

GW - 30

**GENERAL
CORRESPONDENCE**

YEAR(S):

1988



PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

August 11, 1988

Notification of Discharge
Lee Gasoline Plant

CERTIFIED MAIL
RETURN RECEIPT NO. P-512 089 614

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

In compliance with Section 1-203 of the Water Quality Control Commission regulations, this is to notify you of a discharge of hydrocarbon material to the uppermost aquifer at our Lee Gasoline Plant.

As you are aware, we recently completed installation of new groundwater monitoring well systems at our four southeastern New Mexico plants (Artesia, Eunice, Lee and Lusk). The new systems were installed as a result of a Compliance Order issued by the New Mexico Environmental Improvement Division. The first set of samples from the new wells were taken during the month of May. Analysis results were recently received by this office (copies attached).

You will note from the analyses that water in the No. 4 well at Lee Plant shows some evidence of hydrocarbon contamination. Hydrocarbon contamination was also detected in the original upgradient well located approximately 250 feet north of the No. 4 well. We have requested our consultants on this project (Geoscience Consultants, Ltd. of Albuquerque) provide you with a copy of their document entitled "Report on the Installation of a Ground-Water Monitoring System at Phillips 66 Natural Gas Company Lee Plant" for additional detailed information.

Phillips has contracted GCL to perform a contamination assessment of the Lee Plant site. GCL plans to conduct a soil gas vapor survey as the first step in this project. We would like to schedule a meeting with you and your staff to further discuss our strategies for remediation of this problem. Please contact Mike Ford of this office to schedule a meeting date.

Questions regarding this information should be directed to Mike Ford of this office at (915) 367-1316.

Very truly yours,

L. L. Frantz
Manager, Permian Basin Region

LLF:MDF

Attachments

REPORT Radian
TO BL 1
Austin

ATTEN Linda Bendele

CLIENT PHILLIPS P SAMPLES 3
COMPANY Phillips Petroleum
FACILITY Odessa, TX

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTEN
PHONE 512-454-4797

CONTACT BENDELE

[Signature]
CERTIFIED BY

WORK ID Lusk 1 and 2
TAKEN MF
TRANS UPS
TYPE
P. O. #
INVOICE under separate cover

Footnotes and Comments

- * Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.
- @ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

01 Lusk MW-1
02 Lusk MW-2
03 reagent blank

2nd QTR - 8/88

TEST CODES and NAMES used on this report

AG E	Silver, ICPEs	SO4 IC	Sulfate, IC
AS G	Arsenic, graphite AA	TOC	Total organic carbon
BA E	Barium, ICPEs	TOX	Total organic halides
CD E	Cadmium, ICPEs	TURB	Turbidity
CL IC	Chloride, IC	XYLENE	Xylenes, EPA 602
CR E	Chromium, ICPEs		
D03020	Digestion, method 3020		
D06010	Digestion, method 6010		
EPA602	EPA method 602		
FE E	Iron, ICPEs		
F IC	Fluoride, IC		
HG C	Mercury, cold vapor		
MHO	Specific conductance		
MN E	Manganese, ICPEs		
NA E	Sodium, ICPEs		
NO3	Nitrate, colorimetric		
PB E	Lead, ICPEs		
PH	pH		
PHEN	Total phenolics		
SE G	Selenium, graphite AA		

Received: 08/18/88

Results By Test

SAMPLE	Test: AG E	Test: AS G	Test: BA E	Test: CD E	Test: CL IC
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	mg/L
01	<0.03	0.017	0.088	0.007*	830
Lusk MW-1					
02	<0.03	0.017	0.043*	<0.005	320
Lusk MW-2					

SAMPLE	Test: CR E	Test: DG3020	Test: DG6010	Test: FE E	Test: F IC
Sample Id	ug/ml	date complete	date complete	ug/ml	mg/L
01	<0.03	09/08/88	09/02/88	<0.04	2.4
Lusk MW-1					
02	<0.03	09/08/88	09/02/88	0.20	3.2
Lusk MW-2					

SAMPLE	Test: MHD	Test: MN E	Test: NA E	Test: NO3	Test: PB E
Sample Id	umhos/cm	ug/ml	ug/ml	mg/L as N	ug/ml
01	3090	0.33	120	1.4	<0.05
Lusk MW-1					
	3100				
	3070				
	3080				
02	2280	1.6	180	0.12	<0.05
Lusk MW-2					
	2180				

Received: 08/18/88

Results By Test

SAMPLE	Test: MHD	Test: MN E	Test: NA E	Test: NO3	Test: PB E
Sample Id	umhos/cm	ug/ml	ug/ml	mg/L as N	ug/ml
2180					
2180					

SAMPLE	Test: PH	Test: PHEN	Test: SE G	Test: SD4 IC	Test: TDC
Sample Id	pH units	mg/L as phenol	ug/ml	mg/L as SD4	mg/L
01	7.23	<0.005	<0.004	210	3%
Lusk MW-1	7.26				5%
	7.28				5%
	7.28				5
02	7.22	<0.005	<0.004	510	8
Lusk MW-2	7.26				8
	7.21				10
	7.17				9

SAMPLE		Test: TOX
Sample Id		mg/L
Lusk MW-1	01	0.04*
		0.28
		0.11
		0.12
		0.36
Lusk MW-2	02	0.26
		0.05
		0.04*

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 Received: 08/18/88
 RAS - Austin
 Results by Sample

REPORT

Work Order # 88-08-109

SAMPLE ID Lusk MW-1

FRACTION OIL

TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 08/16/88

Category

ANALYST	BM	INJECTED	FILE #	VERIFIED	CL
INSTRMT	D	08/19/88		UNITS	ug/L
CAS#		COMPOUND	RESULT	DET LIMIT	
71-43-2		Benzene	7.4	0.2	
108-88-3		Toluene	0.3*	0.2	
100-41-4		Ethylbenzene	ND	0.3	
108-90-7		Chlorobenzene-A	ND	0.3	
106-46-7		1,4-Dichlorobenzene	ND	0.3	
541-73-1		1,3-Dichlorobenzene	ND	0.4	
95-50-1		1,2-Dichlorobenzene	ND	0.4	

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 105% recovery

NOTES AND DEFINITIONS FOR THIS REPORT

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted.

Received: 08/18/88

SAMPLE ID Lusk MW-1

RAS - Austin

REPORT
Results by Sample

FRACTION OIL

Date & Time Collected 08/16/88
A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

TEST CODE EPA602
NAME EPA method 602

Work Order # 88-08-109
Continued From Above

Category

RADIAN CORPORATION

Work Order # 88-08-109

REPORT

RAS - Austin

Results by Sample

Page 7
Received: 08/18/88

SAMPLE ID Lusk MW-1

FRACTION 01K TEST CODE HQ C
Date & Time Collected 08/16/88

NAME Mercury, cold vapor
Category

VERIFIED RHH

UNITS ug/ml

ANALYST KCP
INSTRMT 403

ANALYZED 08/31/88

DET LIMIT

ANALYTE RESULT

Mercury ND 0.00018

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-1

FRACTION 01A TEST CODE TURB
Date & Time Collected 08/16/88

NAME Turbidity
Category

VERIFIED LM

UNITS NTU

ANALYST MJS
INSTRMT HACH

ANALYZED 08/18/88

ANALYTE RESULT DET LIMIT

Turbidity 17 1.0

Page 8
 Received: 08/18/88
 RAS - Austin
 Results by Sample
 REPORT
 Work Order # 88-08-109
 Continued From Above

SAMPLE ID Lusk MW-1
 FRACTION 01A
 Date & Time Collected 08/16/88
 TEST CODE TURB
 NAME Turbidity
 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-1
 FRACTION 01I
 Date & Time Collected 08/16/88
 TEST CODE XYLENE
 NAME Xylenes, EPA 602
 Category

ANALYST BM
 INSTRMT D
 INJECTD 08/19/88
 FILE #
 UNITS ug/L
 VERIFIED CL

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	1.90	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

78-08-8
 SURROGATES
 a,a,a-Trifluorotoluene 105% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

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N/A = not available

Second column confirmation NOT performed

unless otherwise noted.

RADIAN
CORPORATION

RAS - Austin

Results by Sample

REPORT

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Received: 08/18/88

SAMPLE ID Lusk MW-1

FRACTION OIL TEST CODE XYLENE
Date & Time Collected 08/16/88

NAME Xylenes, EPA 602
Category

Work Order # 88-08-109
Continued From Above

Q = daily EPA standard recovery outside
95% confidence interval.
Chlorobenzene and p-xylene co-elute unless
quantitated as chlorobenzene.
Otherwise noted.

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-109

SAMPLE ID Lusk MW-2

FRACTION 021 TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 08/16/88

Category

ANALYST _____
INSTRMT _____

BM
D

FILE #

INJECTED 08/19/88

VERIFIED _____

CL

UNITS

ug/L

COMPOUND RESULT DET LIMIT

CAS#

71-43-2

Benzene

ND

0.2

108-88-3

Toluene

ND

0.2

100-41-4

Ethylbenzene

ND

0.3

108-90-7

Chlorobenzene-A

ND

0.3

106-46-7

1,4-Dichlorobenzene

ND

0.3

541-73-1

1,3-Dichlorobenzene

ND

0.4

95-50-1

1,2-Dichlorobenzene

ND

0.4

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 110% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted.

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-109
Continued From Above

SAMPLE ID Lusk MW-2

FRACTION 021

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 08/16/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 08/18/88

RAS - Austin

REPORT
Results by Sample

Work Order # 88-08-109

SAMPLE ID Lusk MW-2

FRACTION 02K

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 08/16/88

Category

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 08/31/88

UNITS ug/ml

ANALYTE RESULT DET LIMIT

Mercury ND 0.00018

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-2

FRACTION 02A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 08/16/88

Category

VERIFIED LM

ANALYST MJS
INSTRMT HACH

ANALYZED 08/18/88

UNITS NTU

ANALYTE RESULT DET LIMIT

Turbidity 38 1.0

RADIAN
CORPORATION

RAS - Austin

Results by Sample

REPORT

NAME Turbidity

Category

13

ived: 08/18/88

FRACTION Q2A

TEST CODE TURB

08/16/88

Date & Time Collected

SAMPLE ID Lusk MW-2

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

DET LIMIT = DETECTED AT DETECTION LIMIT

ND = not analyzed

NA = not available

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-2

NAME Xylenes, EPA 602

Category

TEST CODE XYLENE

08/16/88

FRACTION Q21

Date & Time Collected

VERIFIED

CL

UNITS

ug/L

FILE #

INJECTD 08/19/88

ANALYST

BM

D

RESULT DET LIMIT

ND, G. @

ND

ND

0.2

0.2

0.1

COMPOUND

p-Xylene

m-Xylene-A

o-Xylene

CAS #

106-42-3

108-38-3

95-47-6

105% recovery

SURROGATES

a, a, a-Trifluorotoluene

98-08-8

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

DET LIMIT = DETECTED AT DETECTION LIMIT

ND = not analyzed

NA = not available

* = less than 5 times the detection limit

N/A = not available

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-109
Continued From Above

SAMPLE ID Lusk MW-2

FRACTION 021

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 08/16/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.
Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

FRACTION Q3A TEST CODE EPA602 NAME EPA method 602
Date & Time Collected not specified Category

ANALYST INSTRMT	CL D	INJECTED 08/19/88	FILE #	VERIFIED	CL	UNITS	ug/L
CAS#	COMPOUND	RESULT	DET LIMIT				
71-43-2	Benzene	ND	0.2				
108-88-3	Toluene	ND	0.2				
100-41-4	Ethylbenzene	ND	0.3				
108-90-7	Chlorobenzene-A	ND	0.3				
106-46-7	1,4-Dichlorobenzene	ND	0.3				
541-73-1	1,3-Dichlorobenzene	ND	0.4				
95-50-1	1,2-Dichlorobenzene	ND	0.4				
SURROGATES							
98-08-8	a,a,a-Trifluorotoluene	N/A% recovery					

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-109
Continued From Above

SAMPLE ID reagent blank

FRACTION 03A

TEST CODE EPA602 NAME EPA method 602

Date & Time Collected not specified

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 08/18/88

RAS - Austin

REPORT

Work Order # 88-08-109

Results by Sample

SAMPLE ID reagent blank

FRACTION 03A

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected not specified

Category

ANALYST
INSTRMT

CL
D

INJECTD 08/19/88

FILE #

VERIFIED

CL

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND,Q	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

SURROGATES

98-08-B

a,a,a-Trifluorotoluene

N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted

Q = daily EPA standard recovery outside

95% confidence interval

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless

otherwise noted.

RADIAN
CORPORATION

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Received: 08/18/88

RAS - Austin

REPORT

NonReported Work

Work Order # 88-08-109

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01U : SPR602
02U : SPR602

Received: 08/18/88

RAS - Austin

REPORT

Work Order # 88-08-110

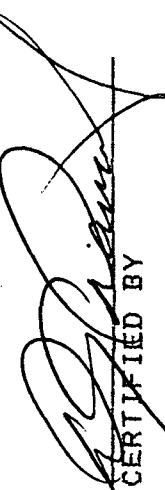
09/15/88 13:49:05

REPORT Radian
TO BL 1
Austin
ATTN: Linda Bendele

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTN: 512-454-4797
PHONE

CLIENT PHILLIPS P SAMPLES 4
COMPANY Phillips Petroleum
FACILITY Odessa, TX

WORK ID Lusk 3 and 4
TAKEN MF
TRANS UPS
TYPE
P.O. #
INVOICE under separate cover

CERTIFIED BY 
CONTACT BENDELE

Footnotes and Comments

- * Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.
- @ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

01 Lusk MW-3
02 Lusk MW-4
03 trip-blank
04 reagent blank

2nd QTR - 8/88

TEST CODES and NAMES used on this report

AG E	Silver, ICPEs	SD4 IC	Sulfate, IC
AS G	Arsenic, graphite AA	TDC	Total organic carbon
BA E	Barium, ICPEs	TOX	Total organic halides
CD E	Cadmium, ICPEs	TURB	Turbidity
CL IC	Chloride, IC	XYLENE	Xylenes, EPA 602
CR E	Chromium, ICPEs		
DG3020	Digestion, method 3020		
DG6010	Digestion, method 6010		
EPA602	EPA method 602		
FE E	Iron, ICPEs		
F IC	Fluoride, IC		
HG C	Mercury, cold vapor		
MHO	Specific conductance		
MN E	Manganese, ICPEs		
NA E	Sodium, ICPEs		
NO3	Nitrate, colorimetric		
PB E	Lead, ICPEs		
PH	pH		
PHEN	Total phenolics		
SE G	Selenium, graphite AA		

SAMPLE	Test: AG E	Test: AS G	Test: BA E	Test: CD E	Test: CL IC
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	mg/L
01	<0.03	0.020	0.036*	<0.005	340
Lusk MW-3					
02	<0.03	0.017	0.053	<0.005	390
Lusk MW-4					

SAMPLE	Test: CR E	Test: DG3020	Test: DG6010	Test: FE E	Test: F IC
Sample Id	ug/ml	date complete	date complete	ug/ml	mg/L
01	<0.03	09/08/88	09/02/88	<0.04	2.5
Lusk MW-3					
02	0.057*	09/08/88	09/02/88	<0.04	2.5
Lusk MW-4					

SAMPLE	Test: MHO	Test: MN E	Test: NA E	Test: ND3	Test: PB E
Sample Id	umhos/cm	ug/ml	ug/ml	mg/L as N	ug/ml
01	2430	0.35	210	0.67	<0.05
Lusk MW-3	2460				
	2400				
	2340				
02	2610	1.4	210	1.2	<0.05
Lusk MW-4	2670				

SAMPLE	Test: MHD	Test: MN E	Test: NA E	Test: NO3	Test: PB E
Sample Id	umhos/cm	ug/ml	ug/ml	mg/L as N	ug/ml
	2710				
	2730				

SAMPLE	Test: PH	Test: PHEN	Test: SE G	Test: SO4 IC	Test: TOC
Sample Id	pH units	mg/L as phenol	ug/ml	mg/L as SO4	mg/L
01	7.20	<0.005	<0.004	540	8
Lusk MW-3	7.23				7
	7.20				9
	7.20				12
02	7.17	<0.005	<0.004	640	10
Lusk MW-4	7.13				9
	7.15				10
	7.13				11

Sample Id	SAMPLE	Test: TOX	
		mg/L	
Lusk MW-3	01	0.11	
		0.03*	
		0.04*	
		0.07	
		0.06	
Lusk MW-4	02	0.07	
		0.07	
		0.04*	

Received: 08/18/88

Results by Sample

SAMPLE ID Lusk MW-3

FRACTION 011 TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 08/16/88

Category

VERIFIED CL

ANALYST BM INJECTED 08/19/88 FILE # UNITS ug/L

COMPOUND RESULT DET LIMIT

Benzene ND 0.2

Toluene ND 0.2

Ethylbenzene ND 0.3

Chlorobenzene-A ND 0.3

1,4-Dichlorobenzene ND 0.3

1,3-Dichlorobenzene ND 0.4

1,2-Dichlorobenzene ND 0.4

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 104% recovery

NOTES AND DEFINITIONS FOR THIS REPORT

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-110
Continued From Above

SAMPLE ID Lusk MW-3

FRACTION O11

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 08/16/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 08/18/88

RAS - Austin
REPORT
Results by Sample

Work Order # 88-08-110

SAMPLE ID Lusk MW-3 FRACTION 01K TEST CODE HQ C NAME Mercury, cold vapor
Date & Time Collected 08/16/88 Category _____

ANALYST _____ KCP
INSTRMT 403 ANALYZED 08/31/88 VERIFIED _____ RHH
UNITS ug/ml
ANALYTE RESULT DET LIMIT
Mercury ND 0.00018

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID Lusk MW-3 FRACTION 01A TEST CODE TURB NAME Turbidity
Date & Time Collected 08/16/88 Category _____

ANALYST _____ MJS
INSTRMT HACH ANALYZED 08/18/88 VERIFIED _____ LM
UNITS NTU

ANALYTE RESULT DET LIMIT
Turbidity 18 1.0

Page 8

Received: 08/18/88

SAMPLE ID Lusk MW-3

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-110
Continued From Above

FRACTION 01A TEST CODE TURB
Date & Time Collected 08/16/88

NAME Turbidity

Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-3

FRACTION 01I TEST CODE XYLENE
Date & Time Collected 08/16/88

NAME Xylenes, EPA 602

Category _____

ANALYST _____
INSTRMT _____

BM
D

VERIFIED _____ CL _____

FILE # _____

INJECTD 08/19/88

UNITS _____

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND.Q	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

98-08-8

SURROGATES

a,a,a-Trifluorotoluene 104% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

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NA = not analyzed

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N/A = not available

Second column confirmation NDT performed

unless otherwise noted.

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-110
Continued From Above

SAMPLE ID Lusk MW-3

FRACTION O11 TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 08/16/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless
otherwise noted

Received: 08/18/88

SAMPLE ID Lusk MW-4

RAS - Austin

REPORT
Results by Sample

Work Order # 88-08-110

FRACTION 021

TEST CODE EPA602
Date & Time Collected 08/16/88

NAME EPA method 602
Category

ANALYST
INSTRMT

BM
D

INJECTED 08/19/88

FILE #

CAS#

VERIFIED

CL

CAS#	COMPOUND	RESULT	DET LIMIT	UNITS	
				ug/L	CL
71-43-2	Benzene	ND			
108-88-3	Toluene	ND	0.2		
100-41-4	Ethylbenzene	ND	0.2		
108-90-7	Chlorobenzene-A	ND	0.3		
106-46-7	1,4-Dichlorobenzene	ND	0.3		
541-73-1	1,3-Dichlorobenzene	ND	0.3		
95-50-1	1,2-Dichlorobenzene	ND	0.4		
98-08-8	SURROGATES	ND	0.4		

TESTS AND DEFINITIONS FOR THIS REPORT:
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available
Second column confirmation NOT performed unless otherwise noted.

104% recovery

KADIAN
CORPORATION

Page 11

Received: 08/18/88

RAS - Austin

REPORT
Results by Sample

SAMPLE ID Lusk MW-4

Work Order # 88-08-110
Continued From Above

FRACTION 021 TEST CODE EPA602
Date & Time Collected 08/16/88

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

NAME EPA method 602
Category

Received: 08/18/88

SAMPLE ID Lusk MW-4

RAS - Austin

REPORT
Results by Sample

Work Order # 88-08-110

FRACTION 02K TEST CODE HG C NAME Mercury, cold vapor

Date & Time Collected 08/16/88 Category

VERIFIED RHH

UNITS ug/ml

ANALYZED 08/31/88

ANALYST KCP
INSTRMT 403

ANALYTE RESULT DET LIMIT

Mercury ND 0.00018

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

FRACTION 02A TEST CODE TURB NAME Turbidity
Date & Time Collected 08/16/88 Category

SAMPLE ID Lusk MW-4

VERIFIED LM

UNITS NTU

ANALYZED 08/18/88

ANALYST MJS
INSTRMT HACH

ANALYTE RESULT DET LIMIT

Turbidity 10 1.0

Page 13
Received: 08/18/88

RAS - Austin

REPORT
Results by Sample

Work Order # 88-08-110
Continued From Above

SAMPLE ID Lusk MW-4

FRACTION 02A TEST CODE TURB
Date & Time Collected 08/16/88

NAME Turbidity

Category

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-4

FRACTION 02I TEST CODE XYLENE
Date & Time Collected 08/16/88

NAME Xylenes, EPA 602

Category

ANALYST BM
INSTRMT D

VERIFIED CL

FILE #

INJECTD 08/19/88

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND, Q	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

98-08-8

SURROGATES

a, a, a-Trifluorotoluene 104% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted

RADIAN
CORPORATION

Page 14

Received: 08/18/88

SAMPLE ID Lusk MW-4

RAS - Austin

Results by Sample

REPORT

Work Order # 88-08-110
Continued From Above

NAME Xylenes, EPA 602

Category

FRACTION 021 TEST CODE XYLENE

Date & Time Collected 08/16/88

Q = daily EPA standard recovery outside

95% confidence interval

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless

otherwise noted

SAMPLE ID trip blank

FRACTION 03A

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 08/16/88

Category

VERIFIED CL

ANALYST INSTRMT	BM D	INJECTED 08/19/88	FILE #	CAS#	COMPOUND	RESULT	DET LIMIT	UNITS	ug/L
				71-43-2	Benzene	ND	0.2		
				108-88-3	Toluene	ND	0.2		
				100-41-4	Ethylbenzene	ND	0.3		
				108-90-7	Chlorobenzene-A	ND	0.3		
				106-46-7	1,4-Dichlorobenzene	ND	0.3		
				541-73-1	1,3-Dichlorobenzene	ND	0.4		
				95-50-1	1,2-Dichlorobenzene	ND	0.4		

SURROGATES

98-08-B a,a,a-Trifluorotoluene 98% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted.

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-110
Continued From Above

SAMPLE ID trip blank

FRACTION 03A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 08/16/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Received: 08/18/88

SAMPLE ID trip blank

RAS - Austin

REPORT
Results by Sample

FRACTION 03A TEST CODE XYLENE
Date & Time Collected 08/16/88

Work Order # 88-08-170

ANALYST _____
INSTRMT _____
BM _____
D _____

NAME Xylenes, EPA 602
Category _____

INJECTD 08/19/88 FILE # _____
VERIFIED _____
CL _____

CAS #	COMPOUND	RESULT	DET LIMIT	UNITS	ug/L
106-42-3	p-Xylene	ND, Q	0.2		
108-38-3	m-Xylene-A	ND	0.2		
95-47-6	o-Xylene	ND	0.1		
98-08-8					

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available
Second column confirmation NOT performed
unless otherwise noted
Q = daily EPA standard recovery outside
95% confidence interval
Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted

SURROGATES
a,a,a-Trifluorotoluene 98% recovery

Age 18
Received: 08/18/88

RAS - Austin
Results by Sample

Work Order # 88-08-110

SAMPLE ID reagent blank

FRACTION 04A TEST CODE EPA602 NAME EPA method 602
Date & Time Collected not specified Category

ANALYST INSTRMT	CL D	INJECTED 08/19/88	FILE #	VERIFIED	CL	CAS#	COMPOUND	RESULT	DET LIMIT	UNITS	ug/L
						71-43-2	Benzene	ND		0.2	
						108-88-3	Toluene	ND		0.2	
						100-41-4	Ethylbenzene	ND		0.3	
						108-90-7	Chlorobenzene-A	ND		0.3	
						106-46-7	1,4-Dichlorobenzene	ND		0.3	
						541-73-1	1,3-Dichlorobenzene	ND		0.4	
						95-50-1	1,2-Dichlorobenzene	ND		0.4	
						78-08-8	a,a,a-Trifluorotoluene			N/A% recovery	

NOTES AND DEFINITIONS FOR THIS REPORT

DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed unless otherwise noted.

Received: 08/18/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-08-110
Continued From Above

SAMPLE ID reagent blank

FRACTION 04A TEST CODE EPA602 NAME EPA method 602
Date & Time Collected not specified

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Results by Sample

Received: 08/18/88

SAMPLE ID reagent blank

FRACTION 04A TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected not specified

Category

VERIFIED CL

ANALYST CL
INSTRMT D

INJECTD 08/19/88 FILE # UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND,Q	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

98-08-8 SURROGATES a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available
Second column confirmation NOT performed unless otherwise noted.
Q = daily EPA standard recovery outside 95% confidence interval.
Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless otherwise noted.

RAS - Austin

REPORT

NonReported Work

Work Order # 88-08-110

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01U 1 SPR602

02U 1 SPR602

Received: 08/18/88

RAS - Austin

REPORT

10/12/88 07:24:29

Work Order # 88-08-114

REPORT Radian
TO BL 1
Austin

ATTEN Linda Bendele
CLIENT PHILLIPS P SAMPLES 4
COMPANY Phillips Petroleum
FACILITY Odessa, TX

WORK ID Lusk - radiochemistry
TAKEN MF
TRANS UPS
TYPE
P.O. #
INVOICE under separate cover

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTEN
PHONE 512-454-4797

CONTACT BENDELE

CERTIFIED BY

Footnotes and Comments

- * Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.
- @ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

01 Lusk MW-1
02 Lusk MW-2
03 Lusk MW-3
04 Lusk MW-4

ALPHA Gross alpha radiation
BETA Gross beta radiation
RA 226 Radium 226

TEST CODES and NAMES used on this report

2nd QTR-8/88

SAMPLE		Test: ALPHA	Test: BETA	Test: RA 226
Sample Id		pCi/	pCi/	pCi/
01		8 (4)	17 (6)	0.14 (07)
Lusk MW-1		pCi/L	pCi/L	pCi/L
02		12 (4)	25 (4)	0.17 (04)
Lusk MW-2		pCi/L	pCi/L	pCi/L
03		7 (1)	14 (5)	0.08 (05)
Lusk MW-3		pCi/L	pCi/L	pCi/L
04		7 (2)	<10	0.13 (06)
Lusk MW-4		pCi/L	pCi/L	pCi/L

Received: 08/18/88

RAS - Austin

REPORT
Test Methodology

Work Order # 88-08-114

TEST CODE ALPHA NAME Gross alpha radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE BETA NAME Gross beta radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE RA 226 NAME Radium 226

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - one sigma). One sigma = one standard deviation, 68% confidence level.

SWL**SOUTHWESTERN LABORATORIES***Materials, environmental and geotechnical engineering, nondestructive, metallurgical and analytical services*

1703 W. Industrial Avenue [915 - 683-3348] • P.O. Box 2150 • Midland, Texas 79702

File No. 6705900Report No. 40740Report Date 8-22-88Date Received 8-18-88Delivered By R. BaggettReport of tests on: **Water**Client: **Phillips 66 Natural Gas Company**Identification: **Lusk No. 1, 8808161130, 11:30 a.m.***2nd QTR-8/88***COLIFORM**24 Hours 48 Hours

Presumptive Test ----- Pos., Pos. ---,---

Confirmed Test ----- Neg., Neg. Neg., Neg.

Technician: **LLC**Copies **Phillips 66 Natural Gas Company
Attention Mr. Mike Ford****SOUTHWESTERN LABORATORIES***Sary M. Bunch*



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Materials, environmental and geotechnical engineering, nondestructive, metallurgical and analytical services

1703 W. Industrial Avenue [915 - 683-3348] • P.O. Box 2150 • Midland, Texas 79702

File No. 6705900

Report No. 40741

Report Date 8-22-88

Date Received 8-18-88

Delivered By R. Baggett

Report of tests on: Water

Client: Phillips 66 Natural Gas Company

Identification: Lusk No. 2, 880816125, 1:25 p.m.

COLIFORM

24 Hours 48 Hours

Presumptive Test ----- Pos., Pos. ---, ---

Confirmed Test ----- Neg., Neg. Neg., Neg.

Technician: LLC

Copies Phillips 66 Natural Gas Company
Attention Mr. Mike Ford

SOUTHWESTERN LABORATORIES

Larry M. Bunch



SOUTHWESTERN LABORATORIES

Materials, environmental and geotechnical engineering, nondestructive, metallurgical and analytical services

1703 W. Industrial Avenue (915 - 683-3348) • P.O. Box 2150 • Midland, Texas 79702

File No. 6705900

Report No. 40742

Report Date 8-22-88

Date Received 8-18-88

Delivered By R. Baggett

Report of tests on: Water

Client: Phillips 66 Natural Gas Company

Identification: Lusk No. 3, 880816303, 3:03 p.m.

COLIFORM

24 Hours 48 Hours

Presumptive Test ----- Pos., Pos. ---, ---

Confirmed Test ----- Neg., Neg. Pos., Neg.

Technician: LLC

Copies Phillips 66 Natural Gas Company
Attention Mr. Mike Ford

SOUTHWESTERN LABORATORIES

Harry M. Burch



SOUTHWESTERN LABORATORIES

119904

Materials, environmental and geotechnical engineering, nondestructive, metallurgical and analytical services

1703 W. Industrial Avenue [915 - 683-3348] • P.O. Box 2150 • Midland, Texas 79702

File No. 6705900

Report No. 40743

Report Date 8-22-88

Date Received 8-18-88

Delivered By R. Baggett

Report of tests on: Water

Client: Phillips 66 Natural Gas Company

Identification: Lusk No. 4, 880816410, 4:10 p.m.

COLIFORM

24 Hours 48 Hours

Presumptive Test ----- Pos., Pos. ---, ---

Confirmed Test ----- Neg., Neg. Pos., Pos.

Technician: LLC

Copies Phillips 66 Natural Gas Company
Attention Mr. Mike Ford

SOUTHWESTERN LABORATORIES

Larry M. Burch

Notes and Definitions

Data Flags:

TERMS USED IN THIS REPORT:

Analyte - A chemical for which a sample is to be analyzed. The analysis will meet EPA method and QC specifications.

Compound - See Analyte.

Detection Limit - The method specified detection limit, which is the lower limit of quantitation specified by EPA for a method. Radian staff regularly assess their laboratories' method detection limits to verify that they meet or are lower than those specified by EPA. Note, the detection limit may vary from that specified by EPA by the concentration factor. (Refer to Factor, below)

EPA Method - The EPA specified method used to perform an analysis. EPA has specified standard methods for analysis of environmental samples. Radian will perform its analyses and accompanying QC tests in conformance with EPA methods unless otherwise specified.

Factor - The concentration or dilution factor by which the sample extract or digestate differs from that specified by a given EPA method. A sample prepared to the specifications of the method will have a factor of 1. A sample diluted 10 times to bring the analytes within the instrument calibration range will have a factor of 10. Conversely, a sample which is concentrated 10 times more than specified will have a factor of 0.1.

Matrix - The sample material. Generally, it will be soil, water, air, oil, or solid waste.

Radian Work Order - The unique Radian identification code assigned to the samples reported in the analytical summary.

Units -

ug/L	micrograms per liter (parts per billion); liquids/water
ug/Kg	micrograms per kilogram (parts per billion); soils/solids
ug/M3	micrograms per cubic meter; air samples
mg/L	milligrams per liter (parts per million); liquids/water
mg/Kg	milligrams per kilogram (parts per million); soils/solids
%	percent; usually used for percent recovery of QC standards
umhos	conductance unit; microohms/centimeter
ml/hr	milliliters per hour; rate of settlement of matter in water
NTU	turbidity unit; nephelometric turbidity unit

*Porterfield/Worberfield
and Quarter-Lusk
BB*

RADIAN

Notes and Definitions

Data Flags:

* The asterisk(*) is used to flag results which are less than five times the method specified detection limit. Studies have shown that the uncertainty of the analysis will increase exponentially as the method detection limit is approached. These results should be considered approximate.

A This flag indicates that a spike is an analytical and/or post-digestion spike. These spikes have not been subjected to the extraction or digestion step.

B This flag indicates that the analyte was detected in the reagent blank. Since traces of the background contaminant will vary from sample to sample, the sample results are not corrected from the amount in the blank.

C Most methods of gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. This flag indicates that the analyte has been confirmed on a second column.

D This flag identifies analytes identified in analysis at a secondary dilution factor. In an analysis some compounds can exceed the calibration range of the instrument. Therefore two analyses are performed, one at the concentration of some of the analytes, and a second with the sample diluted so that higher levels fall into calibration range. The reported value is estimated because of the presence of interference. The potential source of the interference is included in the report narrative.

Notes and Definitions

Data Flags:

G This flag identifies a GC/MS result whose concentration exceeds the calibration range for that specific analysis. Usually if one or more compounds have a response greater than full scale, the sample or extract is diluted and re-analyzed.

J Indicates an estimated value for GC/MS data. This flag is used either when estimating a concentration for tentatively identified compounds where a response factor of 1 is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit.

N/A A result or value is not available for this parameter, usually a detection limit.

NA This analyte was not analyzed.

NC Applies to RPD and spike recovery results. The relative percent difference (RPD) is not calculated when a result is less than five times the detection limit. A spike recovery is not calculated when the result is greater than four times the spike added concentration because the spike added concentration is considered insignificant.

ND This flag (or <) is used to denote analytes which are not detected at or above the specified detection limit. The value to the right of the < symbol is the method specified detection limit for the sample.

Notes and Definitions

Data Flags:

NR This analyte was not requested by the client.

NS This analyte or surrogate was not added (spiked) to the sample for this analysis.

P Most methods of gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. This flag indicates that the analyte has been confirmed previously. This flag is applicable for samples from a regular sampling program.

Q This quality control standard is outside method or laboratory specified control limits. This flag is applied to matrix spike, analytical QC spike, and surrogate recoveries; and to RPD (relative percent difference) values for duplicate analyses and matrix spike/matrix spike duplicate result.

S This flag indicates that a specific result from a metals analysis has been obtained using the Method of Standard Addition.

U Most methods of gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. This flag indicates that second column was not requested.

ANALYTICAL DATA SUMMARY

Phillips 66
Associate Laboratory Data for Radian Work Order: 8811001

RADIATION

Method: EPA 608 Pesticides	Matrix: water			
Factor:	1.0	1.0	1.0	1.0
Results in:	ug/L	ug/L	ug/L	ug/L
Sample ID:	Method	Lusk	Lusk	Lusk
	Blank	MM-1	MM-2	MM-3
		MM-4		
Lindane	< 0.01	< 0.01	< 0.01	< 0.01
Endrin	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	< 0.50	< 0.50	< 0.50	< 0.50
Toxaphene	< 1.0	< 1.0	< 1.0	< 1.0

For a detailed description of flags and technical terms in this report refer to the glossary.

ANALYTICAL DATA SUMMARY

Phillips 66
Associate Laboratory Data for Radian Work Order: 8811001

RADIAN
CORPORATION

Method: EPA 8150 Herbicides		Matrix: water			
Factor:	1.0	1.0	1.0	1.0	1.0
Results in:	ug/L	ug/L	ug/L	ug/L	ug/L
Sample ID:	Method	Lusk	Lusk	Lusk	Lusk
	Blank	MW-1	MW-2	MW-3	MW-4
2,4-D	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-TP (Silvex)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

For a detailed description of flags and technical terms in this report refer to the glossary.

Page 1
Received: 10/25/88

RAS -

Austin

REPORT

Work Order # 88-10-111

11/08/88 10:27:42

REPORT Radian
TO Bl. 1
Austin
ATTEN Linda Bendele
CLIENT PHILLIPS P
COMPANY Phillips Petroleum
FACILITY Odessa, TX

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTEN
PHONE 512-454-4797

Balane Hayes
CERTIFIED BY

CONTACT BENDELE

Footnotes and Comments

- * Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.
- @ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

WORK ID Lusk, coliform
TAKEN MF
TRANS UPS
TYPE
P.O. #
INVOICE under separate cover

SAMPLE IDENTIFICATION

11 Lusk #1
12 Lusk #2
13 Lusk #3
14 Lusk #4

TEST CODES and NAMES used on this report

COLI T Total coliform

3rd QTR - 10/88

SAMPLE		Test: COLI T
Sample Id		colonies/100 mL
Lusk #1	01	2
Lusk #2	02	760
Lusk #3	03	58
Lusk #4	04	32

REPORT Radian
TO Bl. 1
Austin
ATTEN Linda Bendele
CLIENT PHILLIPS P
COMPANY Phillips Petroleum
FACILITY Odessa, TX

SAMPLES 4

WORK ID Lusk
TAKEN MF
TRANS UPS
TYPE
P.O. #
INVOICE under separate cover

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTEN
PHONE 512-454-4797

CERTIFIED BY

CONTACT BENDELE

Footnotes and Comments

* Indicates a value less than 5 times the detection limit.
Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

01 Lusk MW-1
02 Lusk MW-2
03 Lusk MW-1 duplicate
04 reagent blank

328 QTR-10/88

TEST CODES and NAMES used on this report

AG E	Silver, ICPEs	PHEN	Total phenolics
ALPHA	Gross alpha radiation	RA 226	Radium 226
AS G	Arsenic, graphite AA	SE G	Selenium, graphite AA
BA E	Barium, ICPEs	S04 IC	Sulfate, IC
BETA	Gross beta radiation	TDC	Total organic carbon
CD E	Cadmium, ICPEs	TURB	Turbidity
CL IC	Chloride, IC	XYLENE	Xylenes, EPA 602
CR E	Chromium, ICPEs		
DG3020	Digestion, method 3020		
DG6010	Digestion, method 6010		
EPA602	EPA method 602		
FE E	Iron, ICPEs		
F IC	Fluoride, IC		
HG C	Mercury, cold vapor		
MHD	Specific conductance		
MN E	Manganese, ICPEs		
NA E	Sodium, ICPEs		
NO3	Nitrate, colorimetric		
PB G	Lead, graphite AA		
PH	pH		

Page 2
 Received: 10/27/88
 RAS - Austin
 REPORT
 Results By Test
 Work Order # 88-10-141

SAMPLE	Test: AG E	Test: ALPHA	Test: AS G	Test: BA E	Test: BETA
Sample Id	ug/ml	pCi/L	ug/ml	ug/ml	pCi/L
01	<0.03	18(4)	0.027	0.09	17(5)
Lusk MW-1		pCi/L			pCi/L
02	<0.03	9(3)	0.027	0.03*	14(3)
Lusk MW-2		pCi/L			pCi/L

SAMPLE	Test: CD E	Test: CL IC	Test: CR E	Test: DG3020	Test: DG6010
Sample Id	ug/ml	mg/L	ug/ml	date complete	date complete
01	<0.005	890	<0.03	11/02/88	11/04/88
Lusk MW-1					
02	<0.005	250	<0.03	11/02/88	11/04/88
Lusk MW-2					

SAMPLE	Test: FE E	Test: F IC	Test: MHO	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
01	0.22	2.3	3280	0.33	130
Lusk MW-1			3300		
			3360		
			3230		
02	0.39	3.4	2080	1.1	180
Lusk MW-2			2070		

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 Received: 10/27/88

 RAS - Austin
 Results By Test

REPORT

 Work Order # 88-10-141
 Continued From Above

SAMPLE	Test:FE E	Test:F IC	Test:MHD	Test:MN E	Test:NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
			2040		
			2050		

SAMPLE	Test:NQ3	Test:PB G	Test:PH	Test:PHEN	Test:RA 226
Sample Id	mg/L as N	ug/ml	pH units	mg/L as phenol	pci/L
01	<0.02	<0.002	6.93	<0.005	0.51(.02) pci/L
Lusk MW-1			6.96		
			7.00		
			6.96		
02	0.81	<0.002	6.98	<0.005	0.47(.05) pci/L
Lusk MW-2			7.01		
			6.99		
			7.00		

Page 4
Received: 10/27/88
RAS - Austin
REPORT
Results By Test
Work Order # 88-10-141

SAMPLE	Test: SE G	Test: S04 IC	Test: TOC
Sample Id	ug/ml	mg/L as S04	mg/L
01	<0.004	190	3*
Lusk MW-1			3*
			6
			3*
02	<0.004	440	9
Lusk MW-2			6
			5
			8

Page 5
Received: 10/27/88

RAS - Austin
Results by Sample

REPORT

Work Order # 88-10-141

SAMPLE ID Lusk MW-1

FRACTION 01J TEST CODE EPA602 NAME EPA method 602
Date & Time Collected 10/25/88 Category

ANALYST	CL	FILE #	UNITS	VERIFIED	CL
INSTRMT	D				
		INJECTED 11/02/88			
CAS#	COMPOUND	RESULT	DET LIMIT		
71-43-2	Benzene	10	0.20		
108-88-3	Toluene	4.3	0.20		
100-41-4	Ethylbenzene	ND	0.30		
108-90-7	Chlorobenzene-A	ND	0.30		
106-46-7	1,4-Dichlorobenzene	ND	0.30		
541-73-1	1,3-Dichlorobenzene	ND	0.40		
95-50-1	1,2-Dichlorobenzene	ND	0.40		
	SURROGATES				
98-08-8	a,a,a-Trifluorotoluene		101% recovery		

NOTES AND DEFINITIONS FOR THIS REPORT.
 DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed
 unless otherwise noted.

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SAMPLE ID Lusk MW-1
FRACTION 01J
TEST CODE EPA602
NAME EPA method 602
Date & Time Collected 10/25/88
Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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SAMPLE ID Lusk MW-1
FRACTION Q11 TEST CODE HQ C NAME Mercury, cold vapor
Date & Time Collected 10/25/88 Category

VERIFIED RHH
UNITS ug/ml

ANALYST KCP
INSTRMT 403
ANALYZED 11/08/88

ANALYTE	RESULT	DET LIMIT
Mercury	ND	0.0002

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID Lusk MW-1
FRACTION Q1A TEST CODE TURB NAME Turbidity
Date & Time Collected 10/25/88 Category

VERIFIED LM
UNITS NTU

ANALYST MJS
INSTRMT HACH
ANALYZED 10/27/88

ANALYTE	RESULT	DET LIMIT
Turbidity	14	1.0

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Results by Sample

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SAMPLE ID Lusk MW-1

FRACTION 01A TEST CODE TURB NAME Turbidity

Date & Time Collected 10/25/88 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

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N/A = not available

SAMPLE ID Lusk MW-1

FRACTION 01J TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected 10/25/88 Category

VERIFIED CL

ANALYST CL
INSTRMT D

INJECTD 11/02/88

FILE #

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	2.1	0.20
108-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 101% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

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N/A = not available

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Results by Sample

SAMPLE ID Lusk MW-1

FRACTION 01J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 10/25/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless
otherwise noted.

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 Work Order # 88-10-141

SAMPLE ID Lusk MW-2
 FRACTION 02J TEST CODE EPA602 NAME EPA method 602
 Date & Time Collected 10/25/88 Category _____

ANALYST _____ CL
 INSTRMT _____ D
 INJECTED 11/02/88 FILE # _____ UNITS _____ ug/L
 VERIFIED _____ CL

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	ND	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES
 98-08-8 a,a,a-Trifluorotoluene 106% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
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 NA = not analyzed
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 N/A = not available
 Second column confirmation NOT performed
 unless otherwise noted.

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Results by Sample

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Continued From Above

SAMPLE ID Lusk MW-2

FRACTION 02J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 10/25/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Work Order # 88-10-141

Results by Sample

SAMPLE ID Lusk MW-2

FRACTION 02I

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 10/25/88

Category _____

ANALYST _____
INSTRMT KCP
403

ANALYZED 11/08/88

VERIFIED _____
RHH

UNITS mg/ml

ANALYTE RESULT DET LIMIT

Mercury ND 0.0002

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-2

FRACTION 02A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 10/25/88

Category _____

ANALYST _____
INSTRMT MJS
HACH

ANALYZED 10/27/88

VERIFIED _____
LM

UNITS NTU

ANALYTE RESULT DET LIMIT

Turbidity 28 1.0

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 Results by Sample
 REPORT
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SAMPLE ID Lusk MW-2
 FRACTION 02A TEST CODE TURB NAME Turbidity
 Date & Time Collected 10/25/88 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
 DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available

SAMPLE ID Lusk MW-2
 FRACTION 02J TEST CODE XYLENE NAME Xylenes, EPA 602
 Date & Time Collected 10/25/88 Category

ANALYST CL VERIFIED CL
 INSTRMT D INJECTD 11/02/88 FILE # UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
108-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

98-08-8 SURROGATES
 a,a,a-Trifluorotoluene 106% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
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 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed
 unless otherwise noted.

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Results by Sample

SAMPLE ID Lusk MW-2

FRACTION 02J TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 10/25/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless
otherwise noted.

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 Results by Sample

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SAMPLE ID Lusk MW-1 duplicate

FRACTION 03A

TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 10/25/88

Category

ANALYST	CL	INJECTED	FILE #	VERIFIED	CL
INSTRMT	D	11/02/88			
CAS#	COMPOUND	RESULT	DET LIMIT	UNITS	ug/L
71-43-2	Benzene	1.7	0.20		
108-88-3	Toluene	0.9*	0.20		
100-41-4	Ethylbenzene	ND	0.30		
108-90-7	Chlorobenzene-A	ND	0.30		
106-46-7	1,4-Dichlorobenzene	ND	0.30		
541-73-1	1,3-Dichlorobenzene	ND	0.40		
95-50-1	1,2-Dichlorobenzene	ND	0.40		

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 106% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

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N/A = not available

 Second column confirmation NOT performed
 unless otherwise noted.

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REPORT

Results by Sample

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SAMPLE ID Lusk MW-1 duplicate

FRACTION 03A

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 10/25/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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SAMPLE ID Lusk MW-1 duplicate
 FRACTION Q3A
 TEST CODE XYLENE
 NAME Xylenes, EPA 602
 Date & Time Collected 10/25/88
 Category _____

ANALYST _____
 INSTRMT _____
 CL _____
 D _____
 VERIFIED _____ CL _____
 FILE # _____
 INJECTD 11/02/88
 UNITS _____ ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
108-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

98-08-8 SURROGATES
 a,a,a-Trifluorotoluene 100% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed unless otherwise noted.
 Q = daily EPA standard recovery outside 95% confidence interval.
 Chlorobenzene and p-xylene co-elute.
 Quantitated as chlorobenzene unless otherwise noted.

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Results by Sample
REPORT
Work Order # 88-10-141

SAMPLE ID reagent blank
FRACTION 04A
TEST CODE EPA602
NAME EPA method 602
Date & Time Collected not specified
Category

ANALYST _____
INSTRMT _____
CL
D
INJECTED 11/02/88
FILE # _____
UNITS ug/L
VERIFIED CL

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	ND	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES
98-08-8 a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
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ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available
Second column confirmation NOT performed unless otherwise noted.

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REPORT
Results by Sample

Work Order # 88-10-141
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SAMPLE ID reagent blank

FRACTION 04A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected not specified

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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REPORT

Results by Sample

Work Order # 88-10-141

SAMPLE ID reagent blank

FRACTION 04A

TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected not specified

Category

 ANALYST _____
 INSTRMT D CL

FILE # _____

INJECTD 11/02/88

 VERIFIED CL

 UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
109-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

SURROGATES

98-08-8 a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted.

Q = daily EPA standard recovery outside

95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless

otherwise noted.

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REPORT

NonReported Work

Work Order # 88-10-141

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01K : SPARE
02K : SPARE

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REPORT

Work Order # 88-10-142

REPORT Radian
TO Bl. 1
Austin
ATTEN Linda Bendele
CLIENT PHILLIPS P
COMPANY Phillips Petroleum
FACILITY Odessa, TX
SAMPLES 5

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTEN
PHONE 512-454-4797

CERTIFIED BY

CONTACT BENDELE

WORK ID Lusk
TAKEN MF
TRANS UPS
TYPE
P.O. #
INVOICE under separate cover

Previously Reported on 11/28/88.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit.
Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

01 Lusk MW-3
02 Lusk MW-4
03 Lusk MW-3 duplicate
04 trip blank
05 reagent blank

3rd QTR - 10/88

TEST CODES and NAMES used on this report

AG E	Silver, ICPEs
ALPHA	Gross alpha radiation
AS G	Arsenic, graphite AA
BA E	Barium, ICPEs
BETA	Gross beta radiation
CD E	Cadmium, ICPEs
CL IC	Chloride, IC
CR E	Chromium, ICPEs
DG3020	Digestion, method 3020
DG6010	Digestion, method 6010
EPA602	EPA method 602
FE E	Iron, ICPEs
F IC	Fluoride, IC
HG C	Mercury, cold vapor
MHO	Specific conductance
MN E	Manganese, ICPEs
NA E	Sodium, ICPEs
NO3	Nitrate, colorimetric
PB G	Lead, graphite AA

PH	pH
PHEN	Total phenolics
RA 226	Radium 226
SE G	Selenium, graphite AA
S04 IC	Sulfate, IC
TDC	Total organic carbon
TURB	Turbidity
XYLENE	Xylenes, EPA 602

Received: 10/27/88

Results By Test

SAMPLE	Test: AG E	Test: ALPHA	Test: AS G	Test: BA E	Test: BETA
Sample Id	ug/ml	pci/l	ug/ml	ug/ml	pci/l
01	<0.03	17(2)	0.024R	0.04*	15(4)
Lusk MW-3		pci/L			pci/L
02	<0.03	13(4)	0.018	0.06	23(5)
Lusk MW-4		pci/L			pci/L

SAMPLE	Test: CD E	Test: CL IC	Test: CR E	Test: DG3020	Test: DG6010
Sample Id	ug/ml	mg/L	ug/ml	date complete	date complete
01	<0.005	330	<0.03	11/02/88	11/04/88
Lusk MW-3					
02	<0.005	390	0.05*	11/02/88	11/04/88
Lusk MW-4					

SAMPLE	Test: FE E	Test: F IC	Test: MHD	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
01	0.12*	2.6	2200	0.31	220
Lusk MW-3			2190		
			2250		
			2320		
02	0.13*	2.6	2650	0.84	210
Lusk MW-4			2420		

SAMPLE	Test: FE E	Test: F IC	Test: MHO	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
			2570		
			2570		

SAMPLE	Test: NO3	Test: PB G	Test: PH	Test: PHEN	Test: RA 226
Sample Id	mg/L as N	ug/ml	pH units	mg/L as phenol	pCi/L
01	1.2	<0.002R	6.99	<0.005	0.38(.05) pCi/L
Lusk MW-3			7.00		
			7.00		
			7.00		
02	0.36	<0.001	6.96	<0.005	0.44(.05) pCi/L
Lusk MW-4			7.05		
			6.94		
			6.94		

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Results By Test

SAMPLE	Test: SE G	Test: SD4 IC	Test: TOC
Sample Id	ug/ml	mg/L as SD4	mg/L
01	<0.004R	480	6
Lusk MW-3			5
			4*
			9
02	<0.004	540	7
Lusk MW-4			11
			10
			6

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 Results by Sample
 REPORT
 Work Order # 88-10-142

SAMPLE ID Lusk MW-3
 FRACTION 01J TEST CODE EPA602 NAME EPA method 602
 Date & Time Collected 10/25/88 Category

ANALYST CL
 INSTRMT D
 INJECTED 11/03/88
 FILE #
 UNITS ug/L
 VERIFIED CL

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	0.5*	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	0.6*	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES
 98-08-8 a,a,a-Trifluorotoluene 118% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
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 N/A = not available
 Second column confirmation NOT performed
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SAMPLE ID Lusk MW-3

FRACTION 01J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 10/25/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Results by Sample

Work Order # 88-10-142

REPORT

SAMPLE ID Lusk MW-3

FRACTION 011

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 10/25/88

Category _____

ANALYST _____
INSTRMT KCP
403

ANALYZED 11/14/88

UNITS ug/ml

ANALYTE RESULT DET LIMIT

Mercury ND 0.0002

VERIFIED _____
RHH

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID Lusk MW-3

FRACTION 01A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 10/25/88

Category _____

VERIFIED _____
LM

ANALYST _____
INSTRMT MJS
HACH

ANALYZED 10/27/88

UNITS NTU

ANALYTE RESULT DET LIMIT

Turbidity 15 1.0

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 Results by Sample
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SAMPLE ID Lusk MW-3
 FRACTION 01A
 TEST CODE TURB
 NAME Turbidity
 Date & Time Collected 10/25/88
 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

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* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-3
 FRACTION 01J
 TEST CODE XYLENE
 NAME Xylenes, EPA 602
 Date & Time Collected 10/25/88
 Category _____

VERIFIED _____ CL

ANALYST _____
 INSTRMT _____
 INJECTD 11/03/88
 FILE # _____
 UNITS _____ ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
108-38-3	m-Xylene	0.2*	0.20
95-47-6	o-Xylene	ND	0.10

98-08-8
 a,a,a-Trifluorotoluene
 118% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

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NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted.

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Results by Sample

SAMPLE ID Lusk MW-3

FRACTION 01J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 10/25/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless
otherwise noted.

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Results by Sample

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Work Order # 88-10-142

SAMPLE ID Lusk MW-4

FRACTION 02J TEST CODE EPA602 NAME EPA method 602
Date & Time Collected 10/25/88 Category

ANALYST _____ CL
INSTRMT _____ D
INJECTED 11/03/88
FILE # _____
UNITS _____ ug/L
VERIFIED _____ CL

COMPOUND RESULT DET LIMIT

CAS#	71-43-2	Benzene	0.3*	0.20
	108-88-3	Toluene	ND	0.20
	100-41-4	Ethylbenzene	ND	0.30
	108-90-7	Chlorobenzene-A	ND	0.30
	106-46-7	1,4-Dichlorobenzene	ND	0.30
	541-73-1	1,3-Dichlorobenzene	ND	0.40
	95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 115% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

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ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available
Second column confirmation NOT performed unless otherwise noted.

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Results by Sample

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SAMPLE ID Lusk MW-4

FRACTION Q2J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 10/25/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Work Order # 88-10-142

SAMPLE ID Lusk MW-4
FRACTION 02I TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/25/88 Category _____

ANALYST _____ KCP
INSTRMT _____ 403
ANALYZED 11/14/88 UNITS ug/ml
VERIFIED _____ RHH

ANALYTE RESULT DET LIMIT
Mercury _____ ND _____ 0.0002

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID Lusk MW-4
FRACTION 02A TEST CODE TURB NAME Turbidity
Date & Time Collected 10/25/88 Category _____

ANALYST _____ MJS
INSTRMT _____ HACH
ANALYZED 10/27/88 UNITS _____ NTU
VERIFIED _____ LM

ANALYTE RESULT DET LIMIT
Turbidity _____ 11 _____ 1.0

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Work Order # 88-10-142

Results by Sample

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SAMPLE ID Lusk MW-4

FRACTION 02A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 10/25/88

Category

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk MW-4

FRACTION 02J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 10/25/88

Category

VERIFIED CL

ANALYST CL
INSTRMT D

INJECTD 11/03/88

FILE #

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
108-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 115% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted.

Page 14
Received: 10/27/88
RAS - Austin
Results by Sample
REPORT
Work Order # 88-10-142
Continued From Above

SAMPLE ID Lusk MW-4
FRACTION 02J TEST CODE XYLENE NAME Xylenes, EPA 602
Date & Time Collected 10/25/88 Category _____

Q = daily EPA standard recovery outside
95% confidence interval.
Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Page 15
 Received: 10/27/88
 RAS - Austin
 Results by Sample
 REPORT
 Work Order # 88-10-142

SAMPLE ID Lusk MW-3 duplicate
 FRACTION 03A
 TEST CODE EPA602
 NAME EPA method 602
 Date & Time Collected 10/25/88
 Category

ANALYST _____
 INSTRMT _____
 CL
 D
 INJECTED 11/03/88
 FILE # _____
 UNITS _____
 ug/L
 VERIFIED _____
 CL

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	0.5*	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	0.6*	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES
 98-08-8 a,a,a-Trifluorotoluene 125**% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
 DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed
 unless otherwise noted.

Page 16
Received: 10/27/88
RAS - Austin
Results by Sample
REPORT
Work Order # 88-10-142
Continued From Above

SAMPLE ID Lusk MW-3 duplicate
FRACTION 03A
TEST CODE EPA602
NAME EPA method 602
Date & Time Collected 10/25/88
Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Page 17

Received: 10/27/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-10-142

SAMPLE ID Lusk MW-3 duplicate

FRACTION 03A

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 10/25/88

Category

ANALYST _____
INSTRMT _____

CL
D

FILE #

INJECTD 11/03/88

VERIFIED _____

CL

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
109-38-3	m-Xylene	0.2*	0.20
95-47-6	o-Xylene	ND	0.10

98-08-8

SURROGATES

a,a,a-Trifluorotoluene 125**% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted.

Q = daily EPA standard recovery outside 95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless otherwise noted.

Page 18
 Received: 10/27/88
 RAS - Austin
 Results by Sample
 REPORT
 Work Order # 88-10-142

SAMPLE ID trip blank
 FRACTION 04A
 TEST CODE EPA602
 NAME EPA method 602
 Date & Time Collected 10/25/88
 Category

ANALYST	INSTRMT	CL	FILE #	INJECTED	11/03/88	VERIFIED	CL	UNITS	ug/L
CAS#	COMPOUND	RESULT	DET LIMIT						
71-43-2	Benzene	ND	0.20						
108-88-3	Toluene	ND	0.20						
100-41-4	Ethylbenzene	ND	0.30						
108-90-7	Chlorobenzene-A	ND	0.30						
106-46-7	1,4-Dichlorobenzene	ND	0.30						
541-73-1	1,3-Dichlorobenzene	ND	0.40						
95-50-1	1,2-Dichlorobenzene	ND	0.40						

SURROGATES
 98-08-8 a,a,a-Trifluorotoluene 102% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
 DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed unless otherwise noted.

Page 19

Received: 10/27/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-10-142
Continued From Above

SAMPLE ID trip blank

FRACTION 04A

TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 10/25/88

Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

age 20
 Received: 10/27/88
 RAS - Austin
 Results by Sample
 REPORT
 Work Order # 88-10-142

SAMPLE ID trip blank
 FRACTION 04A
 TEST CODE XYLENE
 NAME Xylenes, EPA 602
 Date & Time Collected 10/25/88
 Category

ANALYST _____
 INSTRMT _____
 CL
 D
 INJECTD 11/03/88
 FILE # _____
 UNITS _____ ug/L
 VERIFIED _____ CL

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
108-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

98-08-8
 a,a,a-Trifluorotoluene
 102% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted.

Q = daily EPA standard recovery outside

95% confidence interval.

Chlorobenzene and p-xylene co-elute.

Quantitated as chlorobenzene unless

otherwise noted.

Page 21
 Received: 10/27/88
 RAS - Austin
 Results by Sample
 REPORT
 Work Order # 88-10-142

SAMPLE ID reagent blank
 FRACTION 05A TEST CODE EPA602 NAME EPA method 602
 Date & Time Collected not specified Category

ANALYST _____ CL
 INSTRMT _____ D
 INJECTED 11/03/88
 FILE # _____
 UNITS _____ ug/L
 VERIFIED _____ CL

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	ND	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES
 98-08-8 a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
 DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed unless otherwise noted.

RADIAN
CORPORATION

Age 22
Received: 10/27/88
RAS - Austin
Results by Sample
REPORT
Work Order # 88-10-142
Continued From Above

SAMPLE ID reagent blank
FRACTION 05A
TEST CODE EPA602
NAME EPA method 602
Date & Time Collected not specified
Category

A-Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

SAMPLE ID reagent blank
FRACTION 05A TEST CODE XYLENE NAME Xylenes, EPA 602
Date & Time Collected not specified Category

ANALYST _____ CL
INSTMT _____ D
INJECTD 11/03/88
FILE # _____
VERIFIED _____ CL
UNITS _____ ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene-A	ND	0.20
108-38-3	m-Xylene	ND	0.20
95-47-6	o-Xylene	ND	0.10

98-08-8 SURROGATES
a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available
Second column confirmation NOT performed unless otherwise noted.
Q = daily EPA standard recovery outside 95% confidence interval.
Chlorobenzene and p-xylene co-elute.
Quantitated as chlorobenzene unless otherwise noted.

Page 24

Received: 10/27/88

RAS - Austin

REPORT

NonReported Work

Work Order # 88-10-142

REACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01K : SPR602

02K : SPR602

Page 1
Received: 12/07/88

RAS -

Austin

REPORT

Work Order # 88-12-V36

12/08/88 08:29:54

REPORT Radian
TO Bl. 1
Austin

PREPARED Radian Analytical Services

BY 8501 Mo-pac Bl.

PO Box 201088

Austin, TX 78720-1088

ATTEN Linda Bendele

ATTEN

PHONE 512-454-4797

CONTACT BENDELE

CLIENT PHILLIPS P
COMPANY Phillips Petroleum
FACILITY Odessa, TX

SAMPLES 8

WORK ID Lusk & Artesia, TOX
TAKEN
TRANS
TYPE
P. O. #
INVOICE under separate cover

Analyses performed by Gasconne Laboratories, Inc.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit.
Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the
specific matrix was not within acceptable limits indicating
an interferent present.

SAMPLE IDENTIFICATION

01 Lusk MW-1
02 Lusk MW-2
03 Lusk MW-3
04 Lusk MW-4
05 Artesia MW-1
06 Artesia MW-2
07 Artesia MW-3
08 Artesia MW-4

TEST CODES and NAMES used on this report

TOX Total organic halides

3rd QTR-12/88

age 2
received: 12/07/88

RAS - Austin

REPORT

Work Order # 88-12-036

Results By Test

SAMPLE		Test: TOX
Sample Id		mg/L
Lusk MW-1	01	0.19
		0.14
		0.14
		0.24
Lusk MW-2	02	0.12
		0.13
		0.12
		0.14
Lusk MW-3	03	0.06
		0.08
		0.10
		0.07
Lusk MW-4	04	0.23
		0.13

Notes and Definitions

Pesticides/Herbicides
3rd QTR, Lusk

Data Flags:

TERMS USED IN THIS REPORT:

Analyte - A chemical for which a sample is to be analyzed. The analysis will meet EPA method and QC specifications.

Compound - See Analyte.

Detection Limit - The method specified detection limit, which is the lower limit of quantitation specified by EPA for a method. Radian staff regularly assess their laboratories' method detection limits to verify that they meet or are lower than those specified by EPA. Note, the detection limit may vary from that specified by EPA by the concentration factor. (Refer to Factor, below)

EPA Method - The EPA specified method used to perform an analysis. EPA has specified standard methods for analysis of environmental samples. Radian will perform its analyses and accompanying QC tests in conformance with EPA methods unless otherwise specified.

Factor - The concentration or dilution factor by which the sample extract or digestate differs from that specified by a given EPA method. A sample prepared to the specifications of the method will have a factor of 1. A sample diluted 10 times to bring the analytes within the instrument calibration range will have a factor of 10. Conversely, a sample which is concentrated 10 times more than specified will have a factor of 0.1.

Matrix - The sample material. Generally, it will be soil, water, air, oil, or solid waste.

Radian Work Order - The unique Radian identification code assigned to the samples reported in the analytical summary.

Units -	
ug/L	micrograms per liter (parts per billion); liquids/water
ug/Kg	micrograms per kilogram (parts per billion); soils/solids
ug/M3	micrograms per cubic meter; air samples
mg/L	milligrams per liter (parts per million); liquids/water
mg/Kg	milligrams per kilogram (parts per million); soils/solids
%	percent; usually used for percent recovery of QC standards
umhos	conductance unit; microhms/centimeter
ml/hr	milliliters per hour; rate of settlement of matter in water
NTU	turbidity unit; nephelometric turbidity unit

Notes and Definitions

Data Flags:

* The asterisk(*) is used to flag results which are less than five times the method specified detection limit. Studies have shown that the uncertainty of the analysis will increase exponentially as the method detection limit is approached. These results should be considered approximate.

A This flag indicates that a spike is an analytical and/or post-digestion spike. These spikes have not been subjected to the extraction or digestion step.

B This flag indicates that the analyte was detected in the reagent blank. Since traces of the background contaminant will vary from sample to sample, the sample results are not corrected from the amount in the blank.

C Most methods of gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. This flag indicates that the analyte has been confirmed on a second column.

D This flag identifies analytes identified in analysis at a secondary dilution factor. In an analysis some compounds can exceed the calibration range of the instrument. Therefore two analyses are performed, one at the concentration of some of the analytes, and a second with the sample diluted so that higher levels fall into calibration range. The reported value is estimated because of the presence of interference. The potential source of the interference is included in the report narrative.

E

Notes and Definitions

Data Flags:

- G** This flag identifies a GC/MS result whose concentration exceeds the calibration range for that specific analysis. Usually if one or more compounds have a response greater than full scale, the sample or extract is diluted and re-analyzed.
- J** Indicates an estimated value for GC/MS data. This flag is used either when estimating a concentration for tentatively identified compounds where a response factor of 1 is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit.
- N/A** A result or value is not available for this parameter, usually a detection limit.
- NA** This analyte was not analyzed.
- NC** Applies to RPD and spike recovery results. The relative percent difference (RPD) is not calculated when a result is less than five times the detection limit. A spike recovery is not calculated when the result is greater than four times the spike added concentration because the spike added concentration is considered insignificant.
- ND** This flag (or <) is used to denote analytes which are not detected at or above the specified detection limit. The value to the right of the < symbol is the method specified detection limit for the sample.

Notes and Definitions

Data Flags:

NR This analyte was not requested by the client.

NS This analyte or surrogate was not added (spiked) to the sample for this analysis.

P Most methods of gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. This flag indicates that the analyte has been confirmed previously. This flag is applicable for samples from a regular sampling program.

Q This quality control standard is outside method or laboratory specified control limits. This flag is applied to matrix spike, analytical QC spike, and surrogate recoveries; and to RPD (relative percent difference) values for duplicate analyses and matrix spike/matrix spike duplicate result.

S This flag indicates that a specific result from a metals analysis has been obtained using the Method of Standard Addition.

U Most methods of gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. This flag indicates that second column was not requested.

Client: PHILLIPS 66
PHILLIPS 66
ODESSA, TEXAS 77480

01A LUSK MW-4
01B LUSK MW-4 DUPLICATE
02A LUSK MW-2
03A LUSK MW-1

EPA METHOD 8080

Lab No: A8-10-103

RESULTS IN ug/L

CAS #	COMPOUND	01A	01B	02A	03A
58-89-9	gamma-BHC, (Lindane)	0.03 J	0.03 J	0.06 J	<0.047
72-20-8	Endrin	0.03 J	0.03 J	<0.048	<0.047
8001-35-2	Toxaphene	<0.24	<0.24	<0.24	<0.24
72-43-5	Methoxychlor	<2.4	<2.4	<2.4	<2.4

SURROGATE RECOVERIES (results in % recovery)

Dibutylchloredate	74	79	82	95
2,4,5,6-Tetrachloro-m-xylene	59	60	73	98

NOTES AND DEFINITIONS FOR THIS REPORT.

QC = OUTSIDE CONTROL LIMITS.

* = LESS THAN 5 TIMES THE DETECTION LIMIT.

B = DETECTED IN REAGENT BLANK; BACKGROUND SUBTRACTION NOT PERFORMED.

ND = NOT DETECTED AT DETECTION LIMIT.

NA = NOT ANALYZED.

N\A = NOT AVAILABLE.

NS = NOT SPIKED.

J = DETECTED AT LESS THAN THE SPECIFIED DETECTION LIMIT.

04A LUSK MW-3

Client: PHILLIPS 66
PHILLIPS 66
ODESSA, TEXAS 77480

EPA METHOD 8080

Lab No: A8-10-103

RESULTS IN ug/L

CAS #	COMPOUND	04A
58-89-9	gamma-BHC, (Lindane)	0.02 J
72-20-8	Endrin	0.04 J
8001-35-2	Toxaphene	<0.23
72-43-5	Methoxychlor	<2.3

SURROGATE RECOVERIES

(results in % recovery)

Dibutylchloredate	87
2,4,5,6-Tetrachloro-m-xylene	73

NOTES AND DEFINITIONS FOR THIS REPORT.

QC = OUTSIDE CONTROL LIMITS.

* = LESS THAN 5 TIMES THE DETECTION LIMIT.

B = DETECTED IN REAGENT BLANK; BACKGROUND SUBTRACTION NOT PERFORMED.

ND = NOT DETECTED AT DETECTION LIMIT.

NA = NOT ANALYZED.

N\A = NOT AVAILABLE.

NS = NOT SPIKED.

J = DETECTED AT LESS THAN THE SPECIFIED DETECTION LIMIT.

ANALYTICAL DATA SUMMARY

PHILLIPS 66
Associate Laboratory Data for Radian Work Order: 8901039

Method: EPA 8150 Herbicides	Matrix: water		
Results in: Sample ID:	ug/L Lusk MW-1	ug/L Lusk MW-2	ug/L Lusk MW-3
2,4-D	<0.2	<1	<0.2
2,4,5-TP (Silvex)	<0.1	<1	<0.1

For a detailed description of flags and technical terms in this report refer to the glossary.



PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

December 8, 1988

Quarterly Groundwater Monitoring Analyses
Artesia, Eunice, ~~Lee~~ and Lusk Plants

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Per your request, attached please find copies of the second quarter groundwater monitoring analyses for the above referenced plants. I have also included additional information on the Lee Plant water supply wells for your reference.

If you should have any questions regarding this information, please contact me at (915) 367-1316.

Very truly yours,

A handwritten signature in cursive script that reads "Michael D. Ford". The ink is dark and the signature is fluid.

Michael D. Ford
Environmental Analyst

MDF

Attachments



PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

January 19, 1989

Quarterly Groundwater Monitoring Analyses
Artesia, Eunice, ~~Lee~~ and Lusk Plants

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Per your request, attached please find copies of the third quarter groundwater monitoring analyses for the above referenced plants.

If you should have any questions regarding this information, please contact me at (915) 367-1316.

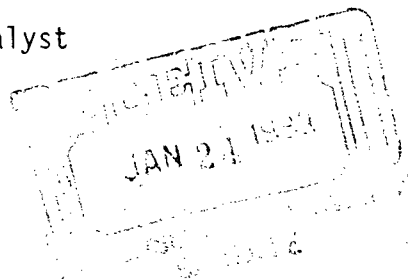
Very truly yours,

Michael D. Ford

Michael D. Ford
Environmental Analyst

MDF

Attachments



Page 1
 Received: 02/14/89
 RAS - Austin
 02/27/89 11:43:04
 REPORT
 Work Order # 89-02-152

REPORT Radian
 TO Bl. 1
 Austin
 ATTN Linda Bendele
 CLIENT PHILLIPS P
 COMPANY Phillips Petroleum
 FACILITY Odessa, TX
 SAMPLES 4

PREPARED Radian Analytical Services
 BY 8501 Mo-pac Bl.
 PO Box 201088
 Austin, TX 78720-1088
 ATTN
 PHONE 512-454-4797

Balena Lange
 CERTIFIED BY
 CONTACT BENDELE

Footnotes and Comments

- * Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.
- @ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

WORK ID Lusk coliforms
 TAKEN MF
 TRANS UPS
 TYPE
 P. O. #
 INVOICE under separate cover

SAMPLE IDENTIFICATION

01 Lusk MW-1
 02 Lusk MW-2
 03 Lusk MW-3
 04 Lusk MW-4

TEST CODES and NAMES used on this report

COLI T Total coliform

Page 2
Received: 02/14/89
RAS - Austin
Work Order # 89-02-152
REPORT
Results By Test

SAMPLE		Test: COLI I
Sample Id		colonies/100 mL
Lusk MW-1	01	<20
Lusk MW-2	02	<20
Lusk MW-3	03	<20
Lusk MW-4	04	<20

Client: Phillips Petroleum
Radian
Bl.1
Austin
EPA METHOD 8080

01B LUSK MW-1
02B LUSK MW-2
03B LUSK MW-3
04B LUSK MW-4

Lab No: 89-02-201

RESULTS IN ug/L

CAS #	COMPOUND	01B	02B	03B	04B
58-89-9	gamma-BHC, (Lindane)	0.02*	0.07*	<0.010	<0.009
72-20-8	Endrin	0.09*	<0.020	0.04*	0.05
8001-35-2	Toxaphene	<0.95	<1.0	<0.50	<0.45
72-43-5	Methoxychlor	<0.095	<0.10	<0.050	<0.045

SURROGATE RECOVERIES

(results in % recovery)

Dibutylchlorodate	98	99	94	99
2,4,5,6-Tetrachloro-m-xylene	88	82	79	86

(1) See Appendix A glossary of report and data flag definitions.

05B REAGENT BLANK

Client: Phillips Petroleum
Radian
Bl.1
Austin
EPA METHOD 8080

Lab No: 89-02-201

RESULTS IN ug/L

CAS #	COMPOUND	05B
58-89-9	gamma-BHC, (Lindane)	<0.002
72-20-8	Endrin	<0.002
8001-35-2	Toxaphene	<0.10
72-43-5	Methoxychlor	<0.010

SURROGATE RECOVERIES (results in % recovery)

Dibutylchloredate	102
2,4,5,6-Tetrachloro-m-xylene	89

(1) See Appendix A glossary of report and data flag definitions.

Client: Phillips Petroleum
Radian
Bl.1
Austin
EPA METHOD 8150

01A LUSK MW-1
02A LUSK MW-2
03A LUSK MW-3
04A LUSK MW-4

Lab No: 89-02-201

RESULTS IN ug/L

CAS #	COMPOUND	01A	02A	03A	04A
94-75-7	2,4-D	<0.54	<0.28	<0.54	<0.54
93-72-1	2,4,5-TP (Silvex)	<0.16	<0.083	<0.16	<0.16

SURROGATE RECOVERIES

(results in % recovery)

2,4-Dichlorophenyl acetic acid	80	77	91	122
--------------------------------	----	----	----	-----

(1) See Appendix A glossary of report and data flag definitions.

Client: Phillips Petroleum
Radian
Bl.1
Austin
EPA METHOD 8150

04C LUSK MW-4 DUPLICATE
05A REAGENT BLANK

Lab No: 89-02-201

RESULTS IN ug/L

CAS #	COMPOUND	04C	05A
94-75-7	2,4-D	<0.54	<0.50
93-72-1	2,4,5-TP (Silvex)	<0.16	<0.15

SURROGATE RECOVERIES (results in % recovery)

2,4-Dichlorophenyl acetic acid 97 81

(1) See Appendix A glossary of report and data flag definitions.

06A RECOVERY CHECK

Client: Phillips Petroleum
Radian
Bl.1
Austin
EPA METHOD 8150

Lab No: 89-02-201

RESULTS IN %

CAS #	COMPOUND	06A
94-75-7	2,4-D	102
93-72-1	2,4,5-TP (Silvex)	63

SURROGATE RECOVERIES (results in % recovery)

2,4-Dichlorophenyl acetic acid 92

(1) See Appendix A glossary of report and data flag definitions.

Appendix A

Comments, Notes and Definitions

Notes and Definitions

Radian Work Order: 89-02-200

- * Est. result less than 5 times detection limit
- A Analytical and/or post-digestion spike
- B Detected in blank, result not corrected
- C Confirmed on second column
- D Sample diluted for this analyte
- E Estimated result - see report narrative
- G Exceeds calibration range
- J Detected at less than detection limit
- NA Not analyzed
- NC Not calculated
- ND Not detected at specified detection limit
- NR Analyte not requested
- NS Not spiked
- N/A Not available
- P Previously confirmed
- Q Outside control limits
- R Detected in blank, result corrected
- S Determined by Method of Standard Addition
- U Unconfirmed-2nd column not requested
- X Not confirmed by analysis on 2nd column

Radian Work Order: 89-02-200

*

The asterisk(*) is used to flag results which are less than five times the method specified detection limit. Studies have shown that the uncertainty of the analysis will increase exponentially as the method detection limit is approached. These results should be considered approximate.

- A This flag indicates that a spike is an analytical and/or post-digestion spike. These spikes have not been subjected to the extraction or digestion step.
- B This flag indicates that the analyte was detected in the reagent blank but the sample results are not corrected for the amount in the blank.
- C Most methods of analysis by gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. The C flag indicates that the analyte has been confirmed by analysis on a second column.
- D This flag identifies all analytes identified in analysis at a secondary dilution factor. In an analysis some compounds can exceed the calibration range of the instrument. Therefore two analyses are performed, one at the concentration of the majority of the analytes, and a second with the sample diluted so that high concentration analyte(s) fall within the calibration range.

E Radian Work Order: 89-02-200

The reported value is estimated because of the presence of interference. The potential source of the interference is included in the report narrative.

G This flag identifies a GC/MS result whose concentration exceeds the calibration range for that specific analysis. Usually if one or more compounds have a response greater than full scale, the sample or extract is diluted and re-analyzed.

J Indicates an estimated value for GC/MS data. This flag is used either when estimating a concentration for tentatively identified compounds where a response factor of 1 is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit.

NA This analyte was not analyzed.

NC Applies to RPD and spike recovery results. The relative percent difference (RPD) and spike recovery are not calculated when a result value is less than five times the detection limit or obvious matrix interferences are present. See * definition for further explanation of the unreliability of data near the detection limit. A spike recovery is not calculated when the sample result is greater than four times the spike added concentration because the spike added concentration is considered insignificant.

Notes and Definitions

Radian Work Order: 89-02-200

ND

This flag (or <) is used to denote analytes which are not detected at or above the specified detection limit. The value to the right of the < symbol is the method specified detection limit for the sample.

NR This analyte was not requested by the client.

NS This analyte or surrogate was not added (spiked) to the sample for this analysis.

N/A A result or value is not available for this parameter, usually a detection limit.

P Most methods of analysis by gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. The P flag indicates that the analyte has been confirmed previously. This flag is applicable to analyses of samples arising from a regular sampling program as a specific sample source; for example, a quarterly well monitoring program.

Radian Work Order: 89-02-200
Q

This quality control standard is outside method or laboratory specified control limits. This flag is applied to matrix spike, analytical GC spike, and surrogate recoveries; and to RPD (relative percent difference) values for duplicate analyses and matrix spike/matrix spike duplicate result.

R This flag indicates that the analyte was detected in the reagent blank and the sample results are corrected for the amount in the blank.

S This flag indicates that a specific result from a metals analysis has been obtained using the Method of Standard Addition.

U Most methods of analysis by gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. The U flag indicates that second column was not requested.

X Most methods of analysis by gas chromatography recommend reanalysis on a second column of dissimilar phase to resolve compounds of interest from interferences that may occur and for analyte confirmation. The X flag indicates a second column confirmation was performed but the analyte was not confirmed and is likely a false positive.

Notes and Definitions

Radian Work Order: 89-02-200

TERMS USED IN THIS REPORT:

Analyte - A chemical for which a sample is to be analyzed. The analysis will meet EPA method and QC specifications.

Compound - See Analyte

Detection Limit - The method specified detection limit, which is the lower limit of quantitation specified by EPA for a method. Radian staff regularly assess their laboratories' method detection limits to verify that they meet or are lower than those specified by EPA. Detection limits which are higher than method limits are based on experimental values at the 99% confidence level. Note, the detection limit may vary from that specified by EPA based on sample size, dilution or cleanup. (Refer to Factor, below)

EPA Method - The EPA specified method used to perform an analysis. EPA has specified standard methods for analysis of environmental samples. Radian will perform its analyses and accompanying QC tests in conformance with EPA methods unless otherwise specified.

Factor - Default method detection limits are based on analysis of clean water samples. A factor is required to calculate sample specific detection limits based on alternate matrices (soil or water), use of cleanup procedures, or dilution of extracts/digestates. For example, extraction or digestion of 10 grams of soil in contrast to 1 liter of water will result in a factor of 100.

Matrix - The sample material. Generally, it will be soil, water, air, oil, or solid waste.

Radian Work Order - The unique Radian identification code assigned to the samples reported in the analytical summary.

Units - ug/L	micrograms per liter (parts per billion): liquids/water
ug/Kg	micrograms per kilogram (parts per billion): soils/solids
ug/M3	micrograms per cubic meter: air samples
mg/L	milligrams per liter (parts per million): liquids/water
mg/Kg	milligrams per kilogram (parts per million): soils/solids
%	percent: usually used for percent recovery of QC standards
uS/cm	conductance unit: microSiemens/centimeter
mL/hr	milliliters per hour: rate of settlement of matter in water
NTU	turbidity unit: nephelometric turbidity unit
CU	color unit: equal to 1 mg/L of chloroplatinate salt

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RAS - Austin

REPORT

Work Order # 89-02-200

REPORT Phillips Petroleum
TO Radian
Bl. 1
Austin
ATTEN Linda Bendele
CLIENT PHILLIPS P
COMPANY Phillips Petroleum
FACILITY Odessa, TX

SAMPLES 3

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTEN
PHONE 512-454-4797


CERTIFIED BY
CONTACT BENDELE

WORK ID Lusk
TAKEN MF
TRANS UPS
TYPE
P.O. #
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 Lusk MW-1
02 Lusk MW-2
03 reagent blank

TEST CODES and NAMES used on this report

AG E	Silver, ICPE	RA 226	Radium 226
ALPHA	Gross alpha radiation	SE G	Selenium, graphite AA
AS G	Arsenic, graphite AA	SO4 IC	Sulfate, IC
BA E	Barium, ICPE	TOC	Total organic carbon
BETA	Gross beta radiation	TOX	Total organic halides
CD E	Cadmium, ICPE	TURB	Turbidity
CL IC	Chloride, IC	XYLENE	Xylenes, EPA 602
CR E	Chromium, ICPE		
DG3020	Digestion, method 3020		
DG6010	Digestion, method 6010		
EPA602	EPA method 602		
FE E	Iron, ICPE		
F IC	Fluoride, IC		
HQ C	Mercury, cold vapor		
MHO	Specific conductance		
MN E	Manganese, ICPE		
NA E	Sodium, ICPE		
NO3	Nitrate, colorimetric		
PB G	Lead, graphite AA		
PH	pH		
PHEN	Total phenolics		

RA 226	Radium 226
SE G	Selenium, graphite AA
SO4 IC	Sulfate, IC
TOC	Total organic carbon
TOX	Total organic halides
TURB	Turbidity
XYLENE	Xylenes, EPA 602

Results By Test

SAMPLE	Test: AS E	Test: ALPHA	Test: AS G	Test: BA E	Test: BETA
Sample Id	ug/ml	pCi/L	ug/ml	ug/ml	pCi/L
01	<0.03	12.0(1.3)	0.011	0.089	19.5(2.1)
Lusk MW-1		pCi/L			pCi/L
02	<0.03	11.3(1.6)	0.015	0.03*	23.0(3.3)
Lusk MW-2		pCi/L			pCi/L

SAMPLE	Test: CD E	Test: CL IC	Test: CR E	Test: DG3020	Test: DG6010
Sample Id	ug/ml	mg/L	ug/ml	date complete	date complete
01	<0.005	910	<0.03	03/02/89	02/27/89
Lusk MW-1					
02	<0.005	130	<0.03	03/02/89	02/27/89
Lusk MW-2					

SAMPLE	Test: FE E	Test: F IC	Test: MHD	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
01	<0.04	2.5	3600	0.35	110
Lusk MW-1			3400		
			3400		
			3400		
02	1.8	3.6	1900	2.5	190
Lusk MW-2			2800		

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REPORT

Work Order # 89-02-200
Continued From Above

Results By Test

SAMPLE	Test: FE E	Test: F IC	Test: MHO	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
			2900		
			2800		

SAMPLE	Test: NO3	Test: PB G	Test: PH	Test: PHEN	Test: RA 226
Sample Id	mg/L as N	ug/ml	pH units	mg/L as phenol	pCi/L
01	<0.02	0.002*	7.24	0.008*	0.95(.05) pCi/L
Lusk MW-1			7.23		
			7.21		
			7.21		
02	0.09*	0.004*	7.08	<0.005	0.42(.04) pCi/L
Lusk MW-2			7.08		
			7.11		
			7.08		

SAMPLE	Test: SE G	Test: SD4 IC	Test: IDC	Test: IDX
Sample Id	ug/ml	mg/L as SD4	mg/L	mg/L
01	<0.005	140	4*	0.04*
Lusk MW-1			3*	0.04*
			5	0.04*
			5	0.03*
02	<0.005	1300	14	0.04*
Lusk MW-2			15	0.04*
			15	0.04*
			16	0.04*

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Results by Sample

REPORT

Work Order # 89-02-200

SAMPLE ID Lusk MW-1

FRACTION 01J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 02/14/89

Category

ANALYST BM
INSTRMT G

VERIFIED DMV

FILE # UNITS ug/L

INJECTED 02/16/89

COMPOUND RESULT DET LIMIT

CAS#

Benzene 15 0.20

Toluene 0.6* 0.20

Ethylbenzene 0.6* 0.30

Chlorobenzene-A ND 0.30

1,4-Dichlorobenzene ND 0.30

1,3-Dichlorobenzene ND 0.40

1,2-Dichlorobenzene ND 0.40

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 102% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin
Results by Sample

REPORT

Work Order # 89-02-200

SAMPLE ID Lusk MW-1

FRACTION Q11

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 02/14/89

Category

ANALYST MZ
INSTRMT 403

ANALYZED 03/02/89

VERIFIED RHH

UNITS ug/ml

ANALYTE Mercury RESULT ND DET LIMIT 0.0002

(1) See Appendix A for glossary of report and data flag definitions.

SAMPLE ID Lusk MW-1

FRACTION Q1A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 02/14/89

Category

ANALYST LKM
INSTRMT HACH

ANALYZED 02/16/89

VERIFIED LM

UNITS NTU

ANALYTE Turbidity RESULT 2 DET LIMIT 1.0

(1) See Appendix A for glossary of report and data flag definitions.

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Results by Sample
REPORT
Work Order # 89-02-200

SAMPLE ID Lusk MW-1
FRACTION Q1J TEST CODE XYLENE NAME Xylenes, EPA 602
Date & Time Collected 02/14/89 Category

ANALYST BM VERIFIED DMV
INSTRMT Q INJECTD 02/16/89 FILE # UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
1330-20-7	Total xylenes	4.4	0.20

SURROGATES

98-08-8	a,a,a-Trifluorotoluene	102% recovery
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(1) See Appendix A for glossary of report and data flag definitions.

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REPORT

Work Order # 89-02-200

Results by Sample

SAMPLE ID Lusk MW-2

FRACTION 02J TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 02/14/89

Category

ANALYST BM
INSTRMT G

INJECTED 02/16/89

FILE #

VERIFIED DMV

UNITS ug/L

COMPOUND RESULT DET LIMIT

CAS#

0.20

ND

Benzene

71-43-2

0.20

ND

Toluene

108-88-3

0.30

ND

Ethylbenzene

100-41-4

0.30

ND

Chlorobenzene-A

108-90-7

0.30

ND

1,4-Dichlorobenzene

106-46-7

0.40

ND

1,3-Dichlorobenzene

541-73-1

0.40

ND

1,2-Dichlorobenzene

95-50-1

SURROGATES

102% recovery

a, a, a-Trifluorotoluene

98-08-8

(1) See Appendix A for glossary of report and data flag definitions.

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REPORT

Results by Sample

Work Order # 89-02-200

SAMPLE ID Lusk MW-2

FRACTION 02I

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 02/14/89

Category

ANALYST
INSTRMT 403

ANALYZED 03/02/89

ANALYTE RESULT DET LIMIT

Mercury ND 0.0002

VERIFIED RHH

UNITS ug/ml

(1) See Appendix A for glossary of report and data flag definitions.

SAMPLE ID Lusk MW-2

FRACTION 02A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 02/14/89

Category

VERIFIED LM

ANALYST
INSTRMT HACH

ANALYZED 02/16/89

ANALYTE RESULT DET LIMIT

Turbidity 27 1.0

UNITS NTU

(1) See Appendix A for glossary of report and data flag definitions.

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Results by Sample

Work Order # 89-02-200

SAMPLE ID Lusk MW-2

FRACTION 02J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 02/14/89

Category

ANALYST
INSTRMT

BM
G

VERIFIED DMV

FILE #

INJECTD 02/16/89

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
1330-20-7	Total xylenes	ND	0.20

SURROGATES

98-08-8	a,a,a-Trifluorotoluene	102% recovery
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(1) See Appendix A for glossary of report and data flag definitions.

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 Results by Sample
 REPORT
 Work Order # 89-02-200

SAMPLE ID reagent blank
 FRACTION 03A
 TEST CODE EPA602
 NAME EPA method 602
 Date & Time Collected not specified
 Category

ANALYST _____
 INSTRMT _____
 FILE # _____
 INJECTED 02/16/89
 UNITS ug/L
 VERIFIED _____
 DMV

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	ND	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES

98-08-8 a,a,a-Trifluorotoluene N/A% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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Results by Sample

Work Order # 89-02-200

SAMPLE ID reagent blank

FRACTION Q3A

TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected not specified

Category

ANALYST
INSTRMT

JB
Q

FILE #

INJECTD 02/16/89

VERIFIED DMV

UNITS ug/L

CAS #	COMPOUND	RESULT	DEF LIMIT
1330-20-7	Total xylenes	ND	0.20

SURROGATES

98-08-8 a,a,a-Trifluorotoluene N/A% recovery

(1) See Appendix A for glossary of report and data flag definitions.

TEST CODE ALPHA NAME Gross alpha radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE BETA NAME Gross beta radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE RA 226 NAME Radium 226

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - one sigma). One sigma = one standard deviation, 68% confidence level.

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RAS -

Austin

REPORT

Work Order # 89-02-205

REPORT Phillips Petroleum

TO Radian

Bl. 1

Austin

ATTEN Linda Bendele

CLIENT PHILLIPS P

COMPANY Phillips Petroleum

FACILITY Odessa, TX

SAMPLES 5

PREPARED Radian Analytical Services

BY 8501 Mo-pac Bl.

PO Box 201088

Austin, TX 78720-1088

ATTEN

PHONE 512-454-4797

CONTACT BENDELE

CERTIFIED BY

WORK ID Lusk

TAKEN MF

TRANS UPS

TYPE

P.O. #

INVOICE under separate cover

SAMPLE IDENTIFICATION

01 Lusk MW-3
02 Lusk MW-4
03 Lusk MW-4 duplicate
04 trip blank
05 reagent blank

TEST CODES and NAMES used on this report

AG E	Silver, ICPE
ALPHA	Gross alpha radiation
AS G	Arsenic, graphite AA
BA E	Barium, ICPE
BETA	Gross beta radiation
CD E	Cadmium, ICPE
CL IC	Chloride, IC
CR E	Chromium, ICPE
DG3020	Digestion, method 3020
DG6010	Digestion, method 6010
EPA602	EPA method 602
FE E	Iron, ICPE
F IC	Fluoride, IC
HG C	Mercury, cold vapor
MHO	Specific conductance
MN E	Manganese, ICPE
NA E	Sodium, ICPE
NO3	Nitrate, colorimetric
PB G	Lead, graphite AA
PH	pH
PHEN	Total phenolics

RA 226	Radium 226
SE G	Selenium, graphite AA
SD4 IC	Sulfate, IC
TOC	Total organic carbon
TOX	Total organic halides
TURB	Turbidity
XYLENE	Xylenes, EPA 602

Received: 02/16/89

Results By Test

SAMPLE	Test: AG E	Test: ALPHA	Test: AS G	Test: BA E	Test: BETA
Sample Id	ug/ml	pci/l	ug/ml	ug/ml	pci/l
01	<0.03	14.8(1.4)	0.013	0.03*	19.0(2.0)
Lusk MW-3		pci/l			pci/l
02	<0.03	13.4(1.8)	0.006*	0.04*	18.6(2.2)
Lusk MW-4		pci/l			pci/l

SAMPLE	Test: CD E	Test: CL IC	Test: CR E	Test: DG3020	Test: DG6010
Sample Id	ug/ml	mg/L	ug/ml	date complete	date complete
01	<0.005	320	<0.03	03/02/89	02/27/89
Lusk MW-3					
02	<0.005	360	<0.03	03/02/89	02/27/89
Lusk MW-4					
03			<0.03		02/27/89
Lusk MW-4 dupli					

SAMPLE	Test: FE E	Test: F IC	Test: MHD	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
01	<0.04	2.5	2300	0.22	200
Lusk MW-3			2200		
			2300		
			2200		
02	<0.04	2.6	2600	0.43	200
Lusk MW-4					

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 RAS - Austin
 Results By Test
 REPORT
 Work Order # 89-02-205
 Continued From Above

SAMPLE	Test: FE E	Test: F IC	Test: MHO	Test: MN E	Test: NA E
Sample Id	ug/ml	mg/L	umhos/cm	ug/ml	ug/ml
			2500		
			2400		
			2600		

SAMPLE	Test: NO3	Test: PB G	Test: PH	Test: PHEN	Test: RA 226
Sample Id	mg/L as N	ug/ml	pH units	mg/L as phenol	pCi/L
01	0.54	0.006*	7.24	<0.005	0.79(.05)
Lusk MW-3			7.29		pCi/L
			7.28		
			7.21		
02	0.54	<0.002	7.19	<0.005	0.68(.04)
Lusk MW-4			7.16		pCi/L
			7.23		
			7.16		

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REPORT

Work Order # 89-02-205

Results By Test

SAMPLE	Test: SE G ug/ml	Test: SD4 IC mg/L as SD4	Test: TOC mg/L	Test: TOX mg/L
01	<0.005	400	10	0.06
Lusk MW-3			11	0.06
			11	0.05
			12	0.06
02	<0.005	500	9	0.06
Lusk MW-4			10	0.07
			10	0.06
			11	0.07

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REPORT

Work Order # 89-02-205

Results by Sample

SAMPLE ID Lusk MW-3

FRACTION 01J TEST CODE EPA602 NAME EPA method 602
Date & Time Collected 02/14/89 CategoryANALYST _____ BM
INSTRMT _____ G

VERIFIED _____ DMV

FILE # _____ UNITS _____ ug/L
INJECTED 02/16/89

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	ND	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 100% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin
Results by Sample

REPORT

Work Order # 89-02-205

SAMPLE ID Lusk MW-3

FRACTION 011

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 02/14/89

Category

ANALYST MZ
INSTRMT 403

ANALYZED 03/02/89

VERIFIED RHH

UNITS ug/ml

ANALYTE RESULT DET LIMIT

Mercury ND 0.0002

(1) See Appendix A for glossary of report and data flag definitions.

SAMPLE ID Lusk MW-3

FRACTION 01A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 02/14/89

Category

VERIFIED LM

UNITS NTU

ANALYST LKM
INSTRMT HACH

ANALYZED 02/16/89

ANALYTE RESULT DET LIMIT

Turbidity 6 1.0

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin

REPORT

Results by Sample

Work Order # 89-02-205

SAMPLE ID Lusk MW-3

FRACTION 01J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 02/14/89

Category

ANALYST BM
INSTRMT G

INJECTD 02/16/89

FILE #

VERIFIED DMV

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
1330-20-7	Total xylenes	ND	0.20

SURROGATES

98-08-8	a,a,a-Trifluorotoluene	100% recovery
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(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin
Results by Sample

REPORT

Work Order # 89-02-205

SAMPLE ID Lusk MW-4

FRACTION 02J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 02/14/89

Category

ANALYST _____ INSTRMT _____ BM
INSTRMT _____ G

VERIFIED _____ DMV

FILE # _____

INJECTED 02/16/89

UNITS _____ ug/L

CAS# COMPOUND RESULT DET LIMIT

71-43-2 Benzene ND 0.20

108-88-3 Toluene ND 0.20

100-41-4 Ethylbenzene ND 0.30

108-90-7 Chlorobenzene-A ND 0.30

106-46-7 1,4-Dichlorobenzene ND 0.30

541-73-1 1,3-Dichlorobenzene ND 0.40

95-50-1 1,2-Dichlorobenzene ND 0.40

SURROGATES

98-08-E a,a,a-Trifluorotoluene 106% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin
Results by Sample

REPORT

Work Order # 89-02-205

SAMPLE ID Lusk MW-4

FRACTION Q21

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 02/14/89

Category

ANALYST MZ
INSTRMT 403

ANALYZED 03/02/89

UNITS ug/ml

ANALYTE RESULT DET LIMIT

Mercury ND 0.0002

VERIFIED RHH

(1) See Appendix A for glossary of report and data flag definitions.

SAMPLE ID Lusk MW-4

FRACTION Q2A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 02/14/89

Category

ANALYST LKM
INSTRMT HACH

ANALYZED 02/16/89

UNITS NTU

ANALYTE RESULT DET LIMIT

Turbidity 2 1.0

VERIFIED LM

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin
Results by Sample

REPORT

Work Order # 89-02-205

SAMPLE ID Lusk MW-4

FRACTION 02J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 02/14/89

Category

ANALYST BM
INSTRMT C

INJECTD 02/16/89

FILE #

VERIFIED DMV

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
1330-20-7	Total xylenes	ND	0.20

SURROGATES

98-08-8	a,a,a-Trifluorotoluene	106% recovery
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(1) See Appendix A for glossary of report and data flag definitions.

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REPORT

Work Order # 89-02-205

Results by Sample

SAMPLE ID Lusk MW-4 duplicate

FRACTION Q3B TEST CODE EPA602 NAME EPA method 602
Date & Time Collected 02/14/89 Category

ANALYST BM
INSTRMT G

INJECTED 02/16/89

FILE #

VERIFIED DMV

UNITS ug/L

COMPOUND RESULT DET LIMIT

CAS#

Benzene ND 0.20

Toluene ND 0.20

Ethylbenzene ND 0.30

Chlorobenzene-A ND 0.30

1,4-Dichlorobenzene ND 0.30

1,3-Dichlorobenzene ND 0.40

1,2-Dichlorobenzene ND 0.40

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 98% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin

REPORT
Results by Sample

Work Order # 89-02-205

SAMPLE ID Lusk MW-4 duplicate

FRACTION Q3B

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 02/14/89

Category

ANALYST BM
INSTRMT G

INJECTD 02/16/89

FILE #

VERIFIED DMV

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
1330-20-7	Total xylenes	ND	0.20

SURROGATES

98-08-8	a,a,a-Trifluorotoluene	98% recovery
---------	------------------------	--------------

(1) See Appendix A for glossary of report and data flag definitions.

Page 13
 Received: 02/16/89

 RAS - Austin
 Results by Sample

REPORT

Work Order # 89-02-205

SAMPLE ID trip blank

 FRACTION 04A TEST CODE EPA602 NAME EPA method 602
 Date & Time Collected not specified Category

 ANALYST _____ BM _____
 INSTRMT _____ Q _____
 INJECTED 02/16/89
 FILE # _____
 VERIFIED _____ DMV _____
 UNITS _____ ug/L

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.20
108-88-3	Toluene	ND	0.20
100-41-4	Ethylbenzene	ND	0.30
108-90-7	Chlorobenzene-A	ND	0.30
106-46-7	1,4-Dichlorobenzene	ND	0.30
541-73-1	1,3-Dichlorobenzene	ND	0.40
95-50-1	1,2-Dichlorobenzene	ND	0.40

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 92% recovery

(1) See Appendix A for glossary of report and data flag definitions.

Page 14
Received: 02/16/89
RAS - Austin
Results by Sample
REPORT
Work Order # 89-02-205

SAMPLE ID trip blank
FRACTION 04A
TEST CODE XYLENE
NAME Xylenes, EPA 602
Date & Time Collected not specified
Category

VERIFIED DMV

ANALYST BM
INSTRMT G
INJECTD 02/16/89
FILE #
UNITS ug/L

CAS #
1330-20-7
COMPOUND
Total xylenes
RESULT DET LIMIT
ND 0.20

SURROGATES

98-08-8
a,a,a-Trifluorotoluene 92% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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RAS - Austin
Results by Sample

REPORT

Work Order # 89-02-205

SAMPLE ID reagent blank

FRACTION 05A TEST CODE EPA602 NAME EPA method 602
Date & Time Collected not specified Category

ANALYST	INSTRMT	FILE #	INJECTED	VERIFIED	DMV	UNITS	ug/L
			02/16/89				
CAS#	COMPOUND	RESULT	DET	LIMIT			
71-43-2	Benzene	ND		0.20			
108-88-3	Toluene	ND		0.20			
100-41-4	Ethylbenzene	ND		0.30			
108-90-7	Chlorobenzene-A	ND		0.30			
106-46-7	1,4-Dichlorobenzene	ND		0.30			
541-73-1	1,3-Dichlorobenzene	ND		0.40			
95-50-1	1,2-Dichlorobenzene	ND		0.40			

SURROGATES

98-08-8 a,a,a-Trifluorotoluene N/A% recovery

(1) See Appendix A for glossary of report and data flag definitions.

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Received: 02/16/89

RAS - Austin

REPORT

Work Order # 89-02-205

Results by Sample

SAMPLE ID reagent blank

FRACTION 05A TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected not specified

Category

ANALYST JB
INSTRMT G

INJECTD 02/16/89

FILE #

VERIFIED DMV

UNITS ug/L

CAS # 1330-20-7 COMPOUND Total xylenes RESULT DET LIMIT ND 0.20

SURROGATES

98-08-8 a, a, a-Trifluorotoluene N/A recovery

(1) See Appendix A for glossary of report and data flag definitions.

TEST CODE ALPHA NAME Gross alpha radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE BETA NAME Gross beta radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE RA 226 NAME Radium 226

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - one sigma). One sigma = one standard deviation, 68% confidence level.



PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

April 5, 1989

Groundwater Monitoring Analyses
Artesia, Eunice, Lee and Lusk Plants

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Per your request, attached please find copies of the fourth quarter groundwater monitoring analyses for the above referenced plants.

If you should have any questions regarding this information, please contact me at (915) 367-1316.

Very truly yours,

A handwritten signature in cursive script that reads "Michael D. Ford".

Michael D. Ford
Environmental Analyst

MDF

Attachments

RECEIVED
JUN 15 1981
OIL CONSERVATION DIVISION
SANTA FE

REMARKS: 25 ml 142 x .5 = 71 ppm

RECEIVED
JUN 15 1981
OIL CONSERVATION DIVISION
SANTA FE

REMARKS: 25 ml 142 x .2 = 28.4 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



WATER ANALYSIS

Well Ownership: OCD -- LUSK/PHILLIPS Well No. LP #3

Land Status: State Federal Fee

Well Location: Unit Letter , Section 19, T 17 S, R 35 E

Top water 83 feet

Type Well: Observation well Depth 100 feet.

Well Use:

Sample Number: 1

Date Taken: 5-11-81

Taken By: Eddie Seay

Specific Conductance: m/cm

Total dissolved Solids: PPM.

Chlorides: 42.6 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 6-3-81

By: Les Clements
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42.6 ppm

RECEIVED
JUN 15 1981
OIL CONSERVATION DIVISION
SANTA FE

25 ml sample $142 \times .2 = 28.4$ ppm

RECEIVED
JUN 15 1981
OIL CONSERVATION DIVISION
SANTA FE

25 ml sample $142 \times 2.7 = 383.4$ ppm

RECEIVED
JUN 15 1981
OIL CONSERVATION DIVISION
SANTA FE

REMARKS: 10 ml sample $355 \times 1.3 = 461.5$ ppm

RECEIVED
SEP 14 1981
OIL CONSERVATION DIST.
SANTA FE

REMARKS: 25ml 142 x .4 = 56.8

RECEIVED
SEP 14 1981
OIL CONSERVATION DIVISION
SANTA FE

Well Ownership: OCD - PHILLIPS LUSK Well No. LP #10

Well Location: Unit Letter , Section 30 , T 17 S, R 35 E

Top H20 - 75

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: 1

Date Taken: 8-21-81

Taken By: Eddie Seay

Specific Conductance: _____ m/m

Total dissolved Solids: PPM.

Chlorides: 85.2 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 8-31-81

By: Eddie W. Dean
Oil Conservation Division

REMARKS: 25m1 142 x .6 = 85.2 ppm.

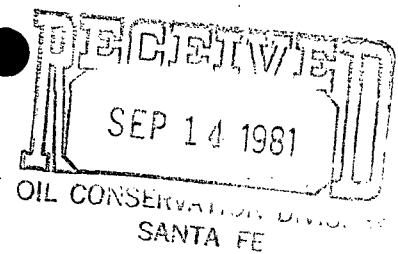
RECEIVED
SEP 14 1981
OIL CONS. DIV.
SANTA FE

REMARKS: 25ml 142 x .3 = 42.6 ppm

SEP 14 1981
OIL CONSERVATION DIVISION
SANTA FE

REMARKS: 25ml 142 x 3.1 = 440.2 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



WATER ANALYSIS

Well Ownership: OCD - PHILLIPS LUSK Well No. LP #9

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E
Top H2O 83

Type Well: Observation well Depth 100 feet.

Well Use:

Sample Number: 1 Date Taken: 8-21-81

Taken By: Eddie Seay

Specific Conductance: m/

Total dissolved Solids: PPM.

Chlorides: 42.6 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 8-31-81 By: Eddie W Seay

Oil Conservation Division

REMARKS: 25ml 142 x .3 = 42.6 ppm

SEP 14 1981
OIL CONSERVATION
SANTA FE

REMARKS: 10ml Sample $355 \times 1.0 = 355$ ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. LP3

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T 17 S, R 35 E

Top H2O- 83 ft.

Type well: Observation well Depth 100 feet

Well Use:

Sample Number:

Date Taken: 2-9-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water Level: from surface

Date Analyzed: 3-11-82

By: Eddie Seay
Oil Conservation Division

REMARKS: 25 ml 142 x .3= 42.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. LP4

LAND STATUS: State _____ Federal _____ Fee _____

WELL LOCATION: Unit Letter _____, Section 30, T 17 S, R 35 E
Top H20-85 ft.

Type well: Observation well Depth 100 feet

Well Use: _____

Sample Number: _____ Date Taken: 2-9-82

Taken By: Eddie Seay

Specific Conductance: _____ m/cm

Total Dissolved Solids _____ PPM

Chlorides: 42.6 PPM

Sulfates: _____ PPM

Water Level: _____ from surface

Date Analyzed: 3-11-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x .3=42.6 ppm

Supervisor, District I

WATER ANALYSIS

REMARKS: 25 ml 142 X 3.2=454.4 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. LP 8

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T. 17 S, R 35 E

Top H2O- 83 ft.

Type well: Observation well Depth feet

Well Use:

Sample Number:

Date Taken: 2-9-82

Taken By: Eddie Seay

Specific Conductance: m/~

Total Dissolved Solids PPM

Chlorides: 213 PPM

Sulfates: PPM

Water Level: from surface

Date Analyzed: 3-11-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x 1.5= 213 ppm

Supervisor, District I

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. LP10

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T. 17 S. R. 35 E

Top H2O-76 ft.

Type well: Observation well Depth 100 feet

Well Use:

Sample Number:

Date Taken: 2-9-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 85.2 PPM

Sulfates: PPM

Water Level: from surface

Date Analyzed: 3-11-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142x .6= 85.2 ppm

Supervisor, District I

WATER ANALYSIS.

REMARKS: 25 ml 142.x .3=42.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. #3

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T 17 S, R 35 E

Type well: observation well Depth feet

Well Use:

Sample Number:

Date Taken: 6-8-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water level: 85 from surface

Date Analyzed: 6-28-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42/6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. #4

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number:

Date Taken: 6-8-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 28.4 PPM

Sulfates: PPM

Water Level: 87 from surface

Date Analyzed: 6-28-82

By: Eddie W Seay
Oil Conservation Division

REMARKS: 25 ml 142.2 = 28.4 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. #5

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number:

Date Taken: 6-8-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 397.6 PPM

Sulfates: PPM

Water Level: 86 from surface

Date Analyzed: 6-28-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x 2.8 = 397.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. #8

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: Date Taken: 6-8-82

Taken By: Eddie Seay

Specific Conductance: m/~

Total Dissolved Solids PPM

Chlorides: 156.2 PPM

Sulfates: PPM

Water Level: 85 from surface

Date Analyzed: 6-28-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x 1.1 = 156.2 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. #10

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: Date Taken: 6-8-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 113.6 PPM

Sulfates: PPM

Water Level: 77 from surface

Date Analyzed: 6-28-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142.8 = 113.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. #9

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number:

Date Taken: 6-8-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water level: 85 from surface

Date Analyzed: 6-28-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 3

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T. 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: 1

Date Taken: 11-9-82

Taken By: Eddie Seay

Specific Conductance: m/cm

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water level: 85 from surface

Date Analyzed: 11-22-82

By: Eddie W Seay
Oil Conservation Division

REMARKS: 25ml ~~142~~3=42.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 4

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T. 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: 1

Date Taken: 11-9-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water Level: 87 from surface

Date Analyzed: 11-22-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x .3=42.6 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 5

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: 1

Date Taken: 11-9-82

Taken By: Eddie Seay

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 369.2 PPM

Sulfates: PPM

Water Level: 86 from surface

Date Analyzed: 11-22-82

By: Eddie W Seay
Oil Conservation Division

REMARKS: 25ml 142 x 2.6=369.2 ppm

Supervisor, District I

WATER ANALYSIS

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 9

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: 1

Date Taken: 11-9-82

Taken By: Eddie Seay

Specific Conductance: m/cm

Total Dissolved Solids PPM

Chlorides: 56.8 PPM

Sulfates: PPM

Water level: 86 from surface

Date Analyzed: 11-22-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x .4=56.8 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBBS, NEW MEXICO

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 8

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T 17 S, R 35 E

Type well: observation well Depth 100 feet

Well Use:

Sample Number: 1

Date Taken: 11-9-82

Taken By: Eddie Seay

Specific Conductance: m/cm

Total Dissolved Solids PPM

Chlorides: 170.4 PPM

Sulfates: PPM

Water Level: 87 from surface

Date Analyzed: 11-22-82

By: Eddie W. Seay
Oil Conservation Division

REMARKS: 25 ml 142 x 1.2=17.4 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. #3

Land Status: State Federal Fee

Well Location: Unit Letter , Section 19, T 17 S, R 35 E

Top H₂O 88 ft.

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: 1 Date Taken: 6-7-83

Taken By: Ron Castleberry

Specific Conductance: m/Ω

Total dissolved Solids: PPM.

Chlorides: 42.6 ppm PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 6-20-83

By: Eddie W. Day
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42.6 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD)

Well No. 10

Land Status: State

Federal

Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

Type Well: observation well

Depth 100 feet.

Well Use:

Sample Number: 1

Date Taken: 6-7-83

Taken By: Ron Castleberry

Specific Conductance: m/

Total dissolved Solids: PPM.

Chlorides: 56.8 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 6-20-83

By: *Edna W. Jones*
Oil Conservation Division

REMARKS: 25 ml 142 x 56.8 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 4

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

H₂O 88 ft.

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: 1

Date Taken: 6-7-83

Taken By: Ron Castleberry

Specific Conductance: m/Ω

Total dissolved Solids: PPM.

Chlorides: 42.6 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 6-20-83

By: *Eddie W. Dean*
Oil Conservation Division

REMARKS: 25 ml 142 x .3=42.6 ppm

WATER ANALYSIS

REMARKS: 25 ml 142 x 1.7=241.4 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 8

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

Top H₂O 86 ft.

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: 1

Date Taken: 6-7-83

Taken By: Ron Castleberry

Specific Conductance: m/cm

Total dissolved Solids: PPM.

Chlorides: 85.2 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 6-20-83

By: *Edwin W. Dean*
Oil Conservation Division

REMARKS: 25 ml 142 x 85.2 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 9

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E
Top H₂O 85 ft.

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: 1

Date Taken: 6-7-83

Taken By: Ron Castleberry

Specific Conductance: m/

Total dissolved Solids: PPM.

Chlorides: 42.6 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

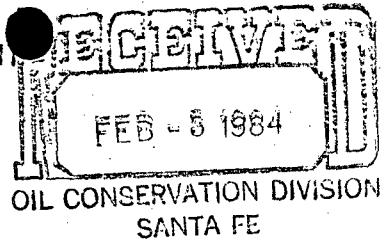
Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 6-20-83

By: *Edna W. [Signature]*
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42.6 ppm

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 10

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T. 17 S, R 35 E
Top water 85 ft.

Type well: observation well Depth 95 feet

Well Use:

Sample Number: Date Taken: 1-25-84

Taken By: Ron Castleberry

Specific Conductance: m/~

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water Level: from surface

Date Analyzed: 1-26-84

By: Eddie W. Dean
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42.6

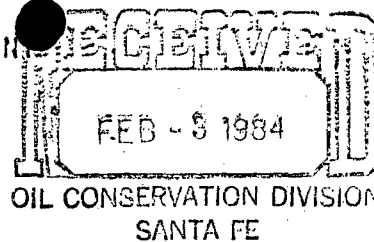
Supervisor, District I

REC-3 1984

WATER ANALYSIS

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 4

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E

Top H₂O 89 ft.

Type well: observation well Depth 99 feet

Well Use:

Sample Number:

Date Taken: 1-25-84

Taken By: Ron Castleberry

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 28.4 PPM

Sulfates: PPM

Water Level: from surface

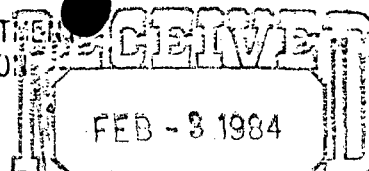
Date Analyzed: 1-26-84

By: Eddie W. Long
Oil Conservation Division

REMARKS: 25 ml 142 x .2 = 28.4 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



OIL CONSERVATION DIVISION
SANTA FE

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 5

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T. 17 S, R 35 E
Top H₂O 90 ft.

Type well: observation well Depth 100 feet

Well Use:

Sample Number:

Date Taken: 1-25-84

Taken By: Ron Castleberry

Specific Conductance: m/cm

Total Dissolved Solids PPM

Chlorides: 397.6 PPM

Sulfates: PPM

Water Level: from surface

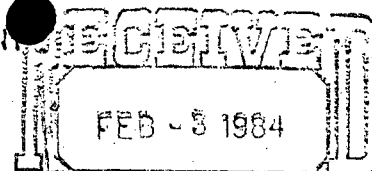
Date Analyzed: 1-26-84

By: Eddie W. [Signature]
Oil Conservation Division

REMARKS: 24 ml 142 x 2.8 = 397.6

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



OIL CONSERVATION DIVISION
SANTA FE

WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 8

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 19, T. 17 S, R 35 E
Top H₂O 88 ft.

Type well: observation well Depth 98 feet

Well Use:

Sample Number:

Date Taken: 1-25-84

Taken By: Ron Castleberry

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 127.8 PPM

Sulfates: PPM

Water Level: from surface

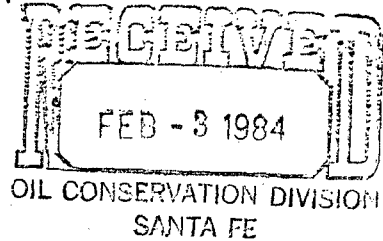
Date Analyzed: 1-26-84

By: Eddie W. Dean
Oil Conservation Division

REMARKS: 25 ml 142 x .9 = 127.8 ppm

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO



WATER ANALYSIS

WELL OWNERSHIP: Phillips Lusk (OCD) WELL NO. 9

LAND STATUS: State Federal Fee

WELL LOCATION: Unit Letter , Section 30, T 17 S, R 35 E
Top H₂O 87 ft.

Type well: observation well Depth 97 feet

Well Use:

Sample Number:

Date Taken: 1-25-84

Taken By: Ron Castleberry

Specific Conductance: m/

Total Dissolved Solids PPM

Chlorides: 42.6 PPM

Sulfates: PPM

Water Level: from surface

Date Analyzed: 1-26-84

By: Eddie W. Dean
Oil Conservation Division

REMARKS: 25 ml 142 x .3 = 42.6

Supervisor, District I

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

To: Dave Boyer
From: Eddie Seay

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 10

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

top water at 86'

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number:

Date Taken: 1-10-85

Taken By: Ron Castleberry

Specific Conductance: m/L

Total dissolved Solids: PPM.

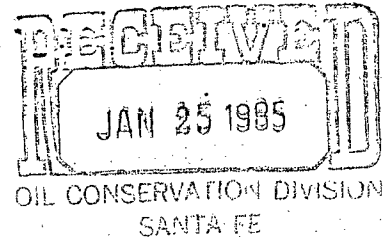
Chlorides: 42.6 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

 :



Date Analyzed: 1-17-85

By: Eddie W. Seay
Oil Conservation Division
Eddie Seay

REMARKS: 142 x .3 = 42.6 ppm Cl

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 4

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

top water at 87'

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number:

Date Taken: 1-10-85

Taken By: Ron Castleberry

Specific Conductance: m/cm

Total dissolved Solids: PPM.

Chlorides: 56.8 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 1-17-85

By: Eddie W. Seay
Oil Conservation Division
Eddie Seay

REMARKS: 142 x .4 = 56.8 ppm Cl

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 3

Land Status: State Federal Fee

Well Location: Unit Letter , Section 19, T 17 S, R 35 E

top water at 86'

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: Date Taken: 1-10-85

Taken By: Ron Castleberry

Specific Conductance: m/Ω

Total dissolved Solids: PPM.

Chlorides: 42.6 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

 :

Date Analyzed: 1-17-85

By: Eddie W. Seay
Oil Conservation Division
Eddie Seay

REMARKS: 25 ml 142 x .3 = 42.6 ppm Cl

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 8

Land Status: State Federal Fee

Well Location: Unit Letter , Section 19, T 17 S, R 35 E

top water at 86'

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number:

Date Taken: 1-10-85

Taken By: Ron Castleberry

Specific Conductance: m/

Total dissolved Solids: PPM.

Chlorides: 142 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

 :

Date Analyzed: 1-17-85

By: Eddie W. Seay
Oil Conservation Division
Eddie Seay

REMARKS: 142 x 1.0 = 142 ppm Cl

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 5

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

top water at 87'

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number:

Date Taken: 1-10-85

Taken By: Ron Castleberry

Specific Conductance: m/cm

Total dissolved Solids: PPM.

Chlorides: 383.4 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

Date Analyzed: 1-17-85

By: Eddie W. Seay
Oil Conservation Division
Eddie Seay

REMARKS: 142 x 2.7 = 383.4 ppm Cl

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCN) Well No. 9

Land Status: State Federal Fee

Well Location: Unit Letter , Section 30, T 17 S, R 35 E

top water at 87'

Type Well: observation well Depth 100 feet.

Well Use:

Sample Number: Date Taken: 1-10-85

Taken By: Ron Castleberry

Specific Conductance: m/~

Total dissolved Solids: PPM.

Chlorides: 56.8 PPM.

Sulfates: PPM.

Ortho-phosphates: ☐ V.Low ☐ Low ☐ Medium ☐ High

Sulfides: ☐ None ☐ Low ☐ Medium ☐ High

 :

Date Analyzed: 1-17-85

By: Eddie W. Seay
Oil Conservation Division
Eddie Seay

REMARKS: 142 x .4 = 56.8 ppm Cl

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Phillips Lusk (OCD) Well No. 3

Land Status: State _____ Federal _____ Fee _____

Well Location: Unit Letter _____ Section 19 Township 17 Range 35

top water 85'

Type Well: observation well Depth 100 feet

Well Use: _____

Sample Number: _____ Date Taken: 4-16-85

Taken By: Ron Castleberry

Specific Conductance: _____ m/c

Total Dissolved Solids: _____ PPM.

Chlorides: 42.6 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: _____ V. LOW _____ LO _____ MED _____ HI

Sulfides: _____ NONE _____ LO _____ MED _____ HI

Date Analyzed: 5-8-85

By: Eddie W. Seay

OIL CONSERVATION DIVISION
Eddie Seay

REMARKS: 25 ml 142 x .3 = 42.6 ppm

WATER ANALYSIS

REMARKS: 25 ml 142 x .5 = 71 ppm

WATER ANALYSIS

REMARKS: 142 x 2.5 = 355 ppm

WATER ANALYSIS

REMARKS: 142 x .6 = 85.2 ppm

WATER ANALYSIS

REMARKS: $142 \times .8 = 113.6 \text{ ppm}$

WATER ANALYSIS

REMARKS: $142 \times .4 = 56.8$ ppm



STATE OF NEW MEXICO

85-1168-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570REPORT TO:
PLEASE PRINT

DAVID G. BOYER

NEW MEXICO OIL CONSERVATION DIV.

P.O. BOX 2088

SANTA FE, NM 87501

PHONE(S):

827-5812

SUBMITTER:

David Boyer

SAMPLE TYPE: WATER ☒ SOIL ☐ OTHER ☐

COLLECTED: 11/21/85-16:10 BY DGB

SOURCE: Skimmer Pond

NEAREST CITY: Carlsbad

LOCATION: Phillips Lusk Gas Plant

pH= 5.1; Conductivity= 1220 umho/cm at 14 °C; Chlorine Residual=

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

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

Middle of S. Shore. Floating oil, strong sour odor
Sample dipped after swirling to push oil asideI certify that the statements in this block accurately reflect the results
of my field analyses, observations and activities. D Boyer

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:

- ☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P-Na₂S₂O₃: Sample preserved with Na₂S₂O₃ to remove chlorine residual.

I (we) 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 _____

(we) 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 _____



85-1167-6

STATE OF NEW MEXICO

SCIENTIFIC LABORATORY DIVISION

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

REPORT TO: PLEASE PRINT	DAVID G. BOYER NEW MEXICO OIL CONSERVATION DIV P.O. BOX 2088 SANTA FE, NM 87501 827-5812	S.L.D. No.: DATE REC.: SLD PRIORITY #:	OR-1167-11.13 12-12-85 3
PHONE(S):	827-5812	USER CODE:	8 2 2 3 5
SUBMITTER:	David Boyer	SUBMITTER CODE:	
SAMPLE TYPE:	WATER ☒ , SOIL ☐ , OTHER ☐	SAMPLE TYPE CODE:	
COLLECTED:	85/11/21-14:45 BY <u>DBB</u>	CODE:	
SOURCE:	Pond Mon Well #3	CODE:	
NEAREST CITY:	Carlsbad	CODE:	
LOCATION:	Phillips Lusk Natural Gas Plant	CODE:	
pH= 6.7; Conductivity= 1000 umho/cm at 18 °C; Chlorine Residual=		TOWNSHIP RANGE SECTION TRACTS	
Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=			
Sampling Location, Methods and Remarks (i.e. odors, etc.) 4" mon. well pumped to dry well by sub. pump. Sampled after 105 min. recovery period. During pumping Cond 1000 @ 218			
I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. <u>David G. Boyer</u>			
Method of shipment to the Laboratory <u>Hand Carried</u>			
This form accompanies 2 Septum Vials, Glass Jugs, Containers are marked as follows to indicate preservation:			
☐ NP: No preservation; sample stored at room temperature.			
☒ P-Ice Sample stored in an ice bath (not frozen).			
☐ P-Na ₂ S ₂ O ₃ ; Sample preserved with Na ₂ S ₂ O ₃ to remove chlorine residual.			

I (we) 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 _____	
(we) 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 _____	



85-1165-C

STATE OF NEW MEXICO

SCIENTIFIC LABORATORY DIVISION

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

REPORT TO: DAVID G. BOYER
PLEASE PRINT NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87501

PHONE(S): 827-5812

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, OTHER ☐

COLLECTED: 85/11/21-16:30 BY AWB
DATE TIME INITIALS

SOURCE: Pond Mon. Well #1

NEAREST CITY: Carlsbad

LOCATION: Phillips Lusk Gas Plant

pH= 6.3; Conductivity= 1000 umho/cm at 18 °C; Chlorine Residual=
Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=

Sampling Location, Methods and Remarks (i.e. odors, etc.)
4" mon well pumped dry (cond 1000 @ 19°C). Sampled by bailer after 3 hour recovery

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D G Boyer

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:
☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P-Na₂S₂O₃; Sample preserved with Na₂S₂O₃ to remove chlorine residual.

I (we) 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

(we) 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



STATE OF NEW MEXICO

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87105 841-2570

85-1166 C

REPORT TO: DAVID G. BOYER
PLEASE PRINT NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87501

PHONE(S): 827-5812

SUBMITTER: David G. Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, OTHER ☐

COLLECTED: 85/11/21-17:00 BY DGB
DATE TIME INITIALS

SOURCE: Tap Water-Domestic Supply

NEAREST CITY: Carlisle

LOCATION: Phillips Lusk Gas Plant

pH= 6.4; Conductivity= 350 umho/cm at 15.5°C; Chlorine Residual=

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

Sampling Location, Methods and Remarks (i.e. odors, etc.)
Sample from bathroom tap. Water source is caprock well. Water also supplies cooling tower.

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. David G. Boyer

Method of shipment to the Laboratory Hand Carried

This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:
☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P-Na₂S₂O₃; Sample preserved with Na₂S₂O₃ to remove chlorine residual.

I (we) 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 _____

(we) 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 _____



STATE OF NEW MEXICO

SCIENTIFIC LABORATORY DIVISION

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

85-1164-G

REPORT TO: DAVID G. BOYER
PLEASE PRINT NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87501

PHONE(S): 827-5812

SUBMITTER: David Boyer

SAMPLE TYPE: WATER ☒, SOIL ☐, OTHER ☐

COLLECTED: 85/11/21-15:50 BY DGB
DATE TIME INITIALS

SOURCE: Phillips Lusk Cooling Tower Pond

NEAREST CITY: Carlsbad

LOCATION: Phillips Natural Gas Plant

pH= 7.3; Conductivity= 890 umho/cm at 11 °C; Chlorine Residual=

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

Sampling Location, Methods and Remarks (i.e. odors, etc.)
S.E. corner of blow-down pond, no evidence of floating oil, odor. Sample dipped

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. DGB

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:

☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P-Na₂S₂O₃: Sample preserved with Na₂S₂O₃ to remove chlorine residual.

I (we) 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 _____

(we) 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 _____



STATE OF NEW MEXICO

85-1159-C

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570REPORT TO:
PLEASE PRINT

DAVID G. BOYER

NEW MEXICO OIL CONSERVATION DIV.

P.O. BOX 2088

SANTA FE, NM 87501

827-5812

PHONE(S):

SUBMITTER: D. BoyerSAMPLE TYPE: WATER ☒, SOIL ☐, OTHER ☐COLLECTED: 85/11/21-15:30 BY DBBSOURCE: Pond Men Well #4NEAREST CITY: CarlsbadLOCATION: Phillips Lusk Gas PlantpH= 6.4; Conductivity= 950 umho/cm. at 18 °C; Chlorine Residual=

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

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

4" Well pumped dry by sub. pump. Sampled by boiler after 2hr 10min recovery. Pumped Cond 1320 @ 21°CI certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. DBBMethod of shipment to the Laboratory Hand CarriedThis form accompanies 2 Septum Vials, 2 Glass Jugs, Containers are marked as follows to indicate preservation:☐ NP:

No preservation; sample stored at room temperature.

☒ P-Ice

Sample stored in an ice bath (not frozen).

☐ P-Na₂S₂O₃:Sample preserved with Na₂S₂O₃ to remove chlorine residual.

I (we) certify that this sample was transferred from _____ on _____ to _____ at (location) _____

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

Signatures _____

(we) certify that this sample was transferred from _____ on _____ to _____ at (location) _____

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

Signatures _____



STATE OF NEW MEXICO

85-1160-6

LABORATORY DIVISION

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

REPORT TO: DAVID G. BOYER
PLEASE PRINT NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87501
827-5812

PHONE(S): 827-5812

SUBMITTER: DAVID BOYER

SAMPLE TYPE: WATER ☒, SOIL ☐, OTHER ☐

COLLECTED: 85/11/21 - 14:10 BY DAV
DATE TIME INITIAL

SOURCE: Pond Man Well #2

NEAREST CITY: Carlsbad

LOCATION: Phillips Lusk Gas Plant

pH= 6.6; Conductivity= 1100 umho/cm at 20 °C; Chlorine Residual=
Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=

Sampling Location, Methods and Remarks (i.e. odors, etc.)
Sample pumped to drynest by sub. pump. Sampled by bailer after recovery. 4" man well. During pumping cond. 455 umhos @ 20°C

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. DAV Boyer

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:
☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P- $\text{Na}_2\text{S}_2\text{O}_3$; Sample preserved with $\text{Na}_2\text{S}_2\text{O}_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from
to at (location) on
 / / : and that the statements in this block are correct.
DATE AND TIME
Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐
Signatures

(we) certify that this sample was transferred from
to at (location) on
 / / : and that the statements in this block are correct.
DATE AND TIME
Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐
Signatures



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

NN

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED	1/27/86	LAB NO.	WC 240	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	1/21/86	SITE INFORMATION	Sample location		
Collection TIME	1720		Phillips Lusk Cooling Tower Pond		
Collected by		Collection site description			
Boyer/Bailey		Composite from 4 corners			

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
				Grab
pH (00400)		Conductivity (Uncorrected)	Water Temp. (00010)	Conductivity at 25°C (00094)
		900 µmho	8 °C	
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 µmembrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☒ NA: No acid added ☐ Other-specify:				

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	1800 µmho	2/26	☒ Calcium (00915)	200.0 mg/l	1-27
☐ Total non-filterable residue (suspended) (00530)			☒ Magnesium (00925)	73.2 mg/l	"
☒ Other: pH (Lab)	8.81	1/29	☒ Sodium (00930)	126.9 mg/l	"
☐ Other:			☒ Potassium (00935)	19.5 mg/l	"
☐ Other:			☒ Bicarbonate (00440)	135.7 mg/l	4/29
			☒ Chloride (00940)	255 mg/l	2/6
			☒ Sulfate (00945)	50.9 mg/l	2/5
			☒ Total filterable residue (dissolved) (70300)	1330 mg/l	2/24
			☒ Other: CO ₃	110.9	1/29
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
			CG	2/26/86	CD



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	12/12/85	LAB NO.	5270	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	85/11/21	SITE INFORMATION	Sample location		
Collection TIME	1610		Oil Skimmer Pond, Phillips Truck		
Collected by — Person/Agency		Collection site description			
Boyer/Bailey & B		Natural Gas Plant			
ENVIRONMENTAL BUREAU NM OIL CONSERVATION DIVISION State Land Office Bldg, PO Box 2088 Santa Fe, NM 87501 Attn: David Boyer					
SEND FINAL REPORT TO		Station/well code			
		Owner			

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
				GRAB
pH (00400)	5.1	Conductivity (Uncorrected)	Water Temp. (00010)	Conductivity at 25°C (00094)
		1220 µmho	14 °C	µmho
Field comments				
Sample from middle of S. shore. Floating oil, strong odor. Pre-filtered Pre-filtered only				

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: Pre-filtered				

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed		
☒ Conductivity (Corrected) 25°C (00095)	2225	µmho	12/18	☒ Calcium (00915)	473.0 mg/l	12/30	
☐ Total non-filterable residue (suspended) (00530)		mg/l		☒ Magnesium (00925)	58.6	mg/l	"
☒ Other: pH	5.15		12/18	☒ Sodium (00930)	29.9	mg/l	"
☐ Other:				☒ Potassium (00935)	3.51	mg/l	"
☐ Other:				☒ Bicarbonate (00440)	863.6	mg/l	12/18
NF, A-H ₂ SO ₄			☒ Chloride (00940)	106.1	mg/l	1/10	
☐ Nitrate-N ⁺ , Nitrate-N total (00630)		mg/l	☒ Sulfate (00945)	110	mg/l	12/31	
☐ Ammonia-N total (00610)		mg/l	☒ Total filterable residue (dissolved) (70300)	2933	mg/l	12/23	
☐ Total Kjeldahl-N ()		mg/l	☒ Other: BK	2.26		1/10	
☐ Chemical oxygen demand (00340)		mg/l		0.62		12/5	
☐ Total organic carbon ()		mg/l	F, A-H ₂ SO ₄				
☐ Other:			☐ Nitrate-N ⁺ , Nitrate-N dissolved (00631)		mg/l		
☐ Other:			☐ Ammonia-N dissolved (00608)		mg/l		
			☐ Total Kjeldahl-N ()		mg/l		
			☐ Other:				
Laboratory remarks			Analyst	Date Reported	Reviewed by		
				1/14/86	CD		



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 <u>12/02/85</u>	LAB NO. <u>WC 5371</u>	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE <u>85/11/21</u>	SITE INFORMATION	Sample location <u>Pond man well #4, Phillips Lusk</u>
Collection TIME <u>15:30</u>		Collection site description <u>Natural Gas Plant</u>
Collected by Person/Agency <u>Boyer/Bailey</u>		

SEND
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REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level <u>37.20' DTW</u>	Discharge <u>~ 5 gpm pumped</u>	Sample type <u>Grab</u>
pH (00400) <u>6.4</u>	Conductivity (Uncorrected) <u>950</u> μ mho	Water Temp. (00010) <u>18</u> °C	Conductivity at 25 °C (00094) <u> </u> μ mho	
Field comments <u>4" man well pumped dry (core 1320 @ 212) sampled by bailer after 2 hr 10 min recovery</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: <u> </u>			

ANALYTICAL RESULTS from SAMPLES

•F, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25 °C (00095) <u>3115</u> μ mho	<u>12/18</u>		☒ Calcium (00915) <u>276.0</u> mg/l	<u>12/30</u>	
☐ Total non-filterable residue (suspended) (00530) <u> </u> mg/l			☒ Magnesium (00925) <u>118.0</u> mg/l	<u>11</u>	
☒ Other: pH <u>7.87</u>	<u>12/18</u>		☒ Sodium (00930) <u>277.3</u> mg/l	<u>1</u>	
☐ Other: <u> </u>			☒ Potassium (00935) <u>4.27</u> mg/l	<u>4</u>	
☐ Other: <u> </u>			☒ Bicarbonate (00440) <u>280.2</u> mg/l	<u>12/18</u>	
			☒ Chloride (00940) <u>453.3</u> mg/l	<u>1/10</u>	
			☒ Sulfate (00945) <u>848</u> mg/l	<u>12/31</u>	
			☒ Total filterable residue (dissolved) (70300) <u>2326</u> mg/l	<u>12/23</u>	
			☒ Other: <u>B</u> <u>0.42</u>	<u>1/10</u>	
			<u>F</u> <u>2.33</u>	<u>12/5</u>	
NF, A-H ₂ SO ₄			F, A-H ₂ SO ₄		
☐ Nitrate-N +, Nitrate-N total (00630) <u> </u> mg/l			☐ Nitrate-N +, Nitrate-N dissolved (00631) <u> </u> mg/l		
☐ Ammonia-N total (00610) <u> </u> mg/l			☐ Ammonia-N dissolved (00608) <u> </u> mg/l		
☐ Total Kjeldahl-N () <u> </u> mg/l			☐ Total Kjeldahl-N () <u> </u> mg/l		
☐ Chemical oxygen demand (00340) <u> </u> mg/l			☐ Other: <u> </u>		
☐ Total organic carbon () <u> </u> mg/l					
☐ Other: <u> </u>					
☐ Other: <u> </u>					
Laboratory remarks			Analyst	Date Reported <u>1/14/86</u>	Reviewed by <u>CO</u>



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
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GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED 12/12/85	LAB NO. 5272	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 12/11/85	SITE INFORMATION	Sample location Pond Mon well #1, Phillips Lusk
Collection TIME 1630		Collection site description Natural Gas Plant
Collected by — Person/Agency Boers/Bailley		Station/well code 4" mm well
ENVIRONMENTAL BUREAU NM OIL CONSERVATION DIVISION State Land Office Bldg, PO Box 2088 Santa Fe, NM 87501		Owner
SEND FINAL REPORT TO Attn: David Boyer		

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level 37.20' DTW	Discharge ~590 m pumped	Sample type GRAB
pH (00400) 6.3	Conductivity (Uncorrected) 1000 μ mo	Water Temp. (00010) 18 °C	Conductivity at 25°C (00094) μ mo	
Field comments pumped dry (cond 1000 @ 19°C) sample by bailer after 3 hour recovery				

SAMPLE FIELD TREATMENT — Check proper boxes

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

ANALYTICAL RESULTS from SAMPLES

AF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	1947 μ mo	12/18	☒ Calcium (00915)	220.4 mg/l	12/30
☐ Total non-filterable residue (suspended) (00530)			☒ Magnesium (00925)	81.6 mg/l	"
☒ Other: pH	7.93	12/18	☒ Sodium (00930)	103.8 mg/l	"
☐ Other:			☒ Potassium (00935)	5.07 mg/l	"
☐ Other:			☒ Bicarbonate (00440)	226.7 mg/l	12/18
			☒ Chloride (00940)		1/10
			☒ Sulfate (00945)	6.54 mg/l	12/31
			☒ Total filterable residue (dissolved) (70300)	1559 mg/l	12/23
			☒ Other: BF	0.24	1/10
				1.31	12/5
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 1/14/86	Reviewed by



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 12/22/85	LAB NO. WC-5368	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 85/11/21	SITE INFORMATION	Sample location Pond Man well #2, Phillips Lusk
Collection TIME 1410		Collection site description Natural Gas Plant
Collected by — Person/Agency Boyer/Bailey ocb		Station/well code
ENVIRONMENTAL BUREAU NM OIL CONSERVATION DIVISION State Land Office Bldg, PO Box 2088 Santa Fe, NM 87501		Owner
SEND FINAL REPORT TO		
Attn: David Boyer		

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level 38.65' DTW	Discharge pumped ~ 5 gpm	Sample type GRAB
pH (00400) 6.6	Conductivity (Uncorrected) 1100 µmho	Water Temp. (00010) 20 °C	Conductivity at 25°C (00094) µmho	
Field comments 4" Man well, pumped dry (455 µmhos @ 20°C), bailed after 90 min Recovery				

SAMPLE FIELD TREATMENT — Check proper boxes

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

ANALYTICAL RESULTS from SAMPLES

F, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095) 2358 µmho	µmho	12/18	☒ Calcium (00915) 129.6 mg/l	mg/l	12-30
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925) 152.7 mg/l	mg/l	11
☒ Other: OH 7.79 mg/l	mg/l	12/18	☒ Sodium (00930) 142.6 mg/l	mg/l	11
☐ Other:			☒ Potassium (00935) 4.29 mg/l	mg/l	11
☐ Other:			☒ Bicarbonate (00440) 549.1 mg/l	mg/l	12/18
			☒ Chloride (00940) 369.3 mg/l	mg/l	11/10
			☒ Sulfate (00945) 309 mg/l	mg/l	12/31
			☒ Total filterable residue (dissolved) (70300) 1608 mg/l	mg/l	12/23
			☒ Other: BF 0.47 mg/l	mg/l	11/10
					12/5
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:					
Analyst		Date Reported 1/14/86	Reviewed by		

Laboratory remarks



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SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
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GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED 12/02/85 LAB NO. 112-5264 USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 85/11/21 Collection TIME 1445 SITE INFORMATION
Sample location Pond Manwell #3, Phillips Lusk
Collection site description Natural Gas Plant
Collected by Person/Agency Boyer/Bailey 4" Mon Well

SEND
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TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Pump Water level 38.00' DTW Discharge Pumped ~ 50 PM Sample type GRAB
☐ Dipped ☐ Tap
pH (00400) 6.7 (final) Conductivity (Uncorrected) 1000 µmho Water Temp. (00010) 18 °C Conductivity at 25°C (00094) µmho
Field comments Pumped to dryness (1080 µmho @ 21°C). Sampled by bailer after 105 min recovery

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 H₂SO₄/L added
☒ NA: No acid added ☐ Other-specify:

ANALYTICAL RESULTS from SAMPLES

MF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3368	µmho	12/18	☒ Calcium (00915)	125.6 mg/l 12-30
☐ Total non-filterable residue (suspended) (00530)		mg/l		☒ Magnesium (00925)	258.15 mg/l "
☒ Other: pH	7.81		12/18	☒ Sodium (00930)	234.6 mg/l
☐ Other:				☒ Potassium (00935)	2.73 mg/l
☐ Other:				☒ Bicarbonate (00440)	804.7 mg/l 12/18
				☒ Chloride (00940)	615.7 mg/l 1/10
				☒ Sulfate (00945)	365 mg/l 12/31
				☒ Total filterable residue (dissolved) (70300)	2530 mg/l 12/17
				☒ Other: BF	0.47 1/10
				☒ Other: F	2.28 12/5
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:					

Analyst Date Reported 1/14/86 Reviewed by [Signature]

Laboratory remarks



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
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GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED <u>12/02/85</u>	LAB/NO. <u>5263</u>	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE <u>12/11/85</u>	SITE INFORMATION	Sample location <u>Bathroom Faucet Tap</u>
Collection TIME <u>1700</u>		Collection site description <u>Phillips Lusk Natural Gas Plant</u>
Collected by — Person/Agency <u>Boyer/Bailey</u>		

SEND
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ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☐ Dipped	☐ Pump ☒ Tap	Water level <u>—</u>	Discharge <u>—</u>	Sample type <u>Grab</u>
pH (00400) <u>6.4</u>	Conductivity (Uncorrected) <u>350</u> μ mho	Water Temp. (00010) <u>15.5</u> °C	Conductivity at 25°C (00094) <u> </u> μ mho	
Field comments <u>Water source is caprock wells. Water also supplies cooling tower</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: <u> </u>			

ANALYTICAL RESULTS from SAMPLES

AF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	<u>561</u> μ mho	<u>12/18</u>	☒ Calcium (00915)	<u>76.0</u> mg/l	<u>12-30</u>
☐ Total non-filterable residue (suspended) (00530)	<u> </u> mg/l	<u> </u>	☒ Magnesium (00925)	<u>9.76</u> mg/l	<u>"</u>
☒ Other: <u>OH</u>	<u>8.03</u> mg/l	<u>12/18</u>	☒ Sodium (00930)	<u>27.6</u> mg/l	<u>"</u>
☐ Other: <u> </u>	<u> </u> mg/l	<u> </u>	☒ Potassium (00935)	<u>2.89</u> mg/l	<u>"</u>
☐ Other: <u> </u>	<u> </u> mg/l	<u> </u>	☒ Bicarbonate (00440)	<u>188.2</u> mg/l	<u>12/18</u>
			☒ Chloride (00940)	<u>56.0</u> mg/l	<u>1/10</u>
			☒ Sulfate (00945)	<u>32.4</u> mg/l	<u>12/31</u>
			☒ Total filterable residue (dissolved) (70300)	<u>363</u> mg/l	<u>12/12</u>
			☒ Other: <u>B4</u>	<u>0.07</u>	<u>1/10</u>
			<u>0.61</u>	<u>12/5</u>	
NF, A-H ₂ SO ₄			F, A-H ₂ SO ₄		
☐ Nitrate-N +, Nitrate-N total (00630)	<u> </u> mg/l	<u> </u>	☐ Nitrate-N +, Nitrate-N dissolved (00631)	<u> </u> mg/l	<u> </u>
☐ Ammonia-N total (00610)	<u> </u> mg/l	<u> </u>	☐ Ammonia-N dissolved (00608)	<u> </u> mg/l	<u> </u>
☐ Total Kjeldahl-N ()	<u> </u> mg/l	<u> </u>	☐ Total Kjeldahl-N ()	<u> </u> mg/l	<u> </u>
☐ Chemical oxygen demand (00340)	<u> </u> mg/l	<u> </u>	☐ Other: <u> </u>	<u> </u>	<u> </u>
☐ Total organic carbon ()	<u> </u> mg/l	<u> </u>			
☐ Other: <u> </u>	<u> </u> mg/l	<u> </u>			
☐ Other: <u> </u>	<u> </u> mg/l	<u> </u>			
Laboratory remarks			Analyst	Date Reported	Reviewed by
				<u>1/14/86</u>	<u> </u>



New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
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GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED 12/02/85	LAB NO. 5-262	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 85/11/21	SITE INFORMATION	Sample location Cooling Tower Blowdown pond
Collection TIME 1550		Collection site description Phillips Lusk Natural Gas Plant
Collected by — Person/Agency Boyer/Bailey		

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ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level —	Discharge —	Sample type Grab
pH (00400) 7.3	Conductivity (Uncorrected) 890 μ mho	Water Temp. (00010) 11 $^{\circ}$ C	Conductivity at 25 $^{\circ}$ C (00094) μ mho	
Field comments Sample from S.E. corner of pond, no floating oil or odor				

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:			

ANALYTICAL RESULTS from SAMPLES

F, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25 $^{\circ}$ C (00095)	1909 μ mho	12/18	☒ Calcium (00915)	220 mg/l	12-4
☐ Total non-filterable residue (suspended) (00530)			☒ Magnesium (00925)	38.6 mg/l	"
☒ Other: pH	7.99	12/18	☒ Sodium (00930)	135.7 mg/l	"
☐ Other:			☒ Potassium (00935)	24.4 mg/l	"
☐ Other:			☒ Bicarbonate (00440)	177.0 mg/l	12/18
			☒ Chloride (00940)	266.8 mg/l	1/10
			☒ Sulfate (00945)	510 mg/l	12/31
			☒ Total filterable residue (dissolved) (70300)	1496 mg/l	12/17
			☒ Other: BF	0.21	1/10
				1.37	12/5
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:					
Analyst			Date Reported 1/14/86	Reviewed by Coleman	

Laboratory remarks



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	12/02/85	LAB NO.	WC-5284	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	85/11/21	SITE INFORMATION	Sample location		
Collection TIME	1610		Oil Skimmer Pond, Phillipsburg		
Collected by — Person/Agency			Collection site description		
Boyer/Bailey & Co			Natural Gas Plant		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	5.1	Conductivity (Uncorrected)	1220 μ mho	14 °C
Field comments		Sample from middle of S. Shore. Floating oil, strong odor. Pre-Filtered Pre-Filtered only		

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: <u>Pre-Filtered only</u>				

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:			☐ 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)	0.08 mg/l	12/9
☐ Ammonia-N total (00610)	mg/l		☒ Ammonia-N dissolved (00608)	11.3 mg/l	12/4
☐ Total Kjeldahl-N ()	mg/l		☒ Total Kjeldahl-N ()	22.8 mg/l	12/17
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported	Reviewed by
				1/6/86	



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 12/02/85	LAB NO. 1105276	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 85/11/21	SITE INFORMATION	Sample location Bathroom Faucet Tap
Collection TIME 1700		Collection site description Phillips Lusk Natural Gas Plant
Collected by — Person/Agency Boyer/Bailey		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☐ Dipped	☐ Pump ☒ Tap	Water level —	Discharge —	Sample type Grab
pH (00400) 6.4	Conductivity (Uncorrected) 350 μ mho	Water Temp. (00010) 15.5 °C	Conductivity at 25 °C (00094) μ mho	
Field comments Water source is caprock wells. Water also supplies cooling tower				

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:			

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:			☐ Sodium (00930)	mg/l	
☐ Other:			☐ Potassium (00935)	mg/l	
☐ Other:			☐ Bicarbonate (00440)	mg/l	
☐ Other:			☐ 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)	2.10 mg/l	12/9
☐ Ammonia-N total (00610)	mg/l		☒ Ammonia-N dissolved (00608)	< 0.10 mg/l	12/4
☐ Total Kjeldahl-N ()	mg/l		☒ Total Kjeldahl-N ()	0.36 mg/l	12/9
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:			Analyst	Date Reported 12/10/85	Reviewed by C. Dean
☐ Other:			Laboratory remarks		



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 <u>12/12/85</u>	LAB NO <u>WC 5277</u>	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE <u>85/11/21</u>	SITE INFORMATION	Sample location <u>Pond Mon well #4, Phillips Lusk</u>
Collection TIME <u>1530</u>		Collection site description <u>Natural Gas Plant</u>
Collected by — Person/Agency <u>Boyer/Bailey</u>		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level <u>37.20' DTW</u>	Discharge <u>~ 5 gpm pumped</u>	Sample type <u>Grab</u>
pH (00400) <u>6.4</u>	Conductivity (Uncorrected) <u>950</u> μ mho	Water Temp. (00010) <u>18</u> °C	Conductivity at 25 °C (00094) _____ μ mho	
Field comments <u>4" mon well pumped dry (cored 1320 @ 212) sampled by bailer after 2 hr 10 min recovery</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: _____			

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: _____	_____	_____	☐ 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)	<u>3.06</u> mg/l	<u>12/19</u>
☐ Ammonia-N total (00610)	_____ mg/l	_____	☒ Ammonia-N dissolved (00608)	<u>0.47</u> mg/l	<u>12/4</u>
☐ Total Kjeldahl-N ()	_____ mg/l	_____	☒ Total Kjeldahl-N ()	<u>1.76</u> mg/l	<u>12/19</u>
☐ Chemical oxygen demand (00340)	_____ mg/l	_____	☐ Other: _____	_____	_____
☐ Total organic carbon ()	_____ mg/l	_____			
☐ Other: _____	_____	_____			
☐ Other: _____	_____	_____			
Laboratory remarks			Analyst	Date Reported <u>12/10/85</u>	Reviewed by <u>CDenn</u>



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 12/12/85	LAB NO. 5278	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 12/12/85	SITE INFORMATION	Sample location Pond Mon well #1, Phillips Lusk
Collection TIME 1630		Collection site description Natural Gas Plant
Collected by — Person/Agency Boyer/Bailey		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

Station/
well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level 37.20' DTW	Discharge ~590 m pumped	Sample type GRAB
pH (00400) 6.3	Conductivity (Uncorrected) 1000 µmho	Water Temp. (00010) 18 °C	Conductivity at 25 °C (00094) µmho	
Field comments pumped dry (Cond 1000 @ 19 °C) sampled by bader after 3 hour recovery				

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:			

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25 °C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☐ Other:			☐ Sodium (00930)	mg/l	
☐ Other:			☐ Potassium (00935)	mg/l	
☐ Other:			☐ Bicarbonate (00440)	mg/l	
☐ Other:			☐ 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	22.3 1/9
☐ Ammonia-N total (00610)	mg/l		☒ Ammonia-N dissolved (00608)	mg/l	<0.10 12/4
☐ Total Kjeldahl-N ()	mg/l		☒ Total Kjeldahl-N ()	mg/l	1.59 12/9
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported 1/9/86	Reviewed by [Signature]



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	12/02/85	LAB NO.	11-5274	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	85/11/21	SITE INFORMATION	Sample location	Cooling Tower Blowdown pond	
Collection TIME	1550		Collection site description	Phillips Lusk Natural Gas Plant	
Collected by — Person/Agency Boyer/Bailey					

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	7.3	Conductivity (Uncorrected)	890 μ mho	11 $^{\circ}$ C
Field comments		Sample from S.E. corner of pond, no floating oil or odor		

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:				

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25 $^{\circ}$ C (00095)	μ mho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☐ Other:			☐ 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)	2.45 mg/l	12/9
☐ Ammonia-N total (00610)	mg/l		☒ Ammonia-N dissolved (00608)	0.74 mg/l	12/4
☐ Total Kjeldahl-N ()	mg/l		☒ Total Kjeldahl-N ()	1.67 mg/l	12/6
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported	Reviewed by
				12/10/85	CD



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 <u>12/12/85</u>	LAB/NO <u>WCE-5280</u>	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE <u>85/11/21</u>	SITE INFORMATION	Sample location <u>Pond Monwell #3, Phillips Lusk</u>
Collection TIME <u>1445</u>		Collection site description <u>Natural Gas Plant</u>
Collected by <u>Boyer/Bailey</u>		<u>4" Mon Well</u>

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level <u>38.00' DTW</u>	Discharge <u>Pumped ~ 56 PM</u>	Sample type <u>Grab</u>
pH (00400) <u>6.7 (Final)</u>	Conductivity (Uncorrected) <u>1080</u> μ mo	Water Temp. (00010) <u>18</u> °C	Conductivity at 25 °C (00094) <u> </u> μ mo	
Field comments <u>Pumped to dry well (1080 μmo @ 21 °C). Sampled by bailer after 105 min recovery</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 membrane filter	☒ A: 2 ml H ₂ SO ₄ /L added
☐ NA: No acid added ☐ Other-specify: <u> </u>			

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25 °C (00095)	μ mo		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☐ Other:			☐ 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	<u>0.11</u> <u>12/9</u>
☐ Ammonia-N total (00610)	mg/l		☒ Ammonia-N dissolved (00608)	mg/l	<u>0.28</u> <u>12/4</u>
☐ Total Kjeldahl-N ()	mg/l		☒ Total Kjeldahl-N ()	mg/l	<u>1.14</u> <u>12/9</u>
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported <u>12/10/85</u>	Reviewed by <u> </u>



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

pf

GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED	12/02/85	LAB NO.	UC 5281	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	85/11/21	SITE INFORMATION	Sample location	Pond Mon well #2, Phillips Lusk	
Collection TIME	1410		Collection site description	Natural Gas Plant	
Collected by — Person/Agency	Boyer/Bailey ocb				
SEND FINAL REPORT TO Attn: David Boyer ENVIRONMENTAL BUREAU NM OIL CONSERVATION DIVISION State Land Office Bldg, PO Box 2088 Santa Fe, NM 87501					
Station/well code					
Owner					

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level	38.65' DTW	Discharge	pumped ~ 5 gpm	Sample type	GRAB
pH (00400)	6.6	Conductivity (Uncorrected)	1100 µmho	Water Temp. (00010)	20 °C	Conductivity at 25°C (00094)	µmho
Field comments: 9" Mon well, pumped dry (455 µmhos @ 20°C), bailed after 90 min Recovery							

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:				

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☐ Other:			☐ 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)	0.04 mg/l	12/9
☐ Ammonia-N total (00610)	mg/l		☒ Ammonia-N dissolved (00608)	0.24 mg/l	12/4
☐ Total Kjeldahl-N ()	mg/l		☒ Total Kjeldahl-N ()	0.64 mg/l	12/9
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ()	mg/l				
☐ Other:					
☐ Other:					
Laboratory remarks			Analyst	Date Reported	Reviewed by
				12/10/85	<i>CDM</i>



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

PN

Heavy metal

GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED	12/02/85	LAB NO.	HM-1471	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	8/11/21	SITE INFORMATION	Sample location		
Collection TIME	1700		Bathroom Faucet Tap		
Collected by — Person/Agency		Collection site description			
Boyer/Bailey		Phillips Lusk Natural Gas Plant			

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☐ Pump ☐ Dipped ☒ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected)	Water Temp. (00010)	Conductivity at 25°C (00094)
6.4	350 μ mho	15.5 °C	μ mho
Field comments			
Water source is caprock wells. Water also supplies cooling tower			

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	NA: 2 ml H ₂ SO ₄ added
1			4 ml Fuming HNO ₃
☐ NA: No acid added ☐ Other-specify:			

ANALYTICAL RESULTS from SAMPLES

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: Tcap 5000		☐ Sodium (00930)	mg/l	
Other: AS		☐ Potassium (00935)	mg/l	
Other: 50		☐ Bicarbonate (00440)	mg/l	
NF, A-H ₂ SO ₄		☐ Chloride (00940)	mg/l	
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	☐ Sulfate (00945)	mg/l	
☐ Ammonia-N total (00610)	mg/l	☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Total Kjeldahl-N ()	mg/l	☐ Other:		
☐ Chemical oxygen demand (00340)	mg/l	F, A-H ₂ SO ₄		
☐ Total organic carbon ()	mg/l	☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Other:		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Other:		☐ Total Kjeldahl-N ()	mg/l	
		☐ Other:		
Laboratory remarks		Analyst	Date Reported	Reviewed by
			12/18/85	JZA



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

PN

Heavy metal
GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED	12/02/85	LAB NO.	HM-1972	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	85/11/21	SITE INFORMATION	Sample location	Pond man well #4, Phillips Lusk	
Collection TIME	1530		Collection site description	Natural Gas Plant	
Collected by	Person/Agency Boyer/Bailey				

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level	37.20' DTW	Discharge	~ 5 gpm pumped	Sample type	Grab
pH (00400)	6.4	Conductivity (Uncorrected)	950 μ mho	Water Temp. (00010)	18 °C	Conductivity at 25°C (00094)	μ mho
Field comments: 4" man well pumped dry (concl 1320 @ 21°C) Sampled by bailers after 2 hrs 10 min recovery							

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	OA: 2 ml H ₂ SO ₄ /l added	4 ml Forming HNO ₃
☐ NA: No acid added ☐ Other-specify:					

ANALYTICAL RESULTS from SAMPLES

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: Icap Scan		☐ Sodium (00930)	mg/l	
☒ Other: AS		☐ Potassium (00935)	mg/l	
☒ Other: Se		☐ Bicarbonate (00440)	mg/l	
NF, A-H ₂ SO ₄		☐ Chloride (00940)	mg/l	
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	☐ Sulfate (00945)	mg/l	
☐ Ammonia-N total (00610)	mg/l	☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Total Kjeldahl-N ()	mg/l	☐ Other:		
☐ Chemical oxygen demand (00340)	mg/l	F, A-H ₂ SO ₄		
☐ Total organic carbon ()	mg/l	☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Other:		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Other:		☐ Total Kjeldahl-N ()	mg/l	
		☐ Other:		
Laboratory remarks		Analyst	Date Reported	Reviewed by
			12/18/85	Jim Bailey



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

PN

Heavy Metal
GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED 12/2/85	LAB NO. HM-1973	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 12/1/85	SITE INFORMATION	Sample location Pond Mon well #1, Phillips Lusk
Collection TIME 1630		Collection site description Natural Gas Plant
Collected by — Person/Agency Boers/Bailley		

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

Station/
well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level 37.20' DTW	Discharge ~590pm pumped	Sample type GRAB
pH (00400) 6.3	Conductivity (Uncorrected) 1000 μ mho	Water Temp. (00010) 18 °C	Conductivity at 25 °C (00094) μ mho	
Field comments pumped dry (Cond 1000 @ 19 °C) Sampled by boiler after 3 hour recovery				

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: 2mL H ₂ SO ₄ added 4ml foaming H ₂ O ₃
☐ NA: No acid added ☐ Other-specify:			

ANALYTICAL RESULTS from SAMPLES

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: ICAP SCAN		☐ Sodium (00930) mg/l		
☒ Other: AS		☐ Potassium (00935) mg/l		
☒ Other: SE		☐ 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 12/18/85	Reviewed by Jim Bailey



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SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
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PN

Heavy Metal
~~GENERAL WATER CHEMISTRY~~
~~and NITROGEN ANALYSIS~~

DATE RECEIVED	12/02/85	LAB NO.	HM-1970	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	851121	SITE INFORMATION	Sample location	Pond Mon well #2, Phillips Lusk	
Collection TIME	1410		Collection site description	Natural Gas Plant	
Collected by — Person/Agency	Boyer/Bailey oco				

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg; PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level	38.65' DTW	Discharge	pumped ~ 5 gpm	Sample type	GRAB
pH (00400)	6.6	Conductivity (Uncorrected)	1100 µmho	Water Temp. (00010)	20 °C	Conductivity at 25 °C (00094)	µmho
Field comments: 4" Mon well, pumped dry (455 µmhos @ 20 °C), bailed after 90 min Recovery							

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted	1	☐ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 µmembrane filter	KA: 2 ml H ₂ SO ₄ added	4 ml Fuming HNO ₃
☐ NA: No acid added ☐ Other-specify:					

ANALYTICAL RESULTS from SAMPLES

Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25 °C (00095)	µmho	☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l	☐ Magnesium (00925)	mg/l	
Other: ICAP SCAN		☐ Sodium (00930)	mg/l	
Other: AS		☐ Potassium (00935)	mg/l	
Other: SC		☐ Bicarbonate (00440)	mg/l	
NF, A-H ₂ SO ₄		☐ Chloride (00940)	mg/l	
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	☐ Sulfate (00945)	mg/l	
☐ Ammonia-N total (00610)	mg/l	☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Total Kjeldahl-N ()	mg/l	☐ Other:		
☐ Chemical oxygen demand (00340)	mg/l	F, A-H ₂ SO ₄		
☐ Total organic carbon ()	mg/l	☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Other:		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Other:		☐ Total Kjeldahl-N ()	mg/l	
		☐ Other:		
Laboratory remarks		Analyst	Date Reported	Reviewed by
			12/31/85	JFA



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

PN

Heavy metal
~~GENERAL WATER CHEMISTRY~~
~~and NITROGEN ANALYSIS~~

DATE RECEIVED 12/02/85	LAB NO. HM-1969	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 85/11/21	SITE INFORMATION	Sample location <i>Cooling Tower Blowdown pond</i>
Collection TIME 1550		Collection site description <i>Phillips Lusk Natural Gas Plant</i>
Collected by — Person/Agency <i>Boyer/Bailley</i>		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level <i>-</i>	Discharge <i>-</i>	Sample type <i>Grab</i>
pH (00400) <i>7.3</i>	Conductivity (Uncorrected) <i>ESD</i> μ mho	Water Temp. (00010) <i>11</i> °C	Conductivity at 25 °C (00094) μ mho	
Field comments <i>Sample from S.E. corner of pond, no floating oil or odor</i>				

SAMPLE FIELD TREATMENT — Check proper boxes

No. of samples submitted <i>1</i>	☐ NF: Whole sample (Non-filtered)	☒ F: Filtered in field with 0.45 μ m membrane filter	LA: 2 ml H₂CO₃ added <i>4 ml Fuming HNO₃</i>
☐ NA: No acid added ☐ Other-specify:			

ANALYTICAL RESULTS from SAMPLES

NA, NF	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	
<i>Other: Icap Scan</i>			☐ Sodium (00930)	mg/l	
<i>Other: AS</i>			☐ Potassium (00935)	mg/l	
<i>Other: Se</i>			☐ 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 <i>digested</i>	Analyst	Date Reported <i>12/31/85</i>	Reviewed by <i>Jim Ashby</i>
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New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

PN **Heavy Metal Analysis**
GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED 12/02/85	LAB NO. HM-1966	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 12/02/85	SITE INFORMATION 0.5 Skimmer Pond, Phillips Creek	Collection site description Natural Gas Plant
Collection TIME 1610		
Collected by — Person/Agency Boyer/Railley		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level —	Discharge —	Sample type GRAB
pH (00400) 5.1	Conductivity (Uncorrected) 1220 μ mho	Water Temp. (00010) 14 °C	Conductivity at 25°C (00094) μ mho	
Field comments Sample from middle of S. shore. Floating oil, strong odor. Filter Pre-Filtered only				

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	2 mL H₂SO₄ added 4 mL Forming HNO₃
☐ NA: No acid added ☐ Other-specify:			

ANALYTICAL RESULTS from SAMPLES

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: ICAP Scan		☐ Sodium (00930) mg/l		
☒ Other: As		☐ Potassium (00935) mg/l		
☒ Other: Se		☐ 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:		Analyst	Date Reported	Reviewed by
☐ Other:			12/31/85	JF. Kelly
Laboratory remarks digested				



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

PN

Heavy Metal

GENERAL WATER CHEMISTRY
and NITROGEN ANALYSIS

DATE RECEIVED <u>12/21/85</u>	LAB NO. <u>HM-1967</u>	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: <u>82235</u>
Collection DATE <u>12/21/85</u>	SITE INFORMATION	Sample location <u>Pond Manicell #3, Phillips Lick</u>
Collection TIME <u>1445</u>		Collection site description <u>Natural Gas Plant</u>
Collected by Person/Agency <u>Boyer, Bailey</u>		

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped	☐ Pump ☐ Tap	Water level <u>38.00' DTW</u>	Discharge <u>Pumped ~ 56 PM</u>	Sample type <u>Grab</u>
pH (00400) <u>6.7 (final)</u>	Conductivity (Uncorrected) <u>1000</u> μ mho	Water Temp. (00010) <u>18</u> °C	Conductivity at 25°C (00094) <u> </u> μ mho	
Field comments <u>Pumped to drain (1000 μmho @ 21°C). Sampled by bailer after 105 min recovery</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	HA: <u>2 mL 10% H₂SO₄</u> added <u>4 mL Formin</u>
☐ NA: No acid added ☐ Other-specify: <u>HNO₃</u>			

ANALYTICAL RESULTS from SAMPLES

Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095) <u> </u> μ mho		☐ Calcium (00915) <u> </u> mg/l		
☐ Total non-filterable residue (suspended) (00530) <u> </u> mg/l		☐ Magnesium (00925) <u> </u> mg/l		
☒ Other: <u>ICAD SCAN</u>		☐ Sodium (00930) <u> </u> mg/l		
☒ Other: <u>AS</u>		☐ Potassium (00935) <u> </u> mg/l		
☒ Other: <u>SC</u>		☐ Bicarbonate (00440) <u> </u> mg/l		
NF, A-H ₂ SO ₄		☐ Chloride (00940) <u> </u> mg/l		
☐ Nitrate-N +, Nitrate-N total (00630) <u> </u> mg/l		☐ Sulfate (00945) <u> </u> mg/l		
☐ Ammonia-N total (00610) <u> </u> mg/l		☐ Total filterable residue (dissolved) (70300) <u> </u> mg/l		
☐ Total Kjeldahl-N () <u> </u> mg/l		☐ Other: <u> </u>		
☐ Chemical oxygen demand (00340) <u> </u> mg/l		F, A-H ₂ SO ₄		
☐ Total organic carbon () <u> </u> mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631) <u> </u> mg/l		
☐ Other: <u> </u>		☐ Ammonia-N dissolved (00608) <u> </u> mg/l		
☐ Other: <u> </u>		☐ Total Kjeldahl-N () <u> </u> mg/l		
Laboratory remarks <u>digested</u>		Analyst <u> </u>	Date Reported <u>12/31/85</u>	Reviewed by <u>Jim Bailey</u>



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

NN

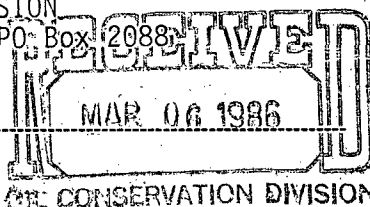
GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED	1/27/86	LAB NO.	NC 240	USER CODE	☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE	8/10/09	SITE INFORMATION	Sample location	Phillips Lusk Cooling Tower Pond	
Collection TIME	1720		Collection site description	Composite from 4 corners	
Collected by	Boyer/Bailey oas				

SEND
FINAL
REPORT
TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87501

Attn: David Boyer



Station/
well code
Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped	☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected)	Water Temp. (00010)	Conductivity at 25°C (00094)	
	900 µmho	@ 8 °C		Grab
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 µmembrane filter	☐ A: 2 ml H ₂ SO ₄ /L added
☒ NA: No acid added ☐ Other-specify:				

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	1800 µmho	2/26	☒ Calcium (00915)	200.0 mg/l	1-27
☐ Total non-filterable residue (suspended) (00530)			☒ Magnesium (00925)	73.2 mg/l	"
☒ Other: pH (Lab)	8.81	1/29	☒ Sodium (00930)	121.9 mg/l	"
☐ Other:			☒ Potassium (00935)	19.5 mg/l	"
☐ Other:			☒ Bicarbonate (00440)	135.7 mg/l	4/29
			☒ Chloride (00940)	255 mg/l	2/6
			☒ Sulfate (00945)	509 mg/l	2/5
			☒ Total filterable residue (dissolved) (70300)	1330 mg/l	2/24
			☒ Other: CO ₃	110.9	1/29
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:			Analyst	CW	
☐ Other:			Date Reported	2/26/86	
Laboratory remarks			Reviewed by	Q. Delm	

7/13/86 FLORA VISTA

WATER LEVELS OVERCAST
SNOWY, WIND 35°

55 1.4

22.4

23.8 WELL DEPTH

8.00

8.000 4000

1.29 cut

1.295 cut

8.71

6.705

MW2

7.6 + 1.4 = 9.0 WELL DEPTH

~~6.00~~ 7.00

7.40

7.400

0.08

0.465

0.465

6.92

6.935

6.935

MW1

WELL DEPTH = 7.2 + 1.4 = 8.6'

~~6.5~~ 7.00

7.00

0.360

0.36

6.640

6.64

MW3 WELL DEPTH = 8.1 + 1.4 = 9.5

7.500

7.500

0.550

0.545

6.950

6.955

MW5

WELL DEPTH = 6.2 + 1.4 = 7.6

6.00

6.00

0.51

0.515

5.49

5.485

MW4

WELL DEPTH = 4.42 + 1.4 = 5.82

~~4.40~~ 4.40

4.40

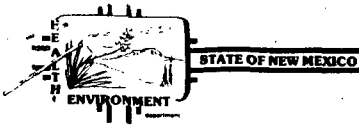
4.40

0.02

0.02

4.38

4.38



ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968 Santa Fe, New Mexico 87504
505-984-0020

4/7/86

Pare —

Here is a summary of our
results for Phillips Artesia,
Eunice, Lee + Lusk. I have
the original lab sheets if you
want to see them.

Ann C.

x2931

Copy in each

File
WJR

RESULTS OF SAMPLING

PHILLIPS PETROLEUM GAS REFINERIES

ARTESIA, EUNICE, LEE AND LUSK

Attached are the results for the New Mexico Environmental Improvement Division's samples taken at the Phillips plants in August 1986. At each plant, samples were taken from each of the RCRA wells (4 wells per plant). At Lusk and Artesia, samples were also taken from surface impoundments. Table 1 identifies each sample.

All samples were collected by Alice Barr with the assistance of Kelley Crossman. The samples were appropriately preserved and shipped under chain-of-custody to the State Laboratory in Albuquerque for analysis. Table 2 gives the analytical procedure for each parameter. Note that calcium and magnesium are reported under both General Chemistry and Metals. The Gen. Chem results were obtained by the Water Chemistry Section using wet analytical techniques; the Metals results were obtained by the Metals Section using ICAP.

All results are in milligrams per liter (mg/l), except as follows:

pH	pH units
conductivity	micromhos/cm (lab cond. at 25 °C)
temperature	degrees Celcius
organics	parts per billion

Abbreviations and symbols used to report the results are as follows:

Cond.	conductivity
GEN. CHEM.	general chemistry
ND	not detected (see below)
NR	not reported
PPB	parts per billion
Temp.	temperature (in Celcius)
TDS	total dissolved solids (total filterable residue)
TOC	total organic carbon
<	less than
>	greater than
~	approximately
[]	tentative identification

The value of many metals is reported as ND (none detected). The detection limits, in mg/l, were as follows:

Arsenic	0.005
Mercury	0.0005
Selenium	0.005
Manganese	0.05
All others	0.1

TABLE 1. SAMPLE IDENTIFICATION, PHILLIPS PETROLEUM PLANTS

NOTE: The designation of a well as upgradient or downgradient is Phillip's designation.

Phillips Petroleum-- Artesia

MW-1	monitoring well 1, downgradient
MW-3	monitoring well 3, upgradient
MW-6	monitoring well 6, downgradient
PND-1,w	first RCRA pond, surface water
PND-4,s	first RCRA pond, sediment
PND-2,s	second pond (middle), sediment
PND-3,,w	third pond, surface water
Blank	Field blank using deionized water

Phillips Petroleum -- Eunice

MW-1	monitoring well 1, upgradient
MW-2	monitoring well 2, downgradient
MW-3	monitoring well 3, downgradient
MW-4	monitoring well 4, downgradient

Phillips Petroleum -- Lee

MW-1	monitoring well 1, upgradient
MW-2	monitoring well 2, downgradient
MW-3	monitoring well 3, downgradient
MW-4	monitoring well 4, downgradient
Blank	Field blank using deionized water

Phillips Petroleum -- Lusk

MW-1	monitoring well 1, upgradient
MW-2	monitoring well 2, downgradient
MW-3	monitoring well 3, downgradient
MW-4	monitoring well 4, downgradient
R-PND,w	RCRA pond, surface water
R-PND,s	RCRA pond, sediment
O-PND,s	Oily pond next to RCRA pond, sludge

TABLE 2. ANALYTICAL METHODS

PARAMETER	PRESERVATION	ANALYTICAL METHOD
<u>Gen. Chem.</u>		
Field pH	none	Hach Mini pH Meter
Field Cond.	none	Yellow Springs S-C-T Meter
Calcium	ice	EPA Method 215.2
Magnesium	ice	EPA Methods 130.2 and 215.2
Sodium	ice	Std. Methods 325(b)
Potassium	ice	Std. Methods 325(b)
Bicarbonate	ice	EPA Method 310.1
Chloride	ice	EPA Method 325.2
Sulfate	ice	EPA Method 375.2
TDS	ice	EPA Method 160.1
Fluoride	ice	EPA Method 340.2
Nitrate-N	ice, H ₂ SO ₄	EPA Method 352.2
TOC	ice, H ₂ SO ₄	EPA Method 415.1
<u>Metals</u>		
Arsenic	HNO ₃	EPA Method 206.2
Mercury	HNO ₃	EPA Method 245.1
Selenium	HNO ₃	EPA Method 270.2
All others (ICAP Scan)	HNO ₃	EPA Method 207
<u>Organics</u>		
GC/MS Purgeables	Ice	EPA Method 624

PHILLIPS PETROLEUM -- LUSK

	MW-1	MW-2	MW-3	MW-4
<u>GEN CHEM.</u>				
Field pH	7.0	7.0	7.0	6.9
Field Cond.	1800	2050	2950	2850
Field Temp.	25	23	23	22
Lab pH	7.93	8.12	8.21	7.84
Lab Cond.	1829	2188	2879	3455
Calcium	212.0	132.0	120.0	280.0
Magnesium	112.2	148.8	268.4	143.9
Sodium	103.5	142.6	225.4	308.2
Potassium	5.07	2.73	1.95	3.51
Bicarbonate	206.9	418.9	675	237.6
Chloride	150.2	377.4	607.4	549.6
Sulfate	714.9	246.3	485.8	1057
TDS	1825	1578	2358	3033
Fluoride	1.31	2.09	2.18	2.14
Nitrate-N	20.87	0.17	0.21	1.12
TOC	3.13	8.58	27.6	7.1
<u>METALS</u>				
Arsenic	0.010	0.060	0.078	0.020
Mercury	ND	ND	ND	ND
Selenium	0.009	ND	ND	ND
Aluminum	ND	0.9	0.4	0.4
Barium	ND	0.3	0.7	ND
Beryllium	ND	ND	ND	ND
Boron	0.2	0.5	0.5	0.4
Cadmium	ND	ND	ND	ND
Calcium	210	134	125	275
Chromium	ND	ND	ND	ND
Cobalt	ND	ND	ND	ND
Copper	ND	ND	ND	ND
Iron	0.2	5.8	13	4.6
Lead	ND	ND	ND	ND
Magnesium	94	160	275	160
Manganese	ND	0.6	0.9	2.0
Molybdenum	ND	ND	ND	ND
Nickel	ND	ND	ND	ND
Silicon	36	23	20	22
Silver	ND	ND	ND	ND
Strontium	3.3	2.5	4.4	4.1
Tin	ND	ND	ND	ND
Vanadium	ND	ND	ND	ND
Yttrium	NR	ND	ND	ND
Zinc	ND	ND	ND	ND

PHILLIPS PETROLEUM -- LUSK, cont.

	R-PND,w	R-PND,s	O-PND,s
<u>METALS</u>			
Arsenic	0.019	0.078	0.15
Mercury	ND	0.0036	0.0011
Selenium	ND	0.018	ND
Aluminum	ND	6.4	0.6
Barium	0.3	0.5	0.4
Beryllium	ND	ND	ND
Boron	0.2	ND	0.1
Cadmium	ND	ND	ND
Calcium	240	110	9.7
Chromium	ND	17	ND
Cobalt	ND	ND	ND
Copper	ND	ND	ND
Iron	ND	11	5.4
Lead	ND	ND	ND
Magnesium	25	11	0.8
Manganese	ND	0.17	ND
Molybdenum	ND	ND	ND
Nickel	ND	ND	ND
Silicon	33	2.8	0.8
Silver	ND	ND	ND
Strontium	2.4	0.6	ND
Tin	ND	ND	ND
Vanadium	ND	0.2	ND
Yttrium	NR	ND	ND
Zinc	ND	6.4	0.6

PHILLIPS PETROLEUM -- LUSK

Gas Chromatograph/Mass Spectrometer Purgeable Screen

Results in [brackets] are tentative (unconfirmed) results.

SAMPLE	ORGANICS DETECTED	PPB
MW-1	None Detected	
MW-2	Benzene	44
	Ethylbenzene	7
	[Tetrahydrofuran]	[>30]
	[Butanone]	[>5]
	C3 substituted benzenes	~5
	C4 substituted benzene	~2
MW-3	Benzene	68
	Toluene	1500
	Ethylbenzene	900
	p-Xylene	900
	m-Xylene	470
	o-Xylene	320
	Napthalene	[present]
	C3 substituted benzenes	20-300
	C4 substituted benzenes	~20
MW-4	Trichloromethane	2
R-PND,w	[Thiobismethane]	[1]
R-PND,s	None Detected	
O-PND,s*	Methylcyclohexane	present
	Heptane	present
	Toluene	present
	Nonane	present
	Dimethylcyclohexanes (2)	present
	Octane	present
	m-Xylene	present
	Ethylbenzene	present
	o-Xylene	present
	p-Xylene	present
	Decane	present
	Ethylcyclohexane	present
	Benzene	present
	Aliphatic Hydrocarbons	present

*Oil and water phases in the sample made quantitation impossible. High concentrations of aliphatic and aromatic hydrocarbons were indicated by the analysis.

RADIAN

CORPORATION

Page 1

Received: 05/12/88

RAS Perimeter

06/13/88 16:14:44

REPORT

Work Order # P8-05-035

REPORT Mike Selke
TO Geoscience Consultants, Ltd.
Albuquerque, NM 87102

PREPARED Radian Analytical Services
BY Bldg. 900 Perimeter Park
Morrisville, NC 27560

ATTEN Mike Selke

ATTEN
PHONE 919-481-0212

CLIENT GEOSCIENCE SAMPLES 14
COMPANY Geoscience Consultants, Ltd.
FACILITY 500 Copper NW
Albuquerque, NM 87102

WORK ID PHILLIPS
TAKEN W.S. Dubuk
TRANS Fed Ex (see file for #'s)
TYPE Aqueous
P.O. # 88-0190-700
INVOICE under separate cover

CERTIFIED BY

CONTACT M DAY

* = Matrix interference

SAMPLE IDENTIFICATION

21	8805121239	ARTESIA	MW-1
22	8805121041	ARTESIA	MW-2
23	8805111655	ARTESIA	MW-3
24	8805111811	ARTESIA	MW-4
25	8805110955	LUSK	MW-1
26	8805110851	LUSK	MW-2
27	8805110920	LUSK	MW-3
28	8805110936	LUSK	MW-4
29	8805121843	LEE	MW-3
30	8805130902	LEE	MW-2
31	8805130948	LEE	MW-4
32	8805131420	LEE	MW-1
33	Trip Blank		
34	Method Blank		

TEST CODES and NAMES used on this report

BOBO Pesticides/PCBs.
EXT GC Extraction for GC

1st QIR - 5/88

SAMPLE ID 8805110955

FRACTION 05A

TEST CODE 8080

NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

ORGANICS ANALYSIS DATA SHEET
PESTICIDES by METHOD 8080

ANALYST BLACKLEY
INSTRMT GC1

EXTRCTD 05/16/88
INJECTD 06/05/88

FILE #

VERIFIED HK

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
319-84-6	alpha-BHC	ND	0.010
58-89-9	gamma-BHC (lindane)	ND	0.010
319-85-7	beta-BHC	ND	0.010
76-44-8	heptachlor	ND	0.010
319-86-8	delta-BHC	ND	0.010
309-00-02	aldrin	ND	0.010
1024-57-3	heptachlor epoxide	ND	0.010
959-98-8	endosulfan I	ND	0.010
72-55-9	4,4'-DDE	ND	0.010
60-57-1	dieldrin	ND	0.010
72-20-8	endrin	ND	0.010
72-54-8	4,4'-DDD	ND	0.010
33213-65-9	endosulfan II	ND	0.030
50-29-3	4,4'-DDT	ND	0.020
7421-93-4	endrin aldehyde	ND	0.020
1031-07-8	endosulfan sulphate	ND	0.050
57-74-9	chlordane	ND	0.050
8001-35-2	toxaphene	ND	0.50
12674-11-2	PCB-1016	NR	0.10
11104-28-2	PCB-1221	NR	0.20
11141-16-5	PCB-1232	NR	0.20
53469-21-9	PCB-1242	NR	0.10
12672-29-6	PCB-1248	NR	0.10
11097-69-1	PCB-1254	NR	0.20
11096-82-5	PCB-1260	NR	0.20

SAMPLE ID 8805110955

FRACTION 05A

TEST CODE 8080

NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

SURROGATE RECOVERY

COMPOUND	RECOVERY
dibutyl chlorendate	118 %
tetrachlorometaxylene	%

NOTES AND DEFINITIONS FOR THIS REPORT:

- DET LIMIT = detection limit
- ND = not detected at specified detection limit.
- NR = not required for analysis.
- S = compound peak saturated.
- J = estimated value less than 3 x minimum detection limit.

Received: 05/12/88

Results by Sample

SAMPLE ID 8805110851

FRACTION 06A

TEST CODE 8080

NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

ORGANICS ANALYSIS DATA SHEET

PESTICIDES by METHOD 8080

ANALYST BLACKLEY
INSTRMT GC1

EXTRCTD 05/16/88
INJECTD 06/05/88

FILE #

VERIFIED HK

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
319-84-6	alpha-BHC	ND	0.010
58-89-9	gamma-BHC (lindane)	.26	0.010
319-85-7	beta-BHC	ND	0.010
76-44-8	heptachlor	ND	0.010
319-86-8	delta-BHC	ND	0.010
309-00-02	aldrin	ND	0.010
1024-57-3	heptachlor epoxide	ND	0.010
959-98-8	endosulfan I	ND	0.010
72-55-9	4,4'-DDE	ND	0.010
60-57-1	dieldrin	ND	0.010
72-20-8	endrin	ND	0.010
72-54-8	4,4'-DDD	ND	0.010
33213-65-9	endosulfan II	ND	0.030
50-29-3	4,4'-DDT	ND	0.020
7421-93-4	endrin aldehyde	ND	0.020
1031-07-8	endosulfan sulphate	ND	0.050
57-74-9	chlordane	ND	0.050
8001-35-2	toxaphene	ND	0.50
12674-11-2	PCB-1016	NR	0.10
11104-28-2	PCB-1221	NR	0.20
11141-16-5	PCB-1232	NR	0.20
53469-21-9	PCB-1242	NR	0.10
12672-29-6	PCB-1248	NR	0.10
11097-69-1	PCB-1254	NR	0.20
11096-82-5	PCB-1260	NR	0.20

Received: 05/12/88

SAMPLE ID 8805110851

RAS Perimeter

Results by Sample

REPORT

Work Order # P8-05-033

Continued From Above

FRACTION 06A

TEST CODE 8080

NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

SURROGATE RECOVERY

COMPOUND	RECOVERY
dibutyl chlorendate	91 %
tetrachlorometaxylene	149 %

NOTES AND DEFINITIONS FOR THIS REPORT:

- DET LIMIT = detection limit
- ND = not detected at specified detection limit.
- NR = not required for analysis.
- S = compound peak saturated.
- J = estimated value less than 3 x minimum detection limit.

Received: 05/12/88

Results by Sample

SAMPLE ID 8805110920

FRACTION 07A

TEST CODE 8080

NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

ORGANICS ANALYSIS DATA SHEET
PESTICIDES by METHOD 8080

ANALYST BLACKLEY
INSTRMT GC1

EXTRCTD 05/16/88
INJECTD 06/05/88

FILE #

VERIFIED HK

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
319-84-6	alpha-BHC	74	0.010
58-89-9	gamma-BHC (lindane)	22	0.010
319-85-7	beta-BHC	ND	0.010
76-44-8	heptachlor	ND	0.010
319-86-8	delta-BHC	ND	0.010
309-00-02	aldrin	ND	0.010
1024-57-3	heptachlor epoxide	ND	0.010
959-98-8	endosulfan I	ND	0.010
72-55-9	4,4'-DDE	ND	0.010
60-57-1	dieldrin	ND	0.010
72-20-8	endrin	ND	0.010
72-54-8	4,4'-DDD	ND	0.010
33213-65-9	endosulfan II	ND	0.030
50-29-3	4,4'-DDT	ND	0.020
7421-93-4	endrin aldehyde	ND	0.020
1031-07-8	endosulfan sulphate	ND	0.050
57-74-9	chlordane	ND	0.050
8001-35-2	toxaphene	ND	0.50
12674-11-2	PCB-1016	NR	0.10
11104-28-2	PCB-1221	NR	0.20
11141-16-5	PCB-1232	NR	0.20
53469-21-9	PCB-1242	NR	0.10
12672-29-6	PCB-1248	NR	0.10
11097-69-1	PCB-1254	NR	0.20
11096-82-5	PCB-1260	NR	0.20

SAMPLE ID 8805110920

FRACTION 07A

TEST CODE 8080

NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

SURROGATE RECOVERY

COMPOUND	RECOVERY
----------	----------

dibutyl chlorendate	92 %
---------------------	------

tetrachlorometaxylene	%
-----------------------	---

NOTES AND DEFINITIONS FOR THIS REPORT:

- DET LIMIT = detection limit
- ND = not detected at specified detection limit.
- NR = not required for analysis
- S = compound peak saturated
- J = estimated value less than 3 x minimum detection limit.

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Received: 05/12/88

RAS Perimeter
Results by Sample

REPORT

Work Order # P8-05-035

SAMPLE ID 8805110936

FRACTION OBA

TEST CODE 8080

NAME Pesticides/PCBs

Date & Time Collected 05/11/88

Category

ORGANICS ANALYSIS DATA SHEET PESTICIDES by METHOD 8080

ANALYST BLACKLEY
INSTRMT GCI

EXTRCTD 05/16/88
INJECTD 06/05/88

FILE #

VERIFIED HK

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
319-84-6	alpha-BHC	49	0.010
58-89-9	gamma-BHC (lindane)	16	0.010
319-85-7	beta-BHC	ND	0.010
76-44-8	heptachlor	ND	0.010
319-86-8	delta-BHC	ND	0.010
309-00-02	aldrin	ND	0.010
1024-57-3	heptachlor epoxide	ND	0.010
959-98-8	endosulfan I	ND	0.010
72-55-9	4,4'-DDE	ND	0.010
60-57-1	dieldrin	ND	0.010
72-20-8	endrin	ND	0.010
72-54-8	4,4'-DDD	ND	0.010
33213-65-9	endosulfan II	ND	0.030
50-29-3	4,4'-DDT	ND	0.020
7421-93-4	endrin aldehyde	ND	0.020
1031-07-8	endosulfan sulphate	ND	0.050
57-74-9	chlordane	ND	0.050
8001-35-2	toxaphene	ND	0.50
12674-11-2	PCB-1016	NR	0.10
11104-28-2	PCB-1221	NR	0.20
11141-16-5	PCB-1232	NR	0.20
53469-21-9	PCB-1242	NR	0.10
12672-29-6	PCB-1248	NR	0.10
11097-69-1	PCB-1254	NR	0.20
11096-82-5	PCB-1260	NR	0.20

Received: 05/12/88

SAMPLE ID 8805110936

RAS Perimeter

Results by Sample

REPORT

Work Order # P8-05-033

Continued From Above

FRACTION 08A TEST CODE 8080 NAME Pesticides/PCBs.

Date & Time Collected 05/11/88

Category

SURROGATE RECOVERY

COMPOUND RECOVERY

dibutyl chlorendate 109 %

tetrachlorometaxylene * %

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = detection limit

ND = not detected at specified detection limit.

NR = not required for analysis.

S = compound peak saturated.

J = estimated value less than 3 x minimum detection limit.

RADIAN CORPORATION

Page 1
Received: 05/12/88
RAS Perimeter
06/14/88 14:02:48
REPORT
Work Order # PB-05-036

REPORT TO
Mike Selke
Geoscience Consultants, Ltd.
Albuquerque, NM 87102

ATTEN
W.S. Dubuk
CLIENT
GEOSCIENCE
COMPANY
Geoscience Consultants, Ltd.
FACILITY
500 Copper NW
Albuquerque, NM 87102

WORK ID
TAKEN
TRANS
TYPE
P.O. #
INVOICE
Geosciences
W.S. Dubuk
Fed Ex (see file for #'s)
Aqueous
BB-0190-700
under separate cover

SAMPLE IDENTIFICATION

01	BB05121240	ARTESIA	MW-1
02	BB05121042	ARTESIA	MW-2
03	BB05111656	ARTESIA	MW-3
04	BB05111812	ARTESIA	MW-4
05	BB05110758	LUCK	MW-1
06	BB05110852	LUCK	MW-2
07	BB05110922	LUCK	MW-3
08	BB05110938	LUCK	MW-4
09	BB05121844	LEE	MW-2
10	BB05130903	LEE	MW-3
11	BB05130945	LEE	MW-4
12	BB05131420	LEE	MW-1
13	Method Blank	#1	
14	Method Blank	#2	
15	Trip Blank	#1	
16	Trip Blank	#2	

PREPARED BY
Radian Analytical Services
Bldg. 900 Perimeter Park
Morrisville, NC 27560

ATTEN
PHONE
919-481-0212

Previously Reported on 06/13/88.

TEST CODES and NAMES used on this report

509B GC of Herbicides
EXT GC Extraction for GC

151 QTR - 5/88

CERTIFIED BY
CONTACT M DAY

Received: 05/12/88

Results by Sample

SAMPLE ID 8805110958

FRACTION 05A

TEST CODE 509B

NAME GC of Herbicides

Date & Time Collected 05/11/88

Category

 ORGANICS ANALYSIS DATA SHEET
 HERBICIDES

 ANALYST BLACKLEY
 INSTRMT GCI

 EXTRCTD 05/17/88
 INJECTD 05/26/88

 FILE # _____
 VERIFIED _____
 UNITS _____
 ug/L

CAS #	COMPOUND	RESULT	DET. LIMIT
94-75-7	2,4-D	11	0.50
93-72-1	2,4,5-TP (Silvex)	ND	0.10
93-76-5	2,4,5-T	ND	0.10

NOTES AND DEFINITIONS FOR THIS REPORT.

 DET LIMIT = detection limit.
 ND = not detected at specified detection limit.
 NR = not required for analysis.
 S = compound peak saturated.
 J = estimated value less than 3 x minimum detection limit.

FRACTION 06A TEST CODE 509B NAME GC of Herbicides
Date & Time Collected 05/11/88 Category

ORGANICS ANALYSIS DATA SHEET
HERBICIDES

ANALYST BLACKLEY
INSTRMT GCI
EXTRCTD 05/17/88
INJECTD 05/26/88
FILE #
VERIFIED
HK
UNITS ug/L

CAS #	COMPOUND	RESULT	DET. LIMIT
94-75-7	2,4-D	2.1	0.50
93-72-1	2,4,5-TP (Silvex)	ND	0.10
93-76-5	2,4,5-T	ND	0.10

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = detection limit
ND = not detected at specified detection limit
NR = not required for analysis
S = compound peak saturated
J = estimated value less than 3 x minimum detection limit.

SAMPLE ID 8805110922 FRACTION 07A TEST CODE 509B NAME GC of Herbicides
Date & Time Collected 05/11/88 Category

ORGANICS ANALYSIS DATA SHEET
HERBICIDES

ANALYST	BLACKLEY	EXTRCTD	05/17/88	FILE #	VERIFIED	HK	UNITS	ug/L
INSTRMT	CCI	INJECTD	05/26/88					
CAS #	COMPOUND	RESULT	DET. LIMIT					
94-75-7	2, 4-D	2.9	0.50					
93-72-1	2, 4, 5-TP (Silvex)	ND	0.10					
93-76-5	2, 4, 5-T	ND	0.10					

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = detection limit
ND = not detected at specified detection limit.
NR = not required for analysis.
S = compound peak saturated.
J = estimated value less than 3 x minimum detection limit.

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Received: 05/12/88

RAS Perimeter

REPORT

Work Order # P8-05 226

Results by Sample

SAMPLE ID 8805110938

FRACTION 08A

TEST CODE 509B

NAME GC of Herbicides

Date & Time Collected 05/11/88

Category

ORGANICS ANALYSIS DATA SHEET HERBICIDES

ANALYST BLACKLEY
INSTRMT GC1

EXTRCTD 05/17/88
INJECTD 05/26/88

FILE #

VERIFIED

HK

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET. LIMIT
94-75-7	2,4-D	S	0.50
93-72-1	2,4,5-TP (Silvex)	ND	0.10
93-76-5	2,4,5-T	ND	0.10

NOTES AND DEFINITIONS FOR THIS REPORT

DET LIMIT = detection limit
 ND = not detected at specified detection limit
 NR = not required for analysis
 S = compound peak saturated
 U = estimated value less than 3 x minimum detection limit

Page 1

Received: 05/12/88

RAS -

Austin

REPORT

Work Order # 88-05-049

REPORT TO
Geoscience Consultants, Ltd.
500 Copper NW
Suite 200
Albuquerque, NM 87102
ATTN: Mike Selke

CLIENT: GEOSCIENCE
COMPANY: Geoscience Consultants, Ltd.
ACILITY: SAMPLES 3

WORK ID: Phillips
TAKEN: WSD
TRANS: Fed Ex
TYPE:
P.O. #: 88-0190-700
INV. #: 11836

PREPARED BY: Radian Analytical Services
8501 Mo-pac Bl
PO Box 201088
Austin, TX 78720-1088
ATTN: PHONE: 512-454-4757

CONTACT: GIBSON

[Signature]
CERTIFIED BY

Duplicate of report of 06/27/88

Footnotes and Comments

- * Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.
- @ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

1. Lusk #1
2. Lusk #2
3. reagent-blank

151 QTR-5/88

TEST CODES and NAMES USED on this report

AG E	Silver, ICPEs	PB G	Lead, graphite AA
ALPHA	Gross alpha radiation	PH	pH
AS G	Arsenic, graphite AA	PHEN	Total phenolics
BA E	Barium, ICPEs	SE G	Selenium, graphite AA
BETA	Gross beta radiation	SD4 IC	Sulfate, IC
CD E	Cadmium, ICPEs	TDC	Total organic carbon
CL IC	Chloride, IC	TOX	Total organic halides
COLI T	Total coliform	TURB	Turbidity
CR E	Chromium, ICPEs	XYLENE	Xylenes, EPA 602
DG3020	Digestion, method 3020		
DG6010	Digestion, method 6010		
EPA602	EPA method 602		
FE E	Iron, ICPEs		
F IC	Fluoride, IC		
HG C	Mercury, cold-vapor		
MHO	Specific conductance		
MN E	Manganese, ICPEs		
NA E	Sodium, ICPEs		
NO3	Nitrate, colorimetric		

TEST CODES and NAMES USED on this report

PB G	Lead, graphite AA
PH	pH
PHEN	Total phenolics
SE G	Selenium, graphite AA
SD4 IC	Sulfate, IC
TDC	Total organic carbon
TOX	Total organic halides
TURB	Turbidity
XYLENE	Xylenes, EPA 602

Page 2
Received: 05/12/88

RAS - Austin

REPORT
Results By Test

Work Order # 88-05-049

Sample Id	Test: AG E ug/ml	Test: ALPHA pci/l	Test: AS G ug/ml	Test: BA E ug/ml	Test: BETA pci/l
Lusk #1	01	<0.003	4.4 (1.9) pci/l	0.016	0.100
Lusk #2	02	<0.003	<3.0 pci/l	0.021	0.055

18.5(4.8)
pci/l
<7.5
pci/l

Sample Id	Test: CD E ug/ml	Test: CL IC mq/L	Test: COLI-T colonies/100 mL	Test: CR E ug/ml	Test: DG3020 date complete
Lusk #1	01	0.037	710	<0.003	05/16/88
Lusk #2	02	0.006*	310	0.003*	05/16/88

Sample Id	Test: DG6010 date complete	Test: FE E ug/ml	Test: F IC mq/L	Test: MH2 umhos/cm	Test: MN E ug/ml
Lusk #1	01	05/23/88	<0.003	2.4	0.29
Lusk #2	02	05/23/88	0.035	2.9	1.1

290
290
280
280
220
220

Received: 05/12/88

Results By Test

Continued From Above

SAMPLE	Test: DGA010	Test: FE E	Test: F IC	Test: MHO	Test: MN E
Sample Id	date complete	ug/ml	mg/L	umhos/cm	ug/ml
				220	
				220	
SAMPLE	Test: NA E	Test: NO3	Test: PB G	Test: PH	Test: PHEN
Sample Id	ug/ml	mg/L as N	ug/ml	pH units	mg/L
01	114	<0.1	<0.002	7.41	<0.005
Lusk #1				7.38	
				7.39	
				7.38	
02	174	<0.1	<0.002	7.37	<0.005
Lusk #2				7.31	
				7.31	
				7.31	

Sample Id	SAMPLE	Test: SE G ug/ml	Test: SD4 IC mg/L	Test: TOC mg/L	Test: TOX mg/L
Lusk #1	01	<0.003	210	NA	0.18
				NA	0.16
				NA	0.04*
				NA	0.07*
				6	0.11
			420	7	0.08*
				7	0.07*
				7	0.07*
Lusk #2	02	<0.003			

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-05-049

Results by Sample

SAMPLE ID Lusk #1

FRACTION 011

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 05/10/88

Category

VERIFIED CL

ANALYST CL INSTANT D INJECTED 05/12/88 FILE # UNITS ug/L

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	9.0	0.2
108-88-3	Toluene	ND	0.2
100-41-4	Ethylbenzene	ND	0.3
108-90-7	Chlorobenzene-A	1.5	0.3
106-46-7	1,4-Dichlorobenzene	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	0.4
95-50-1	1,2-Dichlorobenzene	ND	0.4

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 98% recovery

NOTES AND DEFINITIONS FOR THIS REPORT:

- DET LIMIT = DETECTION LIMIT
- ND = not detected at detection limit
- NA = not analyzed
- * = less than 5 times the detection limit
- N/A = not available
- Second column confirmation NOT performed unless otherwise noted.

Received: 05/12/88

SAMPLE ID Lusk #1

RAS - Austin

Results by Sample

REPORT

Work Order # 88-05-049
Continued From Above

FRACTION OIL

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 05/10/88

Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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RAS - Austin
REPORT
Results by Sample

Work Order # 88-05-049

SAMPLE ID Lusk #1

FRACTION Q1N TEST CODE HG C
Date & Time Collected 05/10/88

NAME Mercury, cold vapor
Category

ANALYST KCP
INSTRMT 402

ANALYZED 05/13/88

ANALYTE	RESULT	DET LIMIT
Mercury	ND	0.00012

VERIFIED DMC

UNITS ug/ml

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID Lusk #1

FRACTION Q1A TEST CODE TURB
Date & Time Collected 05/10/88

NAME Turbidity
Category

VERIFIED LM

ANALYST KJS
INSTRMT 2100A

ANALYZED 05/12/88

ANALYTE	RESULT	DET LIMIT
Turbidity	7.4	1.0

UNITS NTU

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RAS - Austin

REPORT

Work Order # 88-05-049
Continued From Above

Results by Sample

SAMPLE ID Lusk #1

FRACTION O1A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 05/10/88

Category

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk #1

FRACTION O1I

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 05/10/88

Category

VERIFIED CL

ANALYST CL
INSTRMT D

INJECTID 05/12/88

FILE #

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
105-42-3	p-Xylene	ND	0.2
105-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

72-02-8	SURROGATES	98% recovery
	a,s,a-Trifluorotoluene	

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted

Received: 05/12/88

RAS -

Austin

Results by Sample

REPORT

Work Order # 88-05-049

Continued From Above

SAMPLE ID Lusk #1

FRACTION O1J

TEST CODE XYLENE

NAME

Xylenes, EPA 602

Date & Time Collected 05/10/88

Category

G = daily EPA standard recovery outside
95% confidence interval.
Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 05/12/88

SAMPLE ID Lusk #2

RAS - Austin

REPORT Results by Sample

Work Order # 88-05-049

FRACTION 021

TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 05/10/88

Category

VERIFIED CL

ANALYST CL
INSTRMT D

FILE #

INJECTED 05/12/88

UNITS ug/L

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	0.4*	0.2
108-28-3	Toluene	ND	0.2
100-41-4	Ethylbenzene	ND	0.3
108-50-7	Chlorobenzene-A	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	0.4
95-50-1	1,2-Dichlorobenzene	ND	0.4

SURROGATES

98-08-2 a,a,a-Trifluorotoluene 112% recovery

NOTES AND DEFINITIONS FOR THIS REPORT

- DET LIMIT = DETECTION LIMIT
- ND = not detected at detection limit
- NA = not analyzed
- * = less than 5 times the detection limit
- NA = not available
- Second column confirmation NDI performed unless otherwise noted

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-05-049
Continued From Above

Results by Sample

SAMPLE ID Lusk #2

FRACTION 021

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 05/10/88

Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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RAS = Austin
REPORT
Results by Sample

Work Order # 88-05-049

SAMPLE ID Lusk #2

FRACTION 02N

TEST CODE HG C

NAME Mercury, Cold Vapor

Date & Time Collected 05/10/88

Category

ANALYST INSTRMT KCP 403

ANALYZED 05/13/88

VERIFIED DMC

UNITS ug/ml

ANALYTE RESULT DET LIMIT

Mercury ND 0.00012

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk #2

FRACTION 03A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 05/10/88

Category

ANALYST INSTRMT MJS 2100A

ANALYZED 05/12/88

VERIFIED LM

UNITS NTU

ANALYTE RESULT DET LIMIT

Turbidity 8.1 1.0

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 Received: 05/12/88
 RAS - Austin
 REPORT
 Results by Sample
 Work Order # 88-05-049
 Continued From Above

SAMPLE ID Lusk #2
 FRACTION 02A
 Date & Time Collected 05/10/88
 TEST CODE TURB
 NAME Turbidity
 Category

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available

SAMPLE ID Lusk #2
 FRACTION 02I
 Date & Time Collected 05/10/88
 TEST CODE XYLENE
 NAME Xylenes, EPA 602
 Category

VERIFIED CL

ANALYST CL
 INSTRMT D
 INJECTD 05/12/88
 FILE #
 UNITS ug/l

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND	0.2
103-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

72-08-8
 a,a,a-Trifluorotoluene
 SURROGATES
 112% recovery

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed
 unless otherwise noted

SAMPLE ID LUSK #2

FRACTION 021 TEST CODE XYLENE

NAME XULENES, EPA 602

Date & Time Collected 05/10/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.
Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 05/12/88

SAMPLE ID reagent blank

RAS - Austin

Work Order # 88-05-049

REPORT

Results by Sample

FRACTION 03A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected not specified

Category

ANALYST _____ INSTRMT _____ CL _____
INJECTED 05/12/88 FILE # _____ UNITS _____ ug/L
VERIFIED _____ CL _____

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.2
108-28-3	Toluene	ND	0.2
100-41-4	Ethylbenzene	ND	0.3
108-90-7	Chlorobenzene-A	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	0.4
95-50-1	1,2-Dichlorobenzene	ND	0.4

SURROGATES

98-08-8 a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted

Received: 05/12/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-05-049

Continued From Above

SAMPLE ID reagent blank

FRACTION 03A

TEST CODE EPA602

NAME EPA Method 602

Date & Time Collected not specified

Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 05/12/88

RAS - Austin

Work Order # 88-05-049

REPORT
Results by Sample

SAMPLE ID reagent blank

FRACTION 03A TEST CODE XYLENE NAME XYLENES, EPA 602
Date & Time Collected not specified Category

VERIFIED CL

ANALYST
INSTRMT

FILE #

INJECTD 05/12/88

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
105-42-3	p-Xylene	ND	0.2
106-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

CAS #	SURROGATES	N/A% recovery
98-06-8	a,a,a-Trifluorotoluene	

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted.

Q = daily EPA standard recovery outside

95% confidence interval.

Chlorobenzene and m-xylene co-elute.

Quantitated as chlorobenzene unless

otherwise noted.

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Received: 05/12/88

RAS - Austin

REPORT

NonReported Work

Work Order # 88-05-049

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01M	SPARE	01J	SPR602
02M	SPARE	02J	SPR602

Received: 05/12/88

RAS -

Austin

REPORT

Work Order # 88-02-050

REPORT Geoscience Consultants, Ltd.

TO 500 Copper NW

Suite 200

Albuquerque, NM 87102

ATTEN Mike Selke

CLIENT GEOSCIENCE

SAMPLES 5

COMPANY Geoscience Consultants, Ltd.

FACILITY

PREPARED Radian Analytical Services

BY 8501 Mo-pac Bl.

PO Box 201088

Austin, TX 78720-1088

ATTEN

PHONE 512-454-4797

CONTACT GIBSON

CERTIFIED BY

Paul Scott

WORK ID Phillips

TAKEN WSD

TRANS Fed Ex

TYPE

P.O. # 88-0190-700

INVOICE under separate cover

** Possible interference.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit.
Potential error for such low values ranges between 50 and 100%.@ Indicates that spike recovery for this analysis on the
specific matrix was not within acceptable limits indicating
an interferent present.

SAMPLE IDENTIFICATION

01 Lusk #3
 02 Lusk #4
 03 trip blank
 04 reagent blank
 05 Lusk #3-dup

151 GTR- 5/88

TEST CODES and NAMES used on this report

AG E Silver, ICPEs

ALPHA

Gross alpha radiation

AS G

Arsenic, ICPEs

BA E

Barium, ICPEs

BETA

Gross beta radiation

CD E

Cadmium, ICPEs

CL IC

Chloride, IC

COLI T

Total coliform

CR E

Chromium, ICPEs

DG3020

Digestion, method 3020

DG6010

Digestion, method 6010

EPA602

EPA method 602

FE E

Iron, ICPEs

F IC

Fluoride, IC

HG C

Mercury, cold vapor

MHO

Specific conductance

MN E

Manganese, ICPEs

NA E

Sodium, ICPEs

NO3

Nitrate, colorimetric

PB G

Lead, graphite AA

PH

pH

PHEN

Total phenolics

SE G

Selenium, graphite AA

SO4 IC

Sulfate, IC

TOC

Total organic carbon

TOX

Total organic halides

TURB

Turbidity

XYLENE

Xylenes, EPA 602

Results By Test

SAMPLE	Test: AG E	Test: ALPHA	Test: AS G	Test: BA E	Test: BEIA
Sample Id	ug/ml	pci/L	ug/ml	ug/ml	pci/L
01	<0.003	10.2(3.0)	0.021	0.056	17.0(5.8)
Lusk #3		pci/L			pci/L
02	<0.003	<2.8	0.025	0.056	10.7(3.8)
Lusk #4		pci/L			pci/L

SAMPLE	Test: CD E	Test: CL IC	Test: COLI I	Test: CR E	Test: DG3020
Sample Id	ug/ml	mg/L	colonies/100 mL	ug/ml	date complete
01	0.016	390	400	0.032	05/16/88
Lusk #3					
02	0.018	410	500	0.063	05/16/88
Lusk #4					
05				0.042	
Lusk #3 dup					

SAMPLE	Test: DG6010	Test: FE E	Test: F IC	Test: MHU	Test: MN E
Sample Id	date complete	ug/ml	mg/L	umhos/cm	ug/ml
01	05/23/88	0.10	2.6	270	0.28
Lusk #3				260	
				260	
				260	
02	05/23/88	0.056	2.7	280	1.3
Lusk #4					

RAS - Austin

REPORT

Work Order # 88-0J-050

Received: 05/12/88

Results By Test

Continued From Above

SAMPLE	Test: DG6010	Test: FE E	Test: F IC	Test: MHO	Test: MN E
Sample Id	date complete	ug/ml	mg/L	umhos/cm	ug/ml
				280	
				280	
				290	
05	05/23/88				
Lusk #3 dup					

SAMPLE	Test: NA E	Test: NO3	Test: PB G	Test: PH	Test: PHEN
Sample Id	ug/ml	mg/L as N	ug/ml	pH units	mg/L
01	230	0.3*	<0.002	7.29	<0.005
Lusk #3				7.23	
				7.23	
				7.23	
02	260	<0.1	<0.002	7.34	<0.005
Lusk #4				7.28	
				7.27	

RAS - Austin

REPORT

Work Order # 88-VJ-050
Continued From Above

Received: 05/12/88

Results By Test

SAMPLE	Test: NA E ug/ml	Test: NO3 mg/L as N	Test: PB G ug/ml	Test: PH pH units	Test: PHEN mg/L
Sample Id					
				7.28	
SAMPLE	Test: SE G ug/ml	Test: SO4 IC mg/L	Test: IDC mg/L	Test: IDX mg/L	
Sample Id					
Lusk #3	01 <0.003	620	8	0.08*	
			9	0.08*	
			8	0.10	
			7	0.09*	
			8	0.08*	
			8	0.08*	
			7	0.12	
			9	0.04*	
Lusk #4	02 <0.003	710			

Received: 05/12/88

Results by Sample

SAMPLE ID Lusk #3

FRACTION 01J TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 05/10/88

Category

ANALYST	CL	FILE #	VERIFIED	CL
INSTRMT	D	INJECTED 05/12/88	UNITS	ug/L

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	0.3*	0.2
108-88-3	Toluene	0.4*	0.2
100-41-4	Ethylbenzene	ND	0.3
108-90-7	Chlorobenzene-A	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	0.4
95-50-1	1,2-Dichlorobenzene	ND	0.4

SURROGATES	116% recovery
98-08-9 a,a,a-Trifluorotoluene	

NOTES AND DEFINITIONS FOR THIS REPORT.

DET. LIMIT = DETECTION LIMIT
 ND = not detected at detection limit
 NA = not analyzed
 * = less than 5 times the detection limit
 N/A = not available
 Second column confirmation NOT performed
 un' s otherwise noted.

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Received: 05/12/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-VJ-050
Continued From Above

SAMPLE ID Lusk #3

FRACTION 01J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 05/10/88

Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Received: 05/12/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-VJ-050

SAMPLE ID Lusk #3

FRACTION 011

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 05/10/88

Category

ANALYST

INSTRMT

KCP

403

ANALYZED 05/13/88

ANALYTE

RESULT

DET LIMIT

Mercury

ND

0.00012

VERIFIED

DMC

UNITS

ug/ml

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk #3

FRACTION 01A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 05/10/88

Category

ANALYST

INSTRMT

MJS

2100A

ANALYZED 05/12/88

ANALYTE

RESULT

DET LIMIT

Turbidity

18

1.0

VERIFIED

LM

UNITS

NTU

RAS - Austin

REPORT

Work Order # 88-UJ-050

Received: 05/12/88

Results by Sample

Continued From Above

SAMPLE ID Lusk #3

FRACTION 01A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 05/10/88

Category

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

= less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk #3

FRACTION 01J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 05/10/88

Category

VERIFIED CL

ANALYST
INSTRMTCL
ID

INJECTD 05/12/88

FILE #

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

98-08-8

SURROGATES
a,a,a-Trifluorotoluene

116% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

= less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

un s otherwise noted

Received: 05/12/88

RAS -

Austin

REPORT

Results by Sample

Work Order # 88-02-050

Continued From Above

SAMPLE ID Lusk #3

FRACTION O1J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 05/10/88

Category

Q = daily EPA standard recovery outside

95% confidence interval.

Chlorobenzene and m-xylene co-elute.

Quantitated as chlorobenzene unless

otherwise noted.

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-03-050

Results by Sample

SAMPLE ID Lusk #4

FRACTION 02J TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 05/10/88

Category

ANALYST	CL	FILE #	VERIFIED	CL
INSTRMT	D	INJECTED 05/12/88	UNITS	ug/l

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	ND	0.2
108-88-3	Toluene	0.4*	0.2
100-41-4	Ethylbenzene	ND	0.3
108-90-7	Chlorobenzene-A	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	0.4
95-50-1	1,2-Dichlorobenzene	ND	0.4

SURROGATES

78-08-8	a,a,a-Trifluorotoluene	105% recovery
---------	------------------------	---------------

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

un a otherwise noted.

Received: 05/12/88

RAS -

Austin

REPORT

Results by Sample

Work Order # 88-050

Continued From Above

SAMPLE ID Lusk #4

FRACTION 02J

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 05/10/88

Category

p-
A-Chlorobenzene and m-xylene co-elute
Quantitated as chlorobenzene unless
otherwise noted.

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Received: 05/12/88

RAS

Austin

REPORT

Results by Sample

Work Order # 88-VJ-050

SAMPLE ID Lusk #4

FRACTION 021

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 05/10/88

Category

ANALYST
INSTRMTKCP
403

ANALYZED 05/13/88

ANALYTE RESULT

DET LIMIT

Mercury

ND

0.00012

UNITS

ug/ml

VERIFIED

DMG

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk #4

FRACTION 02A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 05/10/88

Category

ANALYST
INSTRMTMJS
2100A

ANALYZED 05/12/88

ANALYTE RESULT DET LIMIT

Turbidity

8.3

1.0

UNITS

NTU

VERIFIED

LM

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RAS - Austin

REPORT

Work Order # 88-00-050

Received: 05/12/88

Results by Sample

Continued From Above

SAMPLE ID Lusk #4

FRACTION 02A

TEST CODE TURB

NAME Turbidity

Date & Time Collected 05/10/88

Category

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID Lusk #4

FRACTION 02J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 05/10/88

Category

VERIFIED CL

ANALYST
INSTRMTCL
D

INJECTD 05/12/88

FILE #

UNITS

ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

98-08-8

SURROGATES

a,a,a-Trifluorotoluene 105% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

un, & otherwise noted

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-66-050

Results by Sample

Continued From Above

SAMPLE ID Lusk #4

FRACTION 02J

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 05/10/88

Category

Q = daily EPA standard recovery outside
95% confidence interval.

Chlorobenzene and m-xylene co-elute

Quantitated as chlorobenzene unless
otherwise noted.

Received: 05/12/88

Results by Sample

SAMPLE ID trip blank

FRACTION 03A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 05/11/88

Category

VERIFIED CL

ANALYST _____ CL
INSTRMT _____ D

FILE # _____

INJECTED 05/12/88

UNITS ug/L

RESULT DET LIMIT

COMPOUND

CAS#

0.2

ND

Benzene

71-43-2

0.2

ND

Toluene

108-88-3

0.3

ND

Ethylbenzene

100-41-4

0.3

ND

Chlorobenzene-A

108-90-7

0.3

ND

1,4-Dichlorobenzene

106-46-7

0.4

ND

1,3-Dichlorobenzene

541-73-1

0.4

ND

1,2-Dichlorobenzene

95-50-1

SURROGATES

87% recovery

98-08-8 a,a,a-Trifluorotoluene

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

= less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

un = otherwise noted.

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Received: 05/12/88

RAS

- Austin

REPORT

Results by Sample

Work Order # 88-03-050
Continued From Above

SAMPLE ID trip blank

FRACTION Q3A

TEST CODE EPA602

NAME EPA method 602

Date & Time Collected 05/11/88

Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Received: 05/12/88

RAS - Austin

REPORT

Results by Sample

Work Order # 88-66-050

SAMPLE ID trip blank

FRACTION 03A

TEST CODE XYLENE

NAME Xylenes, EPA 602

Date & Time Collected 05/11/88

Category

ANALYST
INSTRMTCL
D

INJECTD 05/12/88

FILE #

VERIFIED CL

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

90-08-8

SURROGATES

a, a, a-Trifluorotoluene 87% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted.

Q = daily EPA standard recovery outside 95% confidence interval.

Chlorobenzene and m-xylene co-elute

Quantitated as chlorobenzene unless otherwise noted.

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-00-050

Results by Sample

SAMPLE ID reagent blank

FRACTION 04A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected not specified

Category

ANALYST	CL	FILE #	INJECTED	CAS#	COMPOUND	RESULT	DET LIMIT	UNITS	uq/L	VERIFIED	CL
INSTRMT	D		05/12/88								
				71-43-2	Benzene	ND		0.2			
				108-88-3	Toluene	ND		0.2			
				100-41-4	Ethylbenzene	ND		0.3			
				108-90-7	Chlorobenzene-A	ND		0.3			
				106-46-7	1,4-Dichlorobenzene	ND		0.3			
				541-73-1	1,3-Dichlorobenzene	ND		0.4			
				95-50-1	1,2-Dichlorobenzene	ND		0.4			
SURROGATES											
				98-08-8	a,a,a-Trifluorotoluene			N/A% recovery			

NOTES AND DEFINITIONS FOR THIS REPORT:

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

= less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

un \$ otherwise noted

Received: 05/12/88

SAMPLE ID reagent blank

RAS - Austin

REPORT
Results by Sample

Work Order # 88-VJ-050
Continued From Above

FRACTION 04A TEST CODE EPA602 NAME EPA method 602
Date & Time Collected not specified Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-44-050

Results by Sample

SAMPLE ID reagent blank

FRACTION 04A TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected not specified Category

VERIFIED CLUNITS ug/L

FILE #

INJECTD 05/12/88

ANALYST CL
INSTRMT D

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

SURROGATES

98-08-8 a,a,a-Trifluorotoluene N/A% recovery

NOTES AND DEFINITIONS FOR THIS REPORT

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

unless otherwise noted

Q = daily EPA standard recovery outside

95% confidence interval

Chlorobenzene and m-xylene co-elute

Quantitated as chlorobenzene unless

otherwise noted

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-05-050

Results by Sample

SAMPLE ID Lusk #3 dup

FRACTION 05A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 05/11/88

Category

VERIFIED CLANALYST CL INSTRMT D FILE # INJECTED 05/13/88 UNITS ug/L

CAS#	COMPOUND	RESULT	DET LIMIT
71-43-2	Benzene	0.3*	0.2
108-88-3	Toluene	0.4*	0.2
100-41-4	Ethylbenzene	ND	0.3
108-90-7	Chlorobenzene-A	ND	0.3
106-46-7	1,4-Dichlorobenzene	ND	0.3
541-73-1	1,3-Dichlorobenzene	ND	0.4
95-50-1	1,2-Dichlorobenzene	ND	0.4

SURROGATES

98-08-8 a,a,a-Trifluorotoluene 123**% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed

un, as otherwise noted

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Received: 05/12/88

SAMPLE ID Lusk #3 dup

RAS - Austin

Results by Sample

REPORT

Work Order # 88-63-050
Continued From Above

FRACTION 05A TEST CODE EPA602 NAME EPA method 602

Date & Time Collected 05/11/88

Category

A-Chlorobenzene and m-xylene co-elute.
Quantitated as chlorobenzene unless
otherwise noted.

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-62-050

Results by Sample

SAMPLE ID Lusk #3 dup

FRACTION 05A TEST CODE XYLENE NAME Xylenes, EPA 602

Date & Time Collected 05/11/88

Category

ANALYST
INSTMTCL
D

FILE #

INJECTD 05/13/88

VERIFIED CL

UNITS ug/L

CAS #	COMPOUND	RESULT	DET LIMIT
106-42-3	p-Xylene	ND	0.2
108-38-3	m-Xylene-A	ND	0.2
95-47-6	o-Xylene	ND	0.1

98-08-8

SURROGATES

a,a,a-Trifluorotoluene 123**% recovery

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Second column confirmation NOT performed unless otherwise noted

Q = daily EPA standard recovery outside 95% confidence interval

Chlorobenzene and m-xylene co-elute

Quantitated as chlorobenzene unless otherwise noted

Received: 05/12/88

RAS - Austin

REPORT

Work Order # 88-66-050

TEST CODE ALPHA NAME Gross alpha radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

TEST CODE BETA NAME Gross beta radiation

The value in parentheses is a + or - one sigma value. Results are thus expressed as: value (+ or - 1 sigma). One sigma = one standard deviation, 68% confidence level.

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Received: 05/12/88

RAS - Austin

REPORT

NonReported Work

Work Order # 88-62-050

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01N	SPARE	01K	SPR602
02N	SPARE	02K	SPR602
05B	SPR602		



PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

August 11, 1988

Notification of Discharge
Lee Gasoline Plant

CERTIFIED MAIL
RETURN RECEIPT NO. P-512 089 614

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

In compliance with Section 1-203 of the Water Quality Control Commission regulations, this is to notify you of a discharge of hydrocarbon material to the uppermost aquifer at our Lee Gasoline Plant.

As you are aware, we recently completed installation of new groundwater monitoring well systems at our four southeastern New Mexico plants (Artesia, Eunice, Lee and Lusk). The new systems were installed as a result of a Compliance Order issued by the New Mexico Environmental Improvement Division. The first set of samples from the new wells were taken during the month of May. Analysis results were recently received by this office (copies attached).

You will note from the analyses that water in the No. 4 well at Lee Plant shows some evidence of hydrocarbon contamination. Hydrocarbon contamination was also detected in the original upgradient well located approximately 250 feet north of the No. 4 well. We have requested our consultants on this project (Geoscience Consultants, Ltd. of Albuquerque) provide you with a copy of their document entitled "Report on the Installation of a Ground-Water Monitoring System at Phillips 66 Natural Gas Company Lee Plant" for additional detailed information.

Phillips has contracted GCL to perform a contamination assessment of the Lee Plant site. GCL plans to conduct a soil gas vapor survey as the first step in this project. We would like to schedule a meeting with you and your staff to further discuss our strategies for remediation of this problem. Please contact Mike Ford of this office to schedule a meeting date.

Questions regarding this information should be directed to Mike Ford of this office at (915) 367-1316.

Very truly yours,

L. L. Frantz
Manager, Permian Basin Region

LLF:MDF

Attachments



PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

December 8, 1988

Quarterly Groundwater Monitoring Analyses
Artesia, Eunice, Lee and Musk Plants

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Per your request, attached please find copies of the second quarter groundwater monitoring analyses for the above referenced plants. I have also included additional information on the Lee Plant water supply wells for your reference.

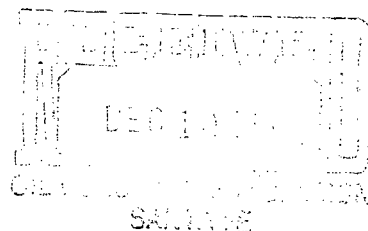
If you should have any questions regarding this information, please contact me at (915) 367-1316.

Very truly yours,

Michael D. Ford
Environmental Analyst

MDF

Attachments





PHILLIPS 66 NATURAL GAS COMPANY

A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

January 19, 1989

Quarterly Groundwater Monitoring Analyses
Artesia, Eunice, Lee and Lusk Plants

Mr. Dave Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Boyer:

Per your request, attached please find copies of the third quarter groundwater monitoring analyses for the above referenced plants.

If you should have any questions regarding this information, please contact me at (915) 367-1316.

Very truly yours,

Michael D. Ford

Michael D. Ford
Environmental Analyst

MDF

Attachments

