

1625 N. French Drive
Hobbs, NM 88240Form 3160-3
(August 1999)FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

2. Name of Operator

Harvard Petroleum Corp.

3a. Address

P.O. Box 936 Roswell, NM 88202

3b. Phone No. (include area code)

505/ 523-1581

4. Location of Well (Report location clearly and in accordance with any State requirements. *)

At surface 1980' FNL & 2307' FWL

At proposed prod. zone same

Unit F

14. Distance in miles and direction from nearest town or post office*

36.5 miles east of Carlsbad, NM

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any) 1980'18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. 990'

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3664' GL

22. Approximate date work will start*

May 17, 2004

23. Estimated duration

3 - 4 weeks

24. Attachments

CARLSBAD CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National Forest System Lands, the
SUPO shall be filed with the appropriate Forest Service Office).4. Bond to cover the operations unless covered by an existing bond on file (see
Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans may be required by the
authorized officer.

25. Signature

Name (Printed/Typed)

George R. Smith

Date

3/25/04

Title

Agent for: Harvard Petroleum Corp.

Approved by (Signature)

/s/ Joe G. Lara

Name (Printed/Typed)

/s/ Joe G. Lara

Date

17 MAY 2004

Title ACTING FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

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, are attached.

APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

*(Instructions on reverse)

Lease Responsibility Statement: Harvard Petroleum Corp. accepts all applicable terms, conditions, stipulations, and
restrictions concerning operations conducted on the leased land or portion thereof.APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

OPER. OGRID NO.

10155

PROPERTY NO.

5073

POOL CODE

59945

EFF. DATE

6/8/04

API NO.

30-025-36721

George R. Smith agent

District I
1825 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 & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, N M 87505

Form C-102

Revised March 17, 1999

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-36721	Pool Code 53818-59945	Triste Draw Sand Dunes So. Delaware	Pool Name West
Property Code 5073	Property Name JAMES FEDERAL		Well Number 5
OGRID No. 10155	Operation Name HARVARD PETROLEUM CORP.		Elevation 3664

Surface Location

UL or Lot No. F	Section 29	Township 23-S	Range 32-E	Lot Idn.	Feet from the 1980	North/South line NORTH	Feet from the 2307	East/West line WEST	County LEA
---------------------------	----------------------	-------------------------	----------------------	----------	------------------------------	----------------------------------	------------------------------	-------------------------------	----------------------

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
---------------	---------	----------	-------	----------	---------------	------------------	---------------	----------------	--------

Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
------------------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I HEREBY CERTIFY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
	Signature <i>George R. Smith</i>
	Printed Name George R. Smith
	Title agent for Harvard Pet.
	Date 3/25/04
	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 of Survey OCT. 18, 2001
	Signature and Seal of Professional Surveyor

APPLICATION FOR DRILLING

HARVARD PETROLEUM CORP.

James Federal, Well No. 5
1980' FNL & 2307' FWL, Sec. 29-T23S-R32E
Lea County, New Mexico
Lease No.: NM-0559539
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Harvard Petroleum Corp. submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.
2. The estimated tops of geologic markers are as follows:

Rustler	1120'	Lower Brushy Canyon	8220'
Salt	1470'	Bone Spring	8470'
Delaware	4640'	Bone Spring Sand	8560'
Cherry Canyon	5660'	T.D.	8700'
Brushy Canyon	7300'		

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

Water: Surface water between 100' - 300'.
Oil: Possible in the Delaware 4640 - 8500' and the Bone Spring below 8500'.
Gas: None expected.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	J-55	ST&C	555'	Circ. 400 sx "C"
11"	8 5/8"	24.0#	J-55	ST&C	2,500'	
11"	8 5/8"	32.0#	J-55	ST&C	4,500'	Circ. 1200 sx 35/65 Poz + 100 sx "H"
7 7/8"	5 1/2"	15.5#	K-55	LT&C	7,700'	475 sx 35/65/ Poz + 100 sx "C" neat
7 7/8"	5 1/2"	17.0#	N-80	LT&C	8,700'	400 sx 15/61/11 Poz-C-CSE

5. **Proposed Control Equipment:** A 10" 3000 psi wp Shaffer Type "E" BOP will be installed on the 13 3/8" casing and will be operated as a 2M system. Request that casing and BOP be tested with a rig pump before drilling out with 11". The 8 5/8" casing and BOPE will be tested to the maximum of 1500 psi as per Onshore Oil & Gas Order No. 2 before drilling out with the 7 7/8". See Exhibit "E".

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 1400': Fresh water w/gel spud mud:	8.4 - 9.0 ppg	32 - 38	No W/L control
1400' - 4500': Cut Brine w/gel & lime:	9.0 - 10.0 ppg	28 - 30	No W/L control
4500' - 8700': Fresh Wtr w/gel & starch:	8.4 - 8.8 ppg	29 - 31	W/L control 10-15 cc +/-

7. **Auxiliary Equipment:** Blowout Preventer, Kelly cock, flow sensors and stabbing valve.

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.
Logging: T.D. to 4500': GR-CNL-LDT-DLL
T.D. to Surface: GR-Neutron
Coring: Rotary sidewall as dictated by logs.

NO
See
Stips

HARVARD PETROLEUM CORP.

James Federal, Well No. 5

Page 2

9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 3480 psi and a surface pressure of 1914 psi with a temperature of 147°.
10. H₂S: None expected. None in previous wells.
11. Anticipated starting date: May 17, 2004.
Anticipated completion of drilling operations: Approximately 4-5 weeks.

MULTI POINT SURFACE USE AND OPERATIONS PLAN

HARVARD PETROLEUM CORP.

James Federal, Well No. 5
1980' FNL & 2307' FWL, Sec. 29-T23S-T32E
Lea County, New Mexico
Lease No.: NM-0559539
(Development Well)

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 to be followed in rehabilitating the surface and environmental effects associated with the operations.

1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a BLM Topographic map showing the location of the proposed well as staked. The well site location is approximately 36.5 road miles east of Carlsbad, NM. Traveling east of Carlsbad on County Rd #605 and NM Highways 31 and 128, there will be 33.5 miles of paved highway and 3 miles of oilfield roads.
- B. Directions: Travel southeast from Carlsbad, NM on County Rd. # 605, the refinery road, for 12.5 mile to NM Highway #31. Turn left on NM #31 for approximately 2.5 miles, and then turn east onto NM Highway # 128 for 17.4 miles. Turn left (north) onto CR-29 and continue north for 1.7 miles; turn right (east) for 1.6 miles to the Littlejack Fed. #1 well pad. The road continues east for 1.0 mile the James Fed. #3 well site. Continue east to the James Fed. #4 well pad and then turn north to the James Fed. #6 well site. The proposed access road will start at the SW corner of this pad and run west for 750 feet to the southeast corner of the proposed well site.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The proposed access road will be approximately 750 feet long. The proposed and existing roads are color coded on Exhibit "A".
- B. Construction: The proposed access road will be constructed by grading and topping with compacted caliche. The surface will be properly drained.
- C. Turnouts: None required.
- D. Culverts: None.
- E. Cuts and Fills: Minor cuts of 2 - 3 foot dunes will be required.
- F. Gates, Cattle guards. None required. One is all ready in the current access road.
- G. Off lease right of way: None required.

3. LOCATION OF EXISTING WELLS:

- A. Existing wells within a two-mile radius are shown on Exhibit "C".

HARVARD PETROLEUM CORP.

James Federal, Well No. 5

Page 2

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;

- A. Harvard Petroleum Corp. has production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities will be installed on the drilling pad. A 2 7/8" J55 steel oil flow line will run east parallel to the road to the James Fed. No. 6 pipeline to the James Fed., Well No. 3 tank battery 1980' FSL & 2306' FWL, Sec. 29-T28S-R32E. Another 3" poly SDR 11 water flow line will parallel the oil line back to the No. 4 water pipeline.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Caliche for surfacing the proposed access road and well site pad will be obtained from the location, if available, or from a State pit in SE4 SW4 Sec. 32-T23S-R32E. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access road.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.
- D. Water produced during operations will be collected in tanks at the James Fed., Well #1 water disposal well, a BLM approved disposal system.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering by the wind and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

- A. None required.

HARVARD PETROLEUM CORP.

James Federal, Well No. 5

Page 3

9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged, 400' X 400'.
- B. Mat Size: 255' X 160', plus 120' X 120' reserve pits on the north.
- C. Cut & Fill: The location will require a 2 foot cut on the south and fill to the north.
- D. The surface will be topped with compacted caliche and the reserve pits will be plastic lined.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not required 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 a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled as soon as they are dry enough to be worked.

11. OTHER INFORMATION:

- A. Topography: The proposed well site and access road are located on top of Bootleg Ridge with the access road having a 1% slope from the east to the west. The location has an elevation of 3664' GL.
- B. Soil: The topsoil at the well site is a brown to yellowish-red fine sand to a fine sandy loam soil with occasional small sand dunes. There should be caliche at a depth of 40 to 60 inches. The soil is part of the Maljamar and Palomas fine sands land complex.
- C. Flora and Fauna: The vegetation cover has a very sparse to fair grass cover of three-awn and bluestem, with the primary cover being plants of mesquite, yucca, broomweed, shinnery oak brush, sage, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, antelope, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None.
- E. Residences and Other Structures: None in the immediate vicinity, except oil well production facilities.
- F. Land Use: Cattle grazing.

HARVARD PETROLEUM CORP.

James Federal, Well No. 5

Page 4

11. OTHER INFORMATION: cont.....

- G. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.
- H. There is no evidence of archaeological, historical or cultural sites in the staked area. Archaeological Survey Consultants, P. O. Box D, Roswell, NM 88202, is conducted an archaeological survey and their report No. ASC 01-153, dated 12/21/01, was submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE:

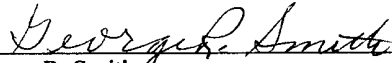
- A. The field representative for assuring compliance with the approved use and operations plan is as follows:

Jeff Harvard
HARVARD PETROLEUM CORP.
P. O. Box 936
Roswell, NM 88202
Office Phone: (505) 623-1581
Cell Phone: (505) 626-7938

13. CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist the statements made in the 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 Harvard Petroleum Corp. and its contractors and 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.

March 25, 2004


George R. Smith
Agent for: Harvard Petroleum Corp.

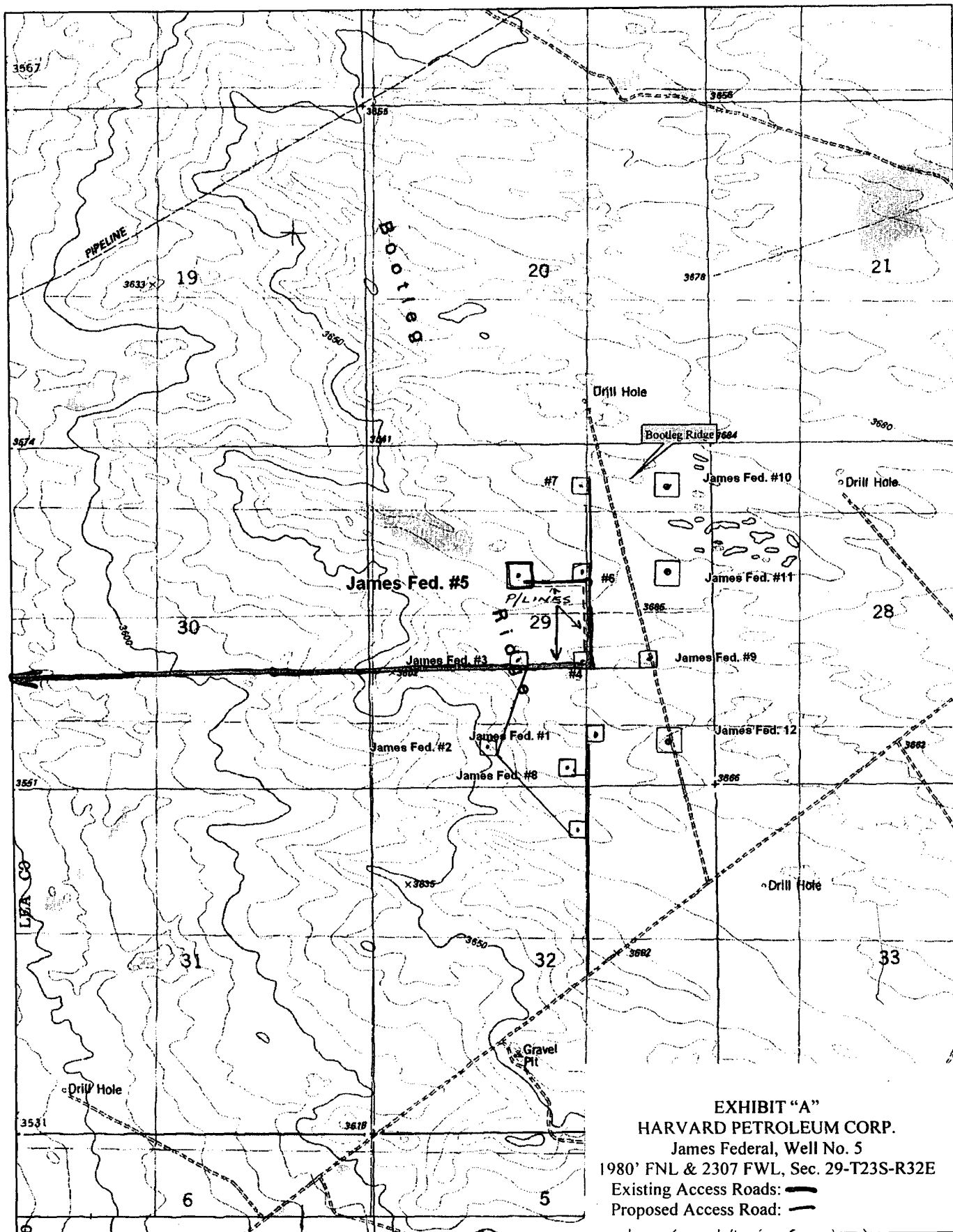


EXHIBIT "A"
HARVARD PETROLEUM CORP.

James Federal, Well No. 5
 1980' FNL & 2307 FWL, Sec. 29-T23S-R32E
 Existing Access Roads: —
 Proposed Access Road: —



© 2002 DeLorme. 3-D TopoQuads®. Data copyright of content owner.
 www.delorme.com

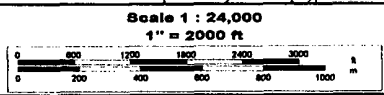
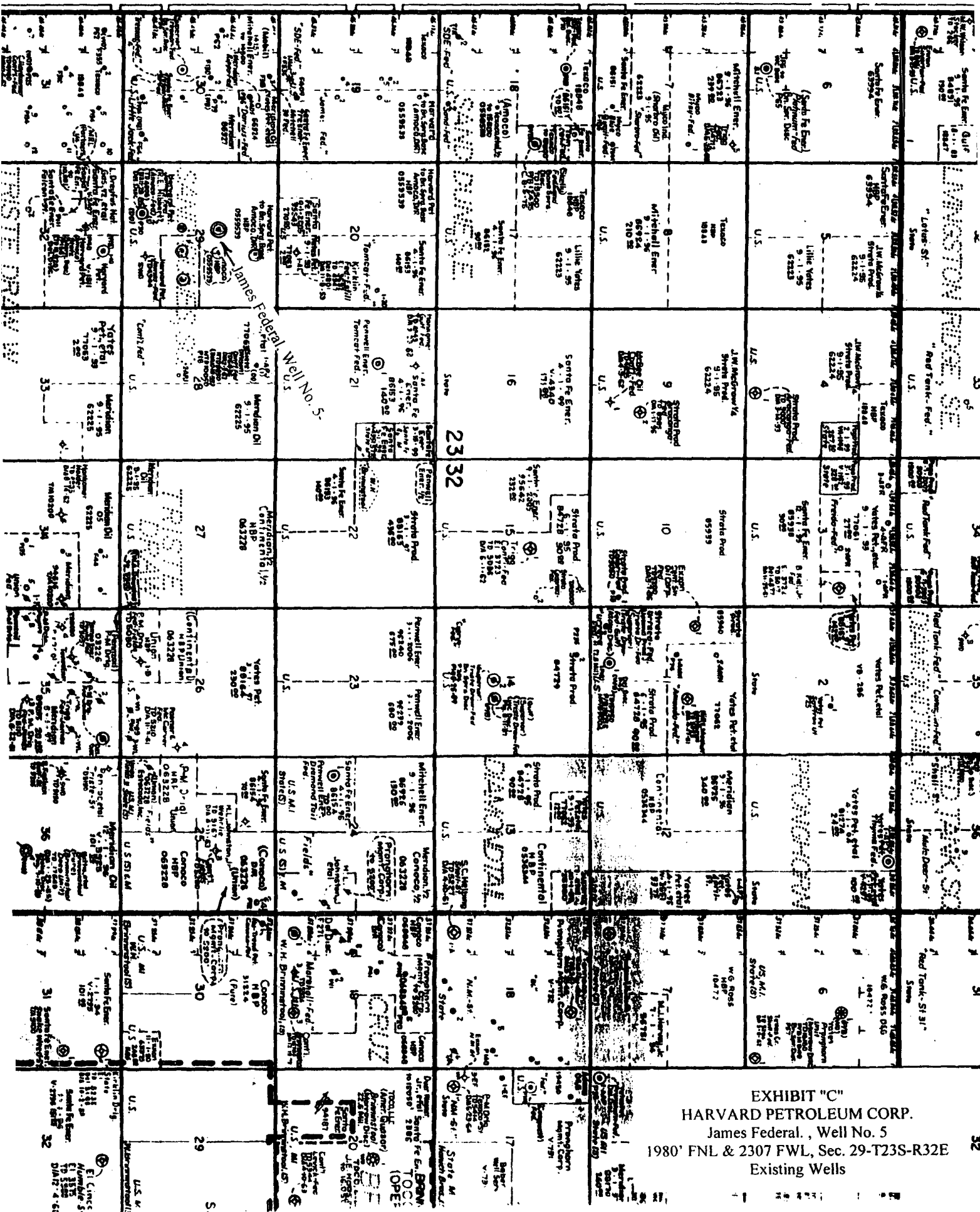


EXHIBIT "C"
HARVARD PETROLEUM CORP.
James Federal. , Well No. 5
0' FNL & 2307 FWL, Sec. 29-T23S-R32E
Existing Wells



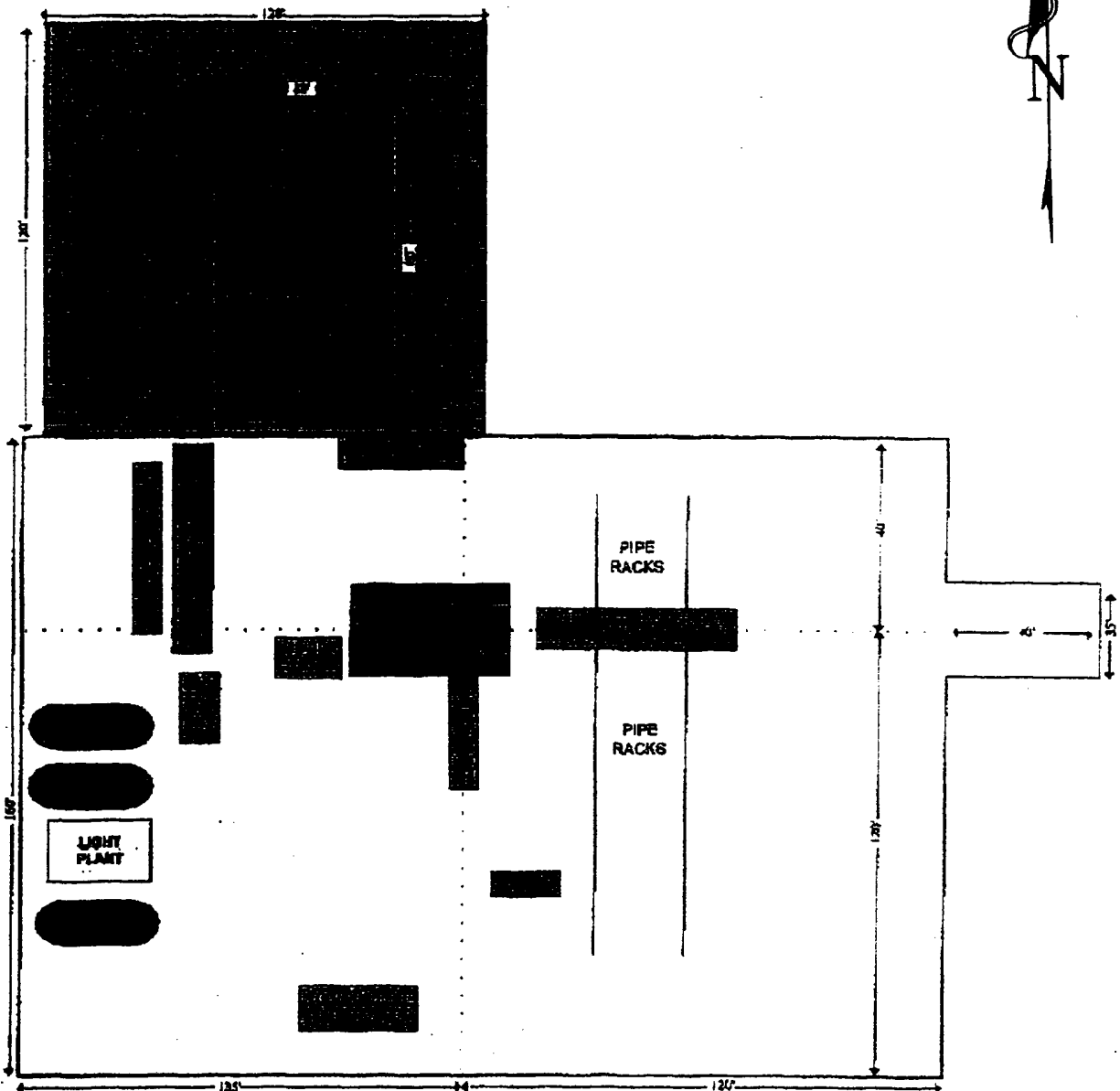


EXHIBIT "D"
HARVARD PETROLEUM CORP.
James Federal, Well No. 5
Pad & Pit Layout

EXHIBIT "E"
HARVARD PETROLEUM CORP.
James Federal, Well No. 5
BOP Specifications

