

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Division
811 S. 1st Street
Artesia, NM 88210-2834

FORM APPROVED
OMB No. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELL
Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other Instructions on reverse side

1. Type of Well

☐

Oil Well

☒

Gas Well

☐

Other

2. Name of Operator

LOUIS DREYFUS NATURAL GAS CORP.

3a. Address

Suite 600

14000 QUAIL SPGS PKWY, OKLA CITY, OK 73134

3b. Phone No. (include area code)

405-749-1300

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

990' FNL & 660' FWL, Sec. 17-23S-26E

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and/or No.

8. Well Name and No.

Saragossa 17 Fed com #1

9. APT Well No.

30-015-

31529

10. Field and Pool, or Exploratory Area

Undsg. Carlsbad Morrow, S.

11. County or Parish, State

Eddy County

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION

☐ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

TYPE OF ACTION

☐ Acidize

☐ Altering Casing

☐ Casing Repair

☐ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☒ Other

Change of Operator &

Well Name.

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof if the proposal is to deepen, directionally or recompleting, horizontally give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

This well was originally permitted on October 27, 2000, by OXY USA Inc., and with the name of OXY Bazooka Federal #1. This Sundry notice is to request that the Operator be changed to Louis Dreyfus Natural Gas Corporation and the name be changed to Saragossa 17 Fed Com #1. Application for FAA approval has also been submitted, a copy is enclosed for your records.

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Carla Christian

Title Regulatory Technician

Signature

Carla Christian

Date November 6, 2000

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice 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.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT 1 REPLICATE

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

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☐

GAS
WELL ☒

OTHER

SINGLE
ZONE ☒

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

OXY USA Inc.

16696

3. ADDRESS AND TELEPHONE NO

P.O. BOX 50250 MIDLAND, TX 79710-0250 915-685-5717

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

At surface

990 FNL 660 FWL NWNW(D)

At proposed prod. zone

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

5 miles southwest of Carlsbad, NM

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
320

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.

N/A

19. PROPOSED DEPTH
12000'

20. ROTARY OR CABLE TOOLS
R

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

3392'

22. APPROX. DATE WORK WILL START*

12/15/00

23.

PROPOSED CASING AND CEMENTING DATA

CARLSBAD CONTROLLED WATER BARN

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8" H40	48#	700'	550sx-Circulate
12-1/4"	9-5/8" K55	36#	2800'	700sx-Circulate
8-3/4"	7" N80	26#	9500'	675sx-Est TOC 4500'
6-1/2"	4-1/2" S95	11.6#	9000-12000'	300sx-Est TOC 9000'

SEE OTHER SIDE

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

David Stewart

TITLE

DAVID STEWART
REGULATORY ANALYST

DATE

10/27/00

(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

OXY Bazooka Federal #1
990 FNL 660 FWL SEC 17 T23S R26E Eddy County, NM
Federal Lease No. NM027994

PROPOSED TD: 12000' TVD

BOP PROGRAM: 0-700' None
700-2800' 13-3/8" 3M annular preventer.
2800-9500' 11" 5M blind pipe rams with 5M annular preventer and rotating head below 8300'.
9500-12000' 7-1/16" 5M blind pipe rams with 5M annular preventer and rotating head below 9500'.

CASING: Surface: 13-3/8" OD 48# H40 ST&C new casing set at 700'
17-1/2" hole
Intermediate: 9-5/8" OD 36# K55 ST&C new casing from 0-2800'
12-1/4" hole
Protection: 7" OD 26# N80 ST&C new casing from 0-9500'
8-3/4" hole
Liner: 4-1/2" OD 11.6# S95 LT&C new casing from 9000-12000'
6-1/2" hole

CEMENT: Surface - Circulate cement with 450sx 35:65 POZ/C with 6% Bentonite + 2% CaCl₂ + .25#/sx Cello-Seal followed by 200sx Cl C with 2% CaCl₂.

Intermediate - Circulate cement with 500sx 35:65 POZ/C with 6% Bentonite + 2% CaCl₂ + .25#/sx Cello-Seal + 5#/sx Gilsonite followed by 200sx Cl C with 2% CaCl₂.

Protection - Cement with 600sx 15:61:11 POZ/C/CSE with .5% FL-25 + .5% FL-52 + 8#/sx Gilsonite followed by 75sx Cl C with .7% FL-25. Estimated top of cement is 4500'.

Liner - Cement with 300sx Cl H w/ 1% FL-62 + .4% CD-32 1#/sx BA-61.

Note: Cement volumes may need to be adjusted to hole caliper.

*MUD: 0-700' Fresh water/native mud. Lime for pH control (9-10). Paper for seepage. Wt 8.7-9.2 ppg, Vis 32-34 sec
700-2800' Fresh/*Brine water. Lime for pH control (10.0-10.5). Paper for seepage. Wt 8.3-9.0/10.0-10.1ppg, Vis 28-29 sec
*Fresh water will be used unless chlorides in the mud system increases to 20000PPM.
2800-5000' Fresh water. Lime for pH control (9-9.5). Paper for seepage. Wt 8.3-8.5 ppg, Vis 28-29 sec
5000-10500' Cut brine. Lime for pH control (10-10.5). Wt 9.6-10.0 ppg, Vis 28-29sec
10500-12000' Mud up with an Duo Vis/Flo Trol mud system. Wt 9.6-10.0ppg, Vis 32-36sec, WL<10cc

DISTRICT I
1826 N. French Dr., Hobbs, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised March 17, 1999

DISTRICT II
811 South First, Artesia, NM 88210

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

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

OIL CONSERVATION DIVISION

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	Pool Code 73960	Pool Name Undesignated Carlsbad Morrow, South
Property Code	Property Name OXY BAZOOKA FEDERAL	Well Number 1
OGRID No. 16696	Operator Name OXY USA INC.	Elevation 3392'

Surface Location

UL or lot No. D	Section 17	Township 23 S	Range 26 E	Lot 1dn	Feet from the 990	North/South line NORTH	Feet from the 660	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 1dn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 320	Joint or Infill N	Consolidation Code	Order No.						

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

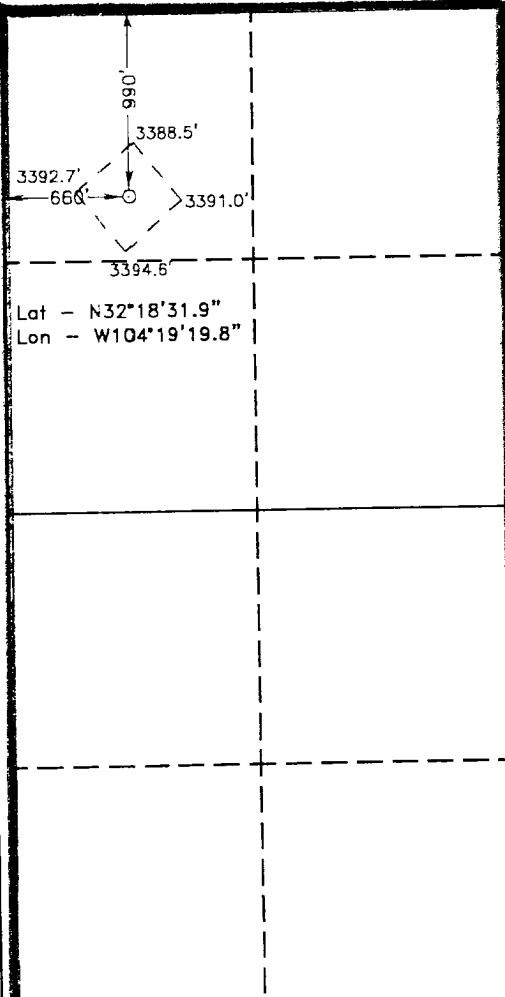
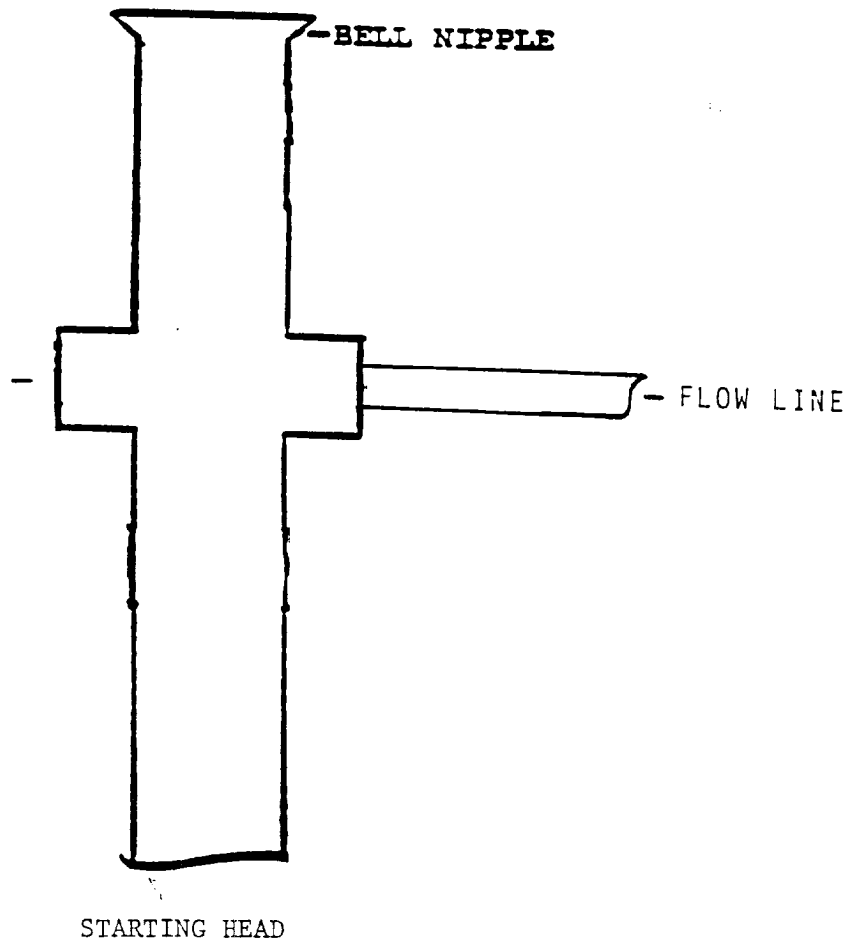
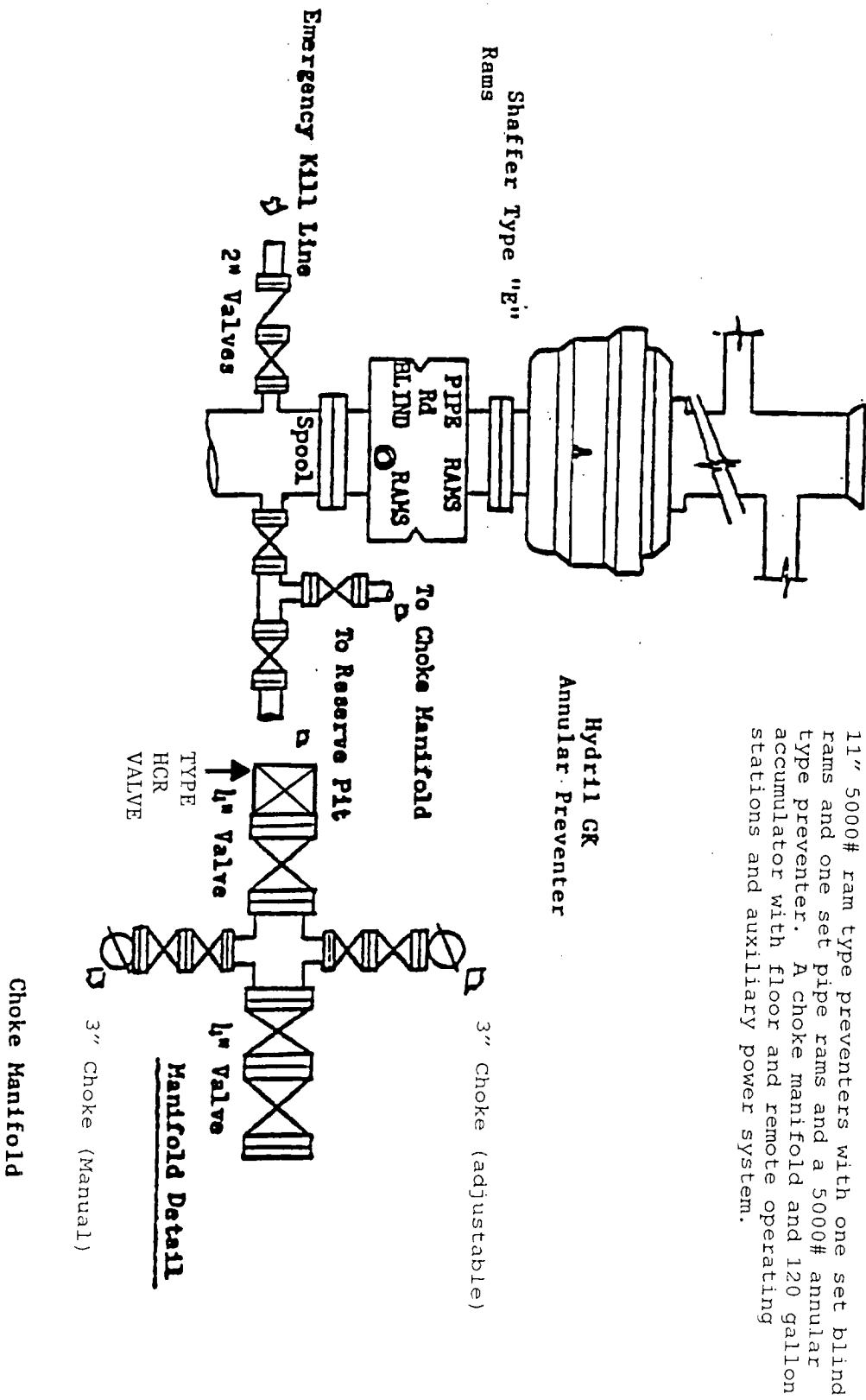
	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p>Signature David Stewart</p> <p>Printed Name Regulatory Analyst</p> <p>Title</p> <p>Date 10/27/00</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify 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>Date Surveyed July 28, 2000</p> <p>Signature & Seal GARY L. JONES Professional Surveyor</p> <p>Certificate No. 7977</p> <p>Basin Surveys</p>
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EXHIBIT A

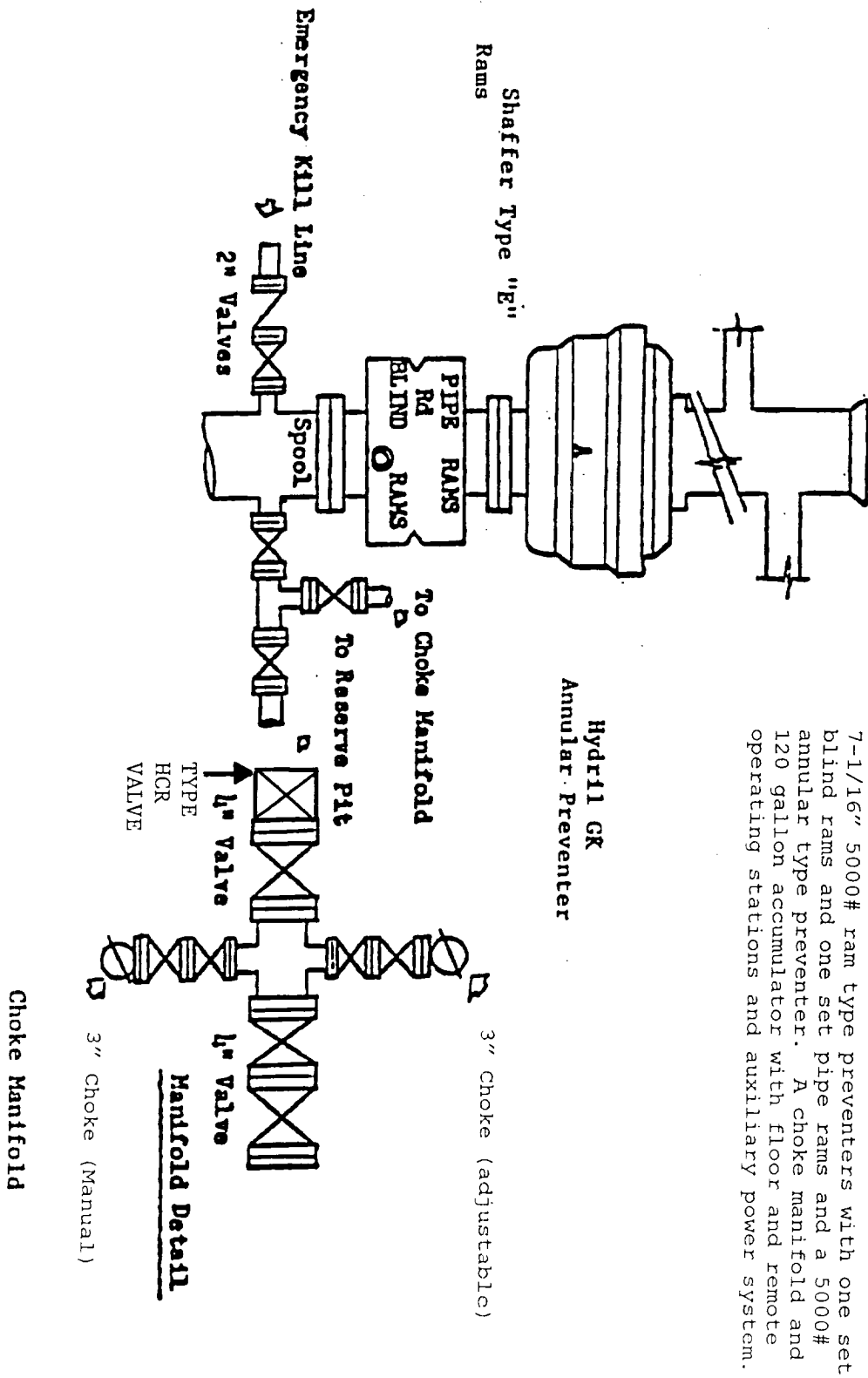
ANNULAR PREVENTOR
TO BE USED AS DIVERTOR ONLY



BLOWOUT PREVENTOR SCHEME



BLOWOUT PREVENTOR SCHEME



MULTI-POINT SURFACE USE AND OPERATIONS PLAN

OXY USA Inc.
OXY Bazooka Federal #1
Eddy County, New Mexico
Lease No. NM027994

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

The well, and work area have been staked by a registered New Mexico land surveyor. GEO Marine has been engaged to make an archaeological reconnaissance of the work area. Their findings concerning cultural resources will be reported to the Bureau of Land Management.

1. Existing Roads

A copy of a USGS "Red Lake, SE New Mexico" quadrangle map is attached showing the proposed location. The well location is spotted on this map, which also shows the existing road system. Exhibit B.

Directions to location: From the junction of US 62/180 and CR 672, go west on CR 672 approximately 7.3 miles to trail road. Go east .5 miles on trail road to the proposed lease road, which lies approximately 2150' north of the proposed location.

2. Planned Access Road

- A. A new access road will be built. The access road will run approximately 2000' south. Exhibit B.
- B. Surfacing material: Six inches of caliche and water, compacted and graded.
- C. Maximum Grade: Less than 3%.
- D. Turnouts: None needed.
- E. Drainage Design: N/A
- F. Culverts: None needed.
- G. Cuts and Fills: Leveling the location will require minimal cuts or fills.
- H. Gates or Cattleguards: None required.

3. Existing wells within a one mile radius of the proposed development well are shown on Exhibit C.

4. Location of Existing and/or Proposed Facilities

- A. If the well is productive, production facilities will be constructed on the well pad. The facility will consist of a stack pack, one 300 bbl oil tank and one 300 bbl fiberglass water tank. All permanent above ground facilities will be painted in accordance with the BLM's painting guidelines simulating the color of sandstone brown.

Multi-Point Surface Use and Operations Plan

OXY Bazooka Federal #1

Page 4

- I. After the wellsite is cleaned and pits and sumps backfilled, any obstruction to the natural drainage will be corrected by ditching or terracing. All disturbed areas, including any access road no longer needed, will be ripped. Those areas will be reseeded with grass if, in the opinion of the land owner, it is required.

13. Operator's Representatives and Certification

The field representative responsible for assuring compliance with the approved surface use and operations plan are as follows:

John Erickson
Production Coordinator
P.O. Box 69
Hobbs, New Mexico 88240
Office Phone: 505-393-2174
Cellular: 505-390-6426

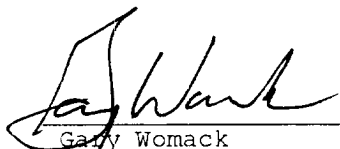
Joe Fleming
Drilling Coordinator
P.O. Box 50250
Midland, TX 79710-0250
Office Phone: 915-685-5858

Calvin C. (Dusty) Weaver
Operation Specialist
P.O. Box 2000
Levelland, TX 79336
Office Phone: 806-229-9467
Cellular: 806-893-3067

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; 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 OXY USA Inc. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

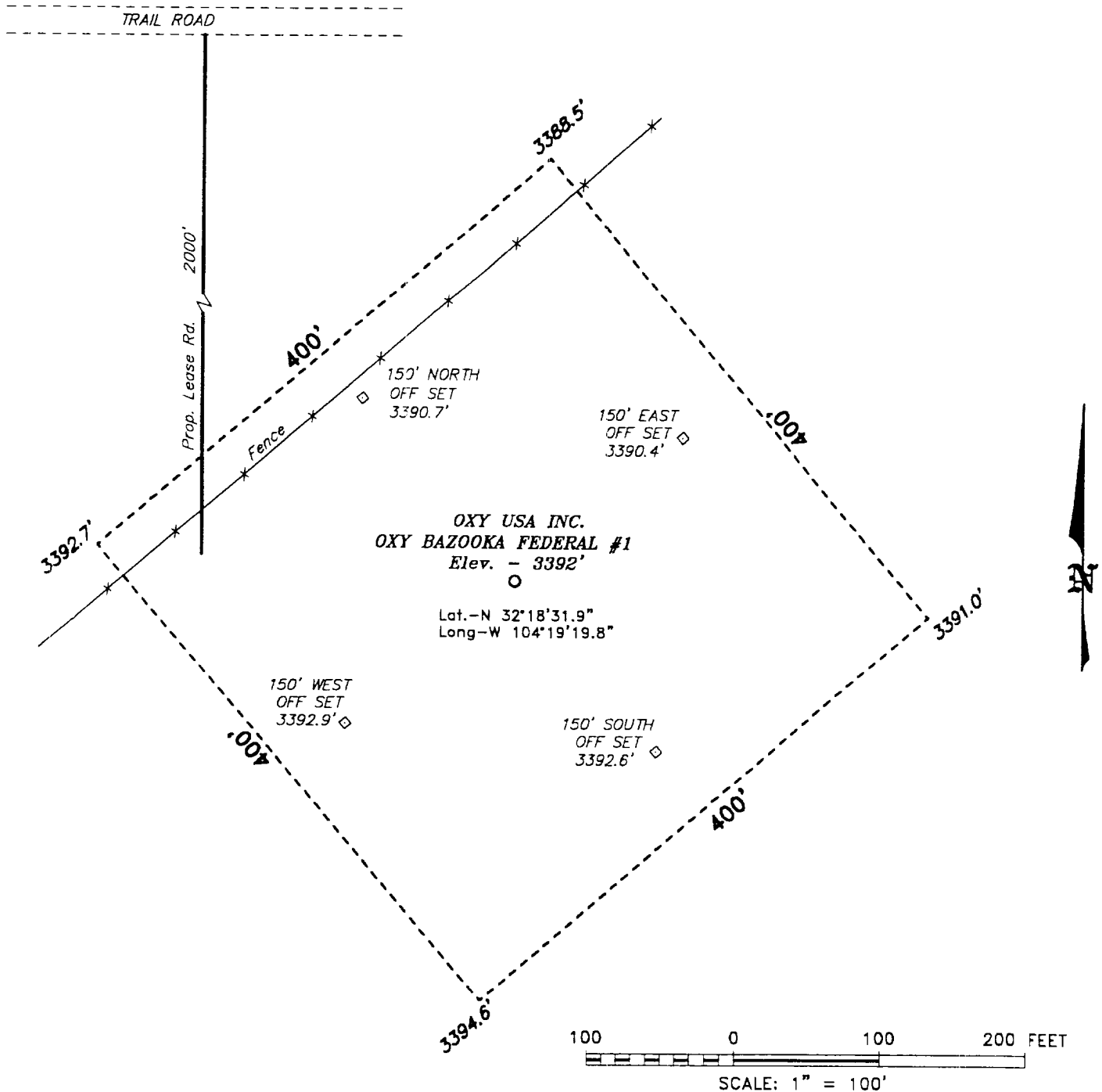
10-27-2000

DATE



Gary Womack
Operation Engineer
915-685-5772
Frontier Asset Team
OXY USA Inc.

**SECTION 17, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.**



DIRECTIONS TO LOCATION:

FROM THE US 62/180 AND THE CO. RD. 672 JUNCTION,
GO WEST ON 672 7.3 MILES TO A TRAIL ROAD; THENCE
EAST ON TRAIL ROAD 0.5 MILE TO PROPOSED LEASE ROAD
APPROX. 2150 FEET NORTH OF LOCATION.

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

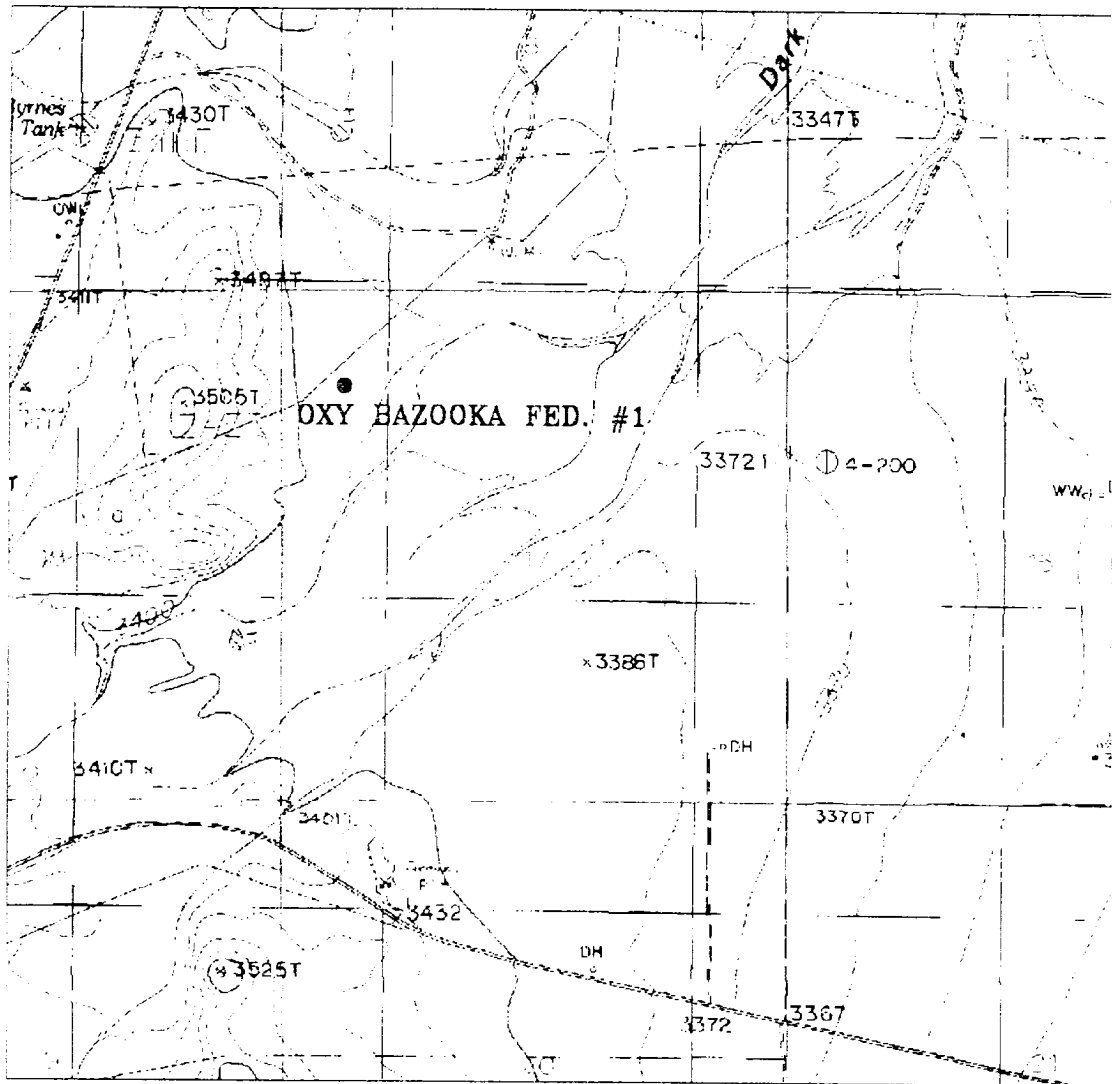
W.O. Number: 0410

Drawn By: **K. GOAD**

Oxy USA Inc.

REF: Oxy Bazooka Fed. #1 / Well Pad Topo

THE OXY BAZOOKA FED. No. 1 LOCATED 990' FROM
THE NORTH LINE AND 660' FROM THE WEST LINE OF
SECTION 17, TOWNSHIP 23 SOUTH, RANGE 26 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.



OXY BAZOOKA FEDERAL #1

Located at 990' FNL and 660' FWL

Section 17, Township 23 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.



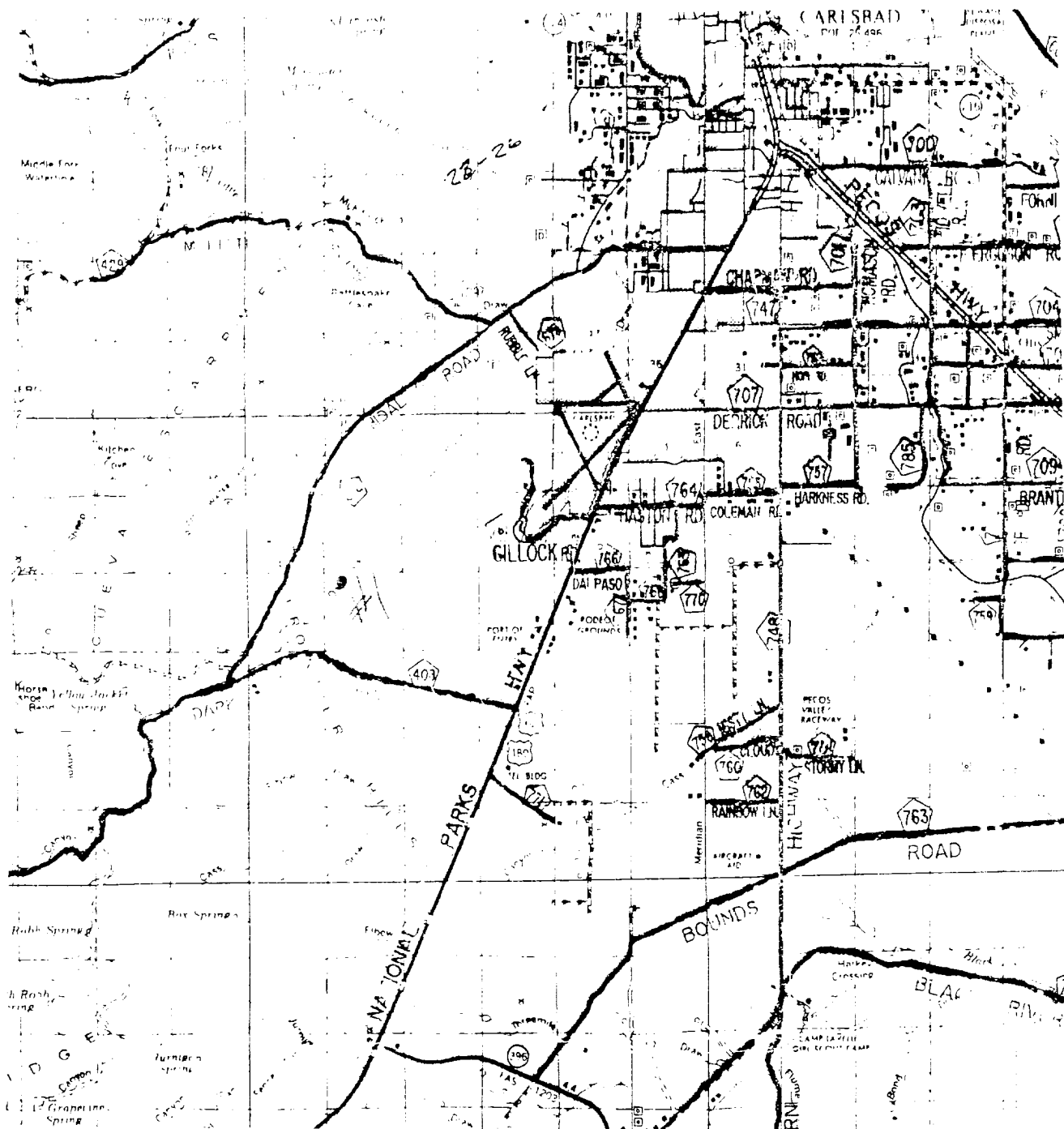
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax

W.O. Number: 0410AA - KUG #122

Survey Date: 07-26-2000

Scale: 1" = 2000'

OXY USA INC.



OXY BAZOOKA FEDERAL #1
Located at 990' FNL and 660' FWL
Section 17, Township 23 South, Range 26 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys

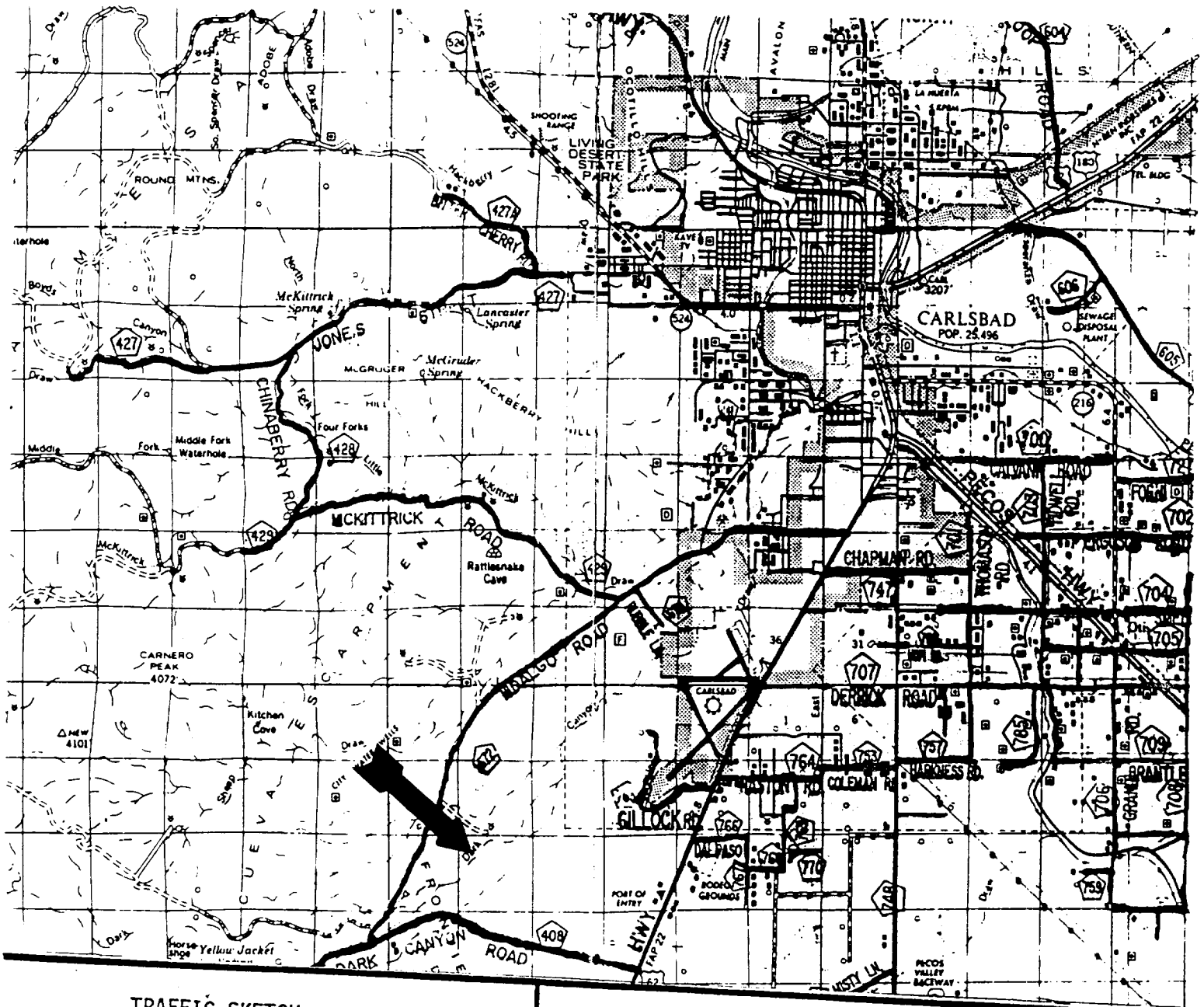
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 393-7374 - Home

W.O. Number: 0410AA - KJG #122

Survey Date: 07-26-2000

Scale: 1" = 2 MILES

OXY USA INC.



TRAFFIC SKETCH

LEASE:	BAZOOKA FED. NO. 1
LEGAL DESC.:	990' FNL & 660' FWL
	SECTION 17, T-23-S, R-26-E
COUNTY:	EDDY
STATE:	NEW MEXICO
SECTOR:	SOUTHEAST
RIGHT CONTR.:	KEY CONSTRUCTION
ROAD SIZE:	150'x150'x150'x60'
ROLLING CONTR.:	
GRID NO.:	
GPS COOR.:	LAT. 32°18'31.9"
	LONG. 104°19'19.8"

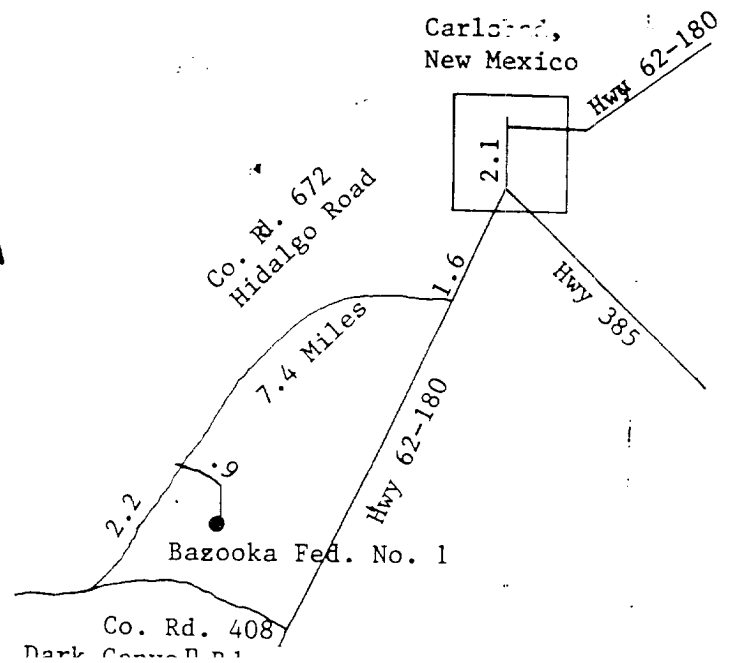


EXHIBIT C

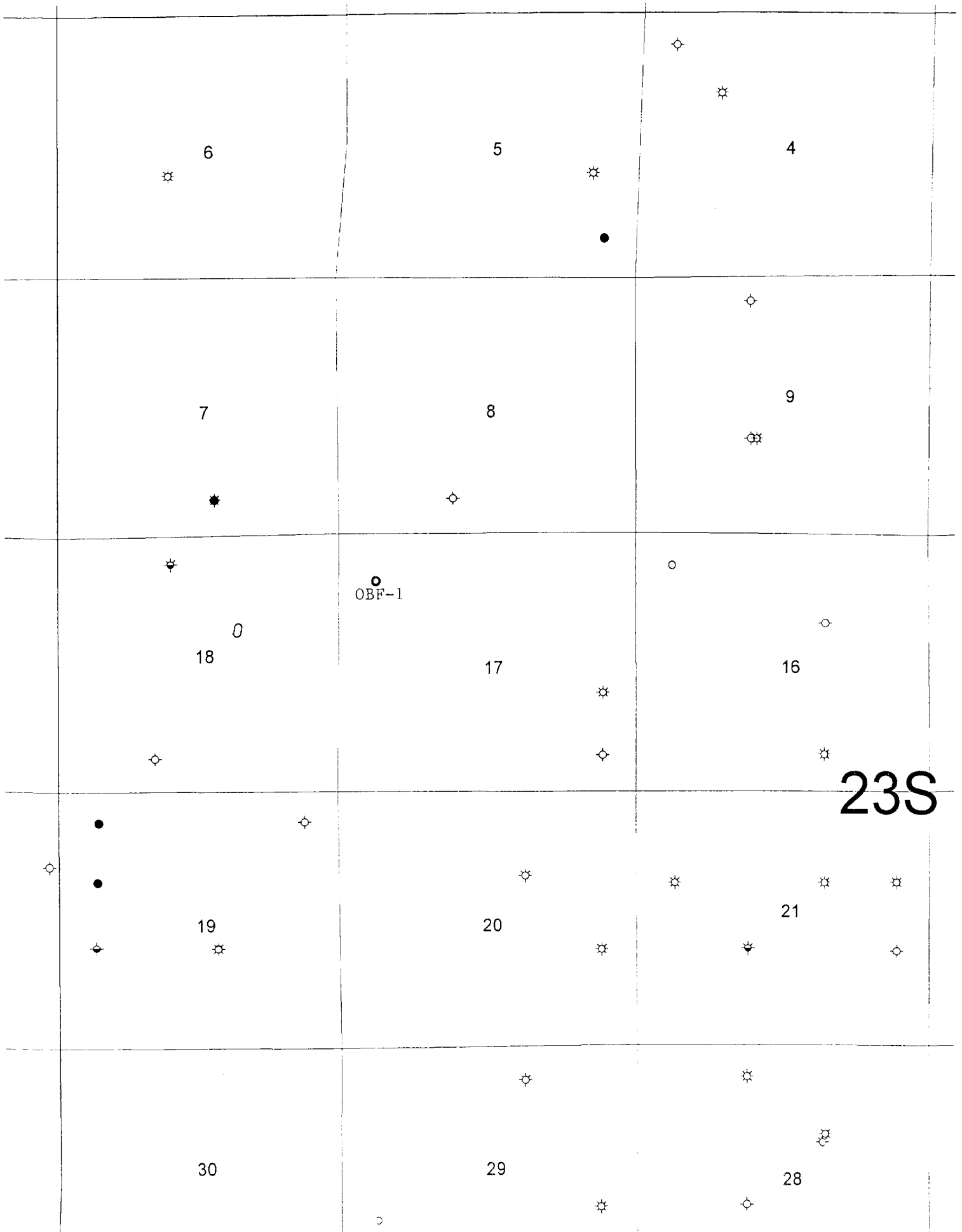
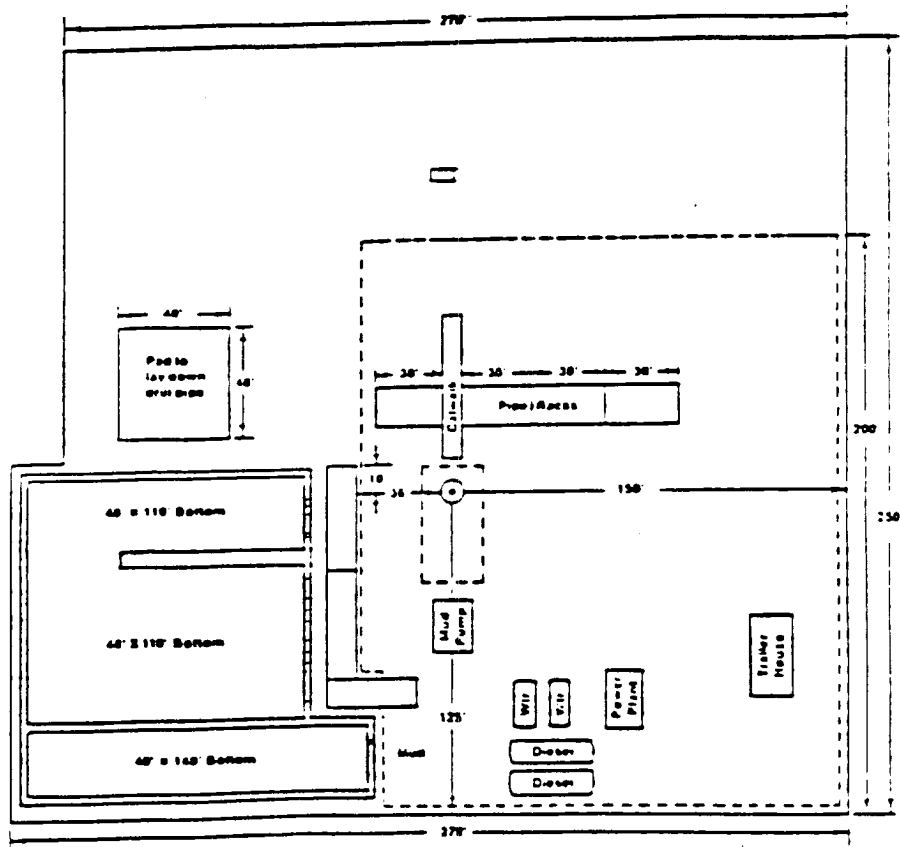


EXHIBIT D
LOCATION PLAT



**ARCHAEOLOGICAL SURVEY OF THE PROPOSED OXY
BAZOOKA FEDERAL #1 WELL PAD AND ACCESS ROAD FOR
OXY USA, EDDY COUNTY, NEW MEXICO**

by

Chris Lowry

Mark C. Slaughter
Principal Investigator

NMCRIS Activity No. 71636
BLM Permit No. 3-2920-00-K

Report of Investigations No. 202EP



Geo-Marine, Inc.
150-A N. Festival Dr.
El Paso, Texas 79912

September 2000

**TITLE PAGE/ABSTRACT/
NEGATIVE SITE REPORT
ROSWELL DISTRICT**

BLM/ RDO 1/95

1. BLM Report No.	2. (ACCEPTED) (REJECTED)	3. NMCRIS No. 71636
4. Title of Report (Project Title) An Archaeological Survey of the Proposed Oxy Bazooka Federal #1 Well Pad and Access Road for Basin Surveys, Eddy County, New Mexico.		5. Project Date(s) <u>August 10 to August 10, 2000</u>
6. Report Date September 2000		
7. Consultant Name & Address: Direct Charge: Name: Geo-Marine Inc. Address: 150-A N. Festival Drive, El Paso, TX 79912 Authors Name: Chris Lowry field personnel names Phone (915)585-0168		8. Permit No. 3-2920-00-K
9. Consultant Report No. 202EP		
10. Sponsor Name and Address: Indiv. Responsible: Dusty Weaver Name: OXY USA Address: PO Box 1786, Hobbs. NM 88241 Phone (505)393-7316		11. For BLM Use only.
12. ACREAGE: Total No. of acres surveyed <u>8.3</u> SURFACE OWNERSHIP: Federal <u>8.3</u> State _____, Private _____		
13. Location: (Maps Attached if negative survey) <ul style="list-style-type: none"> a. State: New Mexico e. Area: 8.3 acres total b. County: Eddy f. Footages: 990 FNL 660 FEL c. BLM Office Carlsbad Field Office g. 7.5' Map Name(s): Kitchen Cove 7.5 (32104-C3) d. Nearest City or Town: Carlsbad, NM e. Legal Location: T <u>23S</u> R <u>26E</u> Sec. <u>17</u> SW 1/4 NW 1/4 NW 1/4 and the SE 1/4 NW 1/4 NW 1/4 Well Footages: 990 FNL 660 FWL f. USGS 7.5 Map Name(s) and Code Number(s) g. Area: Block: surveyed: 3.7 acres (400 x 400 feet) Impact: .5 acres (150 x 150 feet) Linear: Surveyed: 4.6 acres (2000 feet x 100 feet) Impact: 2.3 acres (2000 feet x 50 feet) 		

14. a. Records Search; ARMS: Date(S): August 2, 2000 Names(s): Martin Goetz
BLM Office: Date(s): July 31, 2000 Name(s): Chris Lowry
List Sites within .25 miles of Project: LA 38200
Show sites within 500' on Project Map

b. Description of Undertaking:

The proposed undertaking is the placement of a 400 x 400 foot square well pad, the Oxy Bazooka Federal #1 and proposed 2000' access road. Total area surveyed and size of the area of "potential effect" is 8.3 acres. The proposed well pad is located approximately 3 miles southwest of Carlsbad, New Mexico along the west bank of Dark Canyon Draw. Pits and other ground disturbing activities will follow the well site plans provided to the Bureau of Land Management.

c. Environmental Setting (NRCS soil designation; vegetative community; etc.):

The immediate project area is dominated by desert grassland vegetation, in this case predominantly black grama grass (*Bouteloua eripoda*), and tobosa (*Hilaria jamesii*). Several species of dropseed and and sacaton (*Sporobolus* spp.) also occur (Sebastian and Larralde 1989). Other floral species in the area include creosotebush (*Larrea tridentate*), common mesquite (*Prosopis juliflora*), tarbush (*Flourensia cernua*), Mexican tea (*Ephedra trifurca*), and other small shrubs and forbs.

Soils in the area of the well pad are described as the Dev-Pima complex and are part of the Dev Series. Dev-Pima soils have 0 to 3 percent slope and are generally utilized for pasture. These soils consist of nearly level, moderately dark colored, gravelly soils that developed in alluvium. These soils are underlain by gravelly and cobbly material many feet thick. These soils occur on flood plains of intermittent streams, adjacent to hills and mountains. Typically, the surface layer is is grayish-brown, gravelly loam up to 3 inches thick. Below this is a layer of grayish-brown, gravelly loam to a depth of 15 inches. These soils are subject to water erosion and have moderate permeability. The area usually receives 10-16 inches of rain annually and has a mean annual temperature of 60°-64° Fahrenheit (Chugg 1971). The elevation of the well pad is approximately 3,420 feet amsl. The closest water sources in the area are Cass Draw, Dark Canyon Draw, and Sheep Draw (2, .1, and 2 miles away, respectively).

d. Field Methods:

The proposed well pad was subjected to an intensive pedestrian survey with a one-person crew at a maximum interval of 10 meters. Flagging tape was used at the end of transects to ensure non-overlapping coverage. This flagging tape was removed at the end of the survey to avoid confusion with surveyor's markings. The access road was covered sufficiently to provide a 100 foot right-of-way. Approximately 10 percent of the surface was obscured by grama providing overall excellent surface visibility. The project area was surveyed on August 10, 2000. Weather during this time was clear and sunny with very good lighting conditions. The fieldwork on this project was performed in approximately six person hours.

15. Cultural Resource Findings:

a. Identification and description

LA 130949, recorded by Chris Lowry, is a very large site containing many fire-cracked rock features, but few artifacts. The site is located on the west bank of Dark Canyon Draw, approximately 2 miles north of the Frontier Hills and 3 miles southwest of Carlsbad, New Mexico. The site is situated on a level alluvial plain that emanates from a series of low hills. The elevation is approximately 3,420 feet AMSL. Soils are comprised the Dev-Pima complex of the Dev series. These soils consist of nearly level, moderately dark colored, gravelly soils that developed in alluvium. Vegetation consists of grama grass, creosotebush, tarbush, prickly pear cactus, mesquite, and salt cedar, as well as other grasses and forbs.

LA 130949 consists of at least 14 fire-cracked rock concentrations, as well as a large area of fire-cracked rock pavement that is the remnants of at least 12 or more other fire-cracked rock features. Rock types are predominately

limestone, sandstone, and siltstone; most of the cobbles are fist-sized and smaller, highly fractured, and water worn. A pattern to the features was noted with the larger features located adjacent to the bank of Dark Canyon Draw, while the smaller features were located some distance away from the larger features. This indicates some site planning and may suggest different activities were occurring on-site. Only Feature 5 contained evidence of charcoal staining, and this occurred in only one small pocket. Feature 5, like many of the larger fire-cracked rock features located along the bank of the draw, is highly eroded, with portions washed down into the draw. Trowel testing of a few of these features did not reveal any staining or charcoal. Other, more intact features, located away from the edge of the draw, may have some integrity and potential.

The southwest end of the site could not be determined with certainty due to the site grading into an area of dense limestone eroding from nearby low hills. The site may continue in this direction for an unknown distance; as such, the site boundary on this end should be considered tentative. Approximately 30 artifacts were observed within the site area and include primarily chert debitage (flakes and angular debris), and mano/metate fragments. Two broken pestles were also noted. The ground stone appears to have been recycled as hearth rock; many of the pieces were broken due to heating. Several large rocks were found in association with one large, eroded feature (F.14) near the end of the site. These rocks exhibited some battering on their surfaces and may be anvils utilized for plant processing. A cairn of five large rocks was noted within the large scatter fire-cracked rock; its purpose is unknown. For a site this size, it is unusual that more artifacts were not found. The lack of artifacts suggests that the site may be Apache in origin. No diagnostic artifacts were found to corroborate this assumption.

The lack of diagnostic artifacts leaves the temporal placement of this site in the Unknown category. Based on the feature types, the site could date to anywhere between the Archaic period (5500 B.C.) to the United States Territorial period (A.D. 1885). This end date was chosen because most Apache activity in the area ceased around this time. The function of this site is believed to be related to plant processing given the large number of hearth features present. The lack of lithic artifacts suggests that stone tools were not made here. The few ground stone pieces and hearth features indicate the site was used as a plant processing locale; the anvil stones located around Feature 14 reinforce this inference. It is not known if this site represents a single use site, or an area that was revisited.

The east corner of the proposed well pad is located just inside the site boundary. Only a few pieces of fire-cracked rock were noted in this area; no formal features or artifacts were observed. Impacts to the site due to pad construction should be minimal. As such, clearance for this action to proceed is recommended as long as an archaeological monitor is present. This site is classified as BLM Category 2 and is recommended as eligible for the National Register of Historic Places (NRHP). The basis for this recommendation is the presence of dateable materials in at least one feature and the potential for more dateable materials in other intact features. The low density of artifacts on this site is intriguing. The Mescalero Apache were known to use this area during the Protohistoric and Historic periods and their sites usually have low artifact counts. It may be inferred that this site may be related Mescalero occupation of the area.

Isolated Manifestation 1 consists of three fire-cracked rock concentrations and a soil stained area. The area measures 20 m N-S by 12 m E-W and is situated at the base of an eroding hill slope. Two of the features (Features 2 and 3) are scattered while the other (Feature 1) is fairly discrete. A small area of stained soil, located within an eroded rivulet, was also noted; no carbonized materials were observed during trowel tests of the stain. Feature 1 measures 1 m in diameter, while Features 2 and 3 each measure 2 and 2.5 m in diameter, respectively. Rock material consists of limestone, sandstone, and siltstone, most of which represent water worn cobbles that have been heat fractured. Some buried fire-cracked rock was noted within Feature 2, however trowel testing revealed no dateable materials in any of the three fire-cracked rock features. No artifacts were found within or around any of the features. The IM was sketch mapped, photographed, and plotted on the topographic map. The data potential for this IM is considered exhausted through recording.

16. Management Summary (Recommendations):

The cultural resource survey of the proposed location of the Oxy Bazooka Federal #1 well pad and access road, found one Historic Property in the area of impact. LA 130949 is located adjacent to the proposed well pad, with a small part of the site intruding into the eastern edge of the proposed well pad area. Because no artifacts or features will be impacted by construction activities, approval for this undertaking is recommended. However, because LA 130949 is considered eligible

for the NHRP, archaeological monitoring during construction is recommended. The presence of an archaeological monitor would ensure that any materials uncovered during construction would not be unintentionally disturbed.

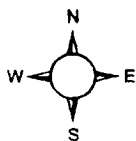
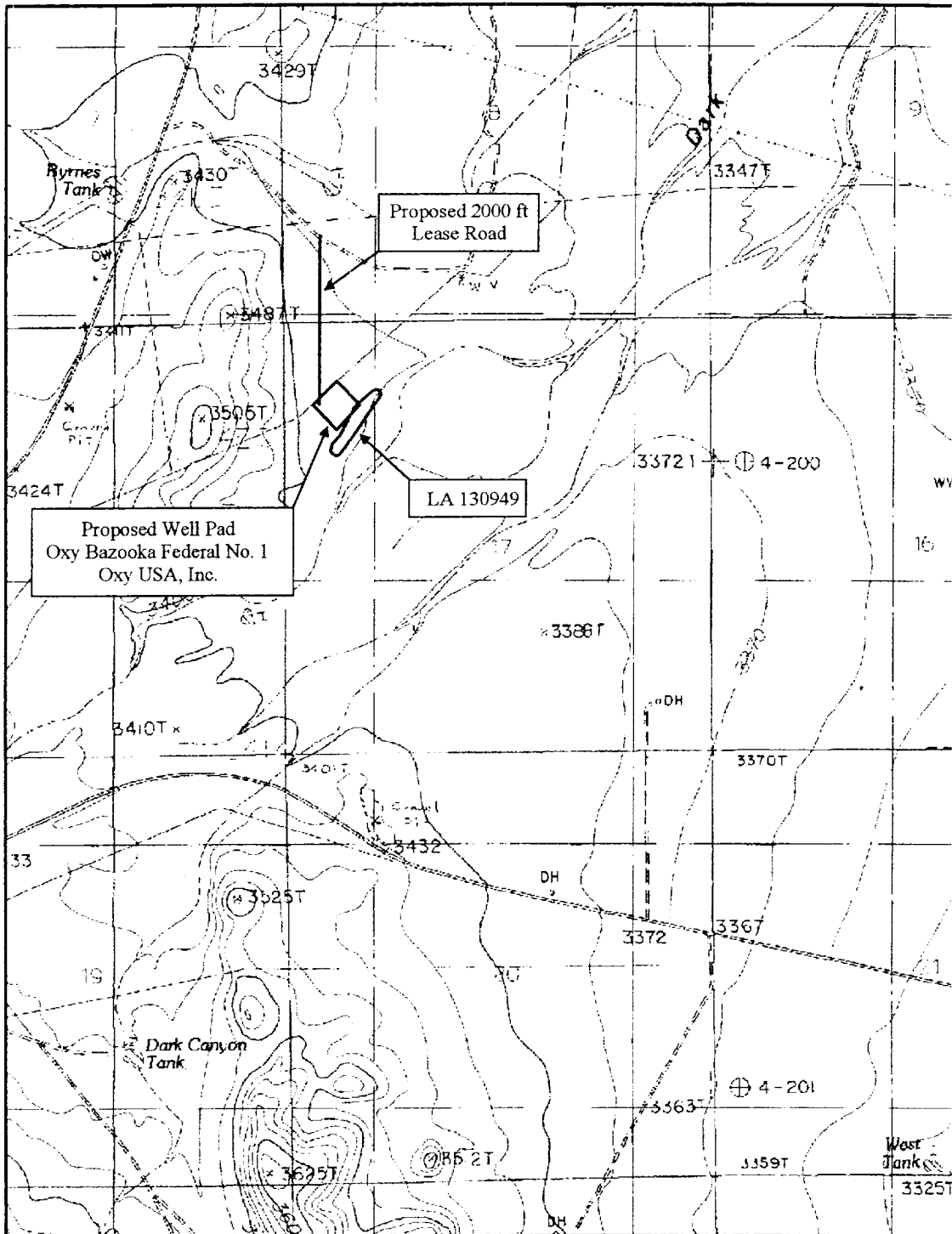
I certify that the information provided above is correct and accurate and meets all appreciable BLM standards.

Responsible Archaeologist

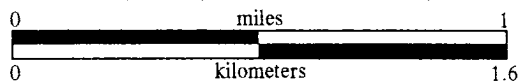
Signature

Date

9-15-00



Oxy Bazooka Federal #1
Location: T 23 S, R 26 E, Sec. 17 SW NW NW, SE NW NW



Map Source: USGS Quads (32104-C3 called Kitchen Cove, N.M., 1985).
Scale 1:24 000

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INTRODUCTION

On August 10, 2000, archaeologists with Geo-Marine performed an intensive archaeological survey of a 400 feet by 400 feet proposed well pad for Oxy USA. Archaeologist Chris Lowry conducted a cultural resource survey in order to identify historic properties that may be affected by the proposed project and to comply with Section 106 of the National Historic Preservation Act

Archaeologists from Geo-Marine, Inc., surveyed the proposed project area. One new archaeological site (LA 130949) and one isolated manifestation were discovered during this survey. The isolated manifestation was located within the proposed access road ROW. The isolate was recorded and all data potential exhausted. A small amount of cultural materials from the site occur within the Oxy Bazooka well pad locale. Archaeological clearance is recommended for this project to proceed. Due to the proximity of the Category 2 site, an archaeological monitor should be present during all construction activities. Although there are limited surface indications in this area, there is a possibility that subsurface cultural materials could be exposed during construction.

DESCRIPTION OF UNDERTAKING

The proposed undertaking is the placement of a 400 x 400 foot square well pad, the Oxy Bazooka Federal #1 and proposed 2,000 foot access road. Total area surveyed and size of the area of "potential effect" is 8.3 acres. The proposed well pad is located approximately 3 miles southwest of Carlsbad, New Mexico along the west bank of Dark Canyon Draw. Pits and other ground disturbing activities will follow the well site plans provided to the Bureau of Land Management.

PROJECT LOCATION

The Oxy Bazooka Federal #1 well pad and access road is located within Eddy County, New Mexico on federal lands administered by the Bureau of Land Management (Figure 1). The USGS 7.5-minute quadrangle map used for this survey was Kitchen Cove, New Mexico, 1985 provisional edition (32104-C3). The 400 by 400 foot well pad is located within Township 23 South, Range 26 East, Section 17, (SW ¼ NW ¼ NW ¼ and the SE ¼ NW ¼ NW ¼). Well footages for the center stake of this proposed pad are 990 feet from the north line and 660 feet from the west line.

ENVIRONMENTAL SETTING

The project area is located in the middle Pecos Valley, a region bordered by the Guadalupe Mountains to the west and the Llano Estacado to the east. It is characterized by extensive drainages coming west from the Guadalupe Mountains and smaller draws and arroyos draining from the Llano Estacado to the east. These drainages provide seasonal, intermittent water supplies to the Pecos Valley. The project area is situated on the Orchard Park Terrace, a gravel capped pediment generally utilized for farming and grazing (Sebastian and Larralde 1989). Much of this area is level alluvial slopes from the Cueva Escarpment dissected by small draws and arroyos. Lithic sources in these areas are largely determined by the presence or absence of gravels emanating from the underlying Permian limestone bedrock or drainages in which these gravels accumulate.

The immediate project area is dominated by desert grassland vegetation, in this case predominantly black grama grass (*Bouteloua eripoda*), and tobosa (*Hilaria jamesii*). Several species of dropseed and sacaton (*Sporobolus* spp.) also occur (Sebastian and Larralde 1989). Other floral species in the area include creosotebush (*Larrea tridentata*), common mesquite (*Prosopis juliflora*), tarbush (*Flourensia cernua*), Mexican tea (*Ephedra trifurca*), and other small shrubs and forbs.

Soils in the area of the well pad are described as the Dev-Pima complex and are part of the Dev Series. Dev-Pima soils have 0 to 3 percent slope and are generally utilized for pasture. These soils consist of nearly level, moderately dark colored, gravelly soils that developed in alluvium. These soils are underlain by gravelly and cobbly material many feet thick. These soils occur on flood plains of intermittent streams adjacent to hills and mountains. Typically, the surface layer is grayish-brown, gravelly loam up to 3 inches thick. Below this is a layer of grayish-brown, gravelly loam to a depth of 15 inches. These soils are subject to water erosion and have moderate permeability. The area usually receives 10-16 inches of rain annually and has a mean annual temperature of 60°-64° Fahrenheit (Chugg 1971). The elevation of the well pad is approximately 3,420 feet amsl. The closest water sources in the area are Cass Draw, Dark Canyon Draw, and Sheep Draw (2, .1, and 2 miles away, respectively).

PREVIOUS RESEARCH

Prior to conducting archaeological survey, a records search was conducted by Martin Goetz using the Archaeological Records Management System (ARMS) on August 2, 2000. Chris Lowry performed a pre-field check at the Carlsbad Field Office of the Bureau of Land Management (BLM) on July 31, 2000. The search was conducted for the immediate area surrounding the proposed well pad, Township 23 South, Range 26 East, Sections 7-9, 16-18 and 19-21. One site was discovered within .25 miles of the proposed well pad. Table 1 provides a summary of this site including Laboratory of Anthropology Number, legal description, cultural/temporal affiliation and site characteristics.

METHODS

Archaeologist Chris Lowry performed a Class III pedestrian survey of the Oxy Bazooka Federal #1 well pad and access road. A total of 8.3 acres was surveyed. All four corners and the center stake of the project area were marked with lath stakes under the direction of Basin Surveys.

Stakes and flagging tape used to mark the previous well pad location were also relocated during this survey.

The proposed well pad was subjected to an intensive pedestrian survey with a one-person crew at a maximum interval of 10 meters. Flagging tape was used at the end of transects to ensure non-overlapping coverage. This flagging tape was removed at the end of the survey to avoid confusion with surveyor's markings. The access road was covered sufficiently to provide a 100 foot right-of-way. Approximately 10 percent of the surface was obscured by grama grass providing overall excellent surface visibility. The project area was surveyed on August 10, 2000. Weather during this time was clear and sunny with very good lighting conditions. The fieldwork on this project was performed in approximately six person hours.

CULTURAL RESOURCE FINDINGS

One new archaeological site and one isolated manifestation were discovered during this survey. The site is located southeast of the 400 feet by 400 feet pad area; a portion of the site intrudes into the eastern corner of the well pad area. The isolated manifestation was located within the centerline for the proposed access road. These resources are described in detail below.

IM #1

Isolated Manifestation 1 consists of three fire-cracked rock concentrations and a soil stained area. The area measures 20 m N-S by 12 m E-W and is situated at the base of an eroding hill slope. Two of the features (Features 2 and 3) are scattered while the other (Feature 1) is fairly discrete. A small area of stained soil, located within an eroded rivulet, was also noted; no carbonized materials were observed during trowel tests of the stain. Feature 1 measures 1 m in diameter, while Features 2 and 3 each measure 2 and 2.5 m in diameter, respectively. Rock material consists of limestone, sandstone, and siltstone, most of which represent water worn cobbles that have been heat fractured. Some buried fire-cracked rock was noted within Feature 2, however trowel testing revealed no dateable materials in any of the three fire-cracked rock features. No artifacts were found within or around any of the features. The IM was sketch mapped, photographed, and plotted on the topographic map. The data potential for this IM is considered exhausted through recording.

LA 130949

LA 130949, recorded by Chris Lowry, is a very large site containing many fire-cracked rock features, but few artifacts. The site is located on the west bank of Dark Canyon Draw, approximately 2 miles north of the Frontier Hills and 3 miles southwest of Carlsbad, New Mexico. The site is situated on a level alluvial plain that emanates from a series of low hills. The elevation is approximately 3,420 feet AMSL. Soils are comprised the Dev-Pima complex of the Dev series. These soils consist of nearly level, moderately dark colored, gravelly soils that developed in alluvium. Vegetation consists of grama grass, creosotebush, tarbush, prickly pear cactus, mesquite, and salt cedar, as well as other grasses and forbs.

LA 130949 consists of at least 14 fire-cracked rock concentrations, as well as a large area of fire-cracked rock pavement that is the remnants of at least 12 or more other fire-cracked rock features.

Rock types are predominately limestone, sandstone, and siltstone; most of the cobbles are fist-sized and smaller, highly fractured, and water worn. A pattern to the features was noted with the larger features located adjacent to the bank of Dark Canyon Draw, while the smaller features were located some distance away from the larger features. This indicates some site planning and may suggest different activities were occurring on-site. Only Feature 5 contained evidence of charcoal staining, and this occurred in only one small pocket. Feature 5, like many of the larger fire-cracked rock features is highly eroded, with portions washed down into the draw. Trowel testing of a few of these features did not reveal any staining or charcoal. Other, more intact features, located away from the edge of the draw, may have some integrity and potential.

The southwest end of the site could not be determined with certainty due to the site grading into an area of dense limestone eroding from nearby low hills. The site may continue in this direction for an unknown distance; as such, the site boundary on this end should be considered tentative. Approximately 30 artifacts were observed within the site area and include primarily chert debitage (flakes and angular debris), and mano/metate fragments. Two broken pestles were also noted. The ground stone appears to have been recycled as hearth rock; many of the pieces were broken due to heating. Several large rocks were found in association with one large, eroded feature (F.14). These rocks exhibited some battering on their surfaces and may be anvils utilized for plant processing. A cairn of five large rocks was noted within the large scatter fire-cracked rock; its purpose is unknown. For a site this size, it is unusual that more artifacts were not found. The lack of artifacts suggests that the site may be Apache in origin. No diagnostic artifacts were found to corroborate this assumption.

The lack of diagnostic artifacts leaves the temporal placement of this site in the Unknown category. Based on the feature types, the site could date to anywhere between the Archaic period (5500 B.C.) to the United States Territorial period (A.D. 1885). This end date was chosen because most Apache activity in the area ceased around this time. The function of this site is believed to be related to plant processing given the large number of hearth features present. The lack of lithic artifacts suggests that stone tools were not made here. The few ground stone pieces and hearth features indicate the site was used as a plant processing locale; the anvil stones located around Feature 14 reinforce this inference. It is not known if this site represents a single use site, or an area that was revisited.

The east corner of the proposed well pad is located just inside the site boundary. Only a few pieces of fir-cracked rock were noted in this area; no formal features or artifacts were observed. Impacts to the site due to pad construction should be minimal. As such, clearance for this action to proceed is recommended as long as an archaeological monitor is present. This site is classified as BLM Category 2 and is recommended as eligible for the National Register of Historic Places (NRHP). The basis for this recommendation is the presence of dateable materials in at least one feature and the potential for more dateable materials in other intact features. The low density of artifacts on this site is intriguing. The Mescalero Apache were known to use this area during the Protohistoric and Historic periods and their sites usually have low artifact counts. It may be inferred that this site may be related Mescalero occupation of the area.

MANAGEMENT RECOMMENDATIONS

The cultural resource survey of the proposed location of the Oxy Bazooka Federal #1 well pad and access road, found one cultural resource property in the area of impact. LA 130949 is located adjacent to the proposed well pad, with a small part of the site intruding into the eastern edge of the proposed well pad area. Because no artifacts or features will be impacted by construction activities, cultural resource approval for this undertaking to proceed is recommended. However, because LA 130949 is considered eligible for the NHRP, archaeological monitoring during construction is recommended. The presence of an archaeological monitor would ensure that any materials uncovered during construction would not be unintentionally disturbed.

REFERENCES

Chugg, J.C.

- 1971 *Soil Survey: Eddy Area, New Mexico*. United States Soil Conservation Service. U.S. Government Printing Office, 1971.

Sebastian, L., and S. Larralde

- 1989 *Living on the Land: 11,000 Years of Human Adaptation in Southeastern New Mexico*. Cultural Resources Series No. 6. Bureau of Land Management. Santa Fe.



OXY USA Inc.

P.O. Box 50250, Midland, TX 79710-0250

October 27, 2000

United States Department of the Interior
Bureau of Land Management
Roswell District Office
2909 West Second Street 124004500
Roswell, New Mexico 88201

Re: Application for Permit to Drill
OXY USA Inc.
OXY Bazooka Federal #1
Eddy County, New Mexico
Lease No. NM027994

Gentlemen:

OXY USA Inc. respectfully requests permission to drill our OXY Bazooka Federal #1 located 990 FNL and 660 FWL of Section 17, T23S, R26E, Eddy County, New Mexico, Federal Lease No. NM027994. The proposed well will be drilled to a TD of approximately 12000' (TVD). The location and work area has been staked. It is approximately 5 miles southwest of Carlsbad, New Mexico.

In accordance with requirements stipulated in Federal Onshore Oil and Gas Order No. 1 under 43 CFR 3162.1, our Application for Permission to Drill and supporting evidence is hereby submitted.

I. Application for Permit to Drill:

1. Form 3160.3, Application for Permit to Drill.
2. Form C-102 Location and Acreage Dedication Plat certified by Gary L. Jones, Registered Land Surveyor No. 7977 in the State of New Mexico, dated July 26, 2000.
3. The elevation of the unprepared ground is 3392 feet above sea level.
4. The geologic name of the surface formation is Permian Rustler.
5. Rotary drilling equipment will be utilized to drill the well to TD 12000' (TVD), and run casing. This equipment will then be rigged down and the well will be completed with a pulling unit.
6. Proposed total depth is 12000' TVD.
7. Estimated tops of important geologic markers.

Bone Spring	5040' TVD
Wolfcamp	8760' TVD
Strawn	10180' TVD
Atoka	10700' TVD
Morrow	11080' TVD

8. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

Primary Objective:	Morrow	11080' TVD
Secondary Objective:	Atoka	10700' TVD

9. The proposed casing program is as follows:

Surface: 13-3/8" 48# H40 ST&C new casing set at 700'
 Intermediate: 9-5/8" 36# K55 ST&C new casing from 0-2800'
 Protection: 7" 26# N80 ST&C new casing from 0-9500'
 Production: 4-1/2" 11.6# S95 LT&C new casing from 9000-12000'

10. Casing setting depth and cementing program:

- A. 13-3/8" surface casing set at 700' in 17-1/2" hole.
 Circulate cement with 450sx 35:65 POZ/C w/ 6% Bentonite + 2%
 CaCl_2 + .25#/sx Cello-Seal followed by 200sx Class C w/ 2%
 CaCl_2 .

If cement does not circulate, a temperature survey will be
 run to find the TOC and then finish cementing to surface
 through 1" using Class C with 2% CaCl_2 .

- B. 9-5/8" intermediate casing set at 2800' in 12-1/4" hole.
 Circulate cement with 500sx 35:65 POZ/C w/ 6% Bentonite + 2%
 CaCl_2 + .25#/sx Cello-Seal + 5#/sx Gilsonite followed by
 200sx Class C w/ 2% CaCl_2 .

If hole conditions dictate, a DV tool may be run to ensure
 that the intermediate string is cemented to surface.

If cement does not circulate, a temperature survey will be
 run to find the TOC and then finish cementing to surface
 through 1" using Class C with 2% CaCl_2 .

- C. 7" protection casing set at 9500' in 8-3/4" hole. Cement
 with 600sx 15:61:11 POZ/C/CSE w/ .5% FL-25 + .5% FL-52 -
 8#/sx Gilsonite followed by 75sx Class C w/ .7% FL-25.
 Estimated top of cement is 4500'.

- D. 4-1/2" liner set at 9000-12000' in 6-1/2" hole. Cement with
 300sx Class H w/ 1% FL-62 + .4% CD-32 + 1#/sx BA-61

Note: Cement volumes may need to be adjusted to hole
 caliper.

11. Pressure Control Equipment

0-700'	None
700-2800'	13-3/8" 3000# annular preventer. Exhibit A.
2800-9500'	11" 5000# ram type preventers with one set blind rams and one set pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 8300'. Exhibit A.
9500-12000'	7-1/16" 5000# ram type preventers with one set blind rams and one set pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head at 9500'. Exhibit A.

A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

After setting the 9-5/8" and 7" casing, the blowout preventers and related control equipment shall be pressure tested to 5000 psi. Any equipment failing to test satisfactorily shall be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log. The BOP's will be maintained ready for use until drilling operations are completed.

BOP drills will be conducted as necessary to assure that equipment is operational and each crew is properly trained to carry out emergency duties.

Accumulator shall maintain a pressure capacity reserve at all times to provide for the close-open-close sequence of the blind and pipe rams of the hydraulic preventers.

12. Mud Program:

0-700'	Fresh water/native mud. Lime for pH control (9-10). Paper for seepage. Wt. 8.7-9.2 ppg, vis 32-34 sec.
700-2800'	Fresh/*brine water. Lime for pH control (10-10.5). Paper for seepage. Wt. 8.3-9.0/10.0-10.1ppg, vis 28-29 sec. *Fresh water will be used unless chlorides in the mud system increase to 20000PPM.
2800-5000'	Fresh water. Lime for pH control (9-9.5). Paper for seepage. Wt. 8.3-8.5 ppg, vis 28-29 sec.
5000-10500'	Cut brine. Lime for pH control (10-10.5). Wt. 9.6-10.0 ppg, vis 28-29 sec.
10500-12000'	Mud up with an Duo Vis/Flo Trol system. Wt. 9.6-10.0 ppg, Vis 32-36sec, WL<10cc.

Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until the production casing is run and cemented. Monitoring equipment shall consist of the following:

- 1) A recording pit level indicator.
- 2) A pit volume totalizer.
- 3) A flowline sensor.

13. Testing, Logging and Coring Program:
 - A. Testing program: No DST's are anticipated.
 - B. Mud logging program: One-man unit from 6000' to TD.
 - C. Electric logging program: CNL/LDT/CAL/GR, DLL/CAL/GR.
 - D. Coring program: Possible sidewall rotary cores.
14. No abnormal temperatures, or H2S gas are anticipated. The highest anticipated pressure gradient would be .55psi/ft. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
15. Anticipated starting date is December 15, 2000. It should take approximately 30 days to drill the well and another 10 days to complete.
16. The Multi-Point Surface Use & Operation Plan is attached.
17. If the Bureau of Land Management needs additional information to evaluate this application, please advise.

Very truly yours,



David Stewart
Regulatory Analyst
OXY USA Inc.

DRS/drs

Attachments