-Dichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,1-Dichloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
trans-1,2-Dichloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,2-Dichloropropane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
cis-1,3-Dichloropropene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Ethyl benzene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Methylene Chloride	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,1,2,2-Tetrachloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Tetrachloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Toluene	47	ug/l	1231	02/15/91	EPA Method 624	PM
1,1,1-Trichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 8240	PM
1,1,2-Trichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Trichloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Vinyl Chloride	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
trans-1,3-Dichloropropene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Xylenes	13	ug/l	1231	02/15/91	EPA Method 624	PM

Quality Assurance for the SET with Sample 181398

.....

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
----------	-------------	--------	-------	---------------	-----------	---------	------	------	----

Benzene



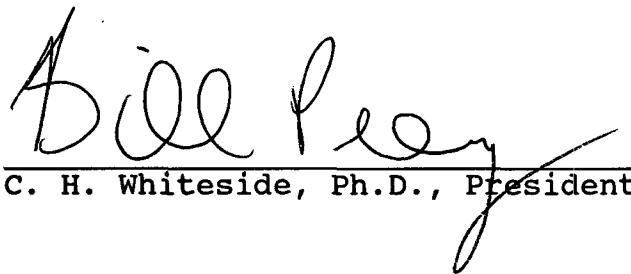
2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181398

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	68	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	103	0800	02/18/91	KB
Ethyl benzene									
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	66	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	99	0800	02/18/91	KB
Toluene									
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	66	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	104	0800	02/18/91	KB
Xylenes									
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	73	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	98	0800	02/18/91	KB

I hereby certify that these results were obtained using the methods specified in this report.


C. H. Whiteside, Ph.D., President



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

03/14/91

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: 9102080935 HOBBS AMERICA
Collected By: O/A/B
Date & Time Taken: 02/08/91 0935
On Site Data: S. SEEP POLLUTION CONTROL INC.
Other:

LOW DETECTION LIMIT REQUESTED

OIL CONSERVATION DIVISION
RECEIVED
91 MAR 19 AM 11 02

Lab Sample Number: 181401 Received: 02/11/91 Client: SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Boron	INSUF. SAMPLE	mg/l	1245	02/13/91	EPA Method 212.3	SW
Silver	<.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Aluminum	4.4	mg/l	1130	02/18/91	EPA Method 200.7	NT
Arsenic	.70	mg/l	1300	02/14/91	EPA Method 200.7	GK
Barium	.1	mg/l	1100	02/20/91	EPA Method 200.7	GDG
Beryllium	<.001	mg/l	1300	02/14/91	EPA Method 6010	GK
Calcium	1800	mg/l	0830	02/15/91	EPA Method 6010	NT
Cadmium	<.01	mg/l	1300	02/14/91	EPA Method 200.7	GK
Cobalt	<.05	mg/l	2045	02/18/91	EPA Method 6010	GK
Chromium	<.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Copper	<.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Iron	4.2	mg/l	0830	02/15/91	EPA Method 200.7	NT
Potassium	980	mg/l	0830	02/15/91	EPA Method 258.1	NT
Magnesium	1900	mg/l	0830	02/15/91	EPA Method 6010	NT
Manganese	.26	mg/l	0830	02/15/91	EPA Method 6010	NT

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

181401 Continued

Page 2

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Molybdenum	<.2	mg/l	2045	02/18/91	EPA Method 6010	GK
Sodium	2300	mg/l	0830	02/15/91	EPA Method 6010	NT
Nickel	<.05	mg/l	1300	02/14/91	EPA Method 200.7	GK
Antimony	<.05	mg/l	1300	02/14/91	EPA Method 6010	GK
Selenium	<.1	mg/l	1300	02/14/91	EPA Method 200.7	GK
Silicon (as Silica)	45	mg/l	2045	02/18/91	EPA Method 6010	GK
Thallium	<.1	mg/l	1300	02/14/91	EPA Method 6010	GK
Vanadium	.2	mg/l	2045	02/18/91	EPA Method 6010	GK
Zinc	.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Benzene	140	ppb	0800	02/19/91	EPA Method 8020	KB
Ethyl benzene	.7	ppb	0800	02/19/91	EPA Method 8020	KB
Toluene	.3	ppb	0800	02/19/91	EPA Method 8020	KB
Xylenes	2	ppb	0800	02/19/91	EPA Method 8020	KB
Acrolein	ND(100) *	ug/l	1656	02/14/91	EPA Method 624	PM
Acrylonitrile	ND(100) *	ug/l	1656	02/14/91	EPA Method 624	PM
Benzene	354	ug/l	1656	02/14/91	EPA Method 624	PM
Bromoform	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Bromomethane	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
Carbon Tetrachloride	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chlorobenzene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chloroethane	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

181401 Continued

Page 3

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
2-Chloroethylvinyl ether	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chloroform	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chloromethane	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
Dibromochloromethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Bromodichloromethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,1-Dichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 8240	PM
1,2-Dichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,1-Dichloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
trans-1,2-Dichloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,2-Dichloropropane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
cis-1,3-Dichloropropene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Ethyl benzene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Methylene Chloride	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,1,2,2-Tetrachloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Tetrachloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Toluene	9.0	ug/l	1656	02/14/91	EPA Method 624	PM
1,1,1-Trichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 8240	PM
1,1,2-Trichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Trichloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Vinyl Chloride	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
trans-1,3-Dichloropropene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM

Continued



PARAMETER	RESULTS		UNITS	TIME	DATE	METHOD	BY		
Xylenes	24		ug/l	1656	02/14/91	EPA Method 624	PM		
Quality Assurance for the SET with Sample 181401									
Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
Boron									
181400	Standard	.89	mg/l	1.0		112	1245	02/13/91	SW
	Duplicate	.190	mg/l	.194		102	1245	02/13/91	SW
Silver									
	Blank	<.03	mg/l				1300	02/14/91	GK
	Standard	.21	mg/l	.20		105	1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
181401	Duplicate	<.03	mg/l	<.03		100	1300	02/14/91	GK
181401	Spike		mg/l		.20	80	1300	02/14/91	GK
Aluminum									
	Blank	<.1	mg/l				1130	02/18/91	NT
	Standard	1.0	mg/l	1.0		100	1130	02/18/91	NT
	Standard	5.1	mg/l	5.0		102	1130	02/18/91	NT
181401	Spike		mg/l		1.0	99	1130	02/18/91	NT
Arsenic									
	Blank	<.1	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
181401	Duplicate	.69	mg/l	.71		103	1300	02/14/91	GK
181401	Spike		mg/l		1.7	92	1300	02/14/91	GK
Barium									
	Blank	<.05	mg/l				1100	02/20/91	GD
	Blank	<.05	mg/l				1100	02/20/91	GD
	Standard	1.0	mg/l	1.0		100	1100	02/20/91	GD
	Standard	5.1	mg/l	5.0		102	1100	02/20/91	GD
181397	Duplicate	.17	mg/l	.16		106	1100	02/20/91	GD
181401	Duplicate	.12	mg/l	.08		140	1100	02/20/91	GD
181399	Spike		mg/l		2.0	84	1100	02/20/91	GD
Beryllium									
	Blank	<.001	mg/l				1300	02/14/91	GK
	Standard	.41	mg/l	.40		102	1300	02/14/91	GK
	Standard	2.0	mg/l	2.0		100	1300	02/14/91	GK
181401	Duplicate	<.001	mg/l	<.001		100	1300	02/14/91	GK
181401	Spike		mg/l		.40	88	1300	02/14/91	GK
Calcium									
	Blank	.12	mg/l				0830	02/15/91	NT



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181401

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
181401	Standard	10	mg/l	10		100	0830	02/15/91	NT
	Standard	50	mg/l	50		100	0830	02/15/91	NT
	Duplicate	1800	mg/l	1800		100	0830	02/15/91	NT
	Spike		mg/l		20	96	0830	02/15/91	NT
Cadmium									
181401	Blank	<.01	mg/l				1300	02/14/91	GK
	Standard	.51	mg/l	.50		102	1300	02/14/91	GK
	Standard	2.5	mg/l	2.5		100	1300	02/14/91	GK
	Duplicate	<.01	mg/l	<.01		100	1300	02/14/91	GK
Cobolt									
181397	Blank	<.05	mg/l				2045	02/18/91	GK
	Standard	1.0	mg/l	1.0		100	2045	02/18/91	GK
	Standard	5.2	mg/l	5.0		104	2045	02/18/91	GK
	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
Chromium									
181401	Blank	<.03	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
	Duplicate	<.03	mg/l	<.03		100	1300	02/14/91	GK
Copper									
181401	Blank	<.03	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.1	mg/l	5.0		102	1300	02/14/91	GK
	Duplicate	<.03	mg/l	<.03		100	1300	02/14/91	GK
181401	Spike		mg/l		1.0	86	1300	02/14/91	GK
Iron									
181401	Blank	.10	mg/l				0830	02/15/91	NT
	Standard	1.0	mg/l	1.0		100	0830	02/15/91	NT
	Standard	5.1	mg/l	5.0		102	0830	02/15/91	NT
	Duplicate	4.6	mg/l	3.8		119	0830	02/15/91	NT
181401	Spike		mg/l		1.0	108	0830	02/15/91	NT
Potassium									
181401	Blank	<2	mg/l				0830	02/15/91	NT
	Standard	9.8	mg/l	10		102	0830	02/15/91	NT
	Standard	48	mg/l	50		104	0830	02/15/91	NT
	Duplicate	990	mg/l	970		102	0830	02/15/91	NT
181401	Spike		mg/l		20	96	0830	02/15/91	NT
Magnesium									
181401	Blank	<.01	mg/l				0830	02/15/91	NT
	Standard	10	mg/l	10		100	0830	02/15/91	NT
	Standard	50	mg/l	50		100	0830	02/15/91	NT
	Duplicate	1900	mg/l	1900		100	0830	02/15/91	NT



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Quality Assurance for the SET with Sample 181401

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
181401	Spike		mg/l		20	103	0830	02/15/91	NT
					Manganese				
	Blank	<.01	mg/l				0830	02/15/91	NT
	Standard	1.0	mg/l	1.0		100	0830	02/15/91	NT
	Standard	5.1	mg/l	5.0		102	0830	02/15/91	NT
181401	Duplicate	.26	mg/l	.26		100	0830	02/15/91	NT
181401	Spike		mg/l		1.0	95	0830	02/15/91	NT
					Molybdenum				
	Blank	<.2	mg/l				2045	02/18/91	GK
	Standard	10	mg/l	10		100	2045	02/18/91	GK
181397	Duplicate	<.2	mg/l	<.2		100	2045	02/18/91	GK
181401	Duplicate	<.2	mg/l	<.2		100	2045	02/18/91	GK
181401	Spike		mg/l		2.0	87	2045	02/18/91	GK
					Sodium				
	Blank	<1	mg/l				0830	02/15/91	NT
	Standard	9.8	mg/l	10		102	0830	02/15/91	NT
	Standard	50	mg/l	50		100	0830	02/15/91	NT
181401	Duplicate	2300	mg/l	2300		100	0830	02/15/91	NT
181401	Spike		mg/l		20	92	0830	02/15/91	NT
					Nickel				
	Blank	<.05	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	1300	02/14/91	GK
					Antimony				
	Blank	<.05	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	1300	02/14/91	GK
					Selenium				
	Blank	<.1	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.1	mg/l	5.0		102	1300	02/14/91	GK
181401	Duplicate	<.1	mg/l	<.1		100	1300	02/14/91	GK
					Silicon (as Silica)				
	Blank	.1	mg/l				2045	02/18/91	GK
	Standard	10	mg/l	10		100	2045	02/18/91	GK
181401	Duplicate	34	mg/l	34		100	2045	02/18/91	GK
181397	Duplicate	29	mg/l	30		103	2045	02/18/91	GK
181401	Spike		mg/l		2.0	105	2045	02/18/91	GK
					Thallium				
	Blank	<.1	mg/l				1300	02/14/91	GK
	Standard	1.1	mg/l	1.0		110	1300	02/14/91	GK



THE COMPLETE SERVICE LAB

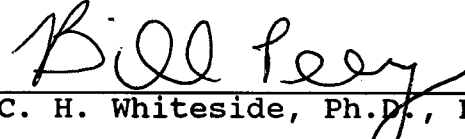
2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181401

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
181401	Standard	5.2	mg/l	5.0		104	1300	02/14/91	GK
	Duplicate	<.1	mg/l	<.1		100	1300	02/14/91	GK
Vanadium									
	Blank	<.05	mg/l				2045	02/18/91	GK
	Standard	1.0	mg/l	1.0		100	2045	02/18/91	GK
	Standard	5.0	mg/l	5.0		100	2045	02/18/91	GK
181397	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
181401	Spike		mg/l		1.0	88	2045	02/18/91	GK
Zinc									
	Blank	<.01	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	4.9	mg/l	5.0		102	1300	02/14/91	GK
181401	Duplicate	.03	mg/l	.03		100	1300	02/14/91	GK
181401	Spike		mg/l		1.0	87	1300	02/14/91	GK
Benzene									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	62	ppb	50		121	0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	84	0800	02/19/91	KB
Ethyl benzene									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	68	ppb	50			0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	85	0800	02/19/91	KB
Toluene									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	60	ppb	50		118	0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	85	0800	02/19/91	KB
Xylenes									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	75	ppb	50			0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	85	0800	02/19/91	KB

I hereby certify that these results were obtained using the methods specified in this report.


C. H. Whiteside, Ph.D., President



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab

AXIA-Lab

Contract No.

OCD Sample No.

9102080935

Collection Date	Collection Time	Collected by —Person/Agency	
2/8/91	0935	Olson, Anderson, Brown	OCD
SITE INFORMATION			
Sample location <u>South Seep</u>			
Collection Site Description			
<u>Pollution Control, Inc.</u>			Township, Range, Section, Tract:

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted: 3

- ☒ NF: Whole sample (Non-filtered)
☐ F: Filtered in field with 0.45 μ membrane filter
☐ PF: Pre-filtered w/45 μ membrane filter

- ☐ NA: No acid added
☒ A: HCl H₂SO₄
☐ A: 2ml H₂SO₄/L added
- 1 ☒ A: 5ml conc. HNO₃ added
☐ A: 4ml fuming HNO₃ added

FIELD COMMENTS:

SAMPLING CONDITIONS	Water level
	Discharge
	Sample type <u>grab</u>
	Conductivity (Uncorrected) <u>μmho</u>
pH(00400)	
Water Temp. (00010)	Conductivity at 25° C <u>μmho</u>

LAB ANALYSIS REQUESTED:

Low Detection Limit Requested

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☒ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

03/15/91

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: 9102080935 HOBBS AMERICA
Collected By: O/A/B
Date & Time Taken: 02/08/91 0935
On Site Data: S. SEEP POLLUTION CONTROL INC.
Other:

LOW DETECTION LIMIT REQUESTED

OIL CONSERVATION DIVISION
RECEIVED
91 MAR 19 AM 11 02

Lab Sample Number: 181401 Received: 02/11/91 Client: SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Boron	INSUF.SAMPLE	mg/l	1245	02/13/91	EPA Method 212.3	SW
Silver	<.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Aluminum	4.4	mg/l	1130	02/18/91	EPA Method 200.7	NT
Arsenic	.70	mg/l	1300	02/14/91	EPA Method 200.7	GK
Barium	.1	mg/l	1100	02/20/91	EPA Method 200.7	GDG
Beryllium	<.001	mg/l	1300	02/14/91	EPA Method 6010	GK
Calcium	1800	mg/l	0830	02/15/91	EPA Method 6010	NT
Cadmium	<.01	mg/l	1300	02/14/91	EPA Method 200.7	GK
Cobalt	<.05	mg/l	2045	02/18/91	EPA Method 6010	GK
Chromium	<.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Copper	<.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Iron	4.2	mg/l	0830	02/15/91	EPA Method 200.7	NT
Potassium	980	mg/l	0830	02/15/91	EPA Method 258.1	NT
Magnesium	1900	mg/l	0830	02/15/91	EPA Method 6010	NT
Manganese	.26	mg/l	0830	02/15/91	EPA Method 6010	NT

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

181401 Continued

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PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Molybdenum	<.2	mg/l	2045	02/18/91	EPA Method 6010	GK
Sodium	2300	mg/l	0830	02/15/91	EPA Method 6010	NT
Nickel	<.05	mg/l	1300	02/14/91	EPA Method 200.7	GK
Antimony	<.05	mg/l	1300	02/14/91	EPA Method 6010	GK
Selenium	<.1	mg/l	1300	02/14/91	EPA Method 200.7	GK
Silicon (as Silica)	45	mg/l	2045	02/18/91	EPA Method 6010	GK
Thallium	<.1	mg/l	1300	02/14/91	EPA Method 6010	GK
Vanadium	.2	mg/l	2045	02/18/91	EPA Method 6010	GK
Zinc	.03	mg/l	1300	02/14/91	EPA Method 200.7	GK
Benzene	140	ppb	0800	02/19/91	EPA Method 8020	KB
Ethyl benzene	.7	ppb	0800	02/19/91	EPA Method 8020	KB
Toluene	.3	ppb	0800	02/19/91	EPA Method 8020	KB
Xylenes	2	ppb	0800	02/19/91	EPA Method 8020	KB
Acrolein	ND(100) *	ug/l	1656	02/14/91	EPA Method 624	PM
Acrylonitrile	ND(100) *	ug/l	1656	02/14/91	EPA Method 624	PM
Benzene	354	ug/l	1656	02/14/91	EPA Method 624	PM
Bromoform	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Bromomethane	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
Carbon Tetrachloride	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chlorobenzene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chloroethane	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

181401 Continued

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PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
2-Chloroethylvinyl ether	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chloroform	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Chloromethane	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
Dibromochloromethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Bromodichloromethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,1-Dichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 8240	PM
1,2-Dichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,1-Dichloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
trans-1,2-Dichloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,2-Dichloropropane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
cis-1,3-Dichloropropene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Ethyl benzene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Methylene Chloride	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
1,1,2,2-Tetrachloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Tetrachloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Toluene	9.0	ug/l	1656	02/14/91	EPA Method 624	PM
1,1,1-Trichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 8240	PM
1,1,2-Trichloroethane	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Trichloroethene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM
Vinyl Chloride	ND(10) *	ug/l	1656	02/14/91	EPA Method 624	PM
trans-1,3-Dichloropropene	ND(5) *	ug/l	1656	02/14/91	EPA Method 624	PM

Continued



PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY			
Xylenes	24	ug/l	1656	02/14/91	EPA Method 624	PM			
Quality Assurance for the SET with Sample 181401									
Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
Boron									
181400	Standard	.89	mg/l	1.0		112	1245	02/13/91	SW
	Duplicate	.190	mg/l	.194		102	1245	02/13/91	SW
Silver									
	Blank	<.03	mg/l				1300	02/14/91	GK
	Standard	.21	mg/l	.20		105	1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
181401	Duplicate	<.03	mg/l	<.03		100	1300	02/14/91	GK
181401	Spike		mg/l		.20	80	1300	02/14/91	GK
Aluminum									
	Blank	<.1	mg/l				1130	02/18/91	NT
	Standard	1.0	mg/l	1.0		100	1130	02/18/91	NT
	Standard	5.1	mg/l	5.0		102	1130	02/18/91	NT
181401	Spike		mg/l		1.0	99	1130	02/18/91	NT
Arsenic									
	Blank	<.1	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
181401	Duplicate	.69	mg/l	.71		103	1300	02/14/91	GK
181401	Spike		mg/l		1.7	92	1300	02/14/91	GK
Barium									
	Blank	<.05	mg/l				1100	02/20/91	GDG
	Blank	<.05	mg/l				1100	02/20/91	GDG
	Standard	1.0	mg/l	1.0		100	1100	02/20/91	GDG
	Standard	5.1	mg/l	5.0		102	1100	02/20/91	GDG
181397	Duplicate	.17	mg/l	.16		106	1100	02/20/91	GDG
181401	Duplicate	.12	mg/l	.08		140	1100	02/20/91	GDG
181399	Spike		mg/l		2.0	84	1100	02/20/91	GDG
Beryllium									
	Blank	<.001	mg/l				1300	02/14/91	GK
	Standard	.41	mg/l	.40		102	1300	02/14/91	GK
	Standard	2.0	mg/l	2.0		100	1300	02/14/91	GK
181401	Duplicate	<.001	mg/l	<.001		100	1300	02/14/91	GK
181401	Spike		mg/l		.40	88	1300	02/14/91	GK
Calcium									
	Blank	.12	mg/l				0830	02/15/91	NT



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181401

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
181401	Standard	10	mg/l	10		100	0830	02/15/91	NT
	Standard	50	mg/l	50		100	0830	02/15/91	NT
	Duplicate	1800	mg/l	1800		100	0830	02/15/91	NT
	Spike		mg/l		20	96	0830	02/15/91	NT
Cadmium									
181401	Blank	<.01	mg/l				1300	02/14/91	GK
	Standard	.51	mg/l	.50		102	1300	02/14/91	GK
	Standard	2.5	mg/l	2.5		100	1300	02/14/91	GK
	Duplicate	<.01	mg/l	<.01		100	1300	02/14/91	GK
Cobolt									
181397	Blank	<.05	mg/l				2045	02/18/91	GK
	Standard	1.0	mg/l	1.0		100	2045	02/18/91	GK
	Standard	5.2	mg/l	5.0		104	2045	02/18/91	GK
	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
Chromium									
181401	Blank	<.03	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
	Duplicate	<.03	mg/l	<.03		100	1300	02/14/91	GK
Copper									
181401	Blank	<.03	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.1	mg/l	5.0		102	1300	02/14/91	GK
	Duplicate	<.03	mg/l	<.03		100	1300	02/14/91	GK
181401	Spike		mg/l		1.0	86	1300	02/14/91	GK
Iron									
181401	Blank	.10	mg/l				0830	02/15/91	NT
	Standard	1.0	mg/l	1.0		100	0830	02/15/91	NT
	Standard	5.1	mg/l	5.0		102	0830	02/15/91	NT
	Duplicate	4.6	mg/l	3.8		119	0830	02/15/91	NT
181401	Spike		mg/l		1.0	108	0830	02/15/91	NT
Potassium									
181401	Blank	<2	mg/l				0830	02/15/91	NT
	Standard	9.8	mg/l	10		102	0830	02/15/91	NT
	Standard	48	mg/l	50		104	0830	02/15/91	NT
	Duplicate	990	mg/l	970		102	0830	02/15/91	NT
181401	Spike		mg/l		20	96	0830	02/15/91	NT
Magnesium									
181401	Blank	<.01	mg/l				0830	02/15/91	NT
	Standard	10	mg/l	10		100	0830	02/15/91	NT
	Standard	50	mg/l	50		100	0830	02/15/91	NT
	Duplicate	1900	mg/l	1900		100	0830	02/15/91	NT



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181401

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
181401	Spike		mg/l		20	103	0830	02/15/91	NT
Manganese									
	Blank	<.01	mg/l				0830	02/15/91	NT
	Standard	1.0	mg/l	1.0		100	0830	02/15/91	NT
	Standard	5.1	mg/l	5.0		102	0830	02/15/91	NT
181401	Duplicate	.26	mg/l	.26		100	0830	02/15/91	NT
181401	Spike		mg/l		1.0	95	0830	02/15/91	NT
Molybdenum									
	Blank	<.2	mg/l				2045	02/18/91	GK
	Standard	10	mg/l	10		100	2045	02/18/91	GK
181397	Duplicate	<.2	mg/l	<.2		100	2045	02/18/91	GK
181401	Duplicate	<.2	mg/l	<.2		100	2045	02/18/91	GK
181401	Spike		mg/l		2.0	87	2045	02/18/91	GK
Sodium									
	Blank	<1	mg/l				0830	02/15/91	NT
	Standard	9.8	mg/l	10		102	0830	02/15/91	NT
	Standard	50	mg/l	50		100	0830	02/15/91	NT
181401	Duplicate	2300	mg/l	2300		100	0830	02/15/91	NT
181401	Spike		mg/l		20	92	0830	02/15/91	NT
Nickel									
	Blank	<.05	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	1300	02/14/91	GK
Antimony									
	Blank	<.05	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.0	mg/l	5.0		100	1300	02/14/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	1300	02/14/91	GK
Selenium									
	Blank	<.1	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	5.1	mg/l	5.0		102	1300	02/14/91	GK
181401	Duplicate	<.1	mg/l	<.1		100	1300	02/14/91	GK
Silicon (as Silica)									
	Blank	.1	mg/l				2045	02/18/91	GK
	Standard	10	mg/l	10		100	2045	02/18/91	GK
181401	Duplicate	34	mg/l	34		100	2045	02/18/91	GK
181397	Duplicate	29	mg/l	30		103	2045	02/18/91	GK
181401	Spike		mg/l		2.0	105	2045	02/18/91	GK
Thallium									
	Blank	<.1	mg/l				1300	02/14/91	GK
	Standard	1.1	mg/l	1.0		110	1300	02/14/91	GK



THE COMPLETE SERVICE LAB

2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181401

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
181401	Standard	5.2	mg/l	5.0		104	1300	02/14/91	GK
	Duplicate	<.1	mg/l	<.1		100	1300	02/14/91	GK
Vanadium									
	Blank	<.05	mg/l				2045	02/18/91	GK
	Standard	1.0	mg/l	1.0		100	2045	02/18/91	GK
	Standard	5.0	mg/l	5.0		100	2045	02/18/91	GK
181397	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
181401	Duplicate	<.05	mg/l	<.05		100	2045	02/18/91	GK
181401	Spike		mg/l		1.0	88	2045	02/18/91	GK
Zinc									
	Blank	<.01	mg/l				1300	02/14/91	GK
	Standard	1.0	mg/l	1.0		100	1300	02/14/91	GK
	Standard	4.9	mg/l	5.0		102	1300	02/14/91	GK
181401	Duplicate	.03	mg/l	.03		100	1300	02/14/91	GK
181401	Spike		mg/l		1.0	87	1300	02/14/91	GK
Benzene									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	62	ppb	50		121	0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	84	0800	02/19/91	KB
Ethyl benzene									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	68	ppb	50			0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	85	0800	02/19/91	KB
Toluene									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	60	ppb	50		118	0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	85	0800	02/19/91	KB
Xylenes									
	Blank	<5	ppb				0800	02/19/91	KB
	Standard	75	ppb	50			0800	02/19/91	KB
181476	Duplicate	<5	ppb	<5		100	0800	02/19/91	KB
181476	Spike		ppb		50	85	0800	02/19/91	KB

I hereby certify that these results were obtained using the methods specified in this report.

C. H. Whiteside, Ph.D., President



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab

ANA-Lab

Contract No.

OCD Sample No. 9102051625

Collection Date	Collection Time	Collected by—Person/Agency	OCD
2/5/91	1625	Olson, Anderson, Brown	
SITE INFORMATION			
Sample location West End Laguna Costas			
Collection Site Description			
Laguna Costas Inc.			Township, Range, Section, Tract: + + +

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted: 2

- ☒ NF: Whole sample (Non-filtered)
☐ F: Filtered in field with 0.45 μ m membrane filter
☐ PF: Pre-filtered w/45 μ m membrane filter

- ☐ NA: No acid added
☒ A: HCL H₂SO₄ added
☐ A: 5ml conc. HNO₃ added
☐ A: 4ml fuming HNO₃ added

FIELD COMMENTS:

SAMPLING CONDITIONS	Water level
	Discharge
☐ Bailed ☐ Pump ☐ Dipped ☐ Tap	Sample type grab
pH(00400)	Conductivity (Uncorrected) 50,000 μ mho
Water Temp. (00010)	Conductivity at 25° C μ mho

LAB ANALYSIS REQUESTED:

Low Detection Limit Requested

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☒ 005	SUITE	8010-8020	☐ 017	SVOC	625	☐ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☐ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

03/15/91

Environmental Bureau NM Oil D.
PO Box 2088
Santa Fe, NM 87504

Sample Identification: 9102051625 HOBBS AMERICA
Collected By: O/A/B
Date & Time Taken: 02/05/91 1625
On Site Data: WEST END LAGUNA GATUNA INC.
Other:

LOW DETECTION LIMIT REQUESTED, CONDUCTIVITY(UNCORRECTED) <50,000 umho

OIL CONSERVATION DIVISION
RECEIVED
91 MAR 19 AM 11 02

Lab Sample Number: 181398 Received: 02/11/91 Client: SNM1

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Benzene	50	ppb	0800	02/18/91	EPA Method 8020	KB
Ethyl benzene	8	ppb	0800	02/18/91	EPA Method 8020	KB
Toluene	30	ppb	0800	02/18/91	EPA Method 8020	KB
Xylenes	4	ppb	0800	02/18/91	EPA Method 8020	KB
Acrolein	ND(100) *	ug/l	1231	02/15/91	EPA Method 624	PM
Acrylonitrile	ND(100) *	ug/l	1231	02/15/91	EPA Method 624	PM
Benzene	80	ug/l	1231	02/15/91	EPA Method 624	PM
Bromoform	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Bromomethane	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
Carbon Tetrachloride	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chlorobenzene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chloroethane	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
2-Chloroethylvinyl ether	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chloroform	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Chloromethane	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM

Continued



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

181398 Continued

Page 2

PARAMETER	RESULTS	UNITS	TIME	DATE	METHOD	BY
Dibromochloromethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Bromodichloromethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,1-Dichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 8240	PM
1,2-Dichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,1-Dichloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
trans-1,2-Dichloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,2-Dichloropropane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
cis-1,3-Dichloropropene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Ethyl benzene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Methylene Chloride	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
1,1,2,2-Tetrachloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Tetrachloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Toluene	47	ug/l	1231	02/15/91	EPA Method 624	PM
1,1,1-Trichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 8240	PM
1,1,2-Trichloroethane	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Trichloroethene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Vinyl Chloride	ND(10) *	ug/l	1231	02/15/91	EPA Method 624	PM
trans-1,3-Dichloropropene	ND(5) *	ug/l	1231	02/15/91	EPA Method 624	PM
Xylenes	13	ug/l	1231	02/15/91	EPA Method 624	PM

Quality Assurance for the SET with Sample 181398

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Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
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Benzene



2600 DUDLEY ROAD — KILGORE, TEXAS 75662 — 903/984-0551

Analytical Chemistry • Utility Operations • Equipment Sales

Quality Assurance for the SET with Sample 181398

Sample #	Description	Result	Units	Dup/Std Value	Spk Conc.	Percent	Time	Date	By
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	68	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	103	0800	02/18/91	KB
Ethyl benzene									
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	66	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	99	0800	02/18/91	KB
Toluene									
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	66	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	104	0800	02/18/91	KB
Xylenes									
	Blank	<5	ppb				0800	02/18/91	KB
	Standard	73	ppb	50			0800	02/18/91	KB
181438	Duplicate	<5	ppb	<5		100	0800	02/18/91	KB
181438	Spike		ppb		50	98	0800	02/18/91	KB

I hereby certify that these results were obtained using the methods specified in this report.

C. H. Whiteside, Ph.D., President

Lab
No.

ACCU LABS

77-521.07-12

ORGANIC ANALYSIS REQUEST FORM

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Sample No. 8903301230
DATE REC. _____
PRIORITY _____
PHONE(S): 827-5812

COLLECTION CITY: Hobbs; COUNTY: Lea
COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8/9/89 13:10:12:30
LOCATION CODE: (Township-Range-Section-Tracts) _____ (10N06E24S42)

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
☒ P-Ice: Sample stored in an ice bath (Not Frozen).
☐ P-AA: Sample Preserved with Ascorbic Acid to remove chlorine residual.
☒ P-HCl: Sample Preserved with Hydrochloric Acid (3 drops/40 ml)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
☒ (754) Aromatic & Halogenated Purgeables
☐ (755) Mass Spectrometer Purgeables
☐ (756) Trihalomethanes
☐ (774) SDWA VOC's I (8 Regulated +)
☐ (775) SDWA VOC's II (EDB & DBCP)
Other Specific Compounds or Classes

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
☐ (755) Base/Neutral Extractables
☐ (758) Herbicides, Chlorophenoxy acid
☐ (759) Herbicides, Triazines
☐ (760) Organochlorine Pesticides
☐ (761) Organophosphate Pesticides
☐ (767) Polychlorinated Biphenyls (PCB's)
☐ (764) Polynuclear Aromatic Hydrocarbons
☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= 7; Conductivity= 750,000 umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate= _____ / _____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Laguna Co Tuna/Rice disposal site - Effluent
outfall to pond from tanks (oil field wastewater)

I certify that the results in this block accurately reflect the results of my field analyses, observations and Freight activities. (signature collector): David H. Boyer Method of Shipment to the Lab: Express

CHAIN OF CUSTODY

I certify that this sample was transferred from DB to DM
at (location) ALR on 4/5/89 - 12:25 and that
the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ OR Seals Intact: Yes ☒ No ☐
Signatures: David H. Boyer

For OCD use: Date owner notified: 6/19/89 Phone or Letter? Initials: DBS

Contract Lab Accu-LAB 5
Contract No. 77-52107-123

GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED	LAB NO.	Sample No.
Collection DATE <u>09/03/30</u>	SITE INFORMATION	Sample location <u>Laguna Gatuna/Rice Disposal Site</u>
Collection TIME <u>1230</u>		Collection site description <u>Effluent outfall from tanks to pond</u>
Collected by - Person/Agency <u>Boyer/Anderson</u> /OCD		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5312

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type <u>Grab</u>
pH (00400) <u>7</u>	Conductivity (Uncorrected) <u>> 50,000</u> μ mho	Water Temp. (00010) $^{\circ}$ C	Conductivity at 25 $^{\circ}$ C (00094) μ mho	
Field comments <u>oilfield wastewater disposal</u>				

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted <u>1</u>	☒ NF: Whole sample (Non-filtered)	☐ F: Filtered in field with 0.45 μ m membrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☒ NA: No acid added		☐ Other-specify:	☐ A: 5ml conc. HNO ₃ added ☐ A: 4ml fuming HNO ₃ added

ANALYTICAL RESULTS from SAMPLES

NA	Units	Date analyzed	From <u>NA</u> , NA Sample:	Date Analyzed
☒ Conductivity (Corrected) 25 $^{\circ}$ C (00095)	μ mho		☒ Calcium	mg/l
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Potassium	mg/l
☒ Other: <u>Lab pH</u>			☒ Magnesium	mg/l
☐ Other:			☒ Sodium	mg/l
☐ Other:			☒ Bicarbonate	mg/l
A-H₂SO₄			☒ Chloride	mg/l
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☒ Sulfate	mg/l
☐ Ammonia-N total (00810)	mg/l		☒ Total Solids	mg/l
☐ Total Kjeldahl-N ()	mg/l		☒ CO ₃	
☐ Chemical oxygen demand (00340)	mg/l		☒ BR	
☐ Total organic carbon ()	mg/l		☒ Cation/Anion Balance	
☐ Other:			Analyst	Date Reported
☐ Other:				Reviewed by
Laboratory remarks				

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initials _____

5 Contract Lab Accu LABS
Contract No. 77-52.07-123

HEAVY METAL ANALYSIS FORM

Date Received	Lab No.	Sample No.
		8903301230
COLLECTION DATE & TIME: yy mm dd hh mm		COLLECTION SITE DESCRIPTION
89 03 30 12 30		Laguna Gatuna/Rice disposal site
COLLECTED BY: <u>Boyer/Anderson O&B</u>		

TO:

OWNER:

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

SITE LOCATION:

County: Lea

Township, Range, Section, Tract: (10N06E24S42)

ATTN: D. Boyer
TELEPHONE: 827-5812

STATION/ WELL CODE:

LATITUDE, LONGITUDE:

SAMPLING CONDITIONS:

☐ Bailed	☐ Pump	Water Level:	Discharge:	Sample Type:
☒ Dipped	☐ Tap			<u>Grab</u>
pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)	
7	750,000 μ mho	°C	μ mho	

FIELD COMMENTS:

Effluent outfall to pond from tank, oil field waste - water disposal

SAMPLE FIELD TREATMENT

Check proper boxes:

☒ WPN: Water Preserved w/HNO ₃ Non-Filtered	☐ WPF: Water Preserved w/HNO ₃ Filtered
--	---

LAB ANALYSIS REQUESTED:

☐ ICAP Scan
Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE	AA VALUE	ELEMENT	ICAP VALUE	AA VALUE
Aluminum	☒	☐	Silicon	☐	☐
Barium	☒	☐	Silver	☐	☐
Beryllium	☐	☐	Strontium	☒	☐
Boron	☒	☐	Tin	☒	☐
Cadmium	☒	☐	Vanadium	☒	☐
Calcium	☐	☐	Zinc	☒	☐
Chromium	☐	☒	Arsenic	☒	☒
Cobalt	☒	☐	Selenium	☒	☒
Copper	☒	☐	Mercury	☐	☒
Iron	☒	☐		☐	☐
Lead	☐	☒		☐	☐
Magnesium	☐	☐		☐	☐
Manganese	☒	☐		☐	☐
Molybdenum	☒	☐		☐	☐
Nickel	☒	☐		☐	☐

LAB COMMENTS:

For OCD Use:

Date Owner Notified:
Phone or Letter?
Initials:

ICAP Analyst _____ Reviewer _____
Date Analyzed _____ Date Reveived _____

May 9, 1989
Page 4 of 18

Accu-Labs Research, Inc.

RECEIVED

Mr. David Boyer
NM Oil Conservation Division

MAY 17 1989

RE: 9649-29859-20
Date Samples Rec'd: 4-5-89
P.O. No. 77-521.07-123

OIL CONSERVATION DIV.
SANTA FE

REPORT OF ANALYSIS

ALR Designation	9649-29859-20-4	9649-29859-20-5	9649-29859-20-6
Sponsor Designation	8903291055	8903301230	8903291630
	3-29-89	3-30-89	2-29-89

GC/MS VOLATILE ORGANICS, µg/L:

Chloromethane	<10	<100	<10
Bromomethane	<10	<100	<10
Vinyl chloride	<10	<100	<10
Chloroethane	<10	<100	<10
Methylene chloride	<5	<50	<5
1,1-Dichloroethene	<5	<50	<5
1,1-Dichloroethane	<5	<50	<5
Total 1,2-Dichloroethene	<5	<50	<5
Chloroform	<5	<50	<5
1,2-Dichloroethane	<5	<50	<5
1,1,1-Trichloroethane	<5	<50	<5
Carbon tetrachloride	<5	<50	<5
Bromodichloromethane	<5	<50	<5
1,2-Dichloropropane	<5	<50	<5
c-1,3-Dichloropropene	<5	<50	<5
Trichloroethene	<5	<50	<5
Benzene	75	2200	<5
Dibromochloromethane	<5	<50	<5
1,1,2-Trichloroethane	<5	<50	<5
t-1,3-Dichloropropene	<5	<50	<5
2-Chloroethylvinyl ether	<5	<50	<5
Bromoform	<5	<50	<5
1,1,2,2-Tetrachloroethane	<5	<50	<5
Tetrachloroethene	<5	<50	<5

May 9, 1989
Page 5 of 18

Accu-Labs Research, Inc.

Mr. David Boyer
NM Oil Conservation Division

RECEIVED

MAY 17 1989

RE: 9649-29859-20
Date Samples Rec'd: 4-5-89
P.O. No. 77-521.07-123

OIL CONSERVATION DIV.
SANTA FE

REPORT OF ANALYSIS

ALR Designation	9649- 29859 -20-4	9649-29859-20-5	9649- 29859 -20-6
Sponsor Designation	8903291055	8903301230	8903291630
	3-29-89	3-30-89	3-29-89

Determination: µg/L

Toluene	100	1300	<5
Chlorobenzene	<5	<50	<5
Ethyl benzene	64	170	<5
Total Dichlorobenzenes	<5	<50	<5
Total Xylenes	130	370	<5

Determination: mg/L

Aluminum, total	<1*	<1*	<0.1
Barium, total	1.4	0.4	0.10
Boron, total	60	49	0.2
Cadmium, total	<0.05*	<0.05*	<0.005
Calcium, total	4300	4400	110
Chromium, total	<0.05*	<0.05*	<0.005
Cobalt, total	<0.05*	<0.05*	<0.005
Copper, total	<0.05*	<0.05*	0.032
Iron, total	2.2	0.9	1.4
Magnesium, total	6200	700	22
Manganese, total	4.5	0.22	0.21
Mercury, total	<0.001*	<0.001*	<0.001*
Molybdenum, total	<0.05*	<0.05	<0.005
Nickel, total	<0.1*	<0.1*	<0.01
Potassium, total	320	250	5.4
Silver, total	<0.005	0.018	<0.005
Sodium, total	72,000	43,000	120
Strontium, total	100	460	1.0
Zinc, total	<0.05*	<0.05*	<0.005
Total Alkalinity, (as CaCO ₃ to pH 4.5)	580	300	170

May 9, 1989
Page 6 of 18

Accu-Labs Research, Inc.

Mr. David Boyer
NM Oil Conservation Division

RECEIVED

RE: 9649-29859-20
Date Samples Rec'd: 4-5-89
P.O. No. 77-521.07-123

MAY 17 1989

OIL CONSERVATION DIV.
SANTA FE

REPORT OF ANALYSIS

ALR Designation
Sponsor Designation

9649-29859-20-4	9649-29859-20-5	9649-29859-20-6
8903291055	8903301230	8903291630
3-29-89	3-30-89	3-29-89

Determination: mg/L

Carbonate (as CO ₃)	<5	<5	<5
Bicarbonate (as HCO ₃)	700	360	200
pH	7.2	6.9	7.6
Specific Conductance, µmhos/cm	390,000	230,000	1400
Arsenic, total	0.51	<0.005	<0.005
Lead, total	0.008	0.050	<0.005
Selenium, total	<0.25*	<0.10*	<0.005
Total Solids	210,000	120,000	750
Bromide	270	<80*	<5*
Chloride	130,000	70,000	250
Sulfate (as SO ₄)	4100	1400	110
Ion Balance	102	107	100

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud, NE

Albuquerque, NM 87106 [505]-841-2500

RADIOCHEMISTRY SECTION [505]-841-2574

July 24, 1989

ANALYTICAL REPORT
SLD Accession No. RC-89-0154Distribution

(■) Submitter

To: Mr. David G. Boyer
NM Oil Conservation Div.
P. O. Box 2088
Santa Fe, NM 87504

From: Radiochemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: A water sample submitted to this laboratory on April 12, 1989

DEMOGRAPHIC DATA

COLLECTION		LOCATION
On: 30-Mar-89	By: Boy ...	Salt Water Disposal/Evaporation Pond
At: 12:30 hrs.	In/Near:	Laguna Gatuna / Rice

ANALYTICAL RESULTS

Analysis	Value	Sigma	D. Lmt.	Units	Analyst
G-Alpha w/ Am-241 ref.	3100.00	400.00	300.00	pCi/L	Cress
G-Alpha w/ U -nat ref.	4100.00	700.00	350.00	pCi/L	Cress
G-Beta w/ Cs-137 ref.	1440.00	250.00	250.00	pCi/L	Cress
G-Beta w/ Sr/Y90 ref.	1600.00	300.00	300.00	pCi/L	Cress
Ra-226, non-SDWA Mth'd	1200.00	70.00	1.00	pCi/L	Cress
Ra-228, non-SDWA Mth'd	114.00	45.00	70.00	pCi/L	Bay
U -238, non-SDWA Mth'd	9.00	4.00		pCi/L	Lusk
U -234, non-SDWA Mth'd	4.00	4.00		pCi/L	Lusk
Th-230, non-SDWA Mth'd	-6.00	4.00		pCi/L	Lusk

Notations & Comments:

Uncertainties, sigmas, are expressed as +/- one standard deviation, i.e. one standard error.

Small negative or positive values which are less than two(2) standard deviations should be interpreted as: including 'zero'; as 'not detected'; as 'less than the detection limit (<D. Lmt.)' when reported; or 'less than twice the standard deviation'.

Laboratory Remarks:

-Reported uncertainties represent those do to counting statistics (sample background, calibration, etc.), but do NOT include that contributed to the "chemical separation reproducibility" by such briney water.

-The Ra-228 result has been corrected for a discovered reagent (K2[SO4]) contribution of 1.2 +/- 0.3 pCi/G of K2[SO4].

Reviewed By:

Loren A. Berge
Loren A. Berge, Ph.D. 07/24/89
Supervisor, Radiochemistry Section

RECEIVED

JUL 26 1989

OIL CONSERVATION DIV.
SANTA FE

water T20S, R33E, sec 18.114

LAB NUMBER RC 0154
DATE RECEIVED 04/12/89
DATE REPORTED _____
User Code 59300

Energy, Minerals and Natural Resource Dept.
REPORT TO: Oil Conservation Division
P. O. Box 2088
310 Old Santa Fe Trail
Santa Fe, New Mexico 87504

Attention: David G. Boyer

☒ Water () Soil () Sediment () Vegetation () Air Filter ()

Sample Location LAGUNA GATUNA / RICE Sample # 8903301230

Purpose _____

Date Collected 3/30/89 Time 1230 Name BOYER / ANDERSON

Remarks by Collector SALT WATER DISPOSAL / EVAPORATION POND

Sample Preparation

() Filtered ☒ Non Filtered ☒ HNO₃ () H₂SO₄ () _____

pH 7

Temp. _____

Conductivity >50,000 umho

Conductivity at 25°C _____ umho

ANALYSES REQUESTED

Units + Counting Error Date Analysed

☒ Gross Alpha (Rel to U 238)	_____	_____	_____
☒ Gross Alpha (Rel to Am 241)	_____	_____	_____
☒ Gross Beta	_____	_____	_____
() Uranium 238	_____	_____	_____
() Uranium 235	_____	_____	_____
() Uranium 234	_____	_____	_____
() Thorium 232	_____	_____	_____
() Thorium 230	_____	_____	_____
() Thorium 228	_____	_____	_____
☒ Radium 226	_____	_____	_____
☒ Radium 228	_____	_____	_____
() Lead 210	_____	_____	_____
() Polonium 210	_____	_____	_____
() Radon 222	_____	_____	_____
() Gamma Spectroscopy	_____	_____	_____
() Other	_____	_____	_____

REMARKS BY ANALYST _____

87-0142-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud, NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

FEB 27 1987

S.L.D. No. OR-

87-0142-A-B

DATE REC.

2-5-87

PHONE(S): 827-5812 USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 7 0 1 2 8 1 4 0 0 EB

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: CODE: ☐ ☐ ☐

COUNTY: LEA; CITY: HOBBS CODE: ☐ ☐ ☐

LOCATION CODE: (Township-Range-Section-Tracts) 21015+3131E+118+114 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
☒ (754) Aromatic & Halogenated Purgeables
☐ (765) Mass Spectrometer Purgeables
☐ (766) Trihalomethanes

Other Specific Compounds or Classes

☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
☐ (760) Organochlorine Pesticides
☐ (755) Base/Neutral Extractables
☐ (758) Herbicides, Chlorophenoxy acid
☐ (759) Herbicides, Triazines
☐ (760) Organochlorine Pesticides
☐ (761) Organophosphate Pesticides
☐ (767) Polychlorinated Biphenyls (PCB's)
☐ (764) Polynuclear Aromatic Hydrocarbons
☐ (762) SDWA Pesticides & Herbicides

Remarks: POLLUTION CONTROL END OF PIPE LEADING TO
PIT 2

FIELD DATA:

pH= _____; Conductivity= _____ umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ / _____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities. (signature collector): David Boyer

Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (Not Frozen).
☐ P-Na₂S₂O₃ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on _____ / _____ / _____ - _____ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures _____

For OCD Use: Date Owner Notified 3/25/87 Phone or Letter? _____ Initials EB

ANALYSES PERFORMED

LAB. No.: OR- 142

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
☒ (754) Aromatic & Halogenated Purgeables
☐ (765) Mass Spectrometer Purgeables
☐ (766) Trihalomethanes
 Other Specific Compounds or Classes

☐
☐
☐
☐
☐
☐

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
☐ (760) Organochlorine Pesticides
☐ (755) Base/Neutral Extractables
☐ (758) Herbicides, Chlorophenoxy acid
☐ (759) Herbicides, Triazines
☐ (760) Organochlorine Pesticides
☐ (761) Organophosphate Pesticides
☐ (767) Polychlorinated Biphenyls (PCB's)
☐ (764) Polynuclear Aromatic Hydrocarbons
☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
<i>aromatic hydrocarbons *</i>		<i>halogenated hydrocarbons *</i>	<i>N.D.</i>
<i>Benzene</i>	<i>3900</i>		
<i>Toluene</i>	<i>2500</i>		
<i>Ethylbenzene</i>	<i>200</i>		
<i>p-xylene</i>	<i>50</i>		
<i>m-xylene</i>	<i>230</i>		
<i>o-xylene</i>	<i>130</i>		
* DETECTION LIMIT *	<i>10 ug/l</i>	+ DETECTION LIMIT +	<i>+</i>

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS:

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☒ Seal(s) broken by: *not sealed* date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: *2/24/87* Analyst's signature: *Mary C. Eden*

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: *R Meyerheim*

FEB 24 1987



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED	2 5 87	LAB NO.	WC-338	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	1/28/87	SITE INFORMATION	Sample location		
Collection TIME	1400		POLLUTION CONTROL		
Collected by — Person/Agency		Collection site description			
ANDERSON, BAILEY 10CD		END OF PIPE LEADING TO			

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
				GRAB
pH (00400)	Conductivity (Uncorrected) μ mho	Water Temp. (00010) $^{\circ}$ C	Conductivity at 25 $^{\circ}$ C (00094) μ mho	
Field comments				

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted	1	☐ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 μ m membrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☒ NA: No acid added		☐ Other-specify:	☐ A: 5ml conc. HNO ₃ added	☐ A: 4ml fuming HNO ₃ added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25 $^{\circ}$ C (00095)	μ mho		☒ Calcium (00915)	4900 mg/l	2/23
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925)	1600 mg/l	2/23
☐ Other:			☒ Sodium (00930)	27000 mg/l	2/9
☐ Other:			☒ Potassium (00935)	830 mg/l	2/9
☐ Other:			☒ Bicarbonate (00440)	459 mg/l	2/10
			☒ Chloride (00940)	81,857 mg/l	2/19
			☒ Sulfate (00945)	58 mg/l	2/17
			☒ Total filterable residue (dissolved) (70300)	122,650 mg/l	2/12
			☒ Other: CO ₃	0	2/10
NF, A-H ₂ SO ₄			F, A-H ₂ SO ₄		
☐ Nitrate-N ⁺ , Nitrate-N total (00630)	mg/l		☐ Nitrate-N ⁺ , Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ()	mg/l		☐ Total Kjeldahl-N ()	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported	Reviewed by
				2/23/87	CS

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified 3/25/87 Phone or Letter? Initials CB



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2500

HEAVY METALS
GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED	2 5 87	LAB NO.	ICP-46	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	1 28 87	SITE INFORMATION	Sample location		
Collection TIME	1400		POLLUTION CONTROL		
Collected by — Person/Agency			Collection site description		
ANDERSON, BAILEY /OCD			END OF PIPE LEADING TO PIT 2		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
				GRAB
pH (00400)	Conductivity (Uncorrected)	μmho	Water Temp. (00010)	°C
				Conductivity at 25°C (00094)
				μmho
Field comments				

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted	1	☐ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 μm membrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☐ NA: No acid added		☐ Other-specify:		☐ A: 5ml conc. HNO ₃ added
				☒ A: 4ml fuming HNO ₃ added

ANALYTICAL RESULTS from SAMPLES

Units	Date analyzed	F, NA	Units	Date analyzed
NE-NA F, A HNO₃				
☒ Conductivity (Corrected) 25°C (00095)	μmho	☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l	☐ Magnesium (00925)	mg/l	
☒ Other: ICP		☐ Sodium (00930)	mg/l	
☐ Other:		☐ Potassium (00935)	mg/l	
☐ Other:		☐ Bicarbonate (00440)	mg/l	
		☐ Chloride (00940)	mg/l	
		☐ Sulfate (00945)	mg/l	
		☐ Total filterable residue (dissolved) (70300)	mg/l	
		☐ Other:		
NF, A-H₂SO₄				
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	F, A-H₂SO₄		
☐ Ammonia-N total (00610)	mg/l	☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Total Kjeldahl-N ()	mg/l	☐ Ammonia-N dissolved (00608)	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	☐ Total Kjeldahl-N ()	mg/l	
☐ Total organic carbon ()	mg/l	☐ Other:		
☐ Other:		Analyst		
☐ Other:		Date Reported		
Laboratory remarks		3 16 87		
digested		Reviewed by		
		Jim Asberry		

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified 3/25/87 Phone or letter? Initials

ICAP SCAN

SLD Lab No. ICP 46

Analyst OK + JB

Date Analyzed 2/18/87

Reviewed by: Jim Kahly

Date Reported: 03/16/87

ELEMENT	ICAP VALUE (mg/l)	AA VALUE (mg/l)
Aluminum	<0.1	
Barium	0.5	
Beryllium	<0.1	
Boron	65.	
Cadmium	<0.1	
Calcium	4420.	
Chromium	<0.1	
Cobalt	<0.05	
Copper	<0.1	
Iron	0.1	
Lead	<0.1	
Magnesium	1900.	
Manganese	0.96	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	11.	
Silver	0.4	
Strontium	310.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		
Selenium		
Mercury		

754 wpu

87-0138-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO

REPORT TO: David Boyer

N.M. Oil Conservation Division

P. O. Box 2088

Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 87-0138-A-B

DATE REC. 2-5-87

PHONE(S):

827-5812

USER CODE:

8 2 2 3 5

SUBMITTER:

David Boyer

CODE:

2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII)

8 7 0 1 2 8 1 3 2 0 4 B

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

CODE: _____

COUNTY:

LEA

CITY:

HOBBS

CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts)

2105 + 33E + 18 + 14 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
☒ (754) Aromatic & Halogenated Purgeables
☐ (765) Mass Spectrometer Purgeables
☐ (766) Trihalomethanes

Other Specific Compounds or Classes

☐ _____
☐ _____
☐ _____
☐ _____
☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
☐ (760) Organochlorine Pesticides
☐ (755) Base/Neutral Extractables
☐ (758) Herbicides, Chlorophenoxy acid
☐ (759) Herbicides, Triazines
☐ (760) Organochlorine Pesticides
☐ (761) Organophosphate Pesticides
☐ (767) Polychlorinated Biphenyls (PCB's)
☐ (764) Polynuclear Aromatic Hydrocarbons
☐ (762) SDWA Pesticides & Herbicides

Remarks: POLLUTION CONTROL FINAL REPORT

FIELD DATA:pH= _____; Conductivity= 5000 umho/cm at 14 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ / _____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities. (signature collector): David Boyer

Method of Shipment to the Lab: Hand carriedThis form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (Not Frozen).
☐ P-Na₂S₂O₃ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on _____ / _____ / _____ - _____ : _____ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures _____

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 138

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
☒ (754) Aromatic & Halogenated Purgeables
☐ (765) Mass Spectrometer Purgeables
☐ (766) Trihalomethanes

Other Specific Compounds or Classes

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
☐ (760) Organochlorine Pesticides
☐ (755) Base/Neutral Extractables
☐ (758) Herbicides, Chlorophenoxy acid
☐ (759) Herbicides, Triazines
☐ (760) Organochlorine Pesticides
☐ (761) Organophosphate Pesticides
☐ (767) Polychlorinated Biphenyls (PCB's)
☐ (764) Polynuclear Aromatic Hydrocarbons
☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
<i>aromatic hydrocarbons *</i>		<i>halogenated hydrocarbons *</i>	N.D.
<i>benzene</i>	<i>490</i>		
<i>toluene</i>	<i>300</i>		
<i>Ethylbenzene</i>	<i>20</i>		
<i>p-xylene</i>	<i>7</i>		
<i>m-xylene</i>	<i>25</i>		
<i>o-xylene</i>	<i>20</i>		
<i>[acetone] + [300]</i>			
* DETECTION LIMIT *	<i>5 ug/L</i>	+ DETECTION LIMIT +	<i>100 ug/L</i>

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: *Five other peaks detected with the photoionization detector but not identified.*

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☒ Seal(s) broken by: *not sealed* date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: *2/12/87* Analyst's signature: *Mary C. Eden*

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: *Richard Meyershein*



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED	2 5 87	LAB NO.	WC-337	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	87/01/28	SITE INFORMATION	Sample location		
Collection TIME	1320		Pollution Control		
Collected by — Person/Agency		Collection site description			
BAILEY/ANDERSON /OCD		FINAL POND			

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
				GRAB
pH (00400)	Conductivity (Uncorrected)	Water Temp. (00010)	Conductivity at 25°C (00094)	
	>50,000 µmho	14 °C		
Field comments				

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted	☐ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 µm membrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☒ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO ₃ added ☐ A: 4ml fuming HNO ₃ added			

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☒ Calcium (00915)	6100 mg/l	2-23
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925)	1073 mg/l	2-23
☐ Other:			☒ Sodium (00930)	31000 mg/l	29
☐ Other:			☒ Potassium (00935)	830 mg/l	29
☐ Other:			☒ Bicarbonate (00440)	349 mg/l	2/10
			☒ Chloride (00940)	74619 mg/l	2/19
			☒ Sulfate (00945)	54 mg/l	2/17
			☒ Total filterable residue (dissolved) (70300)	128672 mg/l	2/12
			☒ Other: CO ₃	0	2/10
NF, A-H ₂ SO ₄			F, A-H ₂ SO ₄		
☐ Nitrate-N ⁺ , Nitrate-N total (00630)	mg/l		☐ Nitrate-N ⁺ , Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ()	mg/l		☐ Total Kjeldahl-N ()	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported	Reviewed by
				2/23/87	CO

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified 3/25/87 Phone or letter Initials JB



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

HEAVY METALS
GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED	2 5 87	LAB NO.	ICP-47	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	87 01 28	SITE INFORMATION	Sample location		
Collection TIME	1320		POLLUTION CONTROL		
Collected by — Person/Agency		Collection site description			
BAILEY / ANDERSON / OCD		FINAL POND			

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
				GRAB
pH (00400)	Conductivity (Uncorrected)	Water Temp. (00010)	Conductivity at 25°C (00094)	
	> 50,000 μ mho	14 °C		
Field comments				

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted	☐ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 μ m membrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☐ NA: No acid added ☐ Other-specify:		☐ A: 5ml conc. HNO ₃ added	☒ A: 4ml fuming HNO ₃ added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	μ mho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: I CAP			☐ Sodium (00930)	mg/l	
☐ Other:			☐ Potassium (00935)	mg/l	
☐ Other:			☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable residue (dissolved) (70300)	mg/l	
			☐ Other:		
NF, A-H ₂ SO ₄			F, A-H ₂ SO ₄		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ()	mg/l		☐ Total Kjeldahl-N ()	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported	Reviewed by
				3 16 87	Jim Ashley

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified 3/25/87 Phone or letter Initials JB

ICAP SCAN

SLD Lab No. ICP 47

Analyst JB 2/26/87

Reviewed by:

Date Reported:

ELEMENT	ICAP VALUE (mg/l)	AA VALUE (mg/l)
Aluminum	<0.1	
Barium	0.7	
Beryllium	<0.1	
Boron	63.	
Cadmium	<0.1	
Calcium	4760.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	1500.	
Manganese	0.160	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	10.	
Silver	<0.1	
Strontium	400.	
Tin	<0.1	
Vanadium	0.3	
Zinc	<0.1	
Arsenic		
Selenium		
Mercury		

Form C-134
Aug. 1, 1989

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Permit No. H-28
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952

FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule 711(I)

Operator Name: Rice Engineering Corp. as agent for Laguna Gatuna, Inc.

Operator Address: 122 W. Taylor, Hobbs, NM 88240

Lease or Facility Name Truck terminal Location M 17 20S 33E

Size of pit or tank: 6 settling pits with total area of approx. 70,000 ft².

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

_____ The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

- 1) If any oil or hydrocarbons should reach this facility give method and time required for removal:

RECEIVED
Required for removal:

SEP 15 1989

~~OIL CONSERVATION DIV.~~
~~SANTA FE~~

- 2) If any oil or hydrocarbons reach the above-described facility the operator is required to notify the appropriate District Office of the OCD with 24 hours.

X Operator proposes the following alternate protective measures: A network of colored flagging suspended above the pits by lines and posts.

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature S. A. Hakton Title Division Manager Date August 31, 1989

Printed Name S. A. Haktanir Telephone No. 393-9174

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 9-12-89

Inspected by David R. Smith

**ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT I SUPERVISOR**

Approved by DISTRICT I SUPERVISOR

Title _____

Date **SEP 12 1989**

SEP 12 1989

RECEIVED

SEP 1 1989

OCD
HOBBS OFFICE

Form C-134
Aug. 1, 1989

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Permit No. H-29
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952

FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule 711(I)

Operator Name: Rice Engineering Corp. as agent for Laguna Gatuna, Inc.

Operator Address: 122 W. Taylor, Hobbs, NM 88240

Lease or Facility Name Laguna Gatuna SWD System Terminal Location D 18 20S 33E

Size of pit or tank: 160 FT X 160 FT (150 FT X 150 FT AT BOTTOM, 174 FT X 174 FT ON BERM)

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

_____ The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

RECEIVED

- 1) If any oil or hydrocarbons should reach this facility give method and time required for removal.

~~OIL CONSERVATION DIV.~~
SANTA FE

- 2) If any oil or hydrocarbons reach the above-described facility the operator is required to notify the appropriate District Office of the OCD with 24 hours.

X Operator proposes the following alternate protective measures: A network of colored flagging suspended above the pit by lines and posts.

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature S.A. Haktoni Title Division Manager Date August 31, 1989

Printed Name S.A.Haktanir Telephone No. 393-9174

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 9-12-89

Inspected by Edward R. Smith

Approved by _____ ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT 1 SUPERVISOR

Title _____

Date **SEP 12 1989**

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Permit No. H-36
(For Division Use Only)

APPLICATION FOR EXCEPTION TO DIVISION ORDER R-8952

FOR PROTECTION OF MIGRATORY BIRDS Rule 8(b), Rule 105(b), Rule 312(h), Rule 313, or Rule 711(I)

Operator Name: Rice Engineering Corp. as agent for Laguna Gatuna, Inc.

Operator Address: 122 W. Taylor, Hobbs, NM 88240

Lease or Facility Name PCI treating facilities Location C 18 20S 33E

Size of pit or tank: 20 various size skimming pits with total area of approx. 395,000 ft².

Operator requests exception from the requirement to screen, net or cover the pit or tank at the above-described facility.

_____ The pit or tank is not hazardous to migratory waterfowl. Describe completely the reason pit is non-hazardous.

RECEIVED
required for removal

- 1) If any oil or hydrocarbons should reach this facility give method and time required for removal.

SEP 15 1989

~~OIL CONSERVATION DIV.~~
~~SANTA FE~~

- 2) If any oil or hydrocarbons reach the above-described facility the operator is required to notify the appropriate District Office of the OCD with 24 hours.

X Operator proposes the following alternate protective measures: These pits are in the process of being dewatered, broken up and covered.

CERTIFICATION BY OPERATOR: I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature S. A. Haktani Title Division Manager Date August 31, 1989

Printed Name S. A. Haktanir Telephone No. 393-9174

FOR OIL CONSERVATION DIVISION USE

Date Facility Inspected 9-13-89

Inspected by Eddie W. Seay
Oil & Gas Inspector

Because of the solidity of these pits and the proximity to the salt lake area these pits do not pose a problem to migratory birds

ORIGINAL SIGNED BY JERRY SEXTON
DISTRICT 1 SUPERVISOR

Approved by _____ DISTRICT 1 SUPERVISOR

Title _____

Date **SEP 13 1989**