

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

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

Fasken Oil & Ranch, Ltd.

3. ADDRESS AND TELEPHONE NO.

303 W. Wall Ave., Suite 1800 Midland, Texas 79701-5116
(915) 687-1777

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

At surface

660' FNL and 1550' FWL

At proposed prod. zone

Unit C

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

8 Miles North of Carlsbad

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any) 660'

16. NO. OF ACRES IN LEASE

640

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.

3412'

19. PROPOSED DEPTH

11,250'

20. ROTARY OR CABLE TOOLS

Rotary

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

3201' GR

22. APPROX. DATE WORK WILL START*

March 1, 2001

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" H40	48.0	400'	440 sx, Circulate to Surface
12 1/4"	9 5/8" K55	24.0	2275'	800 sx, Circulate to Surface
8 3/4"	5 1/2" N80	17.0	11,250'	1350 sx, Estimate To c @ 2000'

The operator proposes to drill to a depth sufficient to test the Morrow formation. If Productive, 5 1/2" Casing will be set at TD and cemented back to approximately 2000'. If non-commercial the well will be plugged and abandoned in accordance with the Federal Regulations.

Drilling Program

Surface use and Operating Plan

Exhibit #1- Area Map

Exhibit #2- One Mile Radius Map

Exhibit #3- Hydrogen Sulfide Drilling Operations Plan

Exhibit #4- Well Site Layout

Exhibit #5- Blowout Preventor Equipment

IN ABOVE SPACE DESCRIBE
deepen directionally, give per
24.

NOTIFY OCD SPUD & TIME TO WITNESS
CEMENTING OF INTERMEDIATE CASING

present productive zone and proposed new productive zone. If proposal is to drill or
pths. Give blowout preventer program, if any.

SIGNED

Johnny C. Taylor

TITLE Drilling and Production Engineer 1-3-01

(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

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
811 South First, Artesia, NM 88210

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised March 17, 1999

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

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 73280	Pool Name Burton Flat Morrow
Property Code	Property Name MARALO "34" FEDERAL	Well Number 4
OGRID No. 151416	Operator Name FASKEN OIL & RANCH LTD.	Elevation 3201'

Surface Location

UL or lot No. C	Section 34	Township 20 S	Range 27 E	Lot Idn	Feet from the 660	North/South line NORTH	Feet from the 1550	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Tommy E. Taylor</u> Signature</p> <p><u>Tommy E. Taylor</u> Printed Name</p> <p><u>Drilling & Production Engineer</u> Title</p> <p><u>1-3-01</u> Date</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p><u>December 20, 2000</u> Date Surveyed</p> <p><u>GARY L. JONES</u> Signature & Seal of Professional Surveyor</p> <p><u>1977</u> Year</p> <p><u>W.S. No. 0713A</u> Certificate No.</p> <p><u>Gary L. Jones</u> Professional Land Surveyor</p> <p><u>7977</u> Surveyor Number</p> <p><u>BROWN SURVEYS</u> Firm Name</p>
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APPLICATION FOR PERMIT TO DRILL
FASKEN OIL AND RANCH, LTD.
Maralo "34" Federal No.4
660' FNL & 1550' FWL
SEC.34, T20S, R27E
EDDY COUNTY, NM

In conjunction with Form 3160-3, Application for Permit to Drill, Fasken Oil and Ranch, Ltd. submits the following items of pertinent information in accordance with Onshore Oil & Gas Order Nos. 1 & 2, and with all other applicable federal and state regulations.

1. The geologic surface formation is of Permian age.
2. Estimate tops of geologic markers are as follows:

Cherry Canyon	2300'
Brushy Canyon	3262'
Bone Springs	4336'
3rd Bone Springs	7951'
Wolfcamp	8526'
Cisco	9266'
Canyon	9446'
Strawn	9696'
Atoka	10,068'
Morrow Clastics	10,614'
Lower Morrow	10,876'
Barnett Shale	11,142'

3. The estimated depths at which water, oil or gas formation are expected to be encountered:

Delaware group	2300'	Oil/Gas
Strawn	9696'	Gas
Atoka	10,068'	Gas
Morrow	10,614'	Gas

* Groundwater to be protected by 13-3/8" surface casing with cement circulated to the surface.

** Potentially productive horizons to be protected by 5-1/2" production casing with cement tied back to 2000'.

4. Proposed Casing Program:

<u>String</u>	<u>Footage</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Thread</u>
Surface	400'	13-3/8"	48.00#	H-40	ST&C
Intermediate	2,275'	9-5/8"	36.00#	J-55	ST&C
Production	11,250'	5-1/2"	17.00#	N-80	LT&C
Tubing	11,150'	2-3/8"	4.70#	N-80	EUE 8rd

Proposed Cementing Program:

Cement 13-3/8" casing with 440 sx Class "C" cement with 2% CaCl₂ (s.w. 14.8 ppg, yield 1.32 cuft/sx).

Cement 9-5/8" casing with 600 sx Class "C" with 4% gel and 2% CaCl₂ (s.w. 13.51 ppg, yield 1.74 ft³/sx) plus 200 sx Class "C" with 2% CaCl₂ (s.w. 14.8 ppg, yield 1.34 ft³/sx).

Cement 5-1/2" production casing (resin coated and centralized through pay zones) in two stages with DV tool approximately 8500' as follows;

First Stage: 10 bfw + 500 gallons Mud Clean II + 10 bfw and 750 sx Super "C" Modified with 1.4% FL-25, 1% salt, 0.2% CD-32 (s.w. 14.0 ppg, yield 1.34 ft³/sx). Open DV tool and circulate 6 hours.

Second stage: Pump 10 bfw, 500 sx BJ light with 6% gel, 1% salt, 0.4% FL-62, and 0.2% FL-52 (s.w. 12.6 ppg, yield 2.01 ft³/sx) and 100 sx Class "H" neat (s.w. 15.6 ppg, yield 1.18 ft³/sx). Calculate second stage cement volume for TOC at 2000'.

5. Pressure Control Equipment: BOP's to be hydrotested prior to drilling the Wolfcamp formation estimated to be at (8526') or first bit trip. See Exhibit #5 for BOP diagram.

6. Mud Program:

<u>Depth</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Waterloss</u>
0-400'	Fresh Water	8.5	40	N.C.
400'-2275'	Fresh Water	8.5	28	N.C.
2275'-9500'	Cut Brine	9.0	29	N.C.
9500'-11,250'	XCD/Pac	9.5-10.0	36	10 cc

7. Auxiliary Equipment: Upper Kelly Cock, Full Opening Stabbing Valve, PVT.
8. Testing Logging and Coring Programs:
 - DST's: DST any mudlog shows.
 - Logging: 2-man Mudlogging unit from 2275' to T.D.
 - Electric Logs: Platform Express with CNL-LDT, DLL-MSFL, GR and Caliper.
 - Coring: None anticipated
9. Abnormal Pressure, Temperatures or Other Hazards: Lost circulation is anticipated in the surface. Maximum bottomhole pressure is estimated to be 4875 psig.
10. Anticipated Starting Date: March 1, 2001.

SURFACE USE PLAN

Fasken Oil and Ranch, Ltd.
Maralo "34" Federal No.3
660' FNL & 1550' FWL
Sec. 34, T20S, R27E
Eddy County, New Mexico

1. EXISTING ROADS - Area map, Exhibit #1, is a reproduction of the U.S.G.S., Lake McMillian, South, N.M. Quadrangle 7.5 minute series. Existing and proposed roads are shown on the exhibit. All roads shall be maintained in a condition equal to that which existed prior to start of construction.

A. Exhibit #1 shows the proposed development well site as staked.

B. From Carlsbad, New Mexico, travel North on U.S. Highway 239 for 4.6 miles. Turn Northwest on Black top and go 3.6 miles. Turn South on calchie road and go 0.6 mile to location.

2. PLANNED ACCESS ROADS - 453' of new access road will be constructed.

3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS.

A. Water wells - None known.

B. Disposal wells - None Known.

C. Drilling wells - None known.

D. Producing wells - As shown on Exhibit #2

Fasken Oil and Ranch, Ltd.:	Maralo "34" Federal No. 3
Maralo:	Hanson Federal No. 2
Maralo:	Hanson Federal No. 3

E. Abandoned wells - As shown on Exhibit #2.

Penroc:	Allied "B" No.1
Ralph Lowe:	Hanson Federal No.1
Ralph Lowe:	Hanson Federal No.1-A
E.A. Hanson:	McBride Federal No.1

4. If, upon completion, the well is a producer Fasken Oil and Ranch, Ltd. will furnish maps or plats showing "On Well Pad Facilities" and "Off Well Pad Facilities" (if needed) on a Sundry Notice before construction of these facilities starts.

5. LOCATION AND TYPE OF WATER SUPPLY

Fresh and Brine water will be purchased locally from a private source and trucked over the access roads. Fresh water may be pumped through a 3" poly line from a water well located at the Fasken Oil and Ranch, Ltd. El Paso Federal No. 13 location in Section 1, T-21-S, R-26-E, Eddy County, NM. This location is approximately 2 miles Southeast of the Maralo "34" Federal No. 4 location.

6. SOURCE OF CONSTRUCTION MATERIALS

If needed, construction materials will be obtained from the drill sites excavations or from a local source. These materials will be transported over the access roads as shown on Exhibit #1.

7. METHOD FOR HANDLING WASTE DISPOSAL

- A.
1. Drill cuttings will be disposed of in the reserve pit.
 2. Trash, waste paper, and garbage will be contained in a trash trailer and disposed of in an approved public landfill.
 3. All mud materials including salts will be picked up by the mud supplier and transported back to their warehouse facilities.
 4. Sewage from trailer houses will drain into hole with a minimum depth of 10'. A "Porta John" will be provided for the rig crews. This will be properly maintained and removed after drilling operations are completed.
 5. Chemicals remaining after completion of the well will be stored in the manufacturer containers and picked up by the supplier.
- B. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for backfilling. In the event drilling fluids will not evaporate in a reasonable period of time, they will be transported by tank truck to a state approved disposal site.

Water produced during testing of the well will be disposed of in the reserve pit. Oil produced during the testing of the well will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITIES

No camps or airstrips will be constructed.

9. WELL SITE LAYOUT

- A. Exhibit #3 is the H₂S Drilling Operations Plan.
- B. Exhibit #4 (Scale 1" = 50') shows the proposed well site layout.

- C. This exhibit indicates the proposed location of reserve pit, trash trailer and living facilities.
- D. Mud pits in the active circulation system will be steel pits.
- E. The reserve pit will be lined with a polyethylene liner. The pit liner will be a minimum of 2' over the reserve pit walls where the liner will be anchored down.
- F. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion operations. The fourth side will be fenced after drilling has been completed. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location pad and surface facilities. After the area has been shaped and contoured, top soil from the spoil pile (if any) will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be recontoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

11. OTHER INFORMATION

- A. The topography is of hilly terrain with vegetation of sagebrush and native grasses. The soils are silty and very shallow.
- B. The surface is used for livestock grazing. The surface is leased by Harley Ballard, P.O. Box 1777, Carlsbad, NM 88221
- C. The BOR has already performed an archeological study over this location and road.

D. There are no buildings of any kind in the area.

12. OPERATOR'S REPRESENTATIVE - Field representative for contact regarding compliance with the Surface Use Plan is:

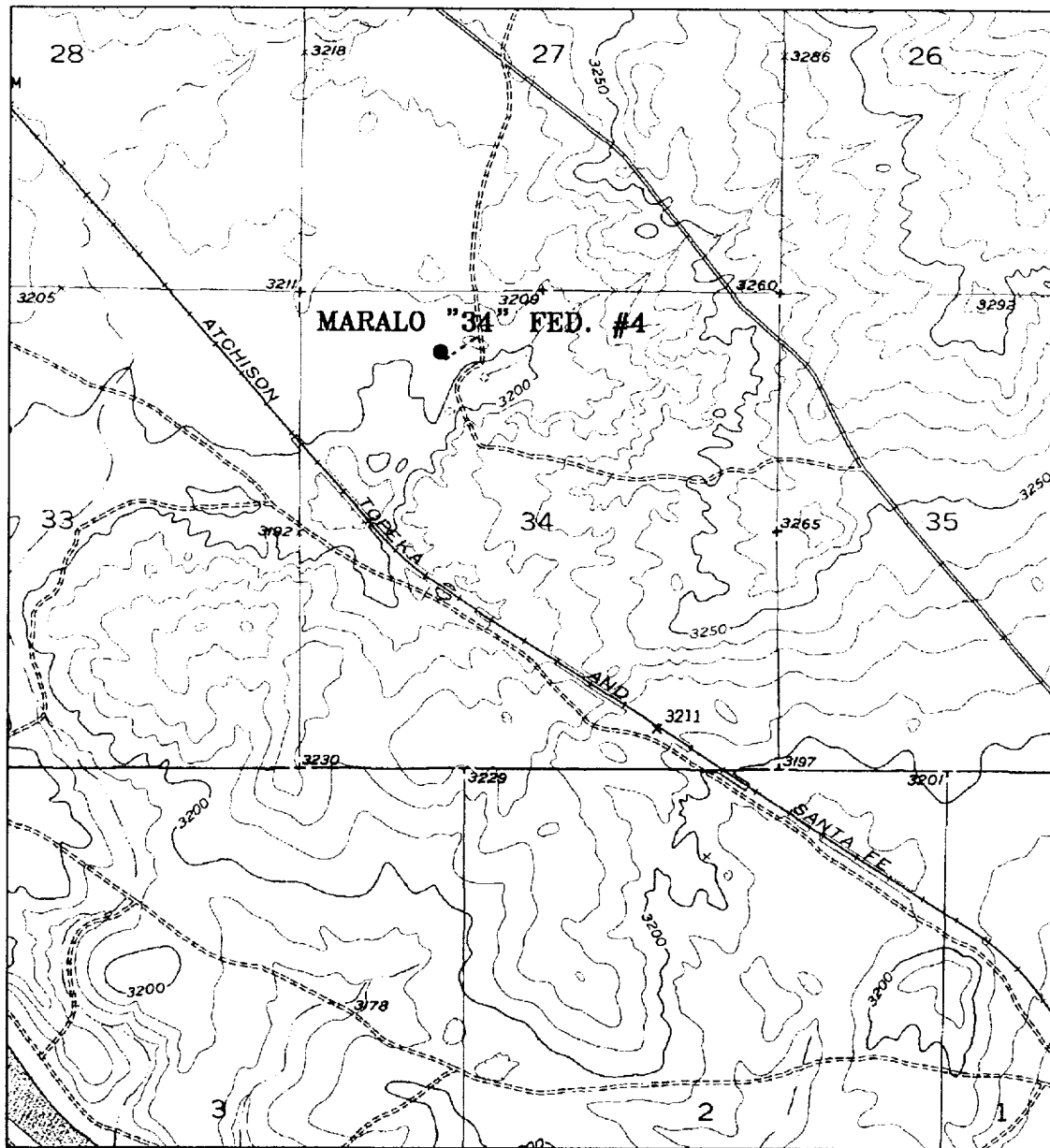
Before, during & after Construction:

Tommy E. Taylor
303 W. Wall Ave., Suite 1900
Midland, Texas 79701-5116
(915) 687-1777

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 currently exists; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Fasken Oil and Ranch, Ltd. and its contractors/subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

NAME: *Tommy E. Taylor*
DATE: *1/4/2001*
TITLE: Drilling and Production Engineer

TET
(maralo344apd)



MARALO "34" FEDERAL #4

660' FNL & 1550' FWL

Section 34, Township 20 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.

Exhibit #1

basin
surveys
focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

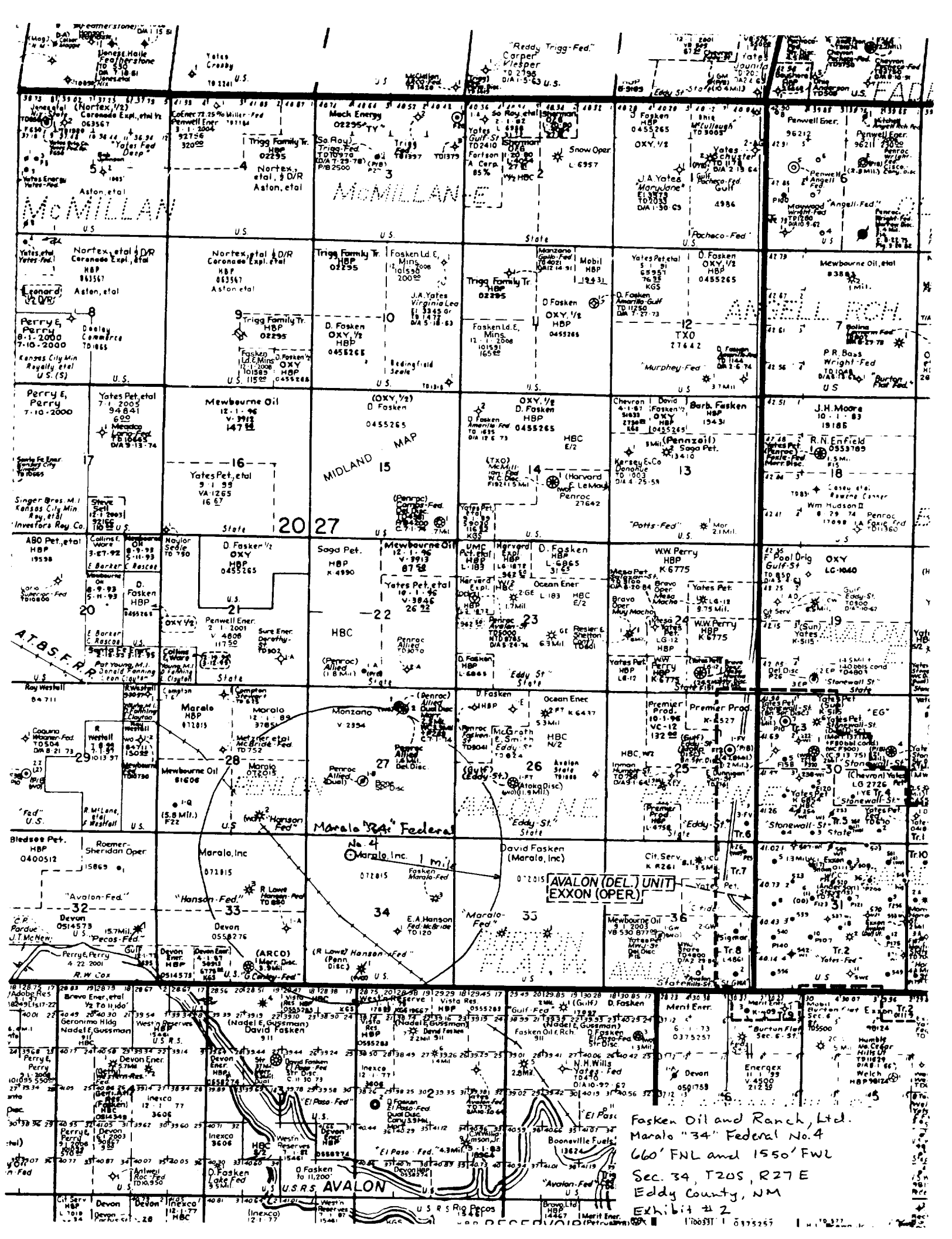
W.O. Number: 0713AA - KJG #122

Survey Date: 12-20-2000

Scale: 1" = 2000'

Date: 12-21-2000

FASKEN OIL & RANCH, LTD.



HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

EXHIBIT #3
FASKEN OIL AND RANCH, LTD.
Maralo "34" Federal No.4
660' FNL & 1550' FWL
SEC.34, T20S, R27E
EDDY COUNTY, NM

I. Hydrogen sulfide Training.

All personnel, whether regularly assigned, contracted or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques of first aid and rescue procedures.

In addition the supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H2S Safety Equipment and Systems.

NOTE: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above or three days prior to penetration the first zone containing or reasonable expected to contain H2S.

1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment to include: annular preventer, mud-gas separator (if necessary) and rotating head.

2. Protective equipment for essential personnel:

- A. 5-minute escape units located in the dog house and 30-minute air units at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 3 - portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.
- B. 1 - portable SO2 monitor positioned near flare line during H2S flaring operations.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram.
- B. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be a readable distance from the immediate location.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight safe drilling practices and the use of H2S scavengers when necessary will minimize hazards when penetrating H2S bearing zones.
- B. A Mud-gas separator will be utilized.

6. Metallurgy:

A. All drill strings, casings, tubing, wellhead, blowout preventors, drilling spools kill lines, choke manifold and lines valves shall be suitable for H₂S service.

B. All elastomers used for packing and seals shall be H₂S trimmed.

7. Communications:

A. Radio communications will be available in company vehicles and rig dog house.

8. Well testing:

A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing of any known formation that contains H₂S will be conducted during daylight hours.

SECTION 34, TOWNSHIP 20 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

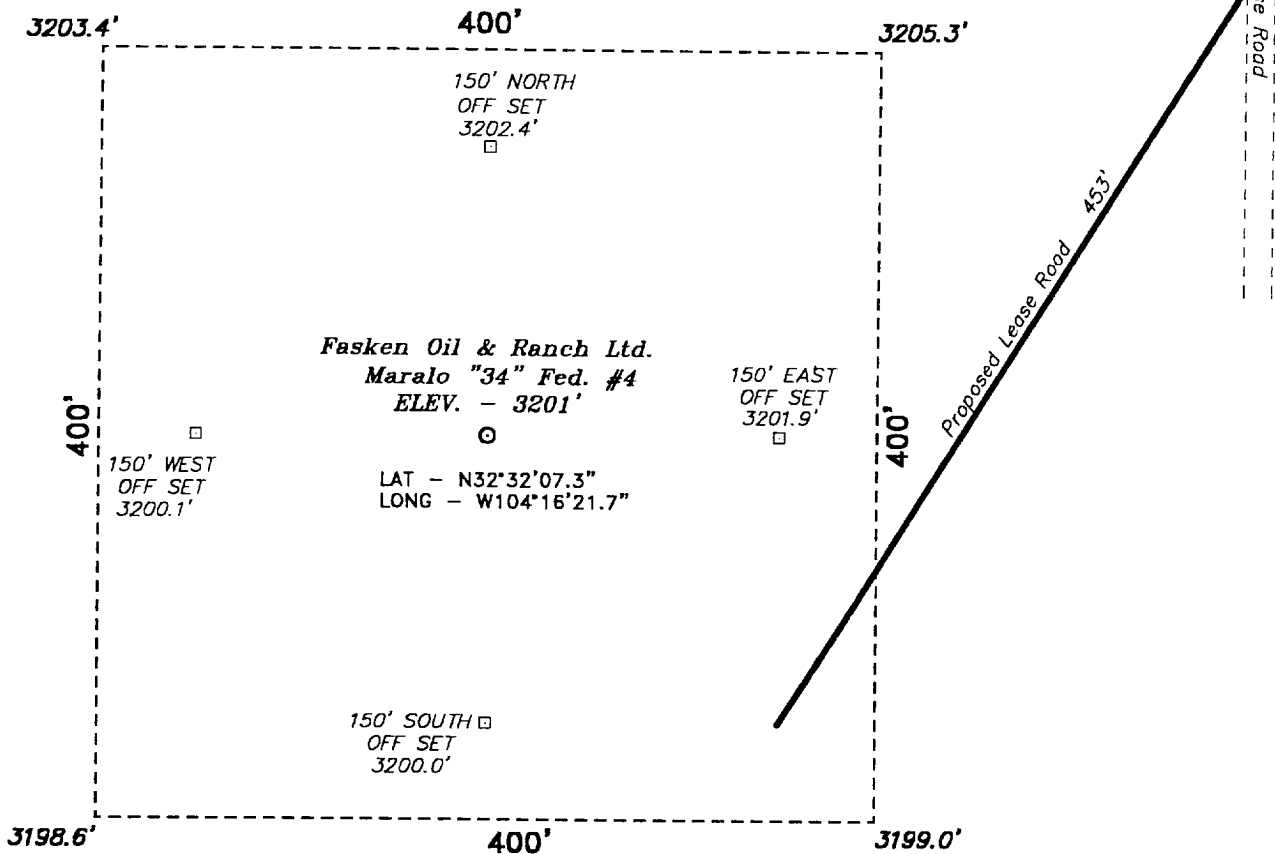
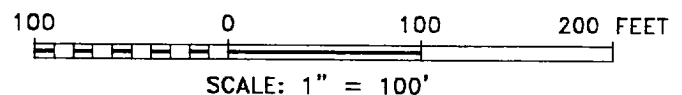


Exhibit #4a



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF ILLINOIS CAMP ROAD & CO. RD. 34, GO NORTHWEST ON CO. RD. 34 FOR 3.8 MILES TO AN OLD LEASE ROAD LEFT JUST BEFORE CATTLE GUARD; THENCE SOUTH ON OLD LEASE ROAD 0.6 MILE TO PROPOSED LEASE ROAD.

Fasken Oil & Ranch Ltd.

REF: MARALO "34" FEDERAL No. 4 / Well Pad Topo

THE MARALO "34" FEDERAL No. 4 LOCATED 660' FROM THE NORTH LINE AND 1550' FROM THE WEST LINE OF SECTION 34, TOWNSHIP 20 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

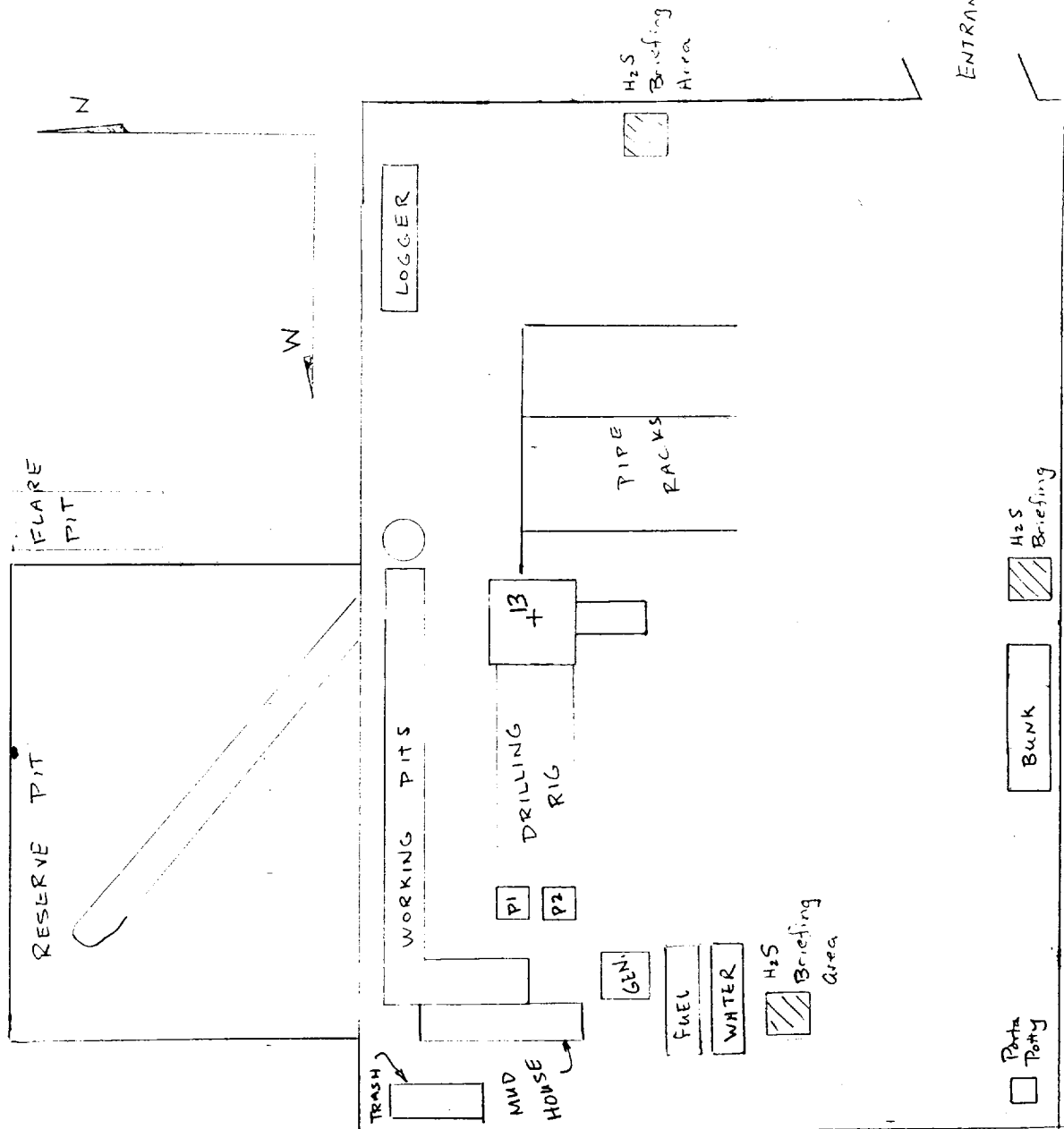
BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 0713 Drawn By: **K. GOAD**

DATE: 12-21-2000 Disk: KJG #123 - 0713A.DWG

Survey Date: 12-20-2000

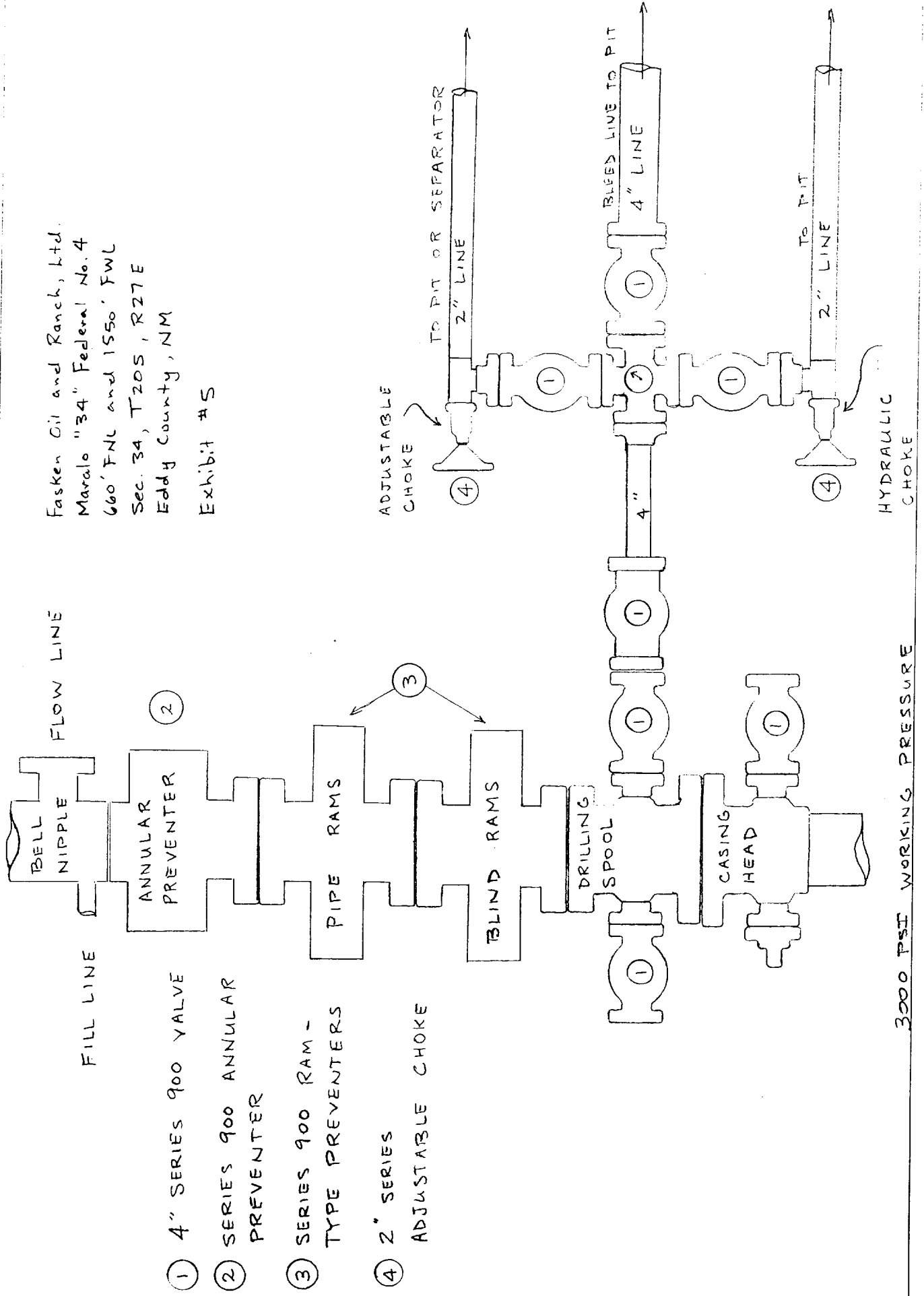
Sheet 1 of 1 Sheets



Fasken Oil and Ranch, Ltd.
 Maralo "34" Federal No. 4
 660' FNL and 1550' FWL
 Sec. 34, T20S, R27E
 Eddy County, NM

EXHIBIT 44b
 SCALE 1" = 50'

Fasken Oil and Ranch, Ltd.
Maralo "34" Federal No. 4
660' FNL and 1550' FWL
Sec. 34, T20S, R27E
Eddy County, NM
Exhibit #5



STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Fasken Oil and Ranch, Ltd. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

LEASE NO.: NM-LC0702015-C


LEGAL DESCRIPTION: Sec.34, T-20-S, R-27-E.

FORMATION(S): Surface to the base of the Barnett Shale.

BOND COVERAGE: \$25,000

BLM BOND FILE: NM0152

Fasken Oil and Ranch, Ltd.
by: Fasken Management, LLC
Its General Partner



Benjamin L. Blake
Vice-President



Date: 1/2/2001