

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE\*  
(Other instructions on  
reverse side)

FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☐

OTHER injection

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Northland Operating Company

3. ADDRESS AND TELEPHONE NO.

3500 Oak Lawn, Suite 380, Lock Box 31, Dallas, Tx 75219-4398

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

330' FEL - 200' FSL  
At proposed prod. zone

Horizontal well from 330' FEL - 200' FSL drilling northward to 2630' FSL - 330' FEL

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

40 miles southeast of Roswell, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any) 200'

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

350'

16. NO. OF ACRES IN LEASE

360.0

19. PROPOSED DEPTH

3100'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

80.0

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

4414' GR

22. APPROX. DATE WORK WILL START\*

August 9, 1998

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	380'	200 Sx Class C CIRCULATE
7 7/8"	5 1/2"	14#	+3000'	250 Sx Hall light & 200 Sx Class C

Northland Operating Company proposes to drill an injection pilot well to 3100 feet, then sidetrack a 3100' TVD and drill horizontal 2430' lateral. Northland will use fresh water from surface to approximately 350', then will mud up and condition hole with mud as necessary for catching samples, until TD.

BOP Program: BOP will be installed on the 8 5/8" casing and tested daily. Working pressure for the BOP is approximately 3000#.

OPER. OGRID NO. 149936  
PROPERTY NO. 20414  
POOL CODE 8551  
EFF. DATE 8-24-98  
API NO. 30-005-21156

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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

*[Signature]*

TITLE consultant

DATE 7-22-98

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
CONDITIONS OF APPROVAL, IF ANY:

(ORIG. SGD.) ARMANDO A. LOPEZ

Acting

Assistant Field Office Manager,  
Lands and Minerals

APPROVED BY

TITLE

DATE

August 9, 1998

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the

RECEIVED  
JUL 28 '98  
BLM  
ROSWELL, NM



16			
	Section 15, T-14S, R31E, NMPM		
		<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 150px;"> NM-060811   NM-060811   injection well </div>	

**17 OPERATOR CERTIFICATION**

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

Sam L. Shackelford

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Title consultant

Date 7-22-98

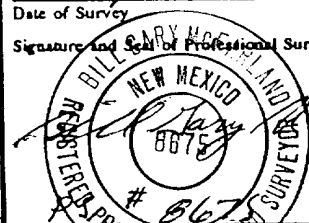
**18 SURVEYOR CERTIFICATION**

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 belief.

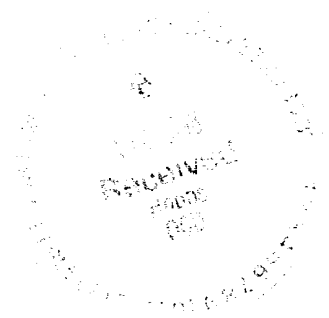
7/2/98

Date of Survey \_\_\_\_\_

Signature and Seal of Professional Surveyor: \_\_\_\_\_



Certificate Number \_\_\_\_\_

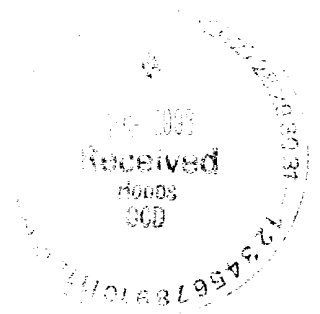


PERTINENT INFORMATION

For

NORTHLAND OPERATING COMPANY  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E, NMPM  
Chaves County, New Mexico  
LC-060811

<u>LOCATED:</u>	39 air miles Southeast of Roswell, N.M.
<u>LEASE NUMBER:</u>	LC-060811
<u>LEASE ISSUED:</u>	September 1, 1944
<u>RECORD LESSEE:</u>	Matador Petroleum Corp.
<u>BOND COVERAGE:</u>	BLM Bond #NM2423 State of New Mexico #579286
<u>AUTHORITY TO OPERATE:</u>	Designation of Operator
<u>ACRES IN LEASE:</u>	360.0 acres
<u>SURFACE OWNERSHIP:</u>	Fee
<u>OWNER:</u>	G. P. Sims
<u>POOL RULES:</u>	General Statewide Rules
<u>EXHIBITS:</u>	A. Road Map B. Contour Map C. Rig Layout D. BOP Diagram E. Lease and Well Map F. Location Topography



### SUPPLEMENTAL DRILLING DATA

NORTHLAND OPERATING COMPANY  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E, NMPM  
Chaves County, New Mexico  
LC-060811

The following items supplement Form 9-331C in accordance with instruction contained in NTL-6.

1. SURFACE FORMATION: Quaternary
2. ESTIMATED TOPS OF GEOLOGICAL MARKERS:

Anhy.	-	1210'
Top/Salt	-	1300'
Bottom/Salt	-	1940'
Yates	-	2050'
7 Rivers	-	2160'
Queen	-	2793'
3. ESTIMATED DEPTHS TO WATER, OIL OR GAS FORMATION:

Fresh Water	-	In surface formation above 300'
Oil	-	In the Queen formation below 2793'
4. PROPOSED CASING PROGRAM: See Form 9-331C
5. PRESSURE CONTROL EQUIPMENT: Blowout preventer will consist of at least a double-ram blowout preventer rated to 3000#WP. The BOP will be tested to 1100 PSI through the rig pumps. We feel that this is a sufficient test, because the target producing formation is historically a low pressure reservoir and will not exceed 1000 PSI.
6. CIRCULATING MEDIUM:

Fresh water	spud mud from the surface to 350'.
From 350' to TD	mud-up sufficient for samples.
7. AUXILIARY EQUIPMENT: Full-opening drill string safety valve fit for the drill string in use, will be kept on the rig floor at all times.
8. TESTING, LOGGING AND CORING PROGRAM:

Samples:	Catch samples from surface to TD.
DST'S:	One DST of determined pay zone
Logging:	Dual Lateral/Micro-SFL w/Gamma Ray & Caliper TD to surface. Compensated Neutron/Formation Density w/Gamma Ray- TD to surface
Coring:	Core of determined pay zone





9. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE:  
None anticipated.
10. ANTICIPATED STARTING DATE: August 9, 1998  
Drilling should be completed within 30 days.  
Completion operations (perforations and stimulation)  
will follow drilling operations.

## MULTI-POINT SURFACE USE AND OPERATIONS PLAN

NORTHLAND OPERATING COMPANY  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E, NMPM  
Chaves County, New Mexico  
LC-060811

This plan is submitted with the application for permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operation.

### 1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a road map showing the location of the proposed well as staked. The well is approximately 39 air miles southeast of Roswell, N.M.
- B. Directions: Heading east out of Roswell, New Mexico on U.S. 380 for approximately 40 miles and turn south on state road 172 at the top of the Caprock. Go approximately 22 miles then turn west at wire gate, which is 4/10 miles past Zimmersman Ranch entrance. Use attached detailed topo map to location.

### 2. PLANNED ACCESS ROAD:

- A. Length and Width: Approximately 1200 feet of new access. 14' wide with a 30' disturbance.
- B. Surfacing Materials: Sand, gravel and caliche where needed, if the Well is determined to be a producer and operations will continue after drilling.
- C. Turnouts: None
- D. Maximum Grade: No more than 3%.
- E. Drainage Design: Road will have drainage ditches on both sides and a crowned top, with culverts and/or low water crossings as necessary, if the Well is determined to be a producer and operations will

continue after drilling.

F. Culverts: None.

G. Cut and Fill: Less than 1 foot.

H. Gates, Cattleguards: A temporary gate will be installed at the fence crossing in the NW/4NW/4 of Section 23, T-14S, R-31E and SE/4SE/4 of Section 15, T-14S, R-31E. If the Well is determined to be a producer and operations will continue after drilling, then a more permanent gate will be install at the same location.

I. Top Soil: Any top soil that can sustain plant life will be stockpiled at location reflected on rig plat.

3. LOCATION OF EXISTING WELLS:

A. A map indicating the location of adjacent wells is attached.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. See Exhibit "A" for location of existing lease wells.

B. Cuts and Fills: Less than 1' of cut and fill will be required for the pad size of 125' x 175'. (See Exhibit "F")

C. Top Soil: Any top soil which can sustain plant vegetation will be bladed and piled for future rehabilitation at the northeast side of location.

D. Off Lease Right of Way Application: None

5. LOCATION AND TYPE OF WATER SUPPLY:

A. Water will come from the Drickey Queen Fresh Water Well located at SE/SE/4 of Section 14, T-14S, R-31E, NMPM.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Pit located in the SE/4NW/4 of Sec. 10-14S-31E, NMPM. The route of delivery would be to on the established roads as reflected on Exhibit "B".

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the drilling pits.
- B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
- C. Water produced during test will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.
- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- E. Trash, waste paper, garbage, and junk will be hauled from the location and disposed of in a approved landfill.
- F. All trash and debris will removed from the well site within 30 days after finishing drilling and/or completion operations.
- G. The following is a list of Hazardous Materials that may be used during operations - Gasoline, New & Used Oil, Desiel, Hydrochloric acid, A-2(corrosion inhibitor), liquid citric(iron sequestrant), NE-17(non-emulsifier), CL-33(clay stabilizer), CL-55C (liquid KCL), Breaker E (water gel breaker), Class C Cement, Flocele, Calcium Chloride, Gilsonite(Gel), Bentonite(Gel), Poz Mix "A", Salt, Halad-322. All of the above materials will be contained in a manner that is considered by the BLM as environmentally safe. Upon completion of the well all of these materials will be taken from the location and disposed of in accordance with applicable local, state & federal Laws. (This includes used oil)

8. ANCILLARY FACILITIES: None

- A. Off Lease Right of Way Application: None

9. WELL SITE LAYOUT:

- A. Exhibit "C" indicates the relation location and dimensions of the well pad, mud pits, reserve pit and major rig equipment.
- B. The location slopes slightly to the west.
- C. The reserve pit will be lined with plastic to prevent loss of water.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. If the well is non-productive or abandoned, the disturbed area will be rehabilitated using the preserved soil mentioned in 2. I. and 4. C.

11. OTHER INFORMATION:

- A. Topography: The topography is a gradual slope to the west in the vicinity of the access road and in the vicinity of the drill pad. Regional slope is west toward the Pecos River.
- B. Soil: Sandy loam with limestone outcropping.
- C. Flora and Fauna: The flora consists of typical desert vegetation, such as yucca, cactus and various grasses. Fauna consists of desert wildlife such as coyotes, rodents, snakes, deer and antelope.
- D. Ponds or Streams: None in near vicinity.
- E. Residences and other Structures: The Zimmerman Ranch House is approximately 1/2 mile to the northeast of this location.
- F. Archaeological, Historical and Other Cultural Sites: Archaeological Survey Consultants, P.O. Box D, Roswell, NM 88202, has checked and approved this site and access road.
- G. Land Use: Grazing
- H. Surface Ownership: Fee: G. P. Sims  
P.O. Box 1046,  
Eunice, NM 88230  
(505) 394-2980

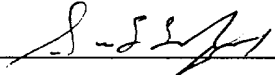
12. OPERATOR'S REPRESENTATIVE:

Mr. Jim Hull  
(214) 521-9959

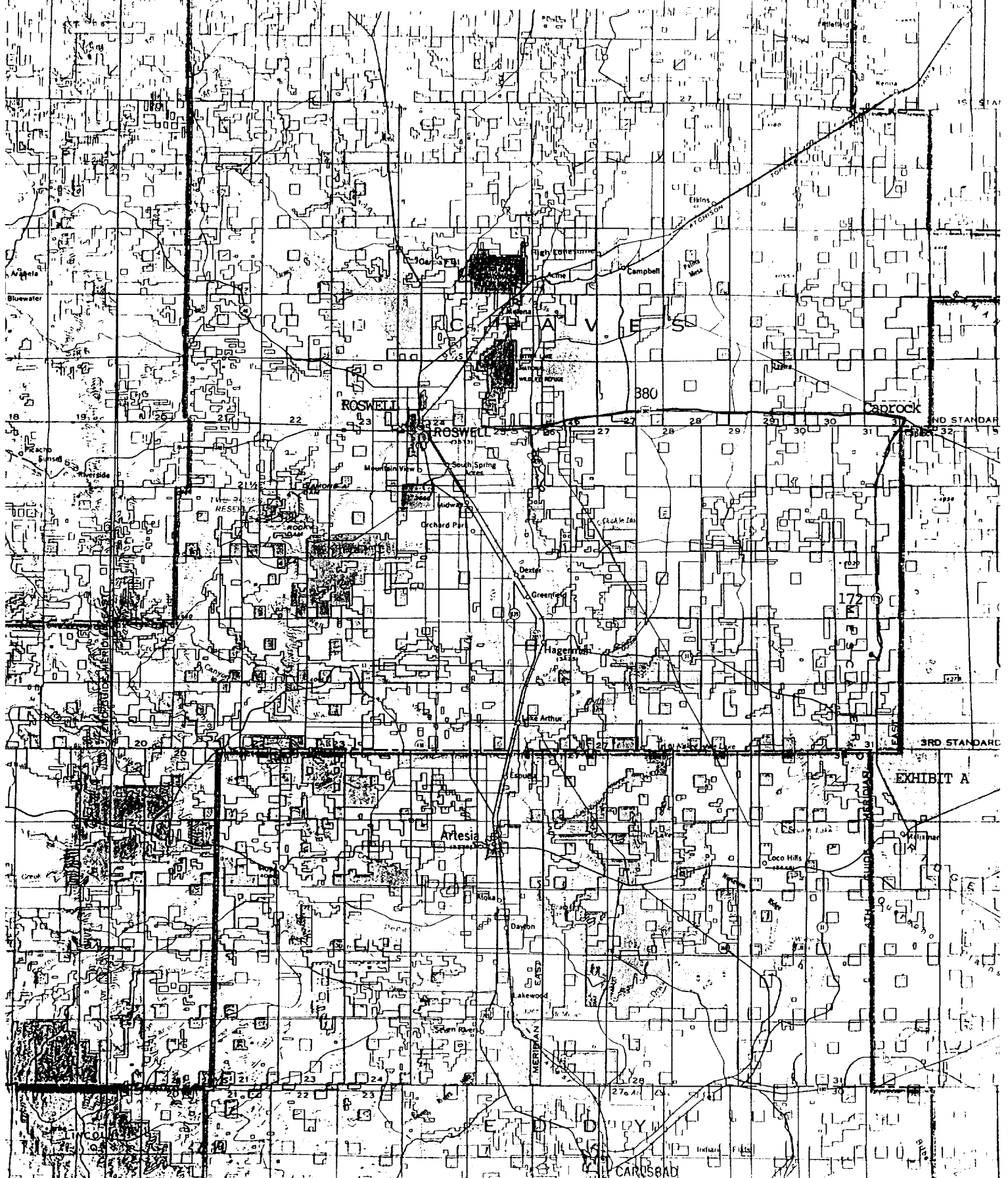
13. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exists; that the statements made in this plan are, to the best of my knowledge true and correct; also to the best of my knowledge the work associated with the operations proposed herein will be performed by Circle Ridge Production, Inc. and its sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to provisions of 18 USC 1001 for the filing of a false statement.

7-22-98  
DATE:



**NORTHLAND OPERATING COMPANY**  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E  
Chaves County, New Mexico



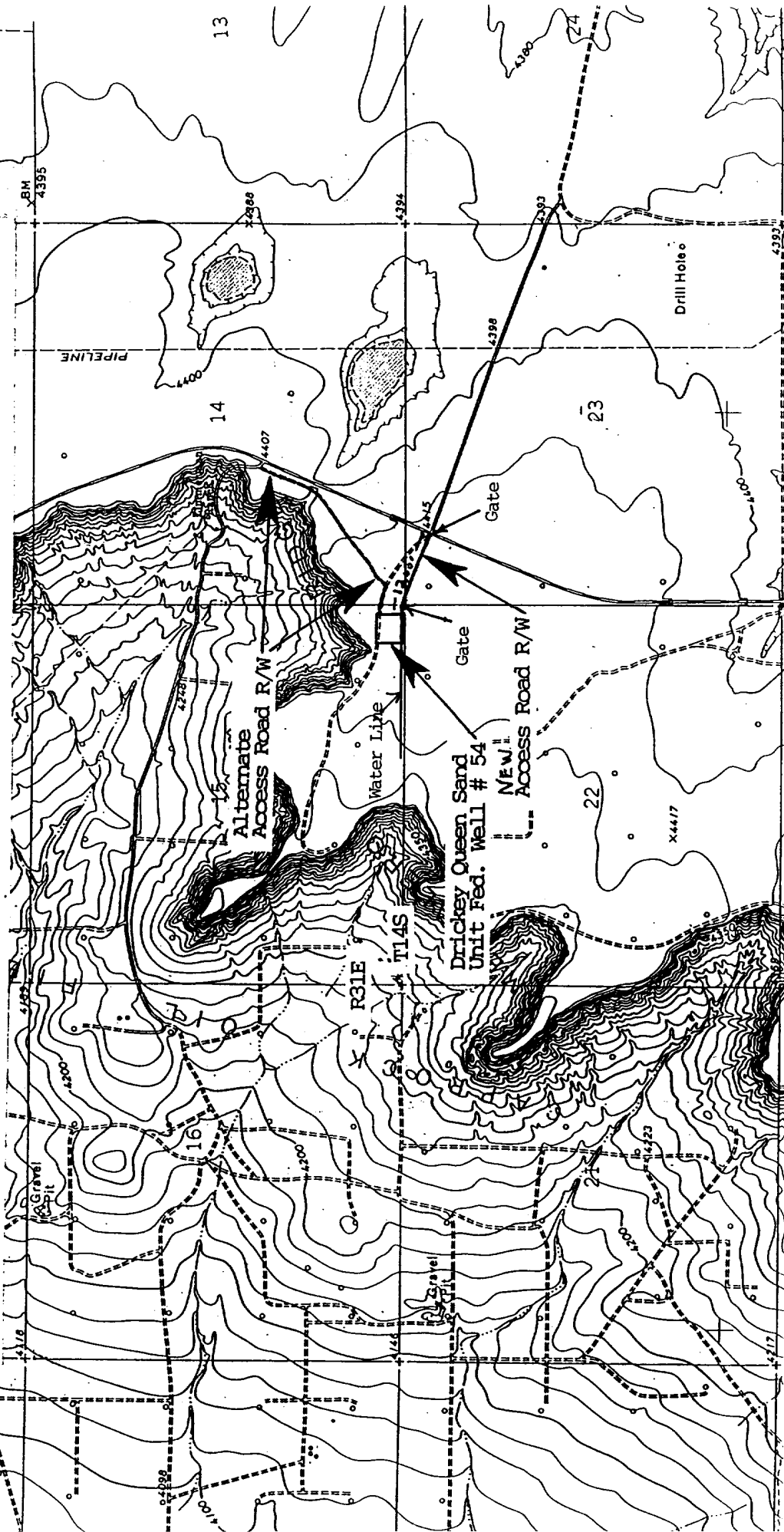
**NORTHLAND OPERATING COMPANY**

**Drickey Queen Sand Unit #54**

E/2SE/4 of Section 15, T-14S, R-31E

**Chaves County, New Mexico**

Map showing the location of the Northland Operating Company Drickey Queen Sand Unit Federal Well No. 54 & Access Road Right of Ways. T14S, R31E, Section 15, Chaves County, New Mexico [BLM, Roswell Field Office, New Mexico]. Square shows location of well pad; solid lines show locations of access roads. U.S.G.S. 7.5 minute series, CEDAR POINT SE, NEW MEXICO, 1973. ASC Project 98-052.





# Patterson Drilling Company

## NORTHLAND OPERATING COMPANY

Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E  
Chaves County, New Mexico

Rig #55

11,500'

### DRAWWORKS

Mid Continent U36  
Brake: Parmac V-80  
Totco Weight Indicator  
Brewster 2 engine compound (w/390 Quincy)

### BLOWOUT PREVENTERS

12" 3000# Shaffer Type E double ram, 12" 3000#  
Hudril GK, 180 gal 5 station Kookey, Air/Electric,  
4" 3000# manifold

### ENGINES

Two Cat 3408 engines, 425 HP each

### MUD SYSTEM

Two 650 bbl tanks and 1 200 bbl premix tank,  
brandt 8-cone desilter w/5 x 6 centrifugal pump  
w/3304 Cat engine

### DERRICK

L. C. Moore, 131', 510,000# rated capacity

### MUD HOUSE

### SUBSTRUCTURE

L. C. Moore, 16' high, 250,000# set back  
capacity, 375,000# casing capacity  
KB - 14'

### COMMUNICATIONS

24 hour direct cellular telephone

### MUD PUMPS

Pump #1: Emsco DB550 w/Cat D379, 550 HP  
Pump #2: Oilwell A700P w/Cat D379, 700 HP

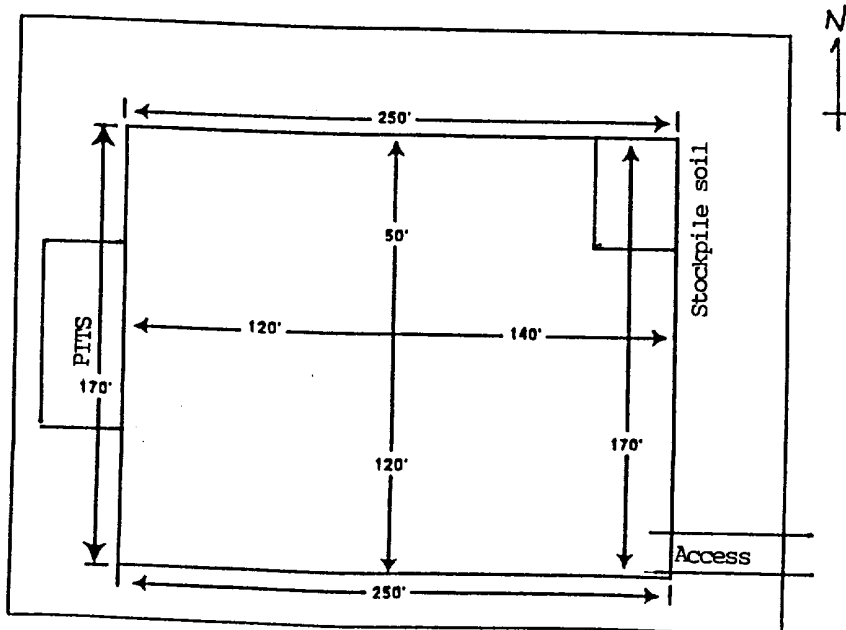
### OTHER EQUIPMENT

Blocks. BJ 200  
Hook. BJ Unimatic 200  
Swivel. Emsco 250  
Rotary Table. Ideco 27 1/2" 175 Ton  
Shale Shaker. Brandt dual tandem screen  
Electrical Power. Two 3306 Cat diesels w/135  
kW generators  
Fresh Water Storage. Two 800 bbl tanks  
Housing.

### DRILL STRING

Grade E, 4 1/2", XH drill pipe  
30 - 6 1/4" x 2 1/4" 30' long drill collars  
14 - 8" x 2 1/4" 6 5/8 Reg drill collars  
Other sizes of drill pipe and drill collars are  
available

\*Hole Requirements will dictate actual Reserve Pit size (TOOLPUSHER SHOULD BE CONSULTED)\*



Rig 55

**NORTHLAND OPERATING COMPANY**  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E  
Chaves County, New Mexico

GEN L OPER CO  
(OPER)

DRICKEY QN UNIT

GEN L OPER CO (OPER)

BURLESON BUFF PROPR

EAST CAR UNIT

EXHIBIT "E"  
(1 of 2)  
J.E. Stevens, et al

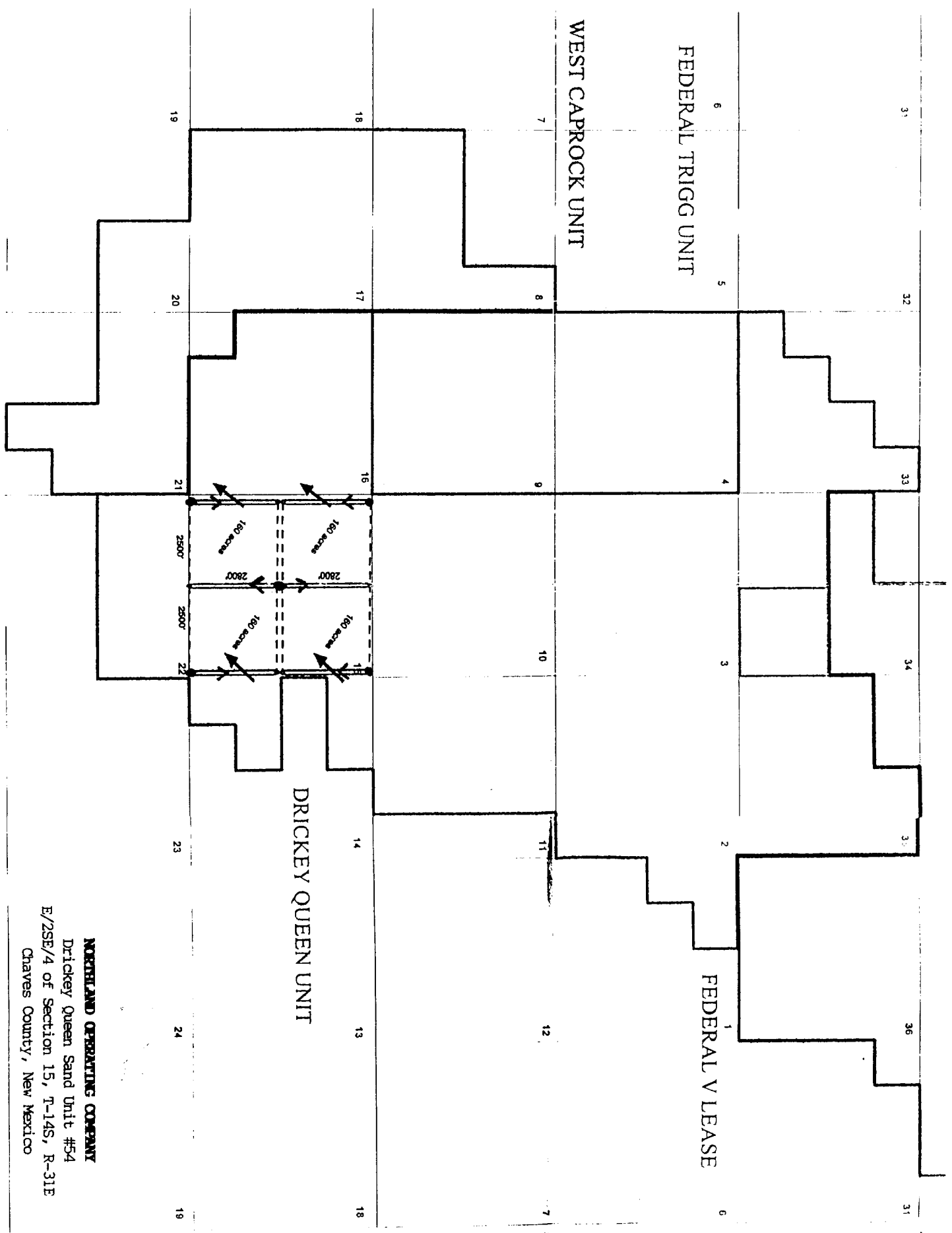
UNION L OPER CO  
"SO. CAPOCK"  
QUEEN

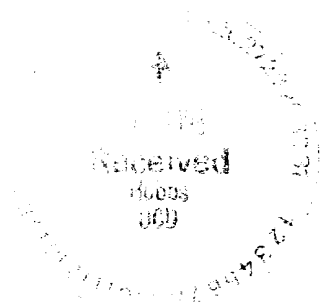
TULK SW

30 29 28 27 26 25 30

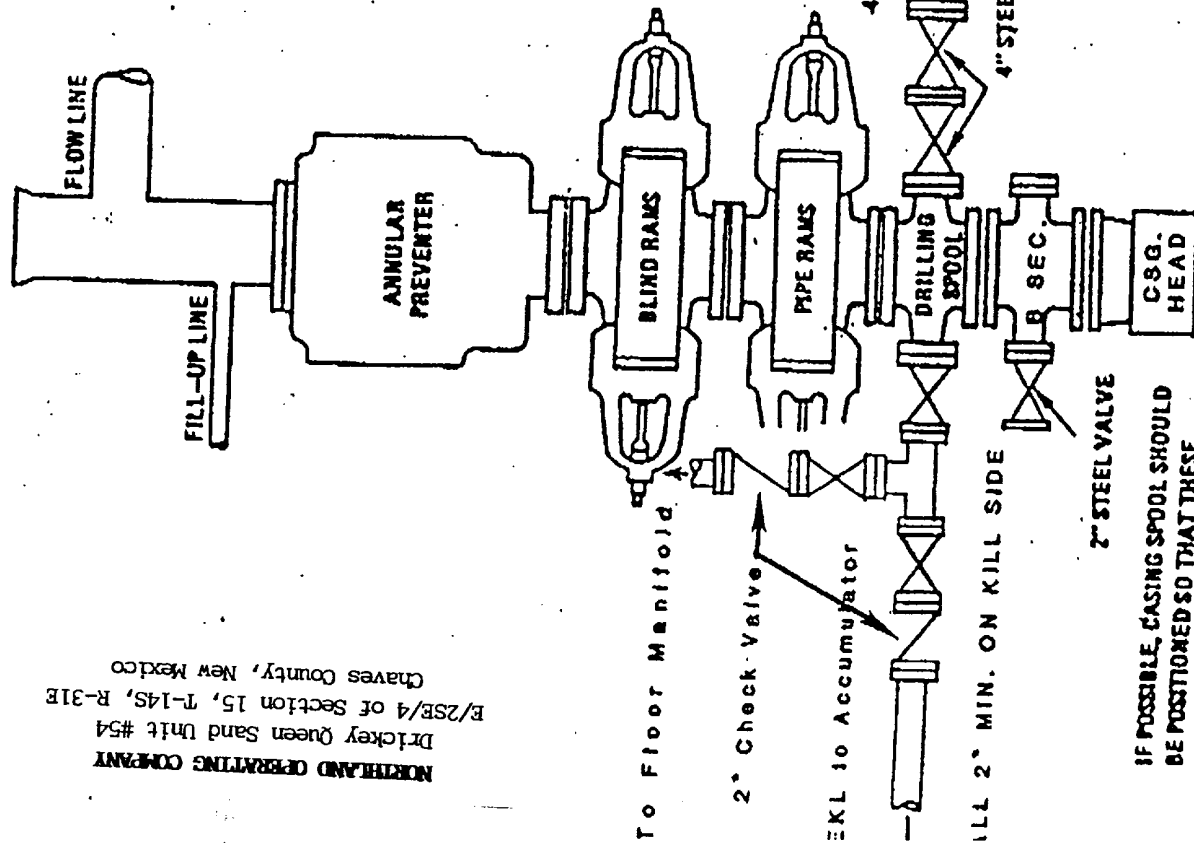
**NORTHLAND OPERATING COMPANY**  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E  
Chaves County, New Mexico

**640 ACRE PILOT PROJECT**





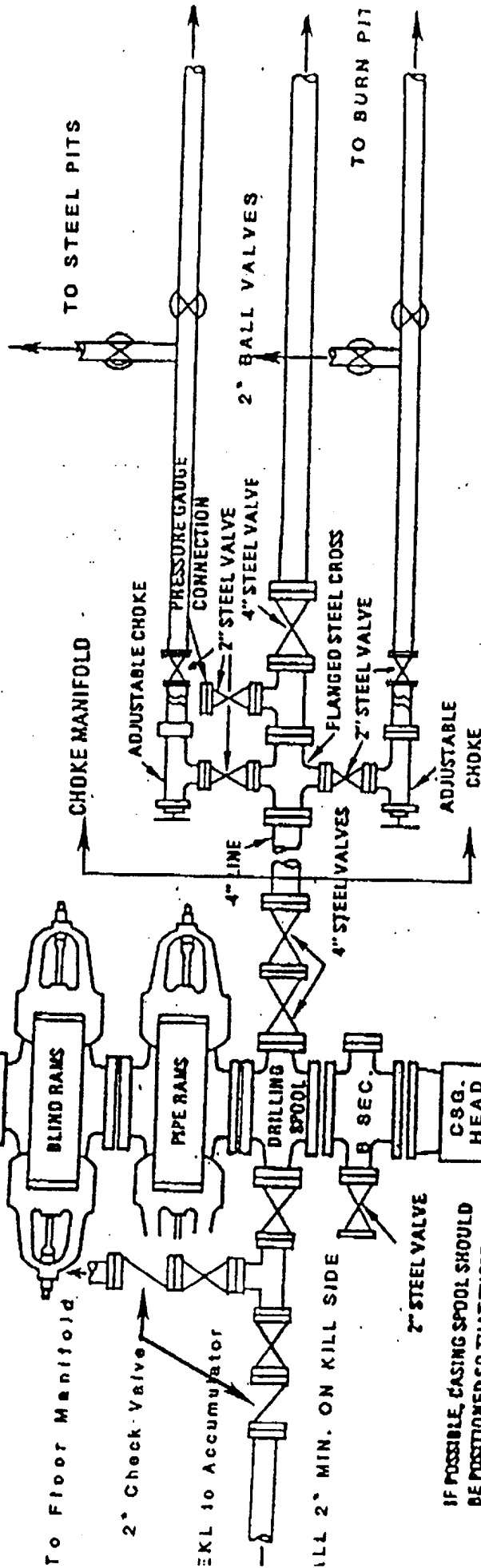
# CLASS THREE PREVENTER



IF POSSIBLE, CASING SPOOL SHOULD BE POSITIONED SO THAT THESE VALVES ARE DIRECTLY UNDER THE BARREL OF THE RAM PREVENTER

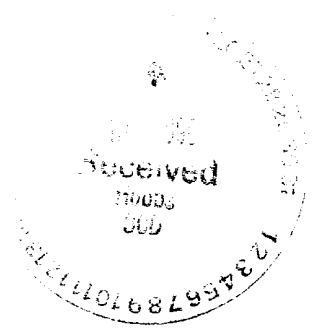
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**NORTHLAND OPERATING COMPANY**  
Drikey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E  
Chaves County, New Mexico

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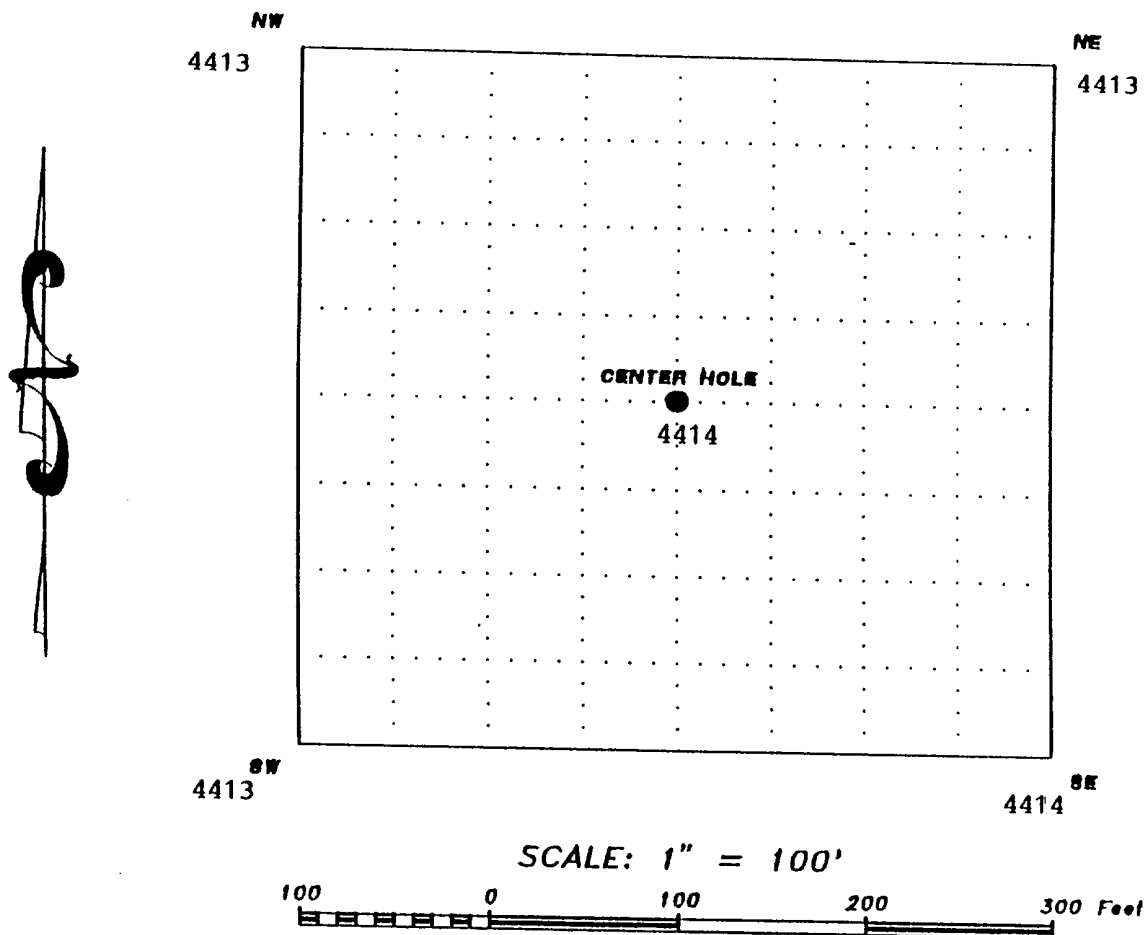
**Beyond Edge of Derrick Floor**

007-21-1998 16:54





John D. Jaquess & Associates  
Well Grid Elevations



**WELL INFORMATION**

Unit 54  
Section 15, T.14S., R.31E.  
330 FSL, 200 FSL  
**NORTHLAND OPERATING COMPANY**  
Drickey Queen Sand Unit #54  
E/2SE/4 of Section 15, T-14S, R-31E  
Chaves County, New Mexico

EXHIBIT "F"

ELF  
10/31/01  
ABOVE DATE DOES NOT  
INDICATE WHEN  
CONFIDENTIAL LOGS  
WILL BE RELEASED

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50000  
123456789