

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NM OIL COMMISSION
SUBMIT IN TRIPLICATE
DRAWER DD
Other instructions on
ARTESIA, NM 88210

Form approved.
Budget Bureau No. 1004-0136
Expires: December 31, 1991

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER

SINGLE
ZONE ☒

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

SPENCE ENERGY COMPANY

Ph. 214-739-0027

3. ADDRESS AND TELEPHONE NO.

4849 Greenville Ave., Ste. 381
Dallas, Texas 75206

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

At surface

990' FSL, 1980' FWL, Sec. 23-19S-30E

(Unit N)

At proposed prod. zone

Same

(SESW)

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

23 miles northeast of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drilg. unit line, if any)

660'

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

738'

16. NO. OF ACRES IN LEASE

240

19. PROPOSED DEPTH

2000'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

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

3292.1 GR

22. APPROX. DATE WORK WILL START*

As Soon As Possible

23. PROPOSED CASING AND CEMENTING PROGRAM

R-111-P Potash

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8" ST&C	48# H-40	500'±	500± sx (Circulated to Sur.)
12-1/4"	8-5/8" ST&C	28# H-40	1600'±	800± sx (Circulated to Sur.)
7-7/8"	5-1/2" ST&C	17# K-55	2000'±	122± sx (Tie Back 200' into 8-5/8")

Propose to drill to 2000' to test Yates and Seven Rivers formation. Perforate favorable zones. Run tubing to perfs, stimulate and test to tank. See attached "Drilling Data" and BOP Diagram.

This well is within the Potash Area and subject to NMOCD Order R-111-P. See attached concurrence from BLM Mining Section. Waivers from Eddy Potash, Inc. and Horizon Potash Corporation will be furnished.

Gas is not dedicated.

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

JERRY W. LONG

TITLE Permit Agent

DATE

(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:

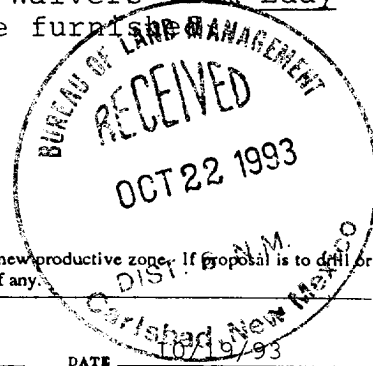
APPROVED BY

TITLE

DATE

*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 United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator SPENCE ENERGY CO.			Lease UNOCAL FEDERAL 23		Well No. 4
Unit Letter N	Section 23	Township 19 SOUTH	Range 30 EAST	County EDDY	
Actual Footage Location of Well: 990 feet from the SOUTH line and 1980 feet from the WEST line					
Ground Level Elev. 3292.1'	Producing Formation Yates		Pool North Hackberry - Yates-SR		Dedicated Acreage: 40 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).

NA

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

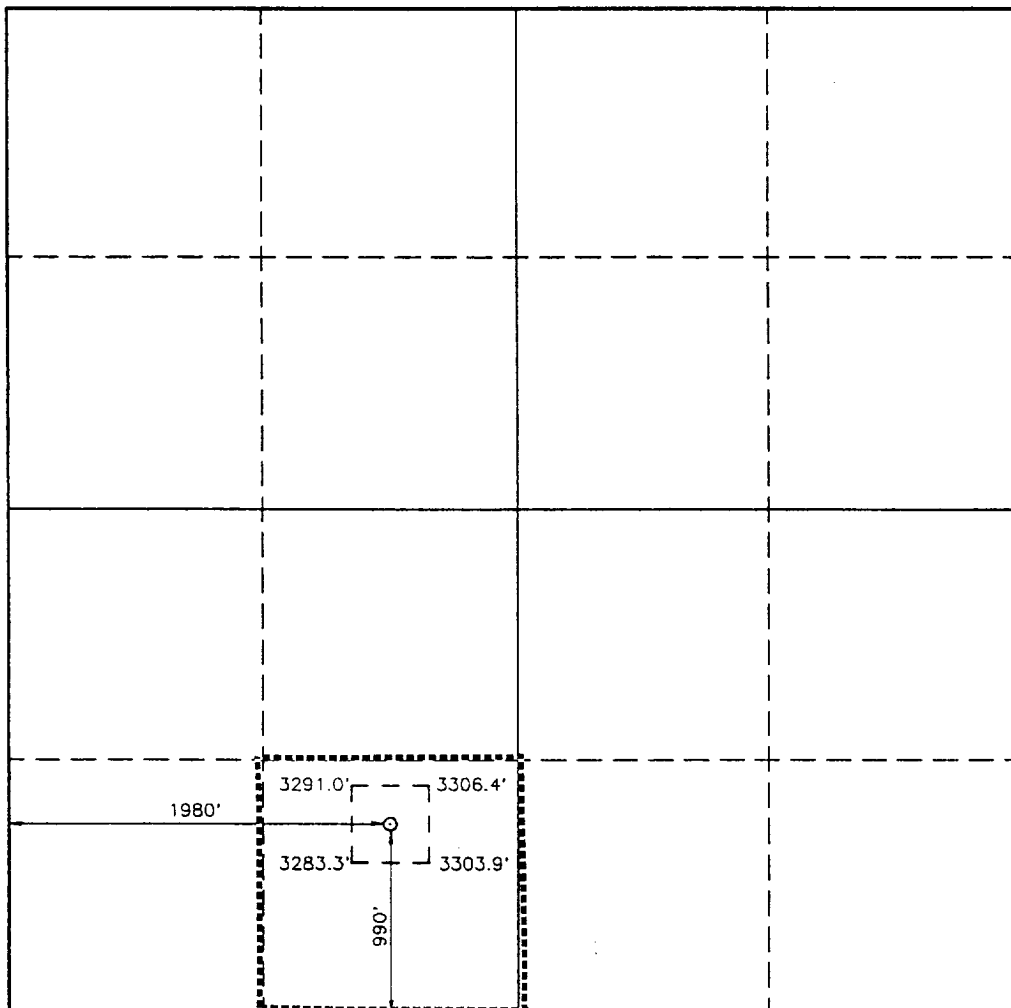
☐ Yes

☐ No

If answer is "yes" type of consolidation NA

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

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



OPERATOR CERTIFICATION

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

Signature

Printed Name

JERRY W. LONG

Position

Permit Agent

Company

SPENCE ENERGY COMPANY

Date

October 19, 1993

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 knowledge and belief.

Date Surveyed

OCTOBER 5, 1993

Signature

Professional Surveyor

7977

Certificate No.

JOHN W. WEST, 678

RONALD J. EDSON, 3239

GARY L. JONES, 7877

93-11-1859

SUPPLEMENTAL DRILLING DATA

SPENCE ENERGY COMPANY
No.4 Unocal Federal 23
SESW Sec.23-19S-30E
Eddy County, New Mexico
Federal Lease NM-4350

The following items supplement Form 3160-3 in accordance with instructions contained in Onshore Oil and Gas Order No.1:

1. SURFACE FORMATION: Recent

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Rustler	230'	Yates	1700'
Salt	500'	Seven Rivers	1925'
Base Salt	1500'		

3. ESTIMATED DEPTHS TO WATER, OIL OR GAS FORMATION:

Water - Possible groundwater from 0' to 325'

Oil - 1700' to TD

Gas - Entrained Gas from 1700' to TD

4. PROPOSED CASING PROGRAM:

13-3/8" Casing - Set 500' of 48#, H-40, ST&C Surface Casing. Circulate cement to the surface. Pressure tested to 600 psi, before and after drilling the plug.

8-5/8" Casing - Set 1600' of 28#, H-40, ST&C Salt Protection Casing. Circulate cement to the surface. Pressure tested to 1000 psi, before and after drilling the plug.

5-1/2" Casing - Set 2000' of 17#, K-55 production casing. Pressure tested to 1000 psi. Cemented to tie back 200' into 8-5/8".

5. PRESSURE CONTROL EQUIPMENT: Install a 3M, Series 900, Type "LWP" Shaffer Double-ram Hydraulic BOP on the 8-5/8" Intermediate casing prior to drilling out cement. EXHIBIT D is a diagrammatic sketch of the BOP equipment.

6. CIRCULATING MEDIUM: Drill with fresh water mud from surface to setting depth of surface casing. Drill remainder of hole with brine mud, using additives to control salt wash-out, viscosity and mud weight.
7. AUXILIARY EQUIPMENT:
- A. Equipment will include a full-opening safety valve, to fit the drill string in use, on the rig floor during drilling operations.
 - B. H₂S alarm monitors will be installed at the cellar and mud circulating pit.
 - C. Breathing equipment will be located at the dog house and designated briefing area.
 - D. Wind direction indicators will be positioned on opposite sides of the location.
8. TESTING, LOGGING AND CORING PROGRAM:
- Samples: Samples will be caught at 10' intervals from the intermediate casing shoe to total depth.
- DST and Cores: None anticipated
- Logging: Density-Neutron Log
Gamma Ray-Neutron Log
Other logs at discretion of wellsite geologist.
9. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE:
This is a waterflood area so no abnormal pressures or temperatures are anticipated. H₂S gas may be present at low pressure and volume. See attached H₂S Drilling Plan.
10. ANTICIPATED STARTING DATE: Drilling will commence upon approval. Drilling and completion will require about 30 days.

SPENCE ENERGY COMPANY
No.4 Unocal Federal 23
SESW Sec.23-19S-30E
Eddy County, New Mexico
Federal Lease NM-4350

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All personnel will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. Hazards and characteristics of H₂S.
2. Proper use of personal protective equipment.
3. Proper use of H₂S detectors, warning systems, briefing areas and evacuation procedures.
4. A copy of this plan will be available at the well site.

II. H₂S SAFETY EQUIPMENT

H₂S equipment and systems will be operational prior to drilling into a probable H₂S zone.

1. Double-ram BOP and choke manifold will be installed prior to drilling the surface casing plug.
2. Air Pack breathing equipment will be located at the dog house and briefing area.
3. H₂S monitors will be positioned at the cellar and mud circulating pit.
4. Wind direction indicators will be located on opposite sides of the drill pad.
5. H₂S Danger sign will be installed on the well access road.
6. Rig radio and/or mobile car phones will be available at all times.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

SPENCE ENERGY COMPANY
No.4 Unocal Federal 23
SESW Sec.23-19S-30E
Eddy County, New Mexico
Federal Lease NM-4350

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 23 air miles northeast of Carlsbad, New Mexico.
- B. Directions: Go northeast from Carlsbad, N.M. on U.S. 62 a distance of 15 miles. Turn northeast on NM 31 and go 5.6 miles to Eddy 222. Go northeast on Eddy 222 for 1.8 miles. Turn north on caliche lease road and go 2.5 miles to well No. 106. Go 1000' southwest to No.1 well. Go 500' southwest to No.4 well.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The access road will be about 500' long and 14' wide.
- B. Surfacing Material: If necessary the road and well pad will be surfaced with 6" of caliche.
- C. Maximum Grade: Less than 2%
- D. Turnouts: No traffic turnouts are necessary.
- E. Drainage Design: The road will be maintained with a 6" crown and appropriate water turnouts to provide proper drainage.
- F. Culverts: None

- G. Cuts and Fills: Construction of the well pad and new access road will require levelling of 4' sand dunes.
- H. Gates, Cattleguards: None
3. LOCATION OF EXISTING WELLS:
- A. See EXHIBIT B.
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
- A. Test facilities will be located on the well pad.
- B. Flow line to battery will be constructed along the new access road.
5. LOCATION AND TYPE OF WATER SUPPLY:
- A. Water for drilling and completion will be obtained from a commercial source and trucked over existing roads.
6. SOURCE OF CONSTRUCTION MATERIALS:
- A. In-situ material will be used to surface the road and well pad.
- B. Any additional off-lease caliche for surfacing the road and pad will be obtained from a Federal pit located in the NESW Sec.31-19S-31E. This pit has had Archaeological clearance.
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 test 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 will be stored in an acceptable container and removed to an approved land fill.
- F. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

- A. On-lease R-O-W is requested to construct a 2" steel flow line on the surface beside the access road from No.4 well to the battery at the No.1 well.

9. WELL SITE LAYOUT:

- A. The wellsite, surrounded by a 400' X 400' area, has been surveyed and flagged.
- B. Dimensions and relative location of the drill pad and pit are shown on EXHIBIT C.
- C. Location of H2S equipment is indicated on EXHIBIT C.

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 wellsite 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, the disturbed area will be rehabilitated to Federal Agency requirements and will be accomplished as expeditiously as possible.

11. OTHER INFORMATION:

- A. Topography: The wellsite slopes to the south.
- B. Soil: The surface soil is sandy loam with caliche and chert inclusions.
- C. Flora and Fauna: Vegetation consists of mesquite, grease-wood and various weeds and grasses. Ground cover is about 5%. Wildlife in the area is that typical of semi-arid desert land, such as rodents, reptiles and small birds.
- D. Ponds or Streams: Seasonal Hackberry Lake is 1 mile southeast.
- E. Residences and Other Structures: The Horizon Potash Corporation mine shaft and refinery are located about 5 miles northwest. The Eddy Potash mine shaft is located 7 miles southwest. There are no residences in the area.

F. Archaeological, Historical and Other Cultural Sites:
No cultural sites were noted during staking of the location.
A contract Archaeologist will furnish a separate report to
BLM after an on-site review.

G. Land Use: The surface is used for cattle grazing.

H. Surface Ownership: The drillsite and access road are
on Federal surface. The grazing lessee is Snyder Ranches,
P.O. Box 726, Lovington, New Mexico 88260.

12. OPERATOR'S REPRESENTATIVE:

Representative responsible for assuring compliance with
the approved Surface Use Plan:

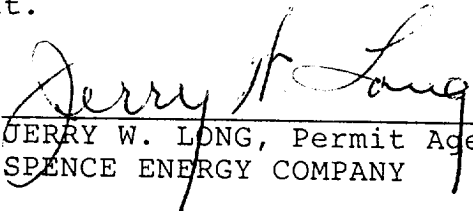
Mr. L. O. Spence
4849 Greenville Ave., Ste.381
Dallas, Texas 75206
Phone 214-739-0027

13. CERTIFICATION:

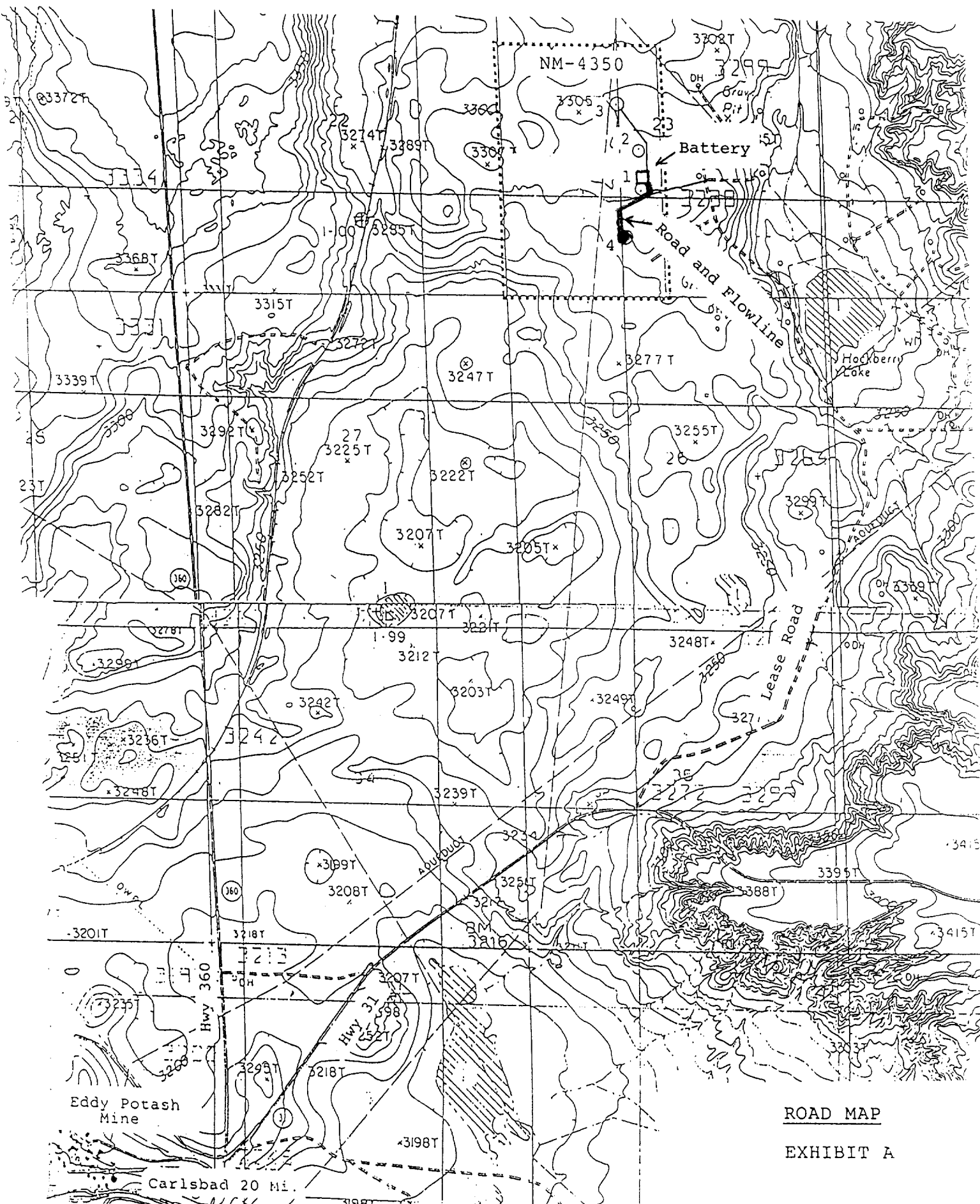
I hereby certify that I, or person under my direct
supervision, have inspected the proposed drillsite
and access route; that I am familiar with the con-
ditions which presently exist; that the statements
made in this plan are, to the best of my knowledge
true and correct; that the work associated with the
operations proposed herein will be performed by
SPENCE ENERGY COMPANY and its sub-contractors in con-
formity with this plan and the terms and conditions
under which it is approved. This statement is sub-
ject to the provisions of 18 U.S.C. 1001 for the
filing of a false statement.

October 19, 1993

Date:


JERRY W. LONG, Permit Agent for:
SPENCE ENERGY COMPANY

SPENCE ENERGY COMPANY
No.4 Unocal Federal 23
SESW Sec.23-19S-30E
Eddy County, New Mexico
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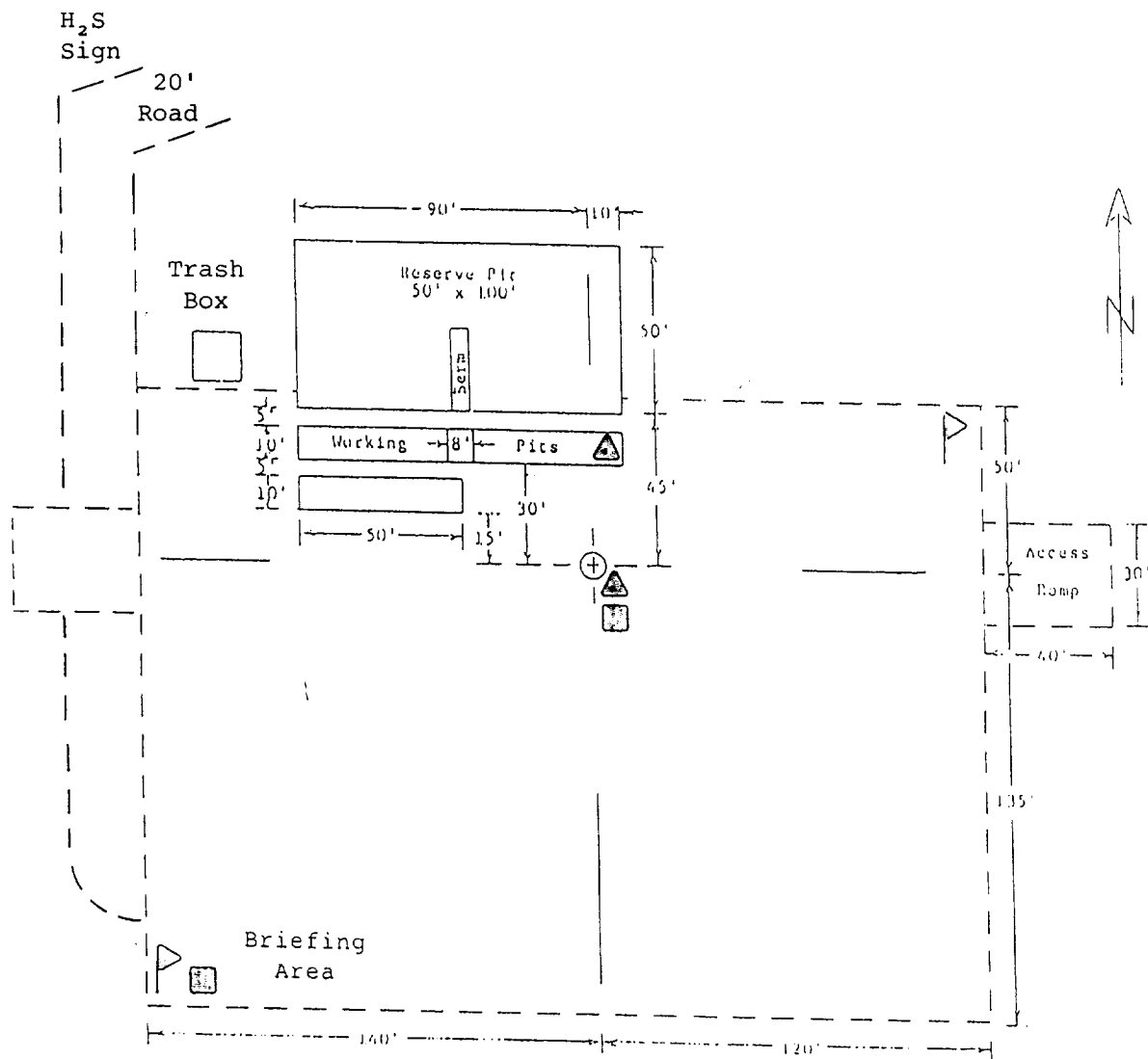


ROAD MAP
EXHIBIT A

[illegible]

EXHIBIT B

SPENCE ENERGY COMPANY
 No.4 Unocal Federal 23
 SESW Sec.23-19S-30E
 Eddy County, New Mexico
 Federal Lease NM-4350



Prevailing Wind From Southwest

△ H₂S Monitor

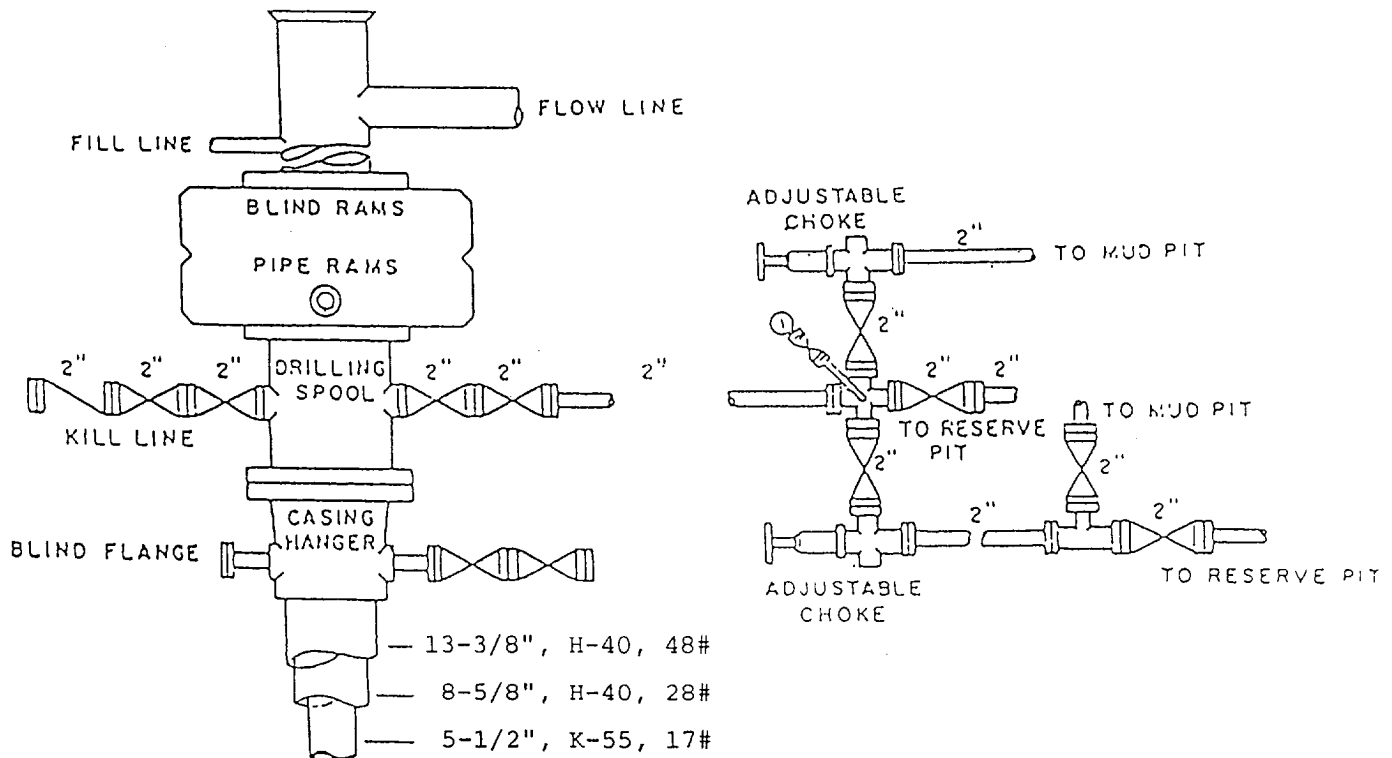
▢ Wind Indicator

⊕ Protective Equipment

DRILL PAD LAYOUT

EXHIBIT C

SPENCE ENERGY COMPANY
 No.4 Unocal Federal 23
 SESW Sec.23-19S-30E
 Eddy County, New Mexico
 Federal Lease NM-4350



BOP DIAGRAM

3000# Working Pressure
 Rams Operated Daily

