



Received: 2-9-06  
PMESD-604458920  
Suspension date: NA

## HARVARD PETROLEUM CORPORATION

200 East Second Street • P.O. Box 936 • Roswell, NM 88202-0936 • (505) 623-1581 • Fax (505) 622-8006

February 8, 2006

NM Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Attn: Mike Stogner

Re: Federal "00" #3  
1838' FNL & 2406' FEL  
Sec 18-21S-27E  
Eddy County, NM

2006 FEB 9 PM 2 11

Dear Mr. Stogner:

I have enclosed a copy of the Federal APD on the above well. As can see, the above location is non-standard due to its proximity to the section center line. Harvard Petroleum Corporation and its partners have the same ownership in 160 acres being the E/2 NW/4 and the W/2 NE/4 under a farmout from Mewbourne Oil Company. We have spent over a year trying to find an acceptable location in the S/2 of our acreage due to archeological artifacts throughout the acreage. After much time and expense searching the archeologists were able to locate and get BLM agreement on the above location with a very small fenced pad. Because of the archeological issues and the fact that it is the same lease with the same ownership, I am requesting approval of the above non-standard location.

If you need anything further, please do not hesitate to contact me at the above or by email at [jharvard@hpcnm.com](mailto:jharvard@hpcnm.com).

Sincerely,

Harvard Petroleum Corporation

Jeff Harward  
President

Enclosures

2-13-2006 (9:35 PM)

Jeff Harward called

- Fed. lease # NM-0560291 covers the N/2 of Sec 18-21S-27E and belongs to Mewbourne
- the W/2 NE/4 and E/2 NW/4 is farmed out to Harvard
- 505-723-1581 Ext 102
- cell 626-7738

District I  
 1825 N. French Dr., Hobbs, NM 88240  
 District II  
 811 South First, Artesia, NM 88210  
 District III  
 1020 N. 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	Pool Code	Pool Name <b>Wildcat Bone Spring</b>
Property Code	Property Name <b>FEDERAL "00"</b>	Well Number <b>3</b>
OGED No. <b>10155</b>	Operation Name <b>HARVARD PETROLEUM</b>	Elevation <b>3226</b>

**Surface Location**

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
<b>G</b>	<b>18</b>	<b>21-S</b>	<b>27-E</b>		<b>1838</b>	<b>NORTH</b>	<b>2406</b>	<b>EAST</b>	<b>EDDY</b>

**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		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

<p> <b>LAT N32°28'55.7"</b>  <b>LON W104°13'42.1"</b>  <b>NAD 83</b> </p>	<b>OPERATOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
	Signature <i>George R. Smith</i> Printed Name <b>George R. Smith</b>
	Title <b>Agent</b>
	Date <b>March 22, 2005</b>
	<b>SURVEYOR CERTIFICATION</b> 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 <b>MARCH 12, 2006</b> Signature and Seal of Registered Surveyor 	
Certificate Number <b>NM 5412</b>	

**OPERATOR'S COPY**

F-26

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-0560291
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Harvard Petroleum Corp.		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 936 Roswell, NM 88202	3b. Phone No. (include area code) 505/ 623-1581	8. Lease Name and Well No. Federal "00", Well No. 3
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1838' FNL & 2406' FEL At proposed prod. zone same		9. API Well No. 30-015-34599
14. Distance in miles and direction from nearest town or post office* 3 miles north of Carlsbad, NM		10. Field and Pool, or Exploratory Wildcat Bone Spring
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 234'	16. No. of Acres in lease 320	11. Sec., T., R., M., or Blk. and Survey or Area Sec. 18-T21S-R27E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1383'	19. Proposed Depth 5200'	12. County or Parish Eddy
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3226' GL	22. Approximate date work will start* April 11, 2005	13. State NM
20. BLM/BIA Bond No. on file NM-1109		17. Spacing Unit dedicated to this well 40
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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature <i>George R. Smith</i>	Name (Printed/Typed) George R. Smith	Date 3/22/05
Title Agent for: Harvard Petroleum Corp.	Name (Printed/Typed) <i>Joe G. Lara</i>	Date 2/1/06
Approved by (Signature) <i>Joe G. Lara</i>	Office CARLSBAD FIELD OFFICE	
Title FIELD MANAGER		

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.

*GRS*  
George R. Smith, agent

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED**

WITNESS: 8 1/8" CEMENT JOBS

District I  
1825 N. French Dr. Hobbs, NM 88240

District II  
811 South First, Artesia, NM 88210

District III  
1000 N. 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	Pool Code	Pool Name Wildcat Bone Spring
Property Code	Property Name FEDERAL "00"	Well Number 3
OGRID No. 10155	Operation Name HARVARD PETROLEUM	Elevation 3226

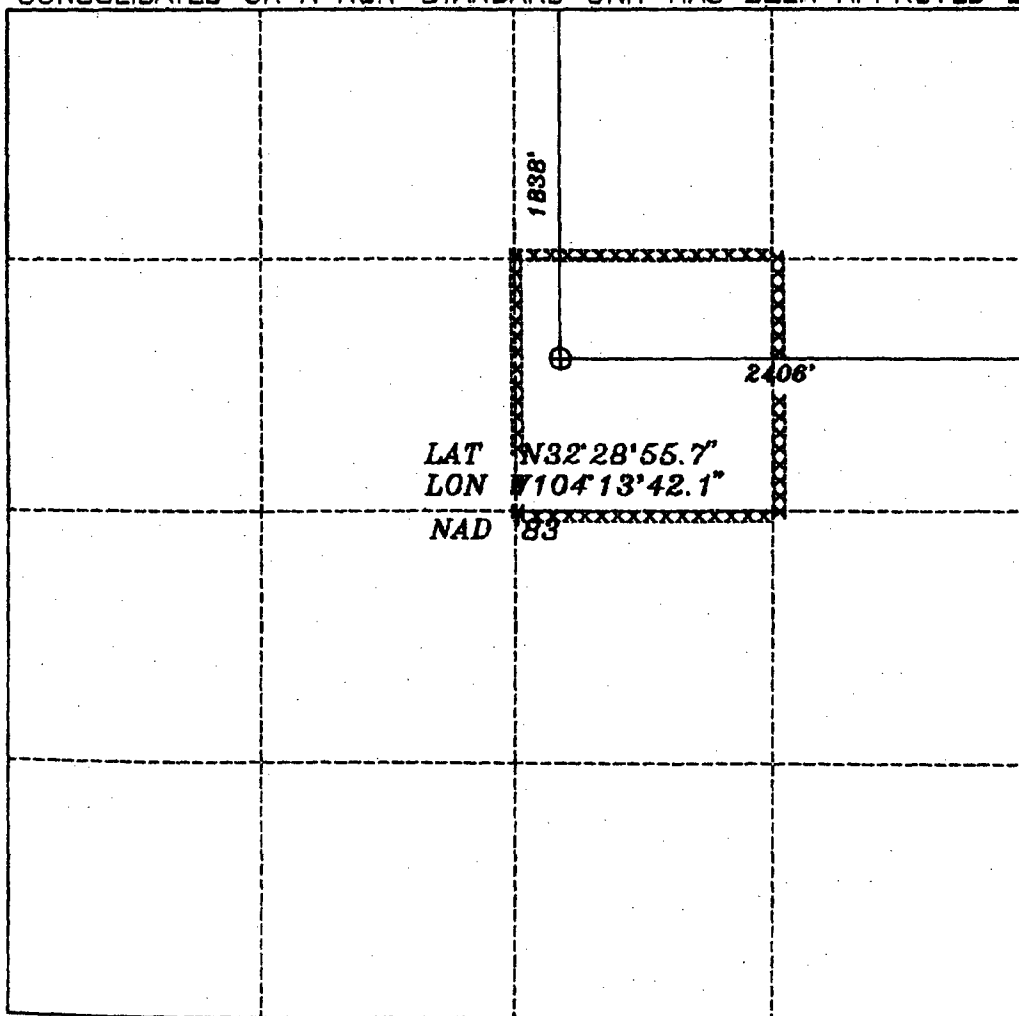
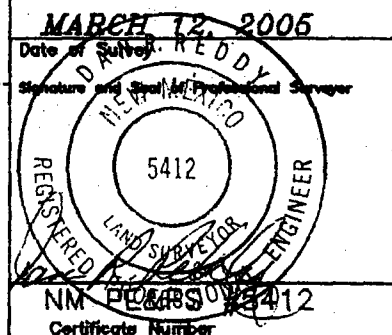
Surface Location

UL or Lot No. C	Section 18	Township 21-S	Range 27-E	Lot Idn.	Feet from the 1838	North/South line NORTH	Feet from the 2406	East/West line EAST	County EDDY
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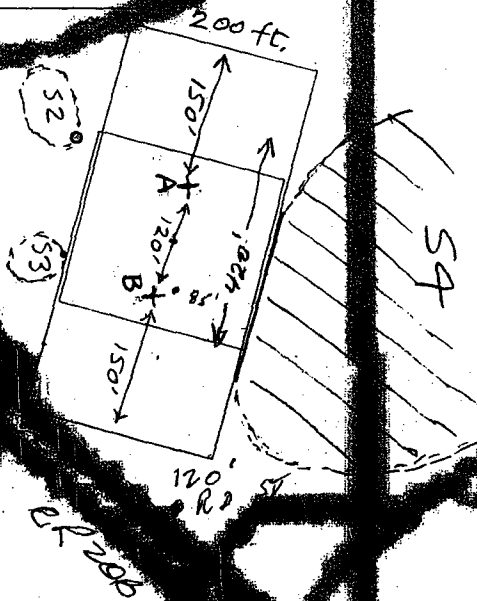
Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 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

	<b>OPERATOR CERTIFICATION</b> 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
	Date March 22, 2005
<b>SURVEYOR CERTIFICATION</b> 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.	
<i>MARCH 12, 2005</i> Date of Survey	
Signature and Seal of Professional Surveyor	
	

Cancelled  
600 ft. sq. X  
Original Centre  
of Federal "00"  
Well No. 3  
at 2150 FNL,  
2250 FWL



HARVARD Federal "00" Well No. 3.  
Suggested well bore location  
(as near as I can gauge it)  
between  
"A" locn. at ca. 1795 FNL, 2538 FEL  
(UTM Zone 13: 572,532 m E  
3593,947 m N.)  
and  
"B" locn. at ca. 1830 FNL, 2430 FEL.  
(UTM Zone 13: 572,566 m E  
3593,937 m N.)  
with a restricted wellpad (rotated ca. 15°)  
ca. 200 ft. N/S x 420 ft. E/W. Maximum

## APPLICATION FOR DRILLING

### HARVARD PETROLEUM CORP.

Federal "00", Well No. 3  
1838' FNL & 2406' FEL, Sec. 18-T21S-R27E  
Lea County, New Mexico  
Lease No.: NM-0560291  
(Exploratory 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:

Tansill	350'	Delaware	2450'
Yates	540'	Bone Spring	4860'
7 Rivers	700'	T.D.	5200'
Capitan Reef	830'		
Base of Reef	2210'		

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 3500' - 3850' and the Bone Spring 4990 - 5020'.

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	400'	Circ. 350 sx "C"
11"	8 5/8"	24.0#	J-55	ST&C	2,250'	Circ. 800 sx 35/65 Poz C + 150 sx C
Note:	Will consult with district BLM engineer if apparent severe lost circulation in reef section.					
7 7/8"	5 1/2"	15.5#	J-55	ST&C	5,200'	Circ. 600 sx 35/65 Poz C + 375 sx "C"

5. **Proposed Control Equipment:** A 11" 3000 psi wp Shaffer Type "F" 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' - 5200': Fresh Water w/gel:	8.4 - 8.8 ppg	29 - 31	No W/L control

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

#### 8. Testing, Logging, and Coring Program:

Drill Stem Tests: None expected.

Logging: T.D. to 2250': GR-CNL-LDT-AIT

2250. to Surface: GR-CNL

Coring: Possible sidewall cores as dictated by logs.

**HARVARD PETROLEUM CORP.**

Federal "00", Well No. 3

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 = 2288 psi and a surface pressure of 1144 psi with a temperature of 112°.
10. H<sub>2</sub>S: None expected. None in previous wells. The Mud Log Unit will be cautioned to use a gas trap to detect H<sub>2</sub>S and if any is detected the mud weight will be increased along with H<sub>2</sub>S inhibitors sufficient to control the gas.
11. Anticipated starting date: April 11, 2005.  
Anticipated completion of drilling operations: Approximately 25 days.

## **MULTI POINT SURFACE USE AND OPERATIONS PLAN**

**HARVARD PETROLEUM CORP.**  
Federal "00", Well No. 3  
1838' FNL & 2406' FEL, Sec. 18-T21S-T27E  
Eddy County, New Mexico  
Lease No.: NM-0560291  
(Exploratory 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 3 road miles north of Carlsbad, NM. Traveling north of Carlsbad on County Rd #206 there will be 3 miles of paved highway.
- B. Directions: Travel north from Carlsbad, NM on County Rd. # 206 for 3 miles to railroad crossing. Continue .2 mile east of railroad crossing to the start of the proposed access road on the northwest (left) side of the CR #206. The proposed access road will run approximately 120 feet to the northeast corner of the proposed well site.

### **2. PLANNED ACCESS ROAD:**

- A. Length and Width: The proposed access road will be approximately 120 feet in length and 12 feet in width. The 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: None required.
- F. Gates, Cattle guards. None required.
- 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".

### **4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;**

- A. Harvard Petroleum Corp. has no production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities and tank battery will be installed on the drilling pad. A 3" Poly SDR 11 gas flow line will be run on the surface for approximately 1,150 feet from the northwest corner of the pad to the meter loop on the P/A Federal "00", Well No. 2 well pad, 660' FNL & 1980' FWL Sec. 18.



**HARVARD PETROLEUM CORP.**

Federal "00", Well No. 3

Page 2

**5. LOCATIONS 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 NE4 SE4 Sec. 36-T20S-R27E. 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 until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.
- 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.

**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, 500' X 500' and 200' X 420'.
- B. Mat Size: 100' X 100', plus 90' X 100' reserve pits on the west.
- C. Cut & Fill: The location will require a 1 - 2 foot cut on the southeast and fill to the northwest.
- D. The surface will be topped with compacted caliche and the reserve pits will be plastic lined.

**HARVARD PETROLEUM CORP.**

Federal "00", Well No. 3

Page 3

**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 and Bureau of Reclamation 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 the west side of Alcran Hills with a .7% slope to the northwest. The location has an elevation of 3226' GL.
- B. Soil: The topsoil at the well site is a brown to reddish-brown course textured loamy sand over indurated caliche. There should be caliche at a depth of 10 to 12 inches. The soil is part of the Tonuco loamy sand soil series.
- C. Flora and Fauna: The vegetation cover has a very sparse grass cover of three-awn, muhly and dropseed, with the primary cover being plants of mesquite, yucca, broomweed, creosote bush, 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: Lake Avalon Dam is approximately 1 mile to the northwest of the location.
- E. Residences and Other Structures: None in the immediate vicinity, except oil well production facilities and the ATSF/Burl North. Railroad tracks 800 feet to the west of the location.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed well site and access road is on Federal (Bureau of Reclamation) surface and minerals.
- H. There is evidence of archaeological, historical or cultural sites in the staked area. A viable location was finally found on the 80 acres allowing a limited size location of 420' X 200' running 15° to the northeast. Archaeological Survey Consultants, P. O. Box D, Roswell, NM 88202, is conducting an archaeological survey and their report will be submitted to the appropriate government agencies.

**HARVARD PETROLEUM CORP.**

Federal "00", Well No. 3

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**12. OPERATOR'S REPRESENTATIVE:**

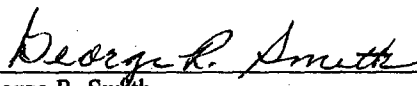
A. The field representative for assuring compliance with the approved use and operations plan is as follows:

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 22, 2005

  
George R. Smith  
Agent for: Harvard Petroleum Corp.



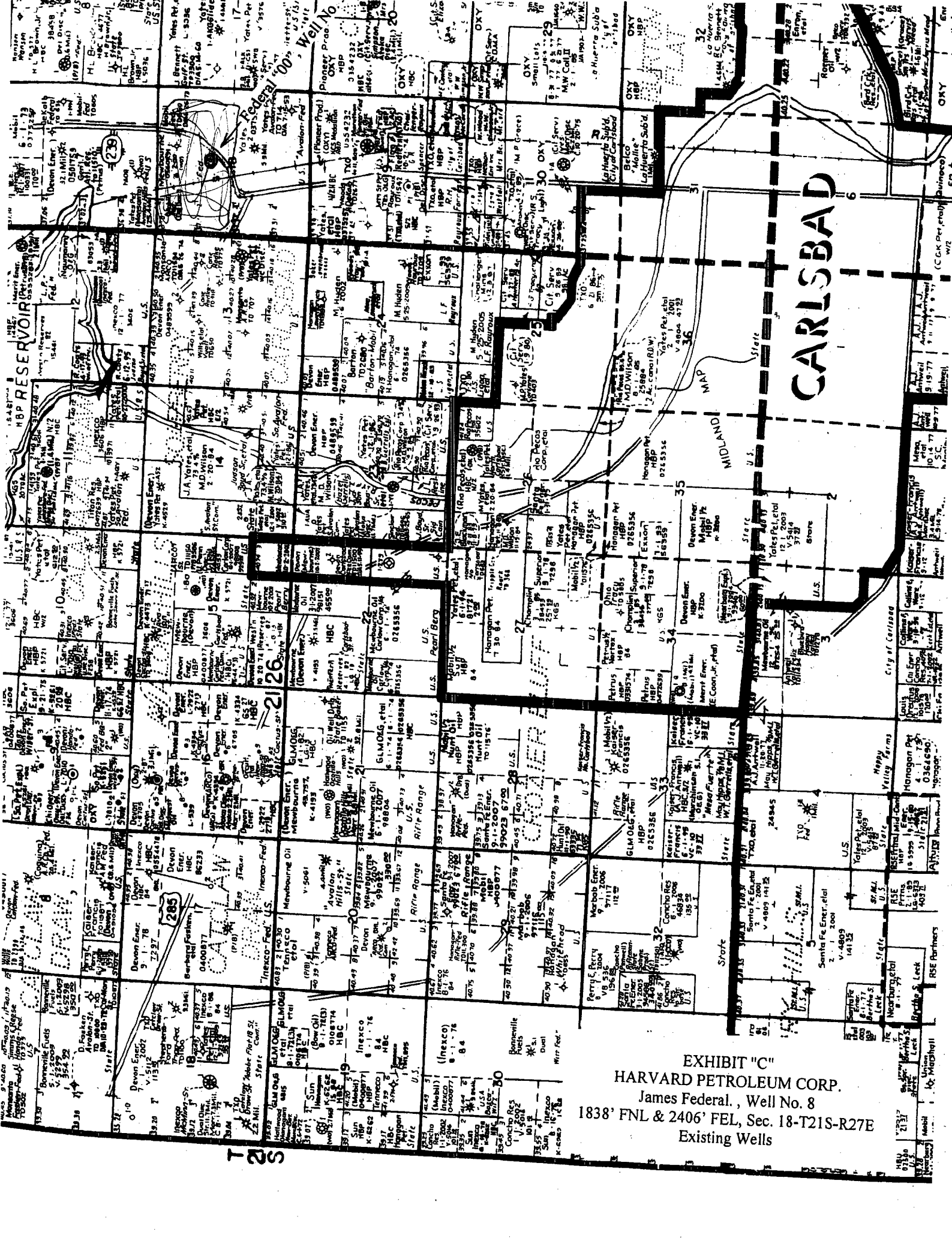


EXHIBIT "C"  
HARVARD PETROLEUM CORP.  
James Federal, Well No. 8  
1838' FNL & 2406' FEL, Sec. 18-T21S-R27E  
Existing Wells

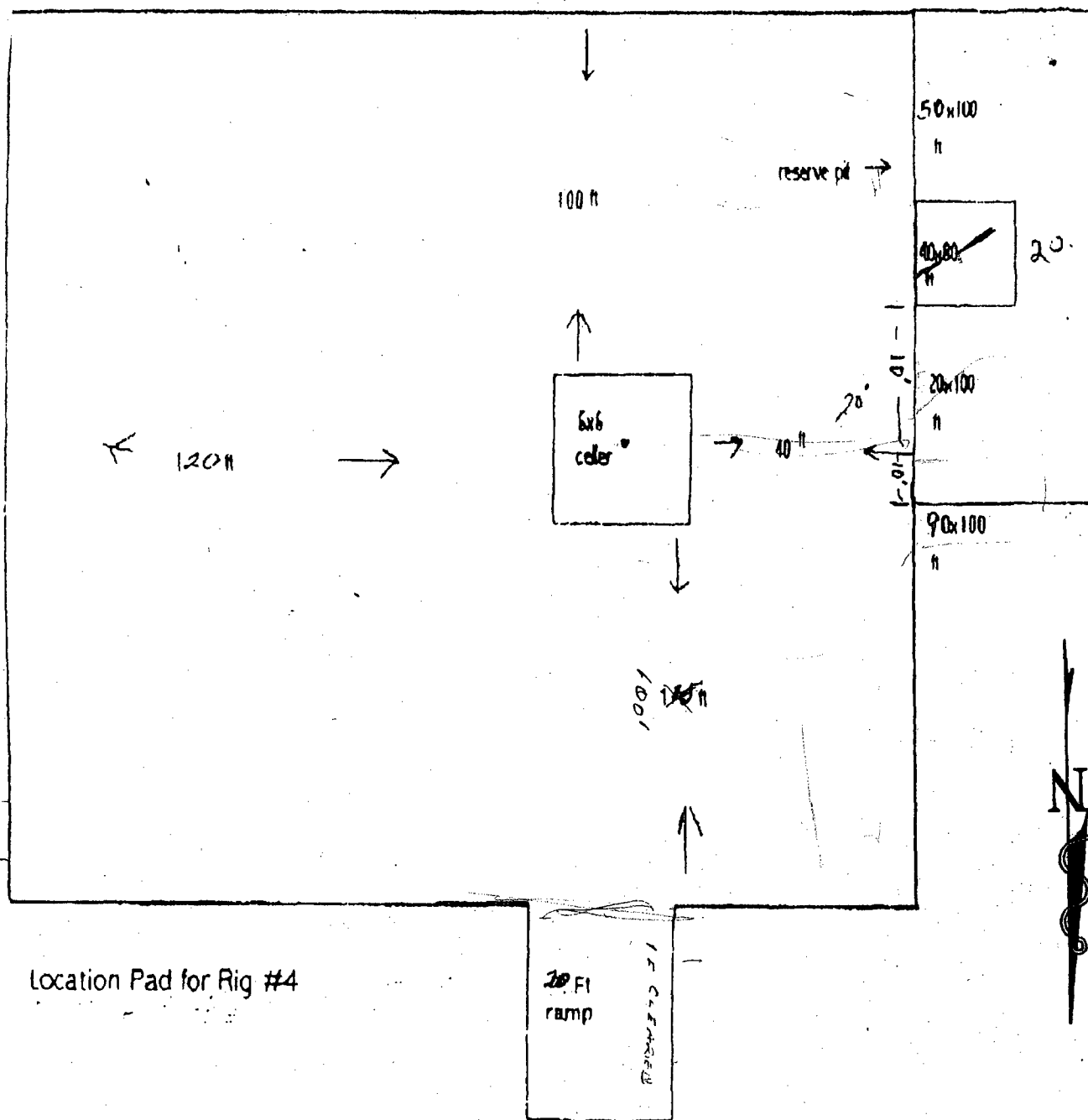


EXHIBIT "D"  
HARVARD PETROLEUM CORP.  
Federal "00", Well No. 3  
Pad & Pit Layout

**RIG #3**

**BLOWOUT PREVENTOR ARRANGEMENT**

**10" SHAFFER TYPE "E", 3000 psi WP**

**80 GALLON, 4 STATION KOOMEY ACCUMULATOR**

**3000 psi WP CHOKE MANIFOLD**

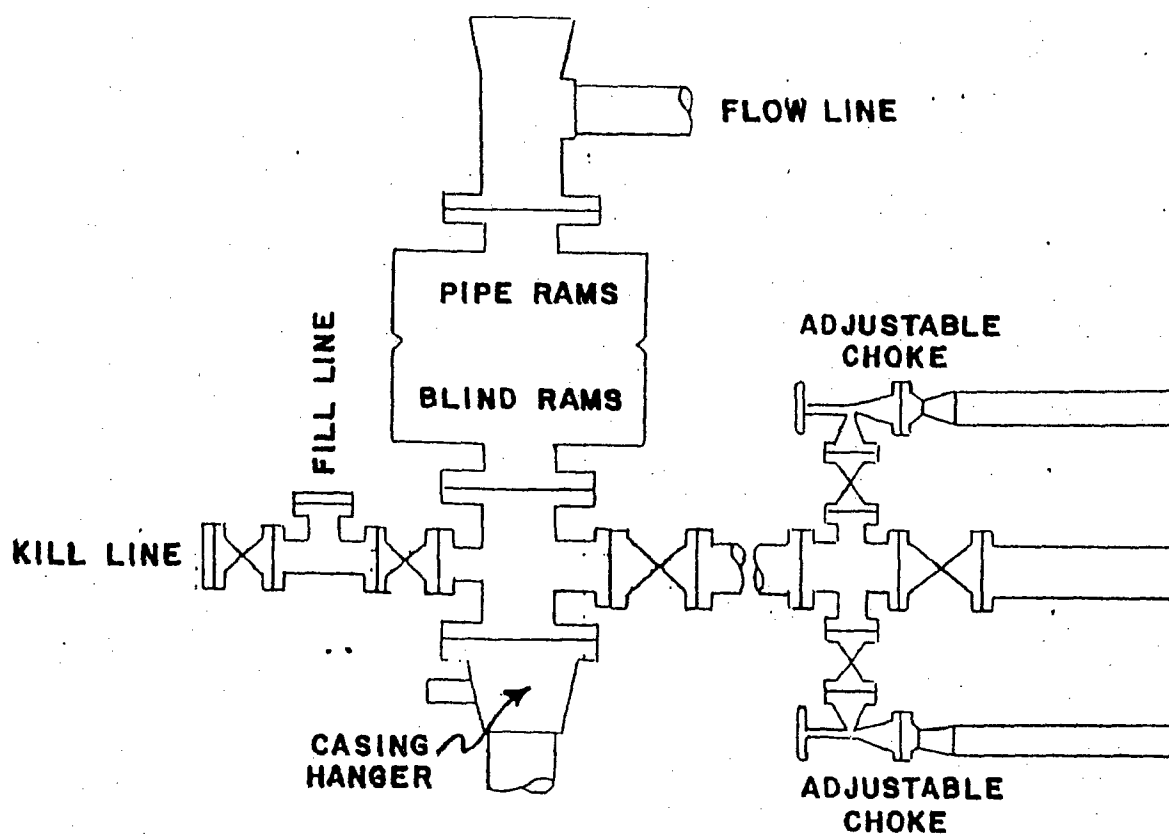


EXHIBIT "E"  
HARVARD PETROLEUM CORP.  
Federal "00", Well No. 3  
BOP Specifications

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-144  
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe office

**Pit or Below-Grade Tank Registration or Closure**

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☐

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Harvard Petroleum Corp. Telephone: (505) 623-1581 e-mail address: \_\_\_\_\_  
Address: P.O. Box 316 Roswell, NM 88202  
Facility or well name: Federal "00", Well No. 3 API #: \_\_\_\_\_ U/L or Qtr/Qtr SW4NE4 \_\_\_\_\_ Sec 18 \_\_\_\_\_ T 21S \_\_\_\_\_ R 27E \_\_\_\_\_  
County: Eddy Latitude N 32°28'55.7" Longitude W 104°13'42.1" NAD: 1927 ☐ 1983 X Surface Owner Federal ☐ State ☐ Private ☐ Indi. ☐

**Pit**

Type: DrillingX Production ☐ Disposal ☐  
Workover ☐ Emergency ☐

LinedX Unlined ☐

Liner type: Synthetic ☐ Thickness 12 mil Clay ☐ Volume 10,000  
+/- \_\_\_\_\_ bbl

**Below-grade tank**

Volume: \_\_\_\_\_ bbl Type of fluid: \_\_\_\_\_

Construction material: \_\_\_\_\_

Double-walled, with leak detection? Yes ☐ If not, explain why not: \_\_\_\_\_

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points)

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes

(20 points)

No

(0 points)

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet

(20 points)

200 feet or more, but less than 1000 feet

(10 points)

1000 feet or more

(0 points)

Ranking Score (Total Points)

— 0 —

**If this is a pit closure:** (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite ☐ offsite ☐ If offsite, name of facility \_\_\_\_\_ (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface \_\_\_\_\_ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: March 22, 2005

Printed Name/Title Agent for Harvard Petroleum Corp.

Signature George R. Smith

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval: \_\_\_\_\_

Date: \_\_\_\_\_

Printed Name/Title \_\_\_\_\_

Signature \_\_\_\_\_



## SPECIAL DRILLING STIPULATIONS

### THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name Harvard Petroleum Corporation Well Name & No. 3-Federal 00  
Location 1838' F N L & 2406' F E L Sec. 18, T. 21 S, R. 27 E.  
Lease No. NM-0560291 County Eddy State New Mexico

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

#### I. SPECIAL ENVIRONMENT REQUIREMENTS

- ( ) Lesser Prairie Chicken (stips attached) ( ) Flood plain (stips attached)  
( ) San Simon Swale (stips attached) (X) Other See attached archaeological stipulations

#### II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(X) The BLM will monitor construction of this drill site. Notify the (X) Carlsbad Field Office at (505) 234-5972 ( ) Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

(X) Roads and the drill pad for this well must be surfaced with 4 inches of compacted caliche upon completion of well and it is determined to be a producer.

( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately \_\_\_\_\_ inches in depth. Approximately \_\_\_\_\_ cubic yards of topsoil material will be stockpiled for reclamation.

(X) Other. V-Door East Northeast (Reserve pits to North Northwest). Restrict pad to 100 ft. to west. Surface 3" Gas Line not authorized. utility lines on Bureau of Reclamation (BOR) Lands will have to be approved by BOR.

#### III. WELL COMPLETION REQUIREMENTS

( ) A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(X) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

( ) A. Seed Mixture 1 (Loamy Sites)  
Side Oats Grama (*Bouteloua curtipendula*) 5.0  
Sand Dropseed (*Sporobolus cryptandrus*) 1.0

( ) B. Seed Mixture 2 (Sandy Sites)  
Sand Dropseed (*Sporobolus cryptandrus*) 1.0  
Sand Lovegrass (*Eragrostis trichodes*) 1.0  
Plains Bristlegrass (*Setaria magrostachya*) 2.0

(X) C. Seed Mixture 3 (Shallow Sites)  
Side oats Grama (*Boute curtipendula*) 1.0

( ) D. Seed Mixture 4 (Gypsum Sites)  
Alkali Sacaton (*Sporobolus airoides*) 1.0  
Four-Wing Saltbush (*Atriplex canescens*) 5.0

( ) OTHER SEE ATTACHED SEED MIXTURE

Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.

(X) Other. See attached BOR Stips.

## RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6 mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

## OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

- (1) Lined as specified above and
- (2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be recontoured, all trash removed, and reseeded as specified in this permit.

## CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to processed by BLM.

## TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.



EXHIBIT NO. 1

Bureau of Land Management, Carlsbad Field Office  
620 E. Greene Street Carlsbad, NM 88220

Cultural and Archaeological Resources

## NOTICE OF STIPULATIONS

Date of Issue:

1/30/06

Lease Number:

NM-0560291

BLM Report No.:

05-NM-523-801.1

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented:

Project Name:	Federal-OO Well #3
REQUIRED	<b>1. A 3-day preconstruction call-in notification.</b> Contact BLM Inspection and Enforcement at (505) 234-5977, 5909, or 5995, to establish a construction start date.
REQUIRED	<b>2. Professional archaeological monitoring.</b> Contact your project archaeologist, or BLM's Cultural Resources Section at (505) 234-5980, 5917, 5967, or 5986, for assistance. A. <input checked="" type="checkbox"/> These stipulations must be given to your monitor at least <b>5 days</b> prior to the start of construction. B. <input checked="" type="checkbox"/> No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
REQUIRED	<b>3. Cultural site barrier fencing.</b> (Your monitor will assist you). A. <input type="checkbox"/> A temporary site protection barrier(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time. B. <input checked="" type="checkbox"/> A permanent, 4-strand barbed wire fence strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
REQUIRED	<b>4. The archaeological monitor shall:</b> A. <input checked="" type="checkbox"/> Ensure that all site protection barriers are located as indicated on the attached map(s). See exhibit 1A. B. <input type="checkbox"/> Observe all ground-disturbing activities within 100 feet of cultural site no. (s) _____, as shown on the attached map(s). C. <input type="checkbox"/> Ensure that all reroutes are adhered to avoid cultural site no.(s) LA D. <input type="checkbox"/> Ensure the proposed _____ is/are located as shown on the attached map(s). E. <input checked="" type="checkbox"/> Submit a brief monitoring report within 30 days of completion of monitoring.  The contract archaeologist shall monitor the initial construction of the well pad and ensure there is no construction beyond the permanent fence.  Other:

**Site Protection and Employee Education:** It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

For assistance, contact  
BLM Cultural Resources: Gary Navarre (505) 234-5980 Bruce Boeke (505) 234-5917 James Smith (505) 234-5986  
Martin Stein (505) 234-5967

Site LA 148794  
(ASC 05-023-51)

Boundary of  
600 ft. square  
Surveyed Area

NO CONSTRUCTION  
ZONE.

Monitor the construction of the  
fenceline & initial construction  
of the well pad.

Fenceline

Well Pad  
Centre Stake

Buried Pipeline

3220 ft

3230 ft

3220 ft

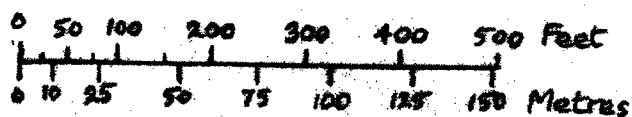
3220 ft

Buried Pipeline

3220 ft

3210 ft

HARVARD PETROLEUM CORPORATION  
FEDERAL "08" WELL NO. 3



## **MINERAL LEASING STIPULATIONS CARLSBAD AND TUCUMCARI PROJECT LANDS**

The United States Bureau of Reclamation (Reclamation) is the surface managing agency for approximately 59,800 acres of acquired and withdrawn lands in the Roswell Area Office's Bureau of Land Management mineral jurisdiction. The subject lands are located within and adjacent to three reservoirs of the Carlsbad Project and two reservoirs of the Tucumcari Project, being listed as follows:

Carlsbad Project - Brantley Reservoir = 43,500 acres  
Carlsbad Project - Avalon Reservoir = 4,000 acres  
Carlsbad Project - Sumner Reservoir = 11,500 acres  
Tucumcari Project - Hudson Lake = 160 acres  
Tucumcari Project - Dry Lake = 640 acres

With regard to the leasing of the mineral estate(s) within the 59,800 acres, Reclamation will provide specific leasing stipulations for each prospective lease. The general leasing stipulations and requirements for the subject Reclamation managed lands are as follows:

### **Brantley Reservoir**

No surface occupancy will be allowed within one half mile of the Brantley Dam site, drilling between one half mile and one mile of the Brantley dam site will be reviewed on a case by case basis.

No surface occupancy within the Brantley Lake State Park.

No storage facilities will be allowed below contour elevation 3286.

No surface occupancy below natural contour elevation 3271.

### **Avalon Reservoir**

No surface occupancy will be allowed within one half mile of the Avalon Dam site.

No surface occupancy below contour elevation 3190.

No storage facilities below contour elevation 3200.

### **Sumner Reservoir**

No surface occupancy will be allowed within one half mile of the Sumner Dam site.

No surface occupancy within Sumner Lake State Park.

No surface occupancy below contour elevation 4279.

No storage facilities below contour elevation 4300.

### **Hudson Lake**

No surface occupancy within the boundaries of Hudson Lake

### **Dry Lake**

No surface occupancy below contour elevation 4085.

In addition to those restrictions above, Reclamation proposes that the first paragraph of page 3 of MANAGEMENT COMMON TO ALL ALTERNATIVES be omitted. The subject paragraph states that if lands presently managed by Reclamation revert to BLM, they would be leased and managed under appropriate Roswell District Office stipulations or conditions of approval (e.g. stipulations for flood plains). **Once production of all wells permitted are terminated, the permittee shall immediately plug the well hole and reclaim the surface disturbed by the operation**

## CONDITIONS OF APPROVAL - DRILLING

Well Name & No. 3 - FEDERAL 'OO'  
Operator's Name: HARVARD PETROLEUM CORP.  
Location: 1838' FNL & 2406' FEL - SEC 18 - T21S - R27E - EDDY COUNTY  
Lease: NM-0560291

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

#### A. Spudding

**NOTE: Will consult with BLM should severe lost circulation occur in the reef section**

B. Cementing casing: 13-3/8 inch 8-5/8 inch 5-1/2 inch

#### C. BOP tests

2. No H<sub>2</sub>S gas is expected however the mud logging unit will be cautioned to use a gas trap to detect H<sub>2</sub>S and if any is expected the mud weight will be increased along with H<sub>2</sub>S inhibitors sufficient to control the gas. No H<sub>2</sub>S gas has been reported from wells in this section.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

### II. CASING:

1. The 13-3/8 inch surface casing shall be set at 400 feet and cement circulated to the surface.

2. The 8-5/8 inch intermediate casing shall be set at 2250 feet, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is cement shall extend upward a minimum of 500 feet above the uppermost hydrocarbon bearing interval.

### **III. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13-3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) is 2000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- A variance to test the 13-3/8" casing and BOP to the reduced pressure of 1000 psi with the rig pumps is approved.

- The tests shall be done by an independent service company.

- The results of the test shall be reported to the appropriate BLM office.

- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

BLM Serial Number: NM-0560291

Company Reference: Harvard Petroleum Corporation

Well No. & Name: 3-Federal 00

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS  
CARLSBAD FIELD OFFICE

A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder/grantee/permittee shall hereafter be identified as the holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

GENERAL REQUIREMENTS

A. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

B. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all



damages to Federal lands resulting therefrom, the Authorized

Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

E. The holder shall minimize disturbance to existing fences and other improvements on public domain surface. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times.

The holder will make a documented good-faith effort to contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar.

Holder agrees to comply with the following stipulations:

1. ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

☐ Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

☒ Ditching will be required on both sides of the roadway as shown on the attached map or as staked in the field.

☐ Flat-blading is authorized on segment(s) delineated on the attached map.

### 3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, outsloping, insloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

A. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

#### SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

For this road the spacing interval for lead-off ditches shall be at

☒ 400 foot intervals.

☒ 100 foot intervals.

☐ locations staked in the field as per spacing intervals above.

☐ locations delineated on the attached map.

B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).

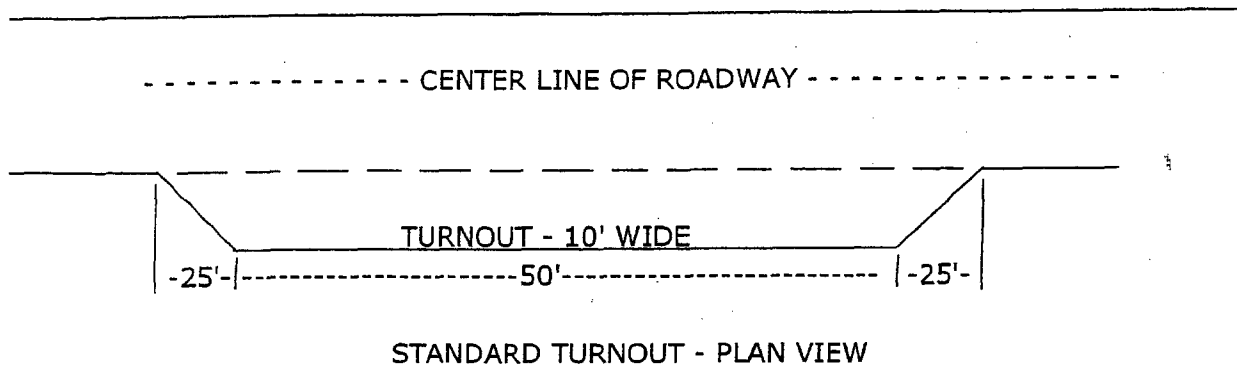
C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Example: 4% slope: spacing interval =  $\frac{400}{4} + 100 = 200$  feet

#### 4. TURNOUTS

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:



#### 5. SURFACING

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer. When surfacing is required, surfacing materials will be compacted to a minimum thickness of <sup>four</sup>~~six~~ inches with caliche material. The width of surfacing shall be no less than the driving surface. Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

#### 6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

7. MAINTENANCE

The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

8. PUBLIC ACCESS

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the authorized officer after consulting with the holder.

10. SPECIAL STIPULATIONS: *None*

ARCHAEOLOGICAL SURVEY of the HARVARD PETROLEUM CORPORATION  
FEDERAL "OO" WELL NO. 3  
T21S, R27E, SECTION 18, SW¼NE¼ [1838 FNL, 2406 FEL]  
EDDY COUNTY, NEW MEXICO

FEDERAL LAND SURFACE (BUREAU of RECLAMATION)  
[U.S.G.S. 7.5 minute series, CARLSBAD EAST, NEW MEXICO, 1985]

ASC Report 05-023A (NMCRIS # 93504)  
Revised Report Issue

by Dorothy M. Griffiths, Project Archaeologist  
and James V. Sciscenti, Principal Investigator

ARCHAEOLOGICAL SURVEY CONSULTANTS  
P.O. Box 2285, Roswell, New Mexico 88202-2285  
[505] 623-5012

PERMIT NO.: 18-2920-03-U

November 4, 2005

Prepared for:

Harvard Petroleum Corporation  
P.O. Box 936  
Roswell, New Mexico 88202

Attention: Jeff Harvard

\*\*\*\*\*  
\* This is an amended issue \*  
\* of ASC Report No. 05-023, \*  
\* issued on June 18, 2005. \*  
\* This issue replaces all \*  
\* previous issues. \*  
\*\*\*\*\*

Distribution:

→ Harvard Petroleum Corporation (1)  
→ Energy Administrative Services (1)  
BLM - Carlsbad Field Office (2)  
Griffiths (1)

## TITLE PAGE/ABSTRACT/NEGATIVE PROJECT REPORT FORM

Dept. of the Interior

Bureau of Land Management, Carlsbad Field Office

1. BLM Report #	2. Reviewer's Initials/Date:  Accepted ( ) Rejected ( )	3. NMCRIS #: 93504
-----------------	---	--------------------

4. Type of Report: Negative ( ) Positive (X)

5. Report Title: ARCHAEOLOGICAL SURVEY of the HARVARD PETROLEUM CORPORATION FEDERAL "OO" WELL NO. 3 (revised issue). T21S, R27E, SECTION 18, SW $\frac{1}{4}$ NE $\frac{1}{4}$  [1838 FNL, 2406 FEL]. EDDY COUNTY, NEW MEXICO.

Authors: Dorothy M. Griffiths and James V. Sciscoenti

6. Project Fieldwork Date(s): 16-Feb.-2005; 6-June-2005; 7-June-2005; 9-June-2005; 14-June-2005; 15-June-2005; 17-June-2005; 28-July-2005; 3-August-2005; 1-October-2005

7. Report Date: 4-November-2005

## 8. Consultants Name &amp; Address:

ARCHAEOLOGICAL SURVEY CONSULTANTS

P.O. Box 2285, Roswell, New Mexico 88202-2285. Phone: 505-623-5012.

Direct Charge: D.M. Griffiths and/or J.V. Sciscoenti

Project Archaeologists: Dorothy M. Griffiths; James V. Sciscoenti

Field Personnel Names: Dorothy M. Griffiths; James V. Sciscoenti; Erin L. White; Brian Barnhill

9. A.S.C. BLM Permit #: 18-2920-03-U

10. A.S.C. Report No.: ASC Report 05-023A

## 11. Sponsor Name, Address, &amp; Phone Number:

Individual Responsible: Jeff Harvard  
HARVARD PETROLEUM CORPORATION  
P.O. Box 936, Roswell, New Mexico 88202  
Phone: 505-623-1583

## 12. Customer Project #:

13. LAND STATUS:	BLM	STATE	PRIVATE	OTHER	TOTAL
Acreage Surveyed:	8.26				8.26
Area of Effect:	1.15 +				1.15

14. Inspected Linear Area: not applicable. Linear Impact Area: not applicable.

Inspected Block Area: 600 ft. square, 8.26 acres.

Impacted Block Area: 200 ft. NNE/SSW x 250 ft. WNW/ESE, 1.15 acres.

15. Location: a. State: New Mexico b. County: Eddy

c. BLM Field Office: Carlsbad d. Nearest Town: Carlsbad

e. Access Road R/W Location: not applicable (falls within 600 ft. square well pad area).

f. Well Pad Location: T21S, R27E, Section 18 (SW $\frac{1}{4}$ NE $\frac{1}{4}$ ).

Well Pad Footages: T21S, R27E, Section 18 (1838 FNL, 2406 FEL).

g. Map Name(s): U.S.G.S. 7.5 minute series, CARLSBAD EAST, NEW MEXICO, 1985 [32104-D2].

TITLE PAGE/ABSTRACT/NEGATIVE PROJECT REPORT FORM  
(continued)

BLM/CFO

16. a. **Records Search:** ARMS (Griffiths, 6-April-2005) & BLM records (Raes, 4-April-2005) indicate the prior recording of LA 135217 within 0.25 miles of the project area.
- b. **Description of Undertaking:** archaeological survey of a well pad (600 ft. square), with a total federal land surface of 8.26 acres, was inspected for cultural remains.
- c. **Environmental Setting:** situated east of the Avalon Hills, ca. 0.9 miles (1.45 kilometres) southeast of Lake Avalon, on the spine and adjacent slopes of a NNW trending ridge; most of the well pad is on the spine of the ridge. The project is situated within terrain which slopes gently to the north, west/southwest, and northeast, in an area marked by exposures of loamy sands. **Soils:** Tonuco loamy sands. **Elevation:** 3215 ft. to 3232 ft. **Slope:** 0.38° to 2.49°. **Aspect:** west around to north/northeast. **Permanent Water:** Lake Avalon, 1.0 miles (1.61 km.) NNW. **Potential Water:** shallow drainage, trending NNW, in extreme northeast quadrant of the proposed well pad. A number of sunken basins occur to the west, north, and northeast of the proposed well pad; these sinks may hold water intermittently. A major WSW trending drainage is ca. 0.3 miles south of the project area. **Lithic Resources:** locally available quartzite, chert, hornfels, and chalcedony gravels in project area. **Vegetation:** Chihuahua Desert Scrub. **Fauna:** jack rabbit, coyote, antelope, mule deer, cottontail rabbit, tarantula, tortoise, flies, kilddeer, owls, mud swallow in creeks, quail, etc. **Ground Visibility:** ca. 50% to 95%; averaging ca. 75% to 85%.
- d. **Field Methods:** straight and zig-zag transects, spaced no greater than 15 metres apart, with dogleash transects in the vicinity of cultural material. **Work Hours on Ground:** 173. **Crew Size:** 2 to 3. **Artifacts Collected:** 0.
17. **Cultural Resource Findings:** archaeological survey of the Harvard Petroleum Corporation Federal "00" Well No. 3 revealed the occurrence of 12 Isolated Finds, none of which are significant past the level of field recording.
- In addition, archaeological survey of the Harvard Petroleum Corporation Federal "00" Well No. 3 revealed the occurrence of 4, previously un-recorded, archaeological sites, LA 148794 (ASC 05-023-S1), LA 148795 (ASC 05-023-S2), LA 148796 (ASC 05-023-S3), and LA 148797 (ASC 05-023-S4), within or adjacent to the staked well pad.
- Subsequent to issue of ASC Report 05-023, inspection by BLM personnel revealed a limited number of artifacts, situated across the proposed, restricted Federal "00" Well No. 3 well pad area. The BLM personnel pinflagged the limited number of artifacts within the proposed well pad area.
- On July 28, A.D. 2005, Archaeological Survey Consultants personnel accompanied BLM personnel for an inspection of the proposed restricted well pad area. The BLM artifact pinflags were no longer present, indicating interference by unknown persons.
- The artifacts within the restricted well pad area were re-pinflagged by Archaeological Survey Consultants and BLM personnel. Subsequently, 20 randomly situated, screened test pits were excavated within the restricted Harvard Petroleum Corporation Federal "00" Well No. 3 well pad area. The 20 screened test pits did not reveal any subsurface cultural deposits, with sterile soil occurring immediately below the surface.
- Artifacts within the restricted well pad area were mapped by G.P.S. coordinates, and individually described. It should be noted that the majority of artifacts within the restricted well pad area were situated on tufts of grass or on soil without any soil mold conforming to the shape of the artifacts. This indicates planting of the artifacts primarily across the central area of the proposed well pad.
- Inspection of pinflagged artifacts, situated within the initially staked and cancelled Harvard Federal "00" Well No. 3 location to the west, showed in excess of 25 standing pinflags without artifacts, indicating removal of the artifacts, and possibly planting within the finally staked Harvard Federal "00" Well No. 3 well pad area.

TITLE PAGE/ABSTRACT/NEGATIVE PROJECT REPORT FORM  
(continued)

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18. **Management Summary & Recommendations:** archaeological CLEARANCE for the Harvard Petroleum Corporation Federal "00" Well No. 3 is RECOMMENDED, with the following provisos:

a). The proposed well pad must be restricted to an area 200 ft. NNE/SSW x 250 ft. WNW/ESE. Lathes, marked "fence", have been installed along the north, west, and south sides of the restricted well pad; the north and south fencelines will extend eastward to the paved highway. A permanent 3-strand barbwire fence must be installed, under supervision of an archaeologist familiar with the perimeters of the archaeological sites, along the 3 sides of the proposed well pad, following the staked fence lathes.

An archaeological monitor should occur during fence installation. The archaeological monitor should be performed by a professional archaeologist familiar with the 4 archaeological sites and the staked fence perimeter.

19. I certify that the information provided above is correct and accurate, and meets all applicable BLM standards.

Responsible Archaeologist

D.M. Griffiths

Date:

1/23/06

Responsible Archaeologist

[Signature]

Date:

1/23/06



State of New Mexico  
 1835 N French Dr. Hobbs, NM 88240  
 811 South First, Artesia, NM 88214  
 1000 N. Second St., Aztec, NM 87410  
 2040 South Pacheco, Santa Fe, NM 87508

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, 1988  
 Submit to Appropriate District Office  
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 Fee Leases - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name <b>FEDERAL "00"</b>	Well Number <b>3</b>
COORD No.	Operation Name <b>HARVARD PETROLEUM</b>	Elevation <b>3226</b>

## Surface Location

UL or Lot No.	Section	Township	Range	Lot No.	Feet from the	North/South line	Feet from the	East/West line	County
<b>G</b>	<b>18</b>	<b>21-S</b>	<b>27-E</b>		<b>1838</b>	<b>NORTH</b>	<b>2406</b>	<b>EAST</b>	<b>EDDY</b>

## Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot No.	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	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

	<b>OPERATOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS PLAT AND DEDICATION PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.	
	Signature	
	Printed Name	
	Title	
<b>LAT N32°28'55.7"</b> <b>LON W104°13'42.1"</b> <b>NAD 83</b>	<b>SURVEYOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE WELL LOCATED HEREIN ON THIS PLAT WAS LOCATED FROM THE CORNER OF LAND PLATS MADE BY ME OR UNDER MY SUPERVISION, AND THAT THE DATA IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.	
	Date of Survey	
	<b>MARCH 12, 2006</b>	
	State of New Mexico Surveyor 	

