

The Sinclair Oil and Gas #1 Mahaffey Federal well in Section 14-T20S-R33E, 660' FNL + 1980' FWL has produced 168,987 barrels of oil to 1/1/88. Volumetric calculations indicate this well would produce 87,138 barrels of oil <sup>Based</sup> on 40-acre drainage and 174,275 bbls based on 80-acre spacing. Therefore it is evident this well has effectively drained 80 acres. The following are the calculations:

	<u>40 Acres</u>	<u>80 Acres</u>
Rock Volume, Barrels per Acre .....	7758	7758
Average Porosity .....	13%	13%
Primary Recovery Factor .....	10%	10%
1-SW, % .....	60%	60%
Shrinkage Factor .....	.9	.9
Pay Thickness .....	40	40
Spacing Unit Area, acres .....	40	80
Estimated Primary Oil Recovery .....	<u>87,138 bbls</u>	<u>174,275 bbls</u>

Anticipated primary First Bone Spring sandstone recoverable reserves per well location are calculated as shown below, using volumetric analysis ( $V_o = 7758 \times \phi \times (1-S_w) \times B_o \times R_e \times h \times a$ ):

	<u>40 Acres</u>	<u>80 Acres</u>
Rock volume, barrels per acre	7,758	7,758
Average Porosity	12.5%	12.5%
Primary Recovery Factor	10%	10%
1-Sw%	50	50
Shrinkage Factor	.9	.9
Pay Thickness	45	45
Effective Spacing Unit Area, acres	40	80
Estimated Primary Oil Recovery	<u>78,550 bbls</u>	<u>157,099 bbls</u>

Anticipated cost for drilling a First Bone Spring sandstone well in the Hat Mesa Bone Spring field is \$640,000.

Return on investment for 40-acre spacing:

$75\%NRI \times 78,550\text{bbls} \times \$16.50/\text{bbl} \times .925 \text{ (tax)} = \$899,152.$

Return on Investment = 1.4:1

Return on Investment for 80-acre spacing:

$75\%NRI \times 157,099\text{bbls} \times \$16.50/\text{bbl} \times .925 \text{ (tax)} = \$1,798,293.$

Return on Investment = 2.8:1

BEFORE EXAMINER CATANACH

OIL CONSERVATION DIVISION

Strata EXHIBIT NO. 6

CASE NO. 9582

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on the  
reverse side)

Expiry: August 1, 1985  
BUREAU TEST NUMBER AND SERIAL

NM 14791

IF INDIAN, ALLOTTEE OR TRIBE

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT" for such proposals.)

1. ☐ OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

MorOilCo., Inc.

3. ADDRESS OF OPERATOR

P.O. Drawer I, Artesia, Nm 88210

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.  
See also space 17 below)  
At surface

1980' FNL, 1980' FEL, Section 4  
4 miles SE/Halfway Bar

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)

30-025-22751

3688'GR

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

NM Federal

9. WELL NO.

2-6

10. FIELD AND POOL OR WILDCAT

S. Salt Lake

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec 4-T21S-R32E

12. COUNTY OR PARISH 13. STATE

Lea

NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO

TEST WATER SHUT OFF

PULL OR ALTER CASING

FRAC TURE TREAT

MULTIPLE COMPLETION

SHOOT OR ACIDIZE

ABANDON\*

REPAIR WELL

CHANGE PLANE

OTHER

Workover

Intent to plug back

SUBSEQUENT REPORT OF:

WATER SHUT OFF

REPAIRING WELL

FRAC TURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT\*

OTHER

Note: Report results of multiple completion on Well -  
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Include all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.\*

SEE ATTACHED EXHIBIT "A"

18. I hereby certify that the foregoing is true and correct

SIGNED

Frank S. Morgan

TITLE

Vice-President

DATE

8/26/88

(This space for Federal or State office use)

APPROVED BY

REAL RESOURCES

TITLE

DATE

9-19-88

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

## SUNDRY NOTICES AND REPORTS ON WELLS

### EXHIBIT "A"

1. Re-enter well bore
2. Run Cement Bond Log
3. Perforate Strawn interval @ 12,614' to 12,622' with one shot per foot
4. Acidize - 1500 gals 15% HCL
5. Swab load
6. If hydrocarbons not found, set bridge plug above perforated zone
7. Perforate gross Bone Spring interval @ 9893' to 10,098'
8. Acidize - 2800 gals 15% NEFE
9. Swab load
10. Frac, if necessary, with 2500 bbls gelled water and 250,000# sand
11. Swab load
12. Set removable bridge plug above perforated zone 9893' to 10,098', move uphole to perforate upper sandstone interval
13. Perforate @ 9460 - 9510 with 25 holes total
14. Acidize - 2500 gals 15% NEFE
15. Swab load
16. Frac, if shows indicate, with 280,000# sand and 2200 bbls gelled water
17. Swab load, if commercially productive, run tubing, rods and setup pump jack
18. Setup tank battery and surface production equipment

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT TO TRIP  
INSTRUCTIONS ON REVERSE SIDE

Expires August 31, 1985  
LEASE DESIGNATION AND SERIAL

NM 14791

IF INDIAN, ALLOTTEE OR TRIBE

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT" for such proposals.)

1. ☐ OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR  
MorOilCo., Inc.

3. ADDRESS OF OPERATOR  
P.O. Drawer I, Artesia, NM 88210

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.  
See also space 17 below.)  
At surface  
1980' FNL, 1980' FEL, Section 4  
4 miles SE/Halfway Bar

14. PERMIT NO. 30-025-22751 15. ELEVATIONS (Show whether DF, RT, GR, etc.) 3688' GR

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
N.M. Federal

9. WELL NO.  
24

10. FIELD AND POOL OR WILDCAT  
S. Salt Lake Morrow

11. SEC. T. R. M. OR BLK. AND SURVEY OR AREA  
Sec 4-T21S-R32E

12. COUNTY OR PARISH 13. STATE  
Lea NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	MULTIPLE COMPLETION	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	ABANDON*	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>

(Other) \* Change of Operator

WATER SHUT-OFF	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
FRACTURE TREATMENT	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
SHOOTING OR ACIDIZING	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>

(Other) (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

\* Change of Operator

from Grace Pet Corp.

Aug 23 10 24 AM '88

RECEIVED

18. I hereby certify that the foregoing is true and correct

SIGNED Frank S. Morgan TITLE Vice President DATE 8/26/88

(This space for Federal or State office use)

ACCEPTED FOR RECORD

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

SEP 19 1988

\*See Instructions on Reverse Side

SJS  
CARLSBAD, NEW MEXICO

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

NO. OF OPERATING	
DISTRIBUTION	
CONTACT	
FILE	
U.S.D.A.	
LAND OFFICE	
TRANSPORTER	
OPERATED	
PROMOTION OFFICE	

OIL CONSERVATION DIVISION

P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

Form C-104  
Revised 10-01-78  
Format 05-01-83  
Page 1

REQUEST FOR ALLOWABLE  
AND  
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I. Operator  
Grace Petroleum Corporation  
Address  
P. O. Drawer 2358, Midland, Texas 79702-2358

Reason(s) for filing (Check proper box)  
☐ New Well  
☐ Recompletion  
☐ Change in Ownership  
 Change in Transporter of:  
☐ Oil  
☐ Casinghead Gas  
☒ Dry Gas  
☐ Condensate  
 Other (Please explain)  
Effective 7-1-84

If change of ownership give name and address of previous owner \_\_\_\_\_

II. DESCRIPTION OF WELL AND LEASE

Lease Name <u>New Mexico "A" Federal</u>	Well No. <u>2</u>	Pool Name, Including Formation <u>S. Salt Lake Morrow</u>	Kind of Lease State, Federal or Fee <u>Federal</u>	Lease No. <u>NM-14791</u>
Location Unit Letter <u>G</u> ; <u>1980</u> Feet From The <u>North</u> Line and <u>1980</u> Feet From The <u>East</u> Line of Section <u>4</u> Township <u>21-S</u> Range <u>32-E</u> , NMPM, <u>Lea</u> County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/> <u>Permian Corporation</u> Permian (Eff. 9/1/87)	Address (Give address to which approved copy of this form is to be sent) <u>P. O. Box 1183, Houston, Texas 77001</u>	
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/> <u>Gas Company of New Mexico</u>	Address (Give address to which approved copy of this form is to be sent) <u>P. O. Box 26400, Albuquerque, New Mexico 87125</u>	
If well produces oil or liquids, give location of tanks. Unit <u>G</u> Sec. <u>4</u> Twp. <u>21-S</u> Rge. <u>32-E</u>	Is gas actually connected? <u>Yes</u>	When <u>8-3-78</u>

If this production is commingled with that from any other lease or pool, give commingling order number: \_\_\_\_\_

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

Buddy J. Knight  
(Signature)  
District Production Manager  
(Title)  
August 7, 1984  
(Date)

OIL CONSERVATION DIVISION

**AUG - 9 1984**

APPROVED \_\_\_\_\_, 19 \_\_\_\_\_

BY ORIGINAL SIGNED BY SUPERVISOR

TITLE DISTRICT I SUPERVISOR

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply completed wells.

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

NO. OF COPIES REQUIRED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.A.	
LAND OFFICE	
TRANSPORTER	OIL
OPERATOR	1/2
PRODUCTION OFFICE	

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

Form C-104  
Revised 12-21-78  
Format 05-01-83  
Page 1

REQUEST FOR ALLOWABLE  
AND  
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Operator <u>Grace Petroleum Corporation</u>	
Address <u>P. O. Drawer 2358, Midland, Texas 79702-2358</u>	
Reason(s) for filing (Check proper box)	Other (Please explain)
<input type="checkbox"/> New Well <input type="checkbox"/> Recompletion <input type="checkbox"/> Change in Ownership	Change in Transporter of: <input type="checkbox"/> Oil <input type="checkbox"/> Casinghead Gas <input checked="" type="checkbox"/> Dry Gas <input type="checkbox"/> Condensate
Effective 7-1-84	

If change of ownership give name and address of previous owner \_\_\_\_\_

II. DESCRIPTION OF WELL AND LEASE

Lease Name <u>New Mexico "A" Federal</u>	Well No. <u>2</u>	Pool Name, Including Formation <u>S. Salt Lake Morrow</u>	Kind of Lease State, Federal or Fee <u>Federal</u>	Lease No. <u>NM-14791</u>
Location				
Unit Letter <u>G</u> : <u>1980</u> Feet From The <u>North</u> Line and <u>1980</u> Feet From The <u>East</u>				
Line of Section <u>4</u> Township <u>21-S</u> Range <u>32-E</u> , NMPM, <u>Lea</u> County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
<u>Permian Corporation</u>	<u>P. O. Box 1183, Houston, Texas 77001</u>
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
<u>Gas Company of New Mexico</u>	<u>P. O. Box 26400, Albuquerque, New Mexico 87125</u>
If well produces oil or liquids, give location of tanks.	Is gas actually connected? When
Unit <u>G</u> , Sec. <u>4</u> , Twp. <u>21-S</u> , Rge. <u>32-E</u>	Yes <u>8-3-78</u>

If this production is commingled with that from any other lease or pool, give commingling order number: \_\_\_\_\_

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

Buddy J. Knight (Signature) Buddy J. Knight  
District Production Manager  
(Title)  
August 7, 1984  
(Date)

OIL CONSERVATION DIVISION  
APPROVED AUG - 9 1984  
DISTRICT 1 SUPERVISOR  
BY [Signature]  
TITLE DISTRICT 1 SUPERVISOR

This form is to be filed in compliance with RULE 1104.  
If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.  
All sections of this form must be filled out completely for allowable on new and recompleted wells.  
Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.  
Separate Forms C-104 must be filed for each pool in multiply completed wells.

DISTRIBUTION	
ANTAFEE	
FILE	
U.S.G.S.	
AND OFFICE	
TRANSPORTER	OIL
	GAS
OPERATOR	
PRODUCTION OFFICE	

**NEW MEXICO OIL CONSERVATION COMMISSION**  
**REQUEST FOR ALLOWABLE**  
**AND**  
**AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS**

Form C-104  
 Supersedes Old C-104 and C-110  
 Effective 1-1-85

**I. OPERATOR**  
 Operator Grace Petroleum Corporation  
 Address P.O. Drawer 2358, Midland, Texas 79702-2358  
 Reason(s) for filing (Check proper box)  
 New Well ☐ Change in Transporter of: Oil ☐ Dry Gas ☒ Other (Please explain)  
 Recompletion ☐ Casinghead Gas ☐ Condensate ☐ Effective 12-1-81  
 Change in Ownership ☐

If change of ownership give name and address of previous owner

**II. DESCRIPTION OF WELL AND LEASE**

Lease Name <b>New Mexico "A" Fed</b>	Well No. <b>2</b>	Pool Name, including Formation <b>S. Salt Lake Morrow</b>	Kind of Lease State, Federal or Fee <b>Federal</b>	Lease No. <b>NM-14791</b>
Location Unit Letter <b>G</b> ; 1980 Feet From The <b>North</b> Line and 1980 Feet From The <b>East</b> Line of Section <b>4</b> Township <b>21-S</b> Range <b>32-E</b> , NMPM, <b>Lea</b> County				

**III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS**

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/> <b>Permian Corporation</b>	Address (Give address to which approved copy of this form is to be sent) <b>P.O. Box 1183, Houston, Texas 77001</b>
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/> <b>Southern Union Gathering Company</b>	Address (Give address to which approved copy of this form is to be sent) <b>First International Bldg., Dallas, TX 75270</b>
If well produces oil or liquids, give location of tanks. Unit <b>G</b> Sec. <b>4</b> Twp. <b>21-S</b> Rng. <b>32-E</b>	Is gas actually connected? <b>Yes</b> When <b>8-3-78</b>

If this production is commingled with that from any other lease or pool, give commingling order number:

**IV. COMPLETION DATA**

Designate Type of Completion - (X)	Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v.	Diff. Res'v.
Date Spudded	Date Compl. Ready to Prod.		Total Depth		P.B.T.D.			
Elevations (DF, RKB, RT, GR, etc.,)	Name of Producing Formation		Top Oil/Gas Pay		Tubing Depth			
Perforations					Depth Casing Shoe			
<b>TUBING, CASING, AND CEMENTING RECORD</b>								
HOLE SIZE	CASING & TUBING SIZE		DEPTH SET		SACKS CEMENT			

**V. TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL** (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.,)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil-Bbls.	Water-Bbls.	Gas-MCF

**GAS WELL**

Actual Prod. Test-MCF/D	Length of Test	Bbls. Condensate/MMCF	Gravity of Condensate
Testing Method (pilot, back pr.)	Tubing Pressure (Shut-In)	Casing Pressure (Shut-In)	Choke Size

**VI. CERTIFICATE OF COMPLIANCE**

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Buddy J. Knight  
 (Signature)  
District Production Manager  
 (Title)  
December 31, 1981  
 (Date)

**OIL CONSERVATION COMMISSION**

APPROVED \_\_\_\_\_, 19\_\_\_\_  
 BY [Signature]  
 TITLE **SUPERVISOR DISTRICT I**

This form is to be filed in compliance with RULE 1104.  
 If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.  
 All sections of this form must be filled out completely for allowable on new and recompleted wells.  
 Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.  
 Separate Forms C-104 must be filed for each pool in multiply completed wells.



DISTRIBUTION	
STATE	
FEDERAL	
G.S.	
D OFFICE	
TRANSPORTER	OIL
	GAS
OPERATOR	
PRODUCTION OFFICE	

**NEW MEXICO OIL CONSERVATION COMMISSION**  
**REQUEST FOR ALLOWABLE**  
**AND**  
**AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS**

Form C-104  
 Supersedes Old C-104 and C-11  
 Effective 1-1-65

**I. OPERATOR**  
 Grace Petroleum Corporation  
 Address  
 P. O. Drawer 2358, Midland, Texas 79702  
 Reason(s) for filing (Check proper box)  
 New Well ☐ Change in Transporter ☐  
 Recompletion ☐ Oil ☐  
 Change in Ownership ☒ Casinghead Gas ☐  
 Other (Please explain)  
 If change of ownership give name and address of previous owner Cleary Petroleum Corporation, P. O. Drawer 2358, Midland, Tx. 79702

**II. DESCRIPTION OF WELL AND LEASE**  
 Lease Name New Mexico "A" Fed. Well No. 2 Plant Name S. Salt Lake Morrow Kind of Lease Federal Lease No. NM-14791  
 Location  
 Unit Letter G 1980 Feet From The North 1980 Feet From The East  
 Line of Section 4 Township 21-S Range 32-E NMPM Lea County

**III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS**  
 Name of Authorized Transporter of Oil ☐ or Condensate ☒ Permian Corporation  
 Name of Authorized Transporter of Casinghead Gas ☐ or Dry Gas ☒ Gas Company of New Mexico  
 If well produces oil or liquids, give location of tanks. Unit G Ser. 4 21-S 32-E  
 Give address to which approved copy of this form is to be sent P. O. Box 1183, Houston, Texas 77001  
 Give address to which approved copy of this form is to be sent First International Bldg., Dallas, Tx. 75270  
 Is well directly connected? Yes When 8-3-78

**IV. COMPLETION DATA**  
 Designate Type of Completion - (X) Oil Well Gas Well  
 Date Spudded Date Compl. Ready to Prod.  
 Elevations (D.F., RKB, RT, GR, etc.) Name of Producing Formation  
 Perforations  
 TUBING, CASING, AND CEMENTING RECORD  

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT

**V. TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL**  
 Date First New Oil Run To Tanks Date of Test  
 Length of Test Tubing Pressure  
 Actual Prod. During Test Oil-Bbls.  
 (Test must be a minimum of total volume of load oil and must be equal to or exceed top allowable for this depth for full 24 hours)  
 Testing Method (Flow, pump, gas lift, etc.)

**GAS WELL**  
 Actual Prod. Test-MCF/D Length of Test  
 Testing Method (pilot, back pr.) Tubing Pressure (Shut-in)  
 Gravity of Condensate  
 Choke Size

**I. CERTIFICATE OF COMPLIANCE**

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

*Buddy J. Knight*  
 (Signature)  
 District Production Manager  
 (Title)  
 10-25-78  
 (Date)

**OIL CONSERVATION COMMISSION**  
**APPROVED NOV 7 1978**  
*James H. Hutton*  
 SUPERVISOR DISTRICT I  
 This form is to be filed in compliance with RULE 1104.  
 If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation from the original design on the well in accordance with RULE 111.  
 All sections of this form must be filled out completely for allowance on new and recompleted wells.  
 Fill out only Sections I, II, III, and VI for changes of owner, name or number, or transporter or other such change of condition.

OIL CONSERVATION COMMISSION

BOX 2045

HOBBS, NEW MEXICO

NOTICE OF GAS CONNECTION

DATE 8/3/78

This is to notify the Oil Conservation Commission that connection for the  
purchase of gas from the Grace Petroleum Corp., New Mexico A Federal  
Operator Lease

#2, G, 4-21S-32E, Salt Lake,  
Well # Unit Letter S.T.R. Pool

Gas Company of New Mexico, was made on 8/3/78.  
Name of Purchaser Date

GAS COMPANY OF NEW MEXICO  
PURCHASER

James P. Loez  
REPRESENTATIVE

Transmission Manager  
TITLE

cc: Oil Conservation Commission - Santa Fe  
E. R. Corliss - Dallas File

W. B. Richardson - Dallas

R. J. McCrary - Dallas

E. H. Redden - Carlsbad

Operator(s): Grace Petroleum Corporation  
300 Prentice Building  
North Broadway Plaza  
Oklahoma City, Oklahoma 73116

Grace Petroleum Corporation  
P. O. Drawer 2358  
Midland, Texas 79702

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE\*

(See other in-  
structions on  
reverse side)Form approved.  
Budget Bureau No. 42-R355.5.

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL:		OIL WELL <input type="checkbox"/>	GAS WELL <input checked="" type="checkbox"/>	DRY <input type="checkbox"/>	Other _____		
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	
2. NAME OF OPERATOR Cleary Petroleum Corporation							
3. ADDRESS OF OPERATOR P. O. Drawer 2358, Midland, Texas 79702							
4. LOCATION OF WELL (Report location clearly and in accordance with all State laws and regulations) At surface 1980' FNL & 1980; FEL At top prod. interval reported below At total depth							
14. PERMIT NO. Letter of		DATE ISSUED 11-21-77					
15. DATE SPUDDED 3-23-78	16. DATE T.D. REACHED 6-2-78	17. DATE COMPL. (Ready to prod.) 7-8-78	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 3673' GR ; 3710' KB		19. ELEV. CASINGHEAD 3670'		
20. TOTAL DEPTH, MD & TVD 14047'	21. PLUG, BACK T.D., MD & TVD 13710'	22. IF MULTIPLE COMPL., HOW MANY* ---	23. INTERVALS DRILLED BY ---	ROTARY TOOLS 0 - 14047'	CABLE TOOLS ---		
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 13314' - 13693' Morrow					25. WAS DIRECTIONAL SURVEY MADE No		
26. TYPE ELECTRIC AND OTHER LOGS RUN Acoustic Velocity Neutron, Compensated Acoustic Velocity, Forxo-Guard, Micro-Seismogram Collar, Gamma-Ray-Neutron Collar					27. WAS WELL CORRED No		
28. CASING RECORD (Report all strings set in well) * Circulated Cement							
CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED		
13 3/8"	54.5#	473'	17 1/2"	650 sx*	---		
9 5/8"	53.5#	5192'	12 1/4"	1st st-1150 sx; DV tool set @ 3272'; 2nd - 2100sx*	---		
5 1/2"	17 & 20#	14047'	7 7/8"	675 sx	---		
29. LINER RECORD			30. TUBING RECORD				
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 7/8"	13202'	13202'
31. PERFORATION RECORD (Interval, size and number) See attached sheet for perforation record.				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
				DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED		
				13730 - 13740'	2150 gals. 10% Morrowflo acid & 1000 SCF/bbl N <sub>2</sub>		
				(plgd off w/CIBP)			
				13314 - 13693'	3150 gals 10% Morrowflo acid & 1000 SCF/bbl N <sub>2</sub>		
33. PRODUCTION							
DATE FIRST PRODUCTION 8-3-78		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing			WELL STATUS (Producing or shut-in) Producing		
DATE OF TEST 8-9-78	HOURS TESTED 24	CHOKE SIZE 28/64"	PROD'N. FOR TEST PERIOD →	OIL—BBL. 24	GAS—MCF. 1950	WATER—BBL. 1	GAS-OIL RATIO 81250
FLOW. TUBING PRESS. 775	CASING PRESSURE ---	CALCULATED 24-HOUR RATE →	OIL—BBL. 24	GAS—MCF. 1950	WATER—BBL. 1	OIL GRAVITY-API (CORR.) 51.8	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Sold						TEST WITNESSED BY Clarence Forister	
35. LIST OF ATTACHMENTS Perforation Record, C-122, Deviation Report, Logs							
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.							
SIGNED <u>Douglas W. Rice</u>		TITLE <u>Asst. Dist. Prod. Mgr.</u>			DATE <u>8-23-78</u>		

\*(See Instructions and Spaces for Additional Data on Reverse Side)

NEW MEXICO FEDERAL "A" #2  
PERFORATION RECORD

Individual Zones perforated as follows:

<u>Depth</u>	<u>Size of Holes</u>	<u>No. Holes</u>	
13314-318'	0.25"	5	
13546-550'	0.39"	5	
13593-598'	0.39"	6	
13644-649'	0.39"	6	
13688-693'	0.39"	6	
13730-740'	0.39"	11	Plugged off w/CIBP @ 13720' w/1 sk cmt on top (PBDT 13710
13823-830'	0.39"	8	Plugged off w/CIBP @ 13796'
13834-842'	0.39"	9	w/2 sx cmt on top.

## INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on Items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see Item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in Item 22, and in Item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in Item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29:** "Secks Cement". Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for Items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES		38. GEOLOGIC MARKERS	
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Lwr. Morrow	13823'	13842'	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>DST #1</b> Opened tool @ 11:47 a.m. 6-16-78 w/weak blow. Shut-in tool @ 12:17 p.m. (30" initial flow) for 92" initial shut-in period. Opened tool @ 1:49 p.m. w/slight blow immediately decreasing to nothing. Tool opened for 180". IHMP 7066 PSIG; IFFP (30") 45.2 increasing to 50.9 PSIG; ISIP (92") 166.7 PSIG; FFP (180") 59.4 decreasing to 42.4 PSIG; FSIP (948") 1512.6 PSIG; FHMP 7069 PSIG. No recovery in sample chamber. Rec 60' brine wtr in tbq.</p> <p><b>DST #2</b> Opened tool @ 9:00 a.m. 6-20-78 w/weak blow. Closed tool @ 9:35 a.m. Opened tool @ 11:07 a.m. for 2nd flow period w/very weak blow. Left tool open for 3 hrs. Closed in tool @ 2:09 p.m. IHMP 7362 PSIG; IFFP (35") 46.8 &amp; 46.8 PSIG; ISIP (92") 1988 PSIG; FFP (180") 32.8 &amp; 32.8 PSIG; FSIP (1080") 4713 PSIG; FHMP 7270 PSIG. No recovery in sample chamber. Rec. 20' of saturated brine wtr.</p> </div> <div style="width: 45%;"> <p style="text-align: center;"><b>NAME</b></p> <p>Rustler Anhy. (Base Red Beds) Yates Capitan Reef (est) Delaware Mtn. Sands Bone Springs Wolfcamp Strawn Atoka Upper Morrow Lower Morrow Barnett Shale</p> <p style="text-align: center;"><b>MEAS. DEPTH</b></p> <p>1384' 3422' 3610' 5222' 8400' 10900' 12482' 12634' 13152' 13784' 13907'</p> <p style="text-align: center;"><b>TOP</b></p> <p style="text-align: center;"><b>TRUEVERT. DEPTH</b></p> </div> </div>
Morrow	13730'	13740'	

NEW MEXICO OIL CONSERVATION COMMISSION

OPERATOR Cleary Petroleum Corporation ADDRESS Broadway Executive Park, 6501 N. Broadwa  
Oklahoma City, Okla. 73316  
 FIELD \_\_\_\_\_ LEASE New Mexico Federal "A" WELL NO. 2  
 LOCATION 1980' FEL & 660 FSL, Section 4, T-21-S, R-36-E, Lea County, New Mexico

DEVIATION RECORD

DEPTH	DEGREES	DEPTH	DEGREES
150	1/2	7,174	1
300	1/2	7,674	1-1/4
473	1	8,162	1-1/2
656	1/2	8,670	1
970	3/4	8,821	1
1,283	1	9,309	1-1/4
1,545	3/4	9,810	1-3/4
1,835	1/4	10,325	3
2,140	1/2	10,490	3-1/2
2,420	3/4	10,550	3-1/4
2,724	3/4	10,700	3-1/2
3,020	2-1/2	10,855	3
3,170	2-3/4	11,030	2
3,270	2	11,215	1-1/2
3,367	2	11,367	1-1/4
3,508	2-1/4	11,877	1
3,599	2	12,347	1-1/4
3,648	1-3/4	12,755	2
4,185	3/4	13,281	1-3/4
4,650	3/4	13,484	1
5,192	1/4	13,704	3/4
5,663	1/2	14,047	1
6,176	3/4	14,420	1
6,674	1		

Certification of personal knowledge of Deviation Record:

I hereby certify that I have personal knowledge of the data and facts placed on this form, and that such information is true and complete.

Signature

The Ard Drilling Company, Inc.  
 Company

STATE OF TEXAS  
 COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Ivan Ard, known to me to be the person whose name is subscribed hereto, who, after being duly sworn, on oath states that he is acting at the direction and on behalf of the operator of the well identified in this instrument and that such well was not intentionally deviated from the vertical.

Signature

Vice-President

Title

Sworn and Subscribed to before me, this the 18th day of August, 19 78

Notary Public in and for Midland County,  
 Texas.

(C. Stanley A. Staples)

MY COMMISSION EXPIRES:

3-31-79

## MULTI-POINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 8-3-78																																																																																			
Company Cleary Petroleum Corporation				Connection Gas Company of New Mexico																																																																																			
Pool South Salt Lake				Formation Morrow																																																																																			
Completion Date 6-29-78		Total Depth 14047'		Plug Back TD 13710																																																																																			
				Elevation 3688 G.L.																																																																																			
Form or Lease Name New Mexico Federal "A"																																																																																							
Casing Size 5 1/2"	Wt. 15.5, 17, 20	d 4.778 min.	Set At 14004'	Perforinations From 13314' To 13693'																																																																																			
Tube Size 2 7/8"	Wt. 6.5	d 2.441	Set At 13202'	Perforinations From To																																																																																			
Type Well - Single - Rodenthead - G.C. or G.O. Multiple Single				Packer Set At 13202'																																																																																			
Producing thru Tubing		Reservoir Temp. °F 230 °		Mean Annual Temp. °F 60																																																																																			
				Baro. Press. - P <sub>a</sub> 13.2																																																																																			
L 13504		H -13504	C <sub>g</sub> 0.703	% CO <sub>2</sub> 0.68	% N <sub>2</sub> 0.168																																																																																		
				% H <sub>2</sub> S None	Prover 4"																																																																																		
					Meter Run Flange																																																																																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="6">FLOW DATA</th> <th colspan="2">TUBING DATA</th> <th colspan="2">CASING DATA</th> <th rowspan="2">Direction of Flow</th> </tr> <tr> <th>NO.</th> <th>Prover Line Size</th> <th>X</th> <th>Orifice Size</th> <th>Press. p.s.i.g.</th> <th>Diff. h<sub>w</sub></th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> </tr> <tr><td>1.</td><td>4.026</td><td></td><td>1.50</td><td>740</td><td>86.5</td><td>72</td><td>1420</td><td>78</td><td>Packer</td><td></td><td>1 hour</td></tr> <tr><td>2.</td><td>4.026</td><td></td><td>1.50</td><td>738</td><td>54.8</td><td>75</td><td>1600</td><td>77</td><td>Packer</td><td></td><td>1 hour</td></tr> <tr><td>3.</td><td>4.026</td><td></td><td>1.50</td><td>739</td><td>28.1</td><td>76</td><td>1820</td><td>76</td><td>Packer</td><td></td><td>1 hour</td></tr> <tr><td>4.</td><td>4.026</td><td></td><td>1.50</td><td>738</td><td>10.2</td><td>77</td><td>2050</td><td>76</td><td>Packer</td><td></td><td>1 hour</td></tr> <tr><td>5.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>						FLOW DATA						TUBING DATA		CASING DATA		Direction of Flow	NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	1.	4.026		1.50	740	86.5	72	1420	78	Packer		1 hour	2.	4.026		1.50	738	54.8	75	1600	77	Packer		1 hour	3.	4.026		1.50	739	28.1	76	1820	76	Packer		1 hour	4.	4.026		1.50	738	10.2	77	2050	76	Packer		1 hour	5.											
FLOW DATA						TUBING DATA		CASING DATA		Direction of Flow																																																																													
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F																																																																												
1.	4.026		1.50	740	86.5	72	1420	78	Packer		1 hour																																																																												
2.	4.026		1.50	738	54.8	75	1600	77	Packer		1 hour																																																																												
3.	4.026		1.50	739	28.1	76	1820	76	Packer		1 hour																																																																												
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5.																																																																																							
RATE OF FLOW CALCULATIONS																																																																																							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super. Compens. Factor, F <sub>pv</sub>	Rate of Flow Q, Mscf																																																																																
1.	10.84	255.25	753.2	.9887	1.193	1.083	3535																																																																																
2.	10.84	202.89	751.2	.9859	1.193	1.082	2799																																																																																
3.	10.84	145.39	752.2	.9850	1.193	1.082	2004																																																																																
4.	10.84	87.53	751.2	.9840	1.193	1.082	1205																																																																																
5.																																																																																							
NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio 289 Mcf/ A.P.I. Gravity of Liquid Hydrocarbons 51.8 Specific Gravity Separator Gas 0.703 Specific Gravity Flowing Fluid Critical Pressure P.S.I.A. 668 Critical Temperature °R 395																																																																																		
1.																																																																																							
2.																																																																																							
3.																																																																																							
4.																																																																																							
5.																																																																																							
P <sub>r</sub> 2393.2      P <sub>c</sub> <sup>2</sup> 5727					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.85160$ (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.85160$																																																																																		
NO.	P <sub>r</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{4000 \times 1.85160}{5183} = 14.025$																																																																																		
1.	1444.3	2086	3641																																																																																				
2.	1623.0	2634	3093																																																																																				
3.	1867.7	3488	2239																																																																																				
4.																																																																																							
5.																																																																																							
Absolute Open Flow 5183					Angle of Slope θ 45°		Slope, n 1.00																																																																																
Approved By Commission: _____ Conducted By: Leon Arnett Calculated By: H. J. Haaler      Checked By: Leon Arnett																																																																																							

WORK SHEET FOR STEPWISE CALCULATION

(SURFACE)

Rate No. 4

(P<sub>c</sub> & P<sub>w</sub>)

Form C-122-E

MPANY Cleary Petroleum Corporation

LEASE New Mexico Federal "A"

WELL NO. 2

DATE

CATION: UNIT

SECTION

TOWNSHIP

RANGE

13504 H 13504 L/H 1.00 G 0.713 & CO<sub>2</sub> 0.68 & N<sub>2</sub> 1.68 & H<sub>2</sub>S 0.00  
 d F Q<sub>m</sub> M<sup>2</sup> cfd (L/H) (F<sub>r</sub> Q<sub>m</sub>)<sup>2</sup> P<sub>cr</sub> 668 T<sub>cr</sub> 395

NE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		13504	6752		0						
2	GH		9628	4814		0						
3	37.5GH		361063	180532		0						
4	P <sub>c</sub> or P <sub>n</sub>		3012.2	2565.4	2551.5	2092.1	2055.4	2059.6				
5	P <sub>r</sub>		4.51	3.84	3.82	3.13	3.08	3.08				
6	T		690	613	613	536	536	536				
7	T <sub>r</sub>		1.75	1.55	1.55	1.36	1.36	1.36				
8	Z		0.882	0.795	0.795	0.675	0.675	0.675				
9	P/Z P/Z		3415.19	3228.98	3211.48	3098.42	3043.20	3049.48				
0	P/TZ		9 ÷ 6	4.9496	5.2675	5.7806	5.6776	5.6893				
1	(P/TZ <sup>2</sup> /1000		(10 <sup>2</sup> /1000									
2	L/H(F <sub>r</sub> Q <sub>m</sub> ) <sup>2</sup>											
3			11 + 12									
4	I <sub>n</sub>		10 ÷ 13									
5	M=P <sub>n</sub> -P <sub>n-1</sub>											
6	N=1 <sub>n</sub> +1 <sub>n-1</sub>											
7	M x N		15 x 16									
8	Σ (M x N)		Σ 17									

Delta P = 202.038 + 4 [ 190.878 ] + 175.768 = 1141.318 = 949.1 P = 3012.2 - 949.1 = 2063.1



WORK SHEET FOR STEPWISE CALCULATION

(SURFACE)

( $P_c$  &  $P_w$ )

Form C-142-E

Rate No. 3

DATE

MPANY Cleary Petroleum Corporation

LEASE New Mexico Federal "A"

WELL NO. 2

CATION: UNIT

SECTION

TOWNSHIP

RANGE

13504 H 13504 L/H 1.00 G 0.713 % CO<sub>2</sub> 0.68 % N<sub>2</sub> 0.17 % H<sub>2</sub>S 0.00  
 $d = \frac{F}{r} \frac{Q_m}{m^2 cfd} (L/H) (F_r Q_m)^2 \frac{P}{cr} \frac{668}{T_{cr}} \frac{395}{}$

NE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		13504	6752		0						
2	GH		9628	4814		0						
3	37.5GH		361063	180532		0						
4	P <sub>c</sub> or P <sub>n</sub>		2726.2	2318.6	2307.8	1890.4	1860.8	1850.0	1866.3	1864.2		
5	P <sub>r</sub>		4.08	3.47	3.45	2.83	2.79	2.77	2.79	2.79		
6	T		690	613	613	536	536	536	536	536		
7	T <sub>r</sub>		1.75	1.55	1.55	1.36	1.36	1.36	1.36	1.36		
8	Z		0.875	0.795	0.795	0.680	0.636	0.683	0.682	0.682		
9	P/2 P/Z		3115.66	2918.33	2904.76	2780.02	2923.93	2708.69	2736.57	2733.36		
0	P/τZ		4.5154	4.7607	4.7386	5.1866	5.4551	5.0535	5.1055	5.0996		
1	(P/τZ <sup>2</sup> /1000	(10 <sup>2</sup> /1000										
2	L/H(F <sub>r</sub> Q <sub>m</sub> ) <sup>2</sup>											
3		$\frac{11}{11} + \frac{12}{12}$										
4	I <sub>n</sub>	$\frac{10}{10} \div \frac{13}{13}$	221.462	210.052	211.033	192.804	183.315	197.882	195.865	196.095		
5	M=P <sub>n</sub> -P <sub>n-1</sub>			408	418	417	447	458	441	444	443	
6	N=I <sub>n</sub> +I <sub>n-1</sub>			431.514	432.495	403.837	394.348	408.915	406.898	407.128		
7	M x N	$\frac{15}{15} \times \frac{16}{16}$			176458					180765		
8	$\sum (M \times N)$	$\frac{17}{17}$			176458					357223		

$$\Delta P = \frac{221.462 + 4 \left[ \frac{361063}{1083190} \right]}{1261.689} = 858.5 \quad P = 2726.2 - 858.5 = 1867.7$$

WORK SHEET FOR STEPWISE CALCULATION

(SURFACE)

( $P_c$  &  $P_w$ )

Form C-122-E

Rate no. 1

MPANY Cleary Petroleum Corporation

LEASE New Mexico Federal "A"

WELL NO. 2

DATE

CATION: UNIT

SECTION

TOWNSHIP

RANGE

13504 H 13504 L/H 1.00 G 0.713 % CO<sub>2</sub> 0.68 % N<sub>2</sub> 0.17 % H<sub>2</sub>S 0.00  
 $d = \frac{F}{r} \frac{Q_m}{M^2 c f d} (L/H) (F r Q_m)^2 \frac{P}{c r} \frac{T}{c r} 395$

NE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		13504	6752		0						
2	GII		9628	4814		0						
3	37.5GH		361063	180532		0						
4	P <sub>c</sub> or P <sub>n</sub>		2085.2	1774.7	1769.4	1454.0	1440.1	1431.8				
5	P <sub>r</sub>		3.12	2.66	2.65	2.18	2.16	2.14				
6	T		690	614	614	538	538	538				
7	T <sub>r</sub>		1.75	1.55	1.55	1.36	1.36	1.36				
8	Z		0.879	0.812	0.812	0.720	0.677	0.724				
9	P/Z P/Z		4 ÷ 8	2373.59	2185.57	2179.04	2018.36	2125.98	1976.58			
0	P/TZ		9 ÷ 6	3.4400	3.5596	3.5489	3.7516	3.9516	3.6739			
1	(P/TZ <sup>2</sup> /1000	(10 <sup>2</sup> /1000										
2	L/H(F <sub>r</sub> Q <sub>m</sub> ) <sup>2</sup>											
3												
4	I <sub>n</sub>											
5	M=P <sub>n</sub> -P <sub>n-1</sub>											
6	N=1 <sub>n</sub> +1 <sub>n-1</sub>											
7	M x N											
8	Σ (M x N)											

$$\Delta P = \frac{290.699 + 4[281.775] + 272.187}{3[361063]} = \frac{1083190}{180902} = 640.9 \quad P = 2085.2 - 640.9 = 1444.3$$

WORK SHEET FOR STEPWISE CALCULATION

(SURFACE)

( $P_c$  &  $P_w$ )

Form C-122-E

Rate no. 2

DATE

MPANY Cleary Petroleum Corporation LEASE New Mexico Federal "A" WELL NO. 2

CATION: UNIT SECTION TOWNSHIP RANGE

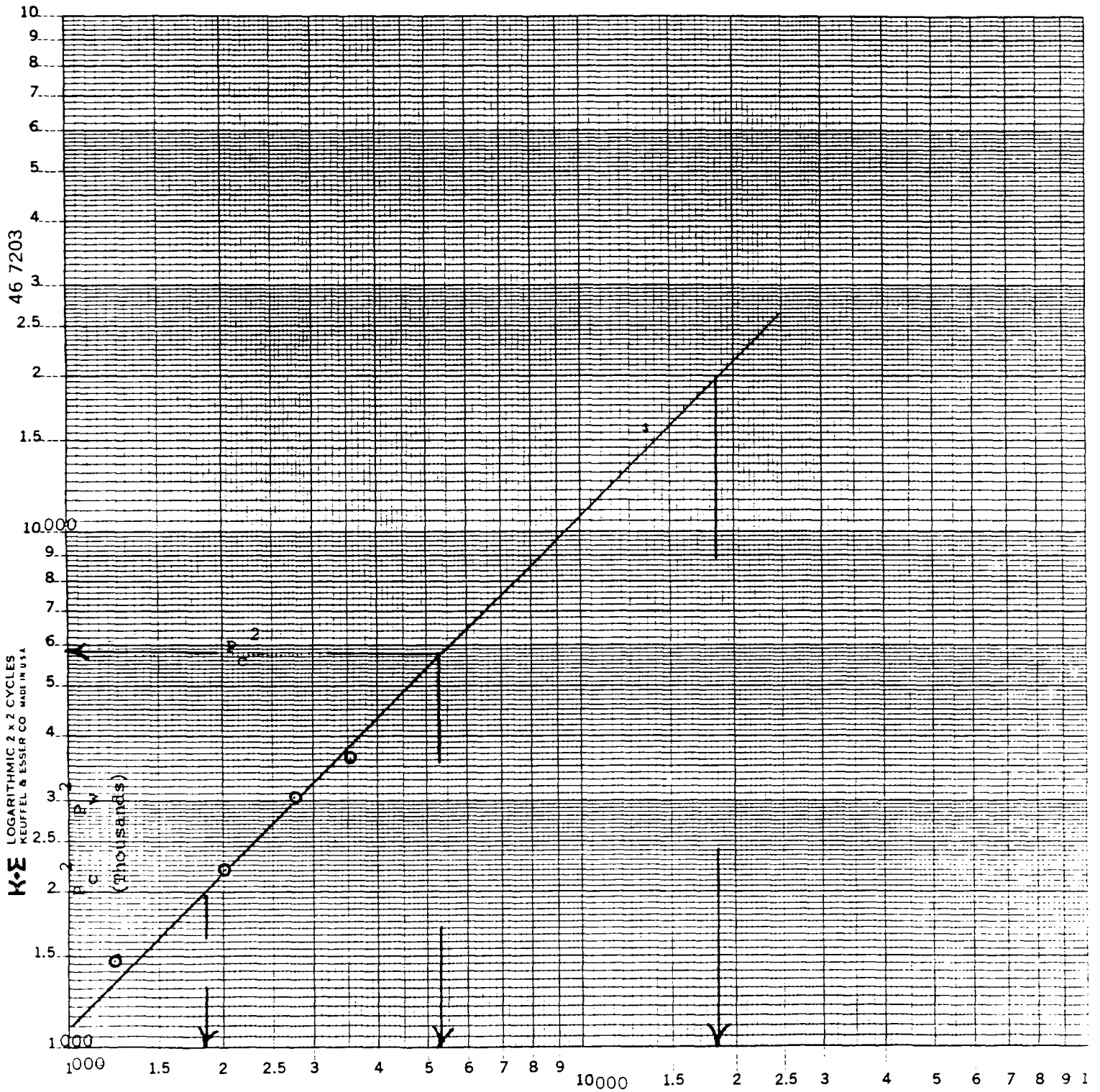
13504 H 13504 L/H 1.00 G 0.713 & CO<sub>2</sub> 0.68 & N<sub>2</sub> 0.17 & H<sub>2</sub>S 0.00

d F Q<sub>m</sub> M<sup>2</sup> cfd (L/H) ( $F Q_r$ )<sup>2</sup> P<sub>cr</sub> 668 T<sub>cr</sub> 395

NE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		13504	6752		0						
2	GH		9628	4814		0						
3	37.5GH		361063	180532		0						
4	$P_c$ or $P_n$		2359.2	2006.3	1998.6	1638.8	1618.7	1621.5				
5	$P_r$		3.53	3.00	2.99	2.45	2.42	2.43				
6	T		690	614	614	537	537	537				
7	$T_r$		1.75	1.55	1.55	1.36	1.36	1.36				
8	Z		0.875	0.801	0.801	0.700	0.702	0.701				
9	$P/Z$ $P/Z$		$4 \div 8$	2697.77	2504.72	2495.19	2341.76	2307.20	2313.72			
0	$P/TZ$		$9 \div 6$	3.9098	4.0827	4.0671	4.3608	4.2965	4.3086			
1	$(P/TZ^2/1000)$		$(10^2/1000)$									
2	$L/H(F Q_r)^2$											
3			$11 + 12$									
4	$I_n$		$10 \div 13$	255.767	244.938	245.873	229.315	232.750	232.094			
5	$M = P_n - P_{n-1}$			353	361	360	380	377	378			
6	$N = 1_n + 1_{n-1}$			500.705	501.640	475.188	478.623	477.967				
7	$M \times N$		$15 \times 16$		181092			180194				
8	$\Sigma (M \times N)$		$\Sigma 17$		181092			361286				

$$\Delta P = \frac{255.767}{3} + 4 \left[ \frac{361063}{1083190} + 232.094 \right] = 1471.353 = 736.2 \quad P = 2359.2 - 736.2 = 1623.0$$

OPERATOR: CLEARY PETROLEUM  
 LEASE: New Mexico Federal "A"  
 WELL NO.: 2  
 FIELD: South Salt Lake  
 COUNTY: Lea  
 DATE:



# SUBSURFACE WELL TESTING

P. O. BOX 5254  
MIDLAND, TEXAS 79701

"Quality Testing Oil & Gas Wells"

PHONE  
915/682-7580

## BOTTOM HOLE PRESSURE REPORT

Operator Cleary Petroleum Corporation Lease New Mexico Federal "A" Well No. 2  
Field South Salt Lake Reservoir Morrow Datum \_\_\_\_\_  
Test Date August 3, 1978 Well Status Shut In Hours Shut In 72:00  
Tubing 2 7/8" Depth 13202' End Open Packer 13202 S. N. 1.94 L.D.  
Casing 5 1/2" Depth 14047' Perf. 13314-693' Total Depth P.B. 13710'

	Depth	Press. Lbs/Sq. In.	Press.	Gradient Lbs/Ft.
Tubing Press. <u>2380#</u>	Surface	2380		
Casing Press. ....	13504	3450	1070	.079
Top of Fluid. <u>None</u>	0	0		
Top of Water. <u>None</u>	13504	3450	Ctr. of Perfs.	.079
Temp. @ <u>13504'</u> °F. <u>188°</u>				
Elev. KB. <u>3710'</u> GI. <u>3688'</u>				
Last Test Date. <u>7-26-78</u>				
Press. Last Test. <u>3571#</u>				
Change. <u>121#</u> Per Day. ....				
Inst. No. <u>16527-N</u> Cal. <u>M78-1</u>				
Tested By. <u>Leon Arnett</u>				
Calcu. By. <u>L. Arnett</u>				
Prod. Index. .... Bbls/day/lb. ....				
Drop. ....				
Cumulative prod. ....				

Remarks:



DISTRIBUTION	
SA	TA FE
FI	
G.S.	
NO OFFICE	
TRANSPORTER	OIL
	GAS
OPERATOR	
PRORATION OFFICE	

**NEW MEXICO OIL CONSERVATION COMMISSION**  
**REQUEST FOR ALLOWABLE**  
**AND**  
**AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS**

Form C-104  
 Supersedes Old C-104 and C-110  
 Effective 1-1-65

**I. OPERATOR**

Operator Cleary Petroleum Corporation

Address P. O. Drawer 2358, Midland, Tx. 79702

Reason(s) for filing (Check proper box)

New Well ☒ Change in Transporter of: Oil ☐ Dry Gas ☐

Recompletion ☐ Casinghead Gas ☐ Condensate ☐

Change in Ownership ☐

Other (Please explain) \_\_\_\_\_

If change of ownership give name and address of previous owner \_\_\_\_\_

**II. DESCRIPTION OF WELL AND LEASE**

Lease Name <u>New Mexico Federal "A" 1/4</u>	Well No. <u>2</u>	Pool Name, including Formation <u>So. Salt Lake Morrow Gas</u>	Kind of Lease State, Federal or Fee <u>Federal</u>	Lease No. <u>NM-14791</u>
Location				
Unit Letter <u>G</u>	<u>1980</u>	Feet From The <u>North</u> Line and <u>1980</u>	Feet From The <u>East</u>	
Line of Section <u>4</u>	Township <u>21-S</u>	Range <u>32-E</u>	NMPM, <u>Lea</u>	County

**III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS**

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
<u>Permian Corporation</u>	<u>P. O. Box 1183, Houston, Texas 77001</u>
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
<u>Gas Company of New Mexico</u>	<u>First International Bldg., Dallas, Tx. 75270</u>
If well produces oil or liquids, give location of tanks.	Is this actually connected? When
<u>G 4 21-S 32-E</u>	<u>Yes 8-3-78</u>

If this production is commingled with that from any other lease or pool, give commingling order number: \_\_\_\_\_

**IV. COMPLETION DATA**

Designate Type of Completion - (X)	Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> New Well <input checked="" type="checkbox"/> Workover <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Same Resv. <input type="checkbox"/> Diff. Resv. <input type="checkbox"/>
Date Spudded <u>3-23-78</u>	Date Compl. Ready to Prod. <u>7-8-78</u>
Total Depth <u>14047'</u>	P.B.T.D. <u>13710'</u>
Elevations (DF, RKB, RT, CR, etc.) <u>3673' GR</u>	Name of Producing Formation <u>Morrow</u>
Top Oil Gas Day <u>13314'</u>	Tubing Depth <u>13202'</u>
Perforations <u>13688-693' (6 holes), 13644-649' (6 holes), 13593-598' (6 holes), 13546-550' (5 holes), 13314-318' (5 holes)</u>	Depth Casing Shoe <u>14047'</u>
<b>TUBING, CASING, AND CEMENTING RECORD</b>	
HOLE SIZE	CASING & TUBING SIZE
<u>17 1/2"</u>	<u>13 3/8"</u>
<u>12 1/2"</u>	<u>9 5/8"</u>
<u>7 7/8"</u>	<u>5 1/2"</u>
	<u>2 7/8"</u>
DEPTH SET	SACKS CEMENT
<u>473'</u>	<u>650 sx*</u>
<u>5192' (DV tool @ 3272')</u>	<u>1st st-1150; 2nd-2100sx*</u>
<u>14047'</u>	<u>675 sx</u>
<u>13202'</u>	<u>---</u>

**V. TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL**

(Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)

Date First New Oil Run To Tanks	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil-Bbls.	Water-Bbls.	Gas-MCF

**GAS WELL** Calculate AOF 8-3-78 5183 MCF (will attach to completion report)

Actual Prod. Test-MCF/D <u>1950</u>	Length of Test <u>24 hrs.</u>	Bbls. Condensate/MMCF <u>12.3</u>	Gravity of Condensate <u>51.8</u>
Testing Method (pilot, back pr.) <u>Orifice Meter</u>	Tubing Pressure (Shut-in) <u>775</u>	Casing Pressure (Shut-in) <u>---</u>	Choke Size <u>28/64"</u>

**VI. CERTIFICATE OF COMPLIANCE**

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Douglas W. Rice Douglas W. Rice  
 (Signature)

Assistant District Production Manager

(Title)

8-18-78

(Date)

**OIL CONSERVATION COMMISSION**

**AUG 24 1978**

APPROVED

BY Nathan E. Keger, 19

TITLE OIL & GAS UNIT

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

NEW MEXICO OIL CONSERVATION COMMISSION

OPERATOR Cleary Petroleum Corporation ADDRESS Broadway Executive Park, 6501 N. Broadway  
Oklahoma City, Okla. 73116  
 FIELD \_\_\_\_\_ LEASE New Mexico Federal "A" WELL NO. 2  
 LOCATION 1980' FEL & 660 FSL, Section 4, T-21-S, R-36-E, Lea County, New Mexico

DEVIATION RECORD

DEPTH	DEGREES	DEPTH	DEGREES
150	1/2	7,174	1
300	1/2	7,674	1-1/4
473	1	8,162	1-1/2
656	1/2	8,670	1
970	3/4	8,821	1
1,283	1	9,309	1-1/4
1,545	3/4	9,810	1-3/4
1,835	1/4	10,325	3
2,140	1/2	10,490	3-1/2
2,420	3/4	10,550	3-1/4
2,724	3/4	10,700	3-1/2
3,020	2-1/2	10,855	3
3,170	2-3/4	11,030	2
3,270	2	11,215	1-1/2
3,367	2	11,367	1-1/4
3,508	2-1/4	11,877	1
3,599	2	12,347	1-1/4
3,648	1-3/4	12,755	2
4,185	3/4	13,281	1-3/4
4,650	3/4	13,484	1
5,192	1/4	13,704	3/4
5,663	1/2	14,047	1
6,176	3/4	14,420	1
6,674	1		

Certification of personal knowledge of Deviation Record:

I hereby certify that I have personal knowledge of the data and facts placed on this form, and that such information is true and complete.

Ivan Ard  
Signature

The Ard Drilling Company, Inc.  
Company

STATE OF TEXAS  
COUNTY OF MIDLAND

Before me, the undersigned authority, on this day personally appeared Ivan Ard, known to me to be the person whose name is subscribed hereto, who, after being duly sworn, on oath states that he is acting at the direction and on behalf of the operator of the well identified in this instrument and that such well was not intentionally deviated from the vertical.

Ivan Ard  
Signature

Vice-President

Title

Sworn and Subscribed to before me, this the 18th day of August, 19 78

Stanley N. Staples  
Notary Public in and for Midland County,  
Texas.

(Stanley N. Staples)

MY COMMISSION EXPIRES:

3-31-79



OIL CONSERVATION COMMISSION

BOX 2045

HOBBS, NEW MEXICO

NOTICE OF GAS CONNECTION

DATE 8/3/78

This is to notify the Oil Conservation Commission that connection for the  
purchase of gas from the Grace Petroleum Corp., New Mexico A Federal,  
Operator Lease  
Lea Salt Lake  
#2, G, 4-21S-32E, South Morrow,  
Well # Unit Letter S.T.R. Pool  
Gas Company of New Mexico, was made on 8/3/78.  
Name of Purchaser Date

GAS COMPANY OF NEW MEXICO  
PURCHASER

James P. Loefer  
REPRESENTATIVE

Transmission Manager  
TITLE

cc: Oil Conservation Commission - Santa Fe File

E. R. Corliss - Dallas

W. B. Richardson - Dallas

R. J. McCrary - Dallas

E. H. Redden - Carlsbad

Operator(s): Grace Petroleum Corporation  
300 Prentice Building  
North Broadway Plaza  
Oklahoma City, Oklahoma 73116

Grace Petroleum Corporation  
P. O. Drawer 2358  
Midland, Texas 79702

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPPLICATE\*  
(Other instructions on re-  
verse side)

Budget Bureau No. 42-R1424

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. NM-14791	
2. NAME OF OPERATOR Cleary Petroleum Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME ---	
3. ADDRESS OF OPERATOR P. O. Drawer 2358, Midland, Texas 79702		7. UNIT AGREEMENT NAME ---	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL & 1980' FEL		8. FARM OR LEASE NAME New Mexico Federal "A"	
14. PERMIT NO. Letter dated 11-21-77		9. WELL NO. 2	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 3673' GR		10. FIELD AND POOL, OR WILDCAT So. Salt Lake Morrow Gas	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 4, T-21-S, R-32-E	
		12. COUNTY OR PARISH Lea	
		13. STATE N. M.	

16.

## Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON\* ☐CHANGE PLANS ☐

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) Completion ☒REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT\* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

6-14-78 WIH w/2 7/8" tbg &amp; bit to 13891'. Tested BOP &amp; csg to 2000 PSIG ok.

6-15-78 Tested BOP Blind Rams to 2000 PSIG ok. RIH &amp; perf'd Lwr Morrow Sand interval from 13834 to 13842' w/1 SPF using 4" csg gun (9 holes) &amp; from 13823 to 13830' w/1 SPF using 4" csg gun (8 holes).

6-16-78 WIH w/DST tools. Set pkr @ 13757' w/tail pipe @ 13778'. Opened tool @ 11:47 a.m. w/weak blow. Had 1½ ozs pressure decreasing to -0- pressure in 25". Shut-in tool @ 12:17 p.m. (30" initial flow) for 92" initial shut-in period. Annulus remained full. Opened tool @ 1:49 p.m. w/ slight blow immediately decreasing to nothing. Tool opened for 180". DST No. 1 Lower Morrow Sand Perfs ( 13823' to 13842'):  
IHMP 7066 PSIG; IFP (30") 45.2 increasing to 50.9 PSIG; ISIP (92") 166.7 PSIG; FFP (180") 59.4 decreasing to 42.4 PSIG; FSIP (948") 1512.6 PSIG; FHMP 7069 PSIG  
No recovery in Sample Chamber. Rec 60' brine wtr in tbg. Analysis indicated it to be saturated brine wtr w/2% KCL.

6-19-78 Set WL CIBP @ 13796' capped w/2 sx of cmt. Tested csg to 3200 PSIG for  
(con't on additional page)

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE District Production Mgr.

DATE 7-19-78

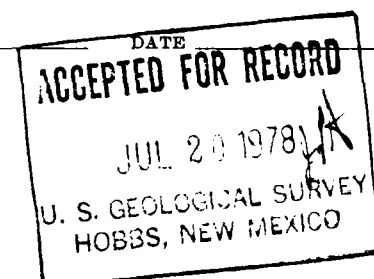
(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

\*See Instructions on Reverse Side



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE\*  
(Other instructions on re-  
verse side)Form approved.  
Budget Bureau No. 42-R1424.

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NM-14791	
2. NAME OF OPERATOR Cleary Petroleum Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME ---	
3. ADDRESS OF OPERATOR P. O. Drawer 2358, Midland, Texas 79702		7. UNIT AGREEMENT NAME ---	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL & 1980' FEL		8. FARM OR LEASE NAME New Mexico <del>Section</del> "A" F	
14. PERMIT NO. Letter dated 11-21-77		9. WELL NO. 2	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 3673' GR		10. FIELD AND POOL, OR WILDCAT So. Salt Lake Morrow Gas	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 4, T-21-S, R-32-E	
		12. COUNTY OR PARISH Lea	
		13. STATE N. M.	

## 18. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON\* ☐CHANGE PLANS ☐

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) Production String ☒REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT\* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

## 17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

6-2-78 Drld 7 7/8" hole to 14,047' TD.

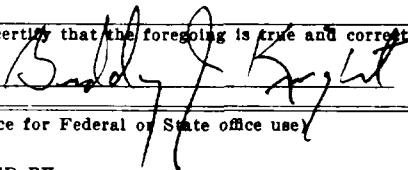
6-3-78 Ran GR-Acoustic Velocity Neutron Log from 14,044' to 5200'. Ran Forxo-Guard Log from 14,050' to 12,000'.

6-4-78 Ran 343 jts (14,054') 5½", 17# & 20#, S95, N80, & S0095, LTC & BTC, R-3 csg w/Shoe set @ 14,047', FC @ 13,963' & Centralizers installed on the 1st, 3rd, 5th, 7th, 9th, 17th, 18th, & 19th jts. Cmt'd down 5½" csg w/ 150 sx Howco Lite containing 0.6% Halad-22, 5 lbs/sk Gilsonite, & ¼ lb/sk Flocele followed by 525 sx Class "H" containing 0.8% Halad-22, 0.4% CFR-2, 3 lbs/sk KCL & ¼ lb/sk Flocele. Displaced plug w/315 bbls 2% KCL wtr. Plug down @ 2:15 AM 6-5-78. Plug bumped @ 3200 PSIG. Had complete returns throughout cmt job.

6-9-78 Ran GR-N-CCL Log from 13,928' to 11,000'; Ran GR-Micro-Seismogram Log from 13,922' to 10,300'.

18. I hereby certify that the foregoing is true and correct.

SIGNED



TITLE District Production Mgr.

DATE 6-15-78

(This space for Federal or State office use)

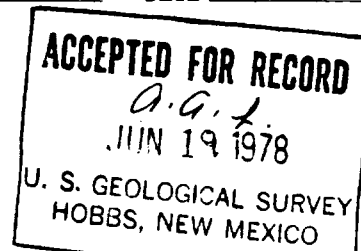
APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

\*See Instructions on Reverse Side



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE\*  
(Other instructions on reverse side)Form approved.  
Budget Bureau No. 42-R1424.  
LEASE DESIGNATION AND SERIAL NO.

NM-14791

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER	7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR Cleary Petroleum Corporation	8. FARM OR LEASE NAME New Mexico Federal "A"
3. ADDRESS OF OPERATOR P. O. Drawer 2358, Midland, Texas 79702	9. WELL NO. Z
4. LOCATION OF WELL (Report location clearly and in accordance with the State requirements. See also space 17 below.) At surface 1980' FNL & 1980' FEL	10. FIELD AND POOL, OR WILDCAT So. Salt Lake Morrow Gas
14. PERMIT NO. Letter dated 11-21-77	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 4, T-21-S, R-32-E
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 3673' GR	12. COUNTY OR PARISH Lea
	13. STATE N. M.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETION <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Spud date, Surf Csg & Int Csg <input checked="" type="checkbox"/>	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) \*

3-23-78 Spudded 17½" hole @ 11:59 PM w/Ard Drlg Co.

3-24-78 Drld 17½" hole to 473'. Circ hole clean & POH. RU Csg tools & ran 12 jts (492') 13 3/8", 54.5#, K55, STC csg. Set @ 473'. RU Howco. Cmt'd down 13 3/8" csg w/350 sx Class "C" containing 4% Gel, 2% CA CL<sub>2</sub>, & ¼ lb/sk Flocele followed by 300 sx Class "C" containing 2% CA CL<sub>2</sub> & ¼ lb/sk Flocele. Plug down @ 5:15 PM. Cmt circ'd (200 sx). WOC 27 hrs.

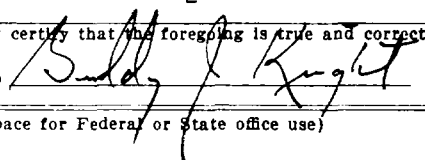
3-25-78 NU Wellhead & BPO Stack. Tested Blind Rams & csg to 1000 PSIG. RIH w/Bit & DC's. Tested Pipe Rams to 1000 PSIG. Tested Hydril to 500 PSIG. Held OK.

4-8-78 Drld 12¼" hole to 5192'. POH to log. Ran GR-Acoustilog over salt section as req'd by USGS.

4-9-78 Ran 124 jts (5198') 9 5/8", 53.5#, N80, LTC csg w/shoe set @ 5192', FC @ 5115' & DV tool @ 3272'. RU Howco. Circ'd to clear csg. Cmt'd 1st stage w/850 sx Howcolite-Wate containing 5 lbs/sk Gilsonite & ¼ lb/sk Flocele mixed @ 11.9 PPG followed by 300 sx Class "C" containing ¼ lb/sk Flocele & 2% CACL<sub>2</sub> mixed @ 14.1 PPG. Plug down @ 9:40 AM. Opened DV Tool. Circ'd (cont on additional pg)

18. I hereby certify that the foregoing is true and correct

SIGNED



TITLE District Production Mgr.

DATE 4-11-78

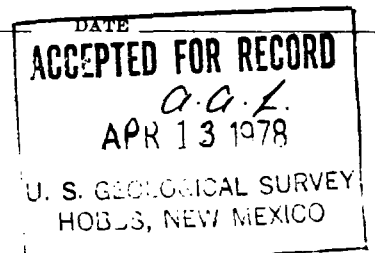
(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

\*See Instructions on Reverse Side



SUNDRY NOTICE  
USGS Form 9-331  
New Mexico Federal "A" #2  
4-11-78

\* 4-9-78  
(cont)

200 sx cmt from 1st stage. Circ'd 4 hrs. Cmt'd 2nd stage w/2000 sx Howcolite-Wate containing  $\frac{1}{4}$  lb/sk Flocele & 15% salt mixed @ 12.9 PPG followed by 100 sx Class "C" containing  $\frac{1}{4}$  lb/sk Flocele & 2%  $\text{CaCl}_2$  mixed @ 14.6 PPG. Plug down @ 3:15 PM. Circ'd 200 sx cmt. Raised BOP and set slips. WOC 18 hrs. Note: 1st Stage cmt job witnessed by USGS Representative.

4-10-78 NU & tested Blind Rams to 1500 PSIG. Drld DV Tool @ 3272'. RIH to top of cmt @ 5111'. Tested Pipe Rams, Annular Preventer, & 9 5/8" csg to 1500 PSIG. Held OK.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL ☐GAS ☒

OTHER

SINGLE ☒MULTIPLE ☐

## 2. NAME OF OPERATOR

Cleary Petroleum Corporation

## 3. ADDRESS OF OPERATOR

P. O. Drawer 2358, Midland, Texas 79702

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

1980' FNL &amp; 1980' FEL

At proposed prod. zone

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

5 miles SE of Halfway, New Mexico

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drilg. unit line, if any) 1980' to lease line

## 16. NO. OF ACRES IN LEASE

2282.84

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

## 18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

1800'

## 19. PROPOSED DEPTH

14,250

## 20. ROTARY OR CABLE TOOLS

Rotary

## 21. ELEVATIONS (Show whether DF, RT, CR, etc.)

3673' GR

## 22. APPROX. DATE WORK WILL START\*

12-1-77

23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	470'	650 (circulate)
12 1/4"	9 5/8"	43.5 & 40#	5200'	3250 (circulate - 2 stages)
7 7/8"	5 1/2"	17 & 20#	14250'	675

See attached sheet for casing and cementing programs. The well will be drilled to a depth of 14,250' to test the Morrow Sands. Dual 1500 series ram type blowout preventers and one Hydril will be used.

Commenced, this drilling  
Expires FEB 21 1978

RECEIVED

OCT 19 1977

CONDITIONS OF APPROVAL

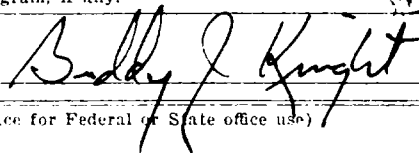
U. S. GEOLOGICAL SURVEY  
HOBBS, NEW MEXICO

10-2-1977

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED



TITLE

District Production Mgr.

DATE

10-19-77

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-4-65

All distances must be from the outer boundaries of the Section.

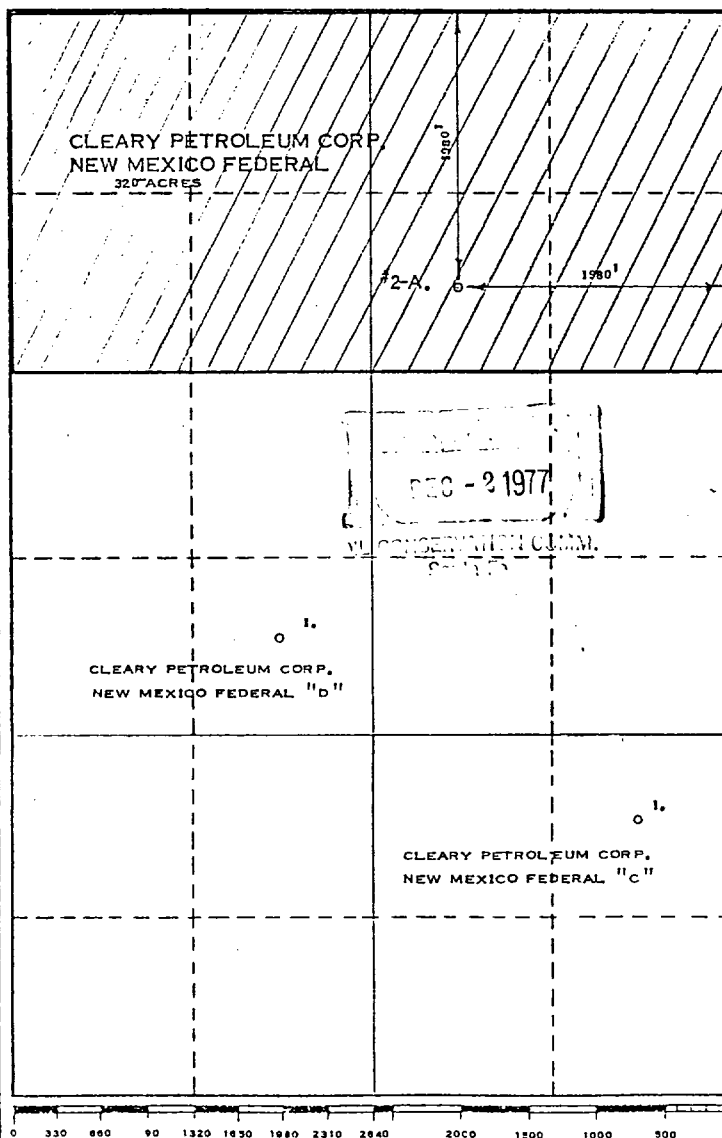
Operator <b>CLEARY PETROLEUM CORP.</b>		Lease <b>NEW MEXICO FEDERAL "A"</b>		Well No. <b>24</b>
Unit Letter <b>"G"</b>	Section <b>4</b>	Township <b>21-S</b>	Range <b>32-E</b>	County <b>LEA</b>
Actual Footage Location of Well:				
1980 feet from the <b>NORTH</b> line and		1980 feet from the <b>EAST</b> line		
Ground Level Elev. <b>3673</b>	Producing Formation <b>MORROW SAND</b>	Pool <b>SO. SACT LAKE PARAWAS</b>	Dedicated Acreage: <b>320</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name **Buddy J. Knight**  
Position **District Production Manager**  
Company **Cleary Petroleum Corporation**  
Date **October 19, 1977**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed **OCTOBER 17, 1977**  
Registered Professional Engineer and/or Land Surveyor **1510**  
**MAX A. SCHUMANN JR.**  
Certificate No. **1510**

3000 lb. WP BOP

RIG #1

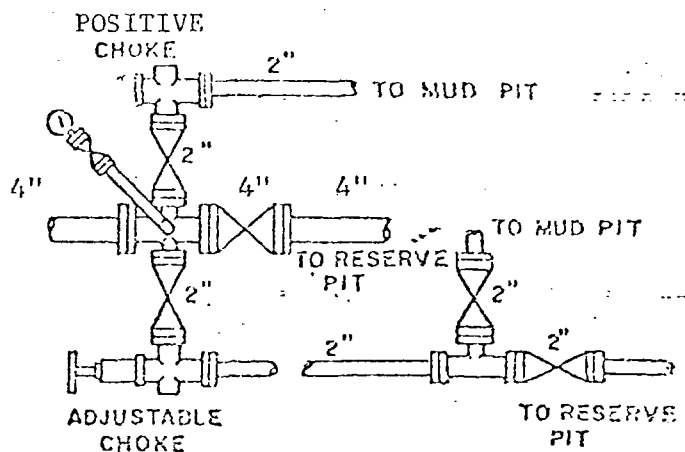
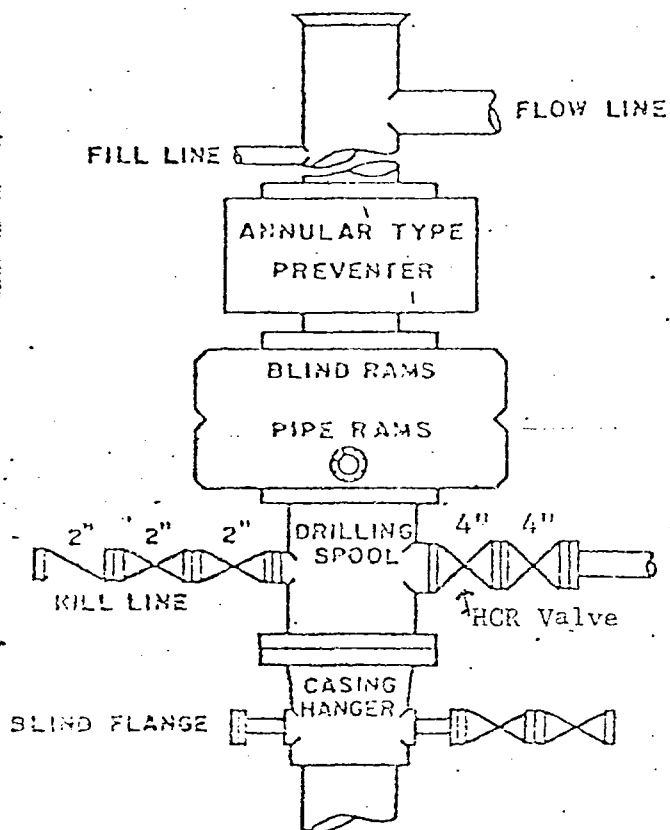
12" Shaffer Type B Hydraulic BOP 3000 PSI

12" CK Hydril 3000 WP

160 Gallon - 7 Station Kookey Accumulator with Remote Control

5000 lb. WP Choke Manifold

10" Type U Cameron 5000 WP, Double BOP





(P) Petroleum Information.

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COUNTY LEA FIELD Salt Lake, S. STATE NM  
 CORP. CLEARY PETROLEUM CORP. API 30-025-25751  
 SEC 2 T14S New Mexico "A" Federal MAP  
 Sec 4, T21S, R32E COORD  
 1980' FNL, 1980' FEL of Sec 9-3-25 NM  
 4 mi SE/Halfway Bar SPD 3-23-78 CMP 8-9-78

13 3/8" at 473' w/650 sx 9 5/8" at 5192' w/3250 sx 5 1/2" at 14,047' w/525 sx	WELL CLASS: INIT D FIN DG ELEV			
	FORMATION	DATUM	FORMATION	DATUM
TD 14,047' (BRNT)		PBD 13,710'		

IP (Morrow) Perfs 13,314-693' F 1950 MCFGPD. Pot based on 24 hr test thru 28/64" chk. GOR 81,250; gty (NR); CP Pkr; TP 775#

CONTR Ard OPRSELEV 3562' GL PD 14,250' RT

F.R. 12-5-77  
 (Morrow)  
 12-19-77 AMEND API NUMBER: Formerly reported as 30-025-25752  
 3-27-78 Drlg 1770'  
 4-4-78 Drlg 4420' 1m  
 4-12-78 Drlg 6021' 1m & sh  
 4-18-78 Drlg 8821' 1m & sh  
 4-24-78 TD 10,490'; Stuck DP  
 5-2-78 Drlg 11,666' 1m & sh  
 5-9-78 Drlg 12,560' sh, 1m & cht  
 5-16-78 Drlg 13,281'  
 5-23-78 Drlg 13,502' sh & 1m  
 5-31-78 Drlg 13,939' sh  
 6-6-78 TD 14,047'; WOC  
 6-13-78 TD 14,047'; RUCU

9-3-25 NM

LEA  
CLEARY PETROLEUM

Salt Lake, S.  
2 New Mexico "A" Federal  
Sec 4, T21S, R32E

NM  
Page #2

6-20-78 TD 14,047'; Prep DST  
DST (Morrow Sand) 13,730-740', op 3 hrs, 35 mins,  
rec 20' brine wtr, 1 hr 32 min ISIP 1988#, FP  
47-33#, 18 hr FSIP 4713#

6-26-78 TD 14,047'; PBD 13,796'; Swbg  
DST (Lower Morrow) 13,823-842', op 3 hrs, 30 mins,  
rec 60' SW, 1 hr 32 min ISIP 167#, FP 45-59#,  
15 hr, 48 min FSIP 1513#  
Perf (Lower Morrow) 13,823-830', 13,834-842'  
w/l SPF;  
Set CIBP @ 13,796' (w/2 sx cmt on top)  
Perf (Morrow Sand) 13,730-740' w/l SPF  
Acid (13,730-740') 2150 gals;

7-5-78 TD 14,047'; PBD 13,710'; Tstg  
PB to 13,710'  
Perf (Morrow Sand) 13,546-693'

Flwd @ 700 MCFGPD, 20/64" chk, TP 500# in 24  
hrs (13,546-693')

7-11-78 TD 14,047'; PBD 13,710'; SI/WOPL  
Perf (Morrow Sand) 13,314-318' w/l SPF  
Acid (13,314-693') 3150 gals

9-11-78 TD 14,047'; PBD 13,710'; Complete  
LOG TOPS: Rustler 1384', Yates 3422', Capitan Reef  
3610', Delaware 5222', Bone Spring 8400', Wolfcamp  
10,900', Strawn 12,482', Atoka 12,634', Morrow  
13,152', Barnett Shale 13,907'  
LOGS RUN: ACSL, NEUT, VEL, FRXL, GRDL, MICL, GRL, CCL

9-16-78 COMPLETION ISSUED

9-3-25 NM  
IC 30-025-70347-77