

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒

OTHER

SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Kirby Exploration Company

3. ADDRESS OF OPERATOR

P.O. Box 1745, Houston, Texas 77001

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

At surface

1190' FSL & 790' FEL

At proposed prod. zone

Same

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

25 miles south of Farmington, New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

16. NO. OF ACRES IN LEASE

2227.6

19. PROPOSED DEPTH

1300'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

160

20. ROTARY OR CABLE TOOLS

rotary

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

6097' GR

22. APPROX. DATE WORK WILL START*

August 30, 1977

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24#	50'	100 sacks class "B"
6 3/4	4 1/2	10.5#	1300'	200 sacks class "B"

Spud 12 1/4" hole with native mud. Drill to 50', run and cement 8 5/8" casing as above.

Drill 6 3/4" hole from under surface casing, after installing 6" 900 series blow out preventer. Approximate mud properties are: wt. 9.0#, vis 35 seconds per quart and water loss 10± cc per 30 minutes. The 4 1/2" casing will be set at 1300' and cemented as above.

Open hole logs will be IES, FDC/CNL with GR and Caliper.

If the well is non-commercial, it will be plugged in accordance with U.S.G.S. specifications.

Gas under this lease is committed to a contract.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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

John Alexander

TITLE

Agent

DATE

7-18-77

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

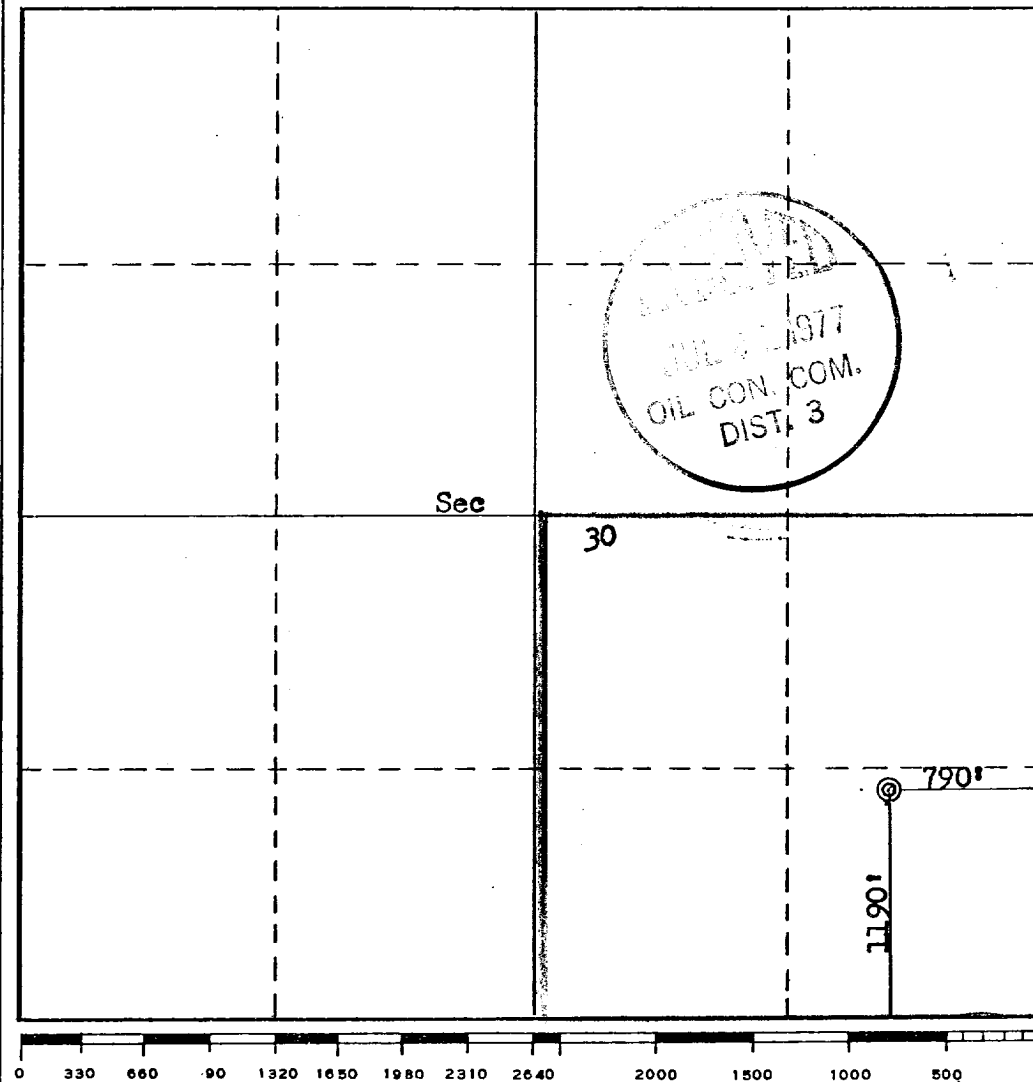
Operator Kirby Exploration Company			Lease Frew-Federal		Well No. 12
Unit Letter P	Section 30	Township 26N	Range 12W	County San Juan	
Actual Footage Location of Well:					
1190 feet from the South line and		790 feet from the East line			
Ground Level Elev. 6097	Producing Formation Pictured Ciffs	Pool Nipp Pictured Cliff	Dedicated Acreage: 160 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

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

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



CERTIFICATION

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

John Alexander

Name

Agent

Position

Kirby Exploration Company

Company

7-18-77

Date

John Alexander

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

July 8, 1977

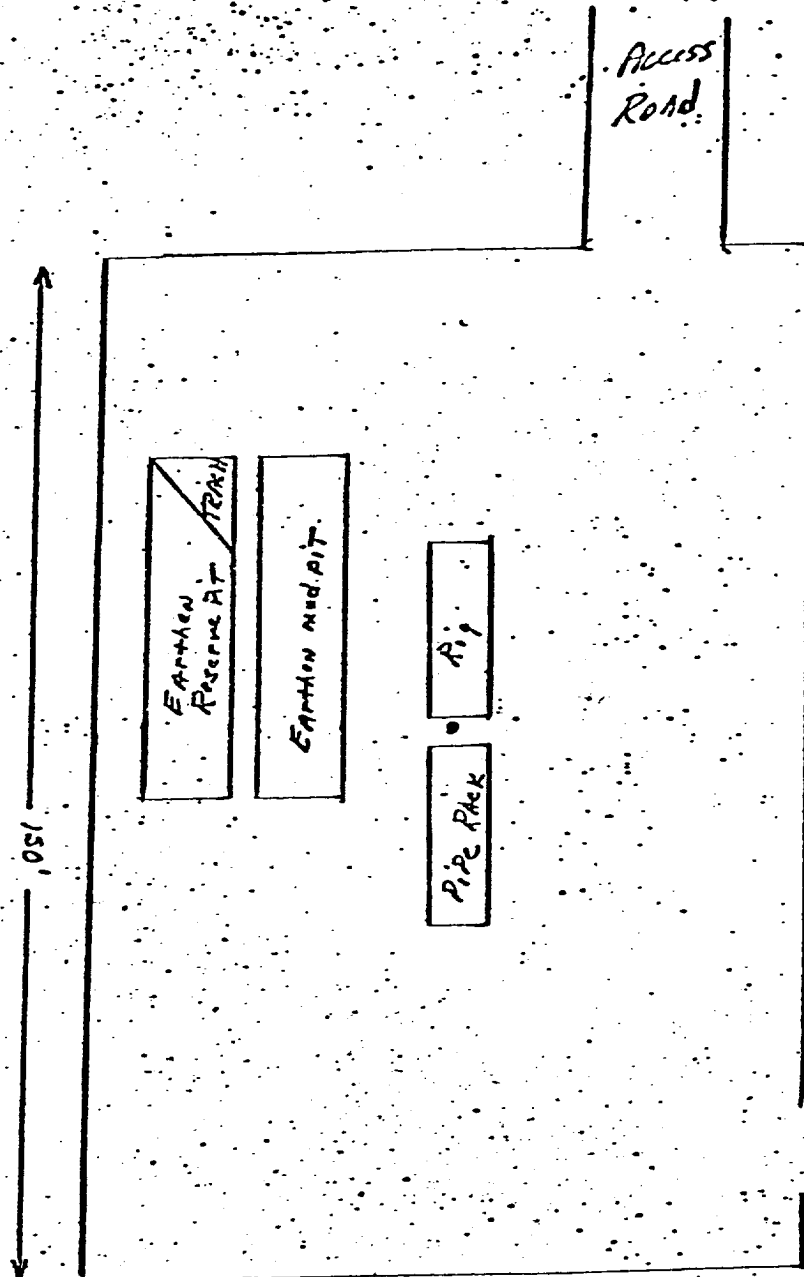
Registered Professional Engineer and/or Land Surveyor

Fred B. Kerr
Fred B. Kerr, Jr.

Certificate No.

3950

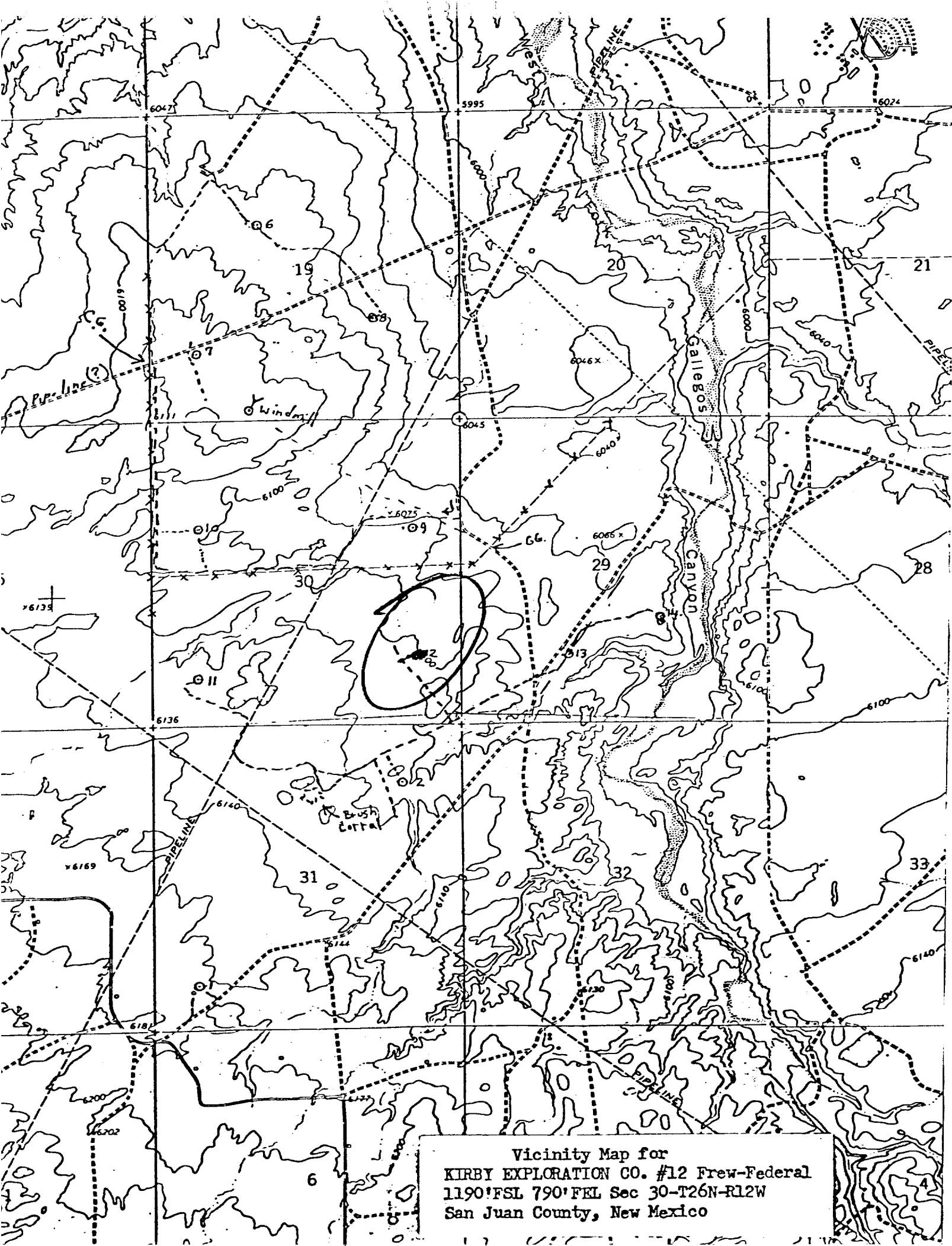
Well Site PLAT



NORTH

Scale 1" = 30'

KIRBY EXPLORATION COMPANY
 FREW FEDERAL #12
 1-190' FSL & 790' FEL
 Sec 30 - 26N - 12W
 Nipp Pictured Cliff
 San Juan County, New Mexico



Archaeological Clearance Survey Report
for
Kirby Exploration Company

Well Locations

Frew-Federal No. 6
Frew-Federal No. 7
Frew-Federal No. 8
Frew-Federal No. 9
Frew-Federal No. 10
Frew-Federal No. 11
Frew-Federal No. 12
Frew-Federal No. 13
Frew-Federal No. 14
~~Hanlad-Federal No. 1~~
Hanlad-Federal No. 2

Prepared by

Pat Zarnowski

Submitted by

Dr. J. Loring Haskell
Operations Director and
Principal Investigator

AGENCY OF CONSERVATION ARCHAEOLOGY

July 13, 1977

Introduction

The Agency of Conservation Archaeology of the San Juan County Museum Association and Eastern New Mexico University recently completed an archaeological clearance survey on the bluffs, south of the City of Farmington. This land is to be impacted by the scheduled construction of eleven wells by Kirby Exploration Company of Houston, Texas.

The survey project was initiated at the request of Mr. Bill Jones of the 3E Company of Farmington, representing Kirby Exploration Company. It was administered by Mr. Jones and by Dr. J. Haskell of the Agency of Conservation Archaeology in Portales, New Mexico.

The field work was conducted by Ms. Pat Zarnowski of the Agency of Conservation Archaeology in Farmington on July 12, 1977 under provisions of Federal Antiquities Permit No. 77-NM-030 which expires on December 31, 1977. Other representatives in the field were Mr. Bill Jones of 3E Company, Mr. Jim Hill of Allen Construction Co., Mr. Bob Moore of the Bureau of Land Management, and Mr. Lee Freeman of the United States Geological Survey.

Survey

The requested archaeological clearance survey involved the eleven wells described below located on land under the jurisdiction of the Bureau of Land Management. For specific details of location please see the attached maps and the Recommendations section of this report.

The general survey method used was to walk the area of proposed construction in a zigzag manner and to visually inspect the ground surface for signs of archaeological remains either of historic or pre-historic origin. Floral, faunal and geological observations were made to briefly describe the environmental situation.

Frew-Federal No. 6

This well will be situated about two miles west and south of El Paso Natural Gas Company's Chaco Plant. The terrain consists of rolling hills and the soil is very sandy. There are ridges of stabilized sand dunes throughout the area. Low growing plants make up the vegetation in this area and includes snakeweed (Gutierrezia sarothrae), Mormon tea (Ephedra sp.), yucca (Yucca angustissima), prickly pear cactus (Opuntia sp.) and blue gramma (Bouteloua gracilis). There is evidence that sheep, cattle and horses graze the area and small game such as prairie dogs, lizards and snakes were also noted. There is a house surrounded by corrals, and smaller buildings about 500 feet northwest of the proposed well location. Access to this well will be via an existing trail coming in from the southeast. No new disturbance for access will be necessary.

No archaeological material located.

Frew-Federal No. 7

The location for this well is about one half mile southwest of the above item. The terrain, soil, vegetation, and animal life is the same as outlined there. It will be situated next to an existing dirt road, so no new road will be necessary.

No cultural material sighted.

Frew-Federal No. 8

About one half mile southeast of the No. 6 well is the proposed location for this unit. The environment, vegetation, and animal life are basically the same as described for the No. 6 well. There is a small ridge of stabilized sand dunes adjacent to the south side of the proposed pad area. Access will be via existing roads and trails.

No artifacts encountered.

Frew-Federal No. 9

This well will be located about three quarters of a mile south of the No. 8 well. It will be situated on a knob of a small hillock where the vegetation and terrain are the same as that given for the No. 6 location. Access will be via a trail on the north side of the well.

No cultural material sighted.

Frew-Federal No. 10

Three quarters of a mile west of the No. 9 well is the proposed location for this well. Please refer to the Frew-Federal No. 6 well for details of terrain and vegetation. One small rattle snake was sighted here. The access road will be an existing trail which will come in from the south.

No artifacts located.

Frew-Federal No. 11

There is a plugged well just north of this proposed well location which is approximately one half mile south of the No. 10 unit. The terrain continues to be rolling here and the soil sandy. There appears to be less snakeweed here, but Indian ricegrass (Oryzopsis hymenoides) is present here in moderate quantity. The road that was used for the plugged well will be the access road for this unit.

One white chalcedony artifact was located in the old access road. It was about 3 cm. long and it could have been used as a blade or was simply a waste flake. No other artifacts were found in association.

Frew-Federal No. 12

This well is about one half mile south of the No. 9 well in an area where the sand dunes are more closely associated to the proposed well location. The vegetation is basically the same except that ring mulch (Muhlenbergia torreyi) is growing here also. About 100 feet of new road will be necessary for access to this well. It will come in from an existing trail to the west.

A fragment of a petrified wood biface was located on the proposed pad area, but it was isolated and not in association with any other archaeological material.

Frew-Federal No. 13

The location for this well is about one half mile east of the No. 12 well and about one half mile west of Gallegos Canyon. The pad will abut a ridge of stabilized sand dunes to the east. The vegetation consists of the same low growing plants described for the No. 6 well. Existing dirt roads will be used for access to this location.

No cultural material sighted.

Frew-Federal No. 14

This well will be situated on the west rim of Gallegos Canyon a little more than a quarter of a mile northwest of the No. 13 well. There are large deposits of river cobbles and pebbles and small rocks at this location. Other than that it is basically the same as the other units described above.

No archaeological material located.

Hanlad-Federal No. 1

This well is to be located about one mile due south of the No. 11 unit, next to a plugged well to the west. Access will be from the pad of the plugged well so no new disturbance for road work will occur. The snake-weed is more dense here, but other than that the environment is the same.

No artifacts located.

Hanlad-Federal No. 2

Less than one half mile south of the No. 12 well is the location for this well. Very low sand dunes are adjacent to the northwest side of the pad area and there is a drainage area to the east where rabbitbrush (Chrysothamnus nauseosus) is growing. There is a trail on the west side

of the pad, but about 200 feet of new road will be needed.

No cultural material located.

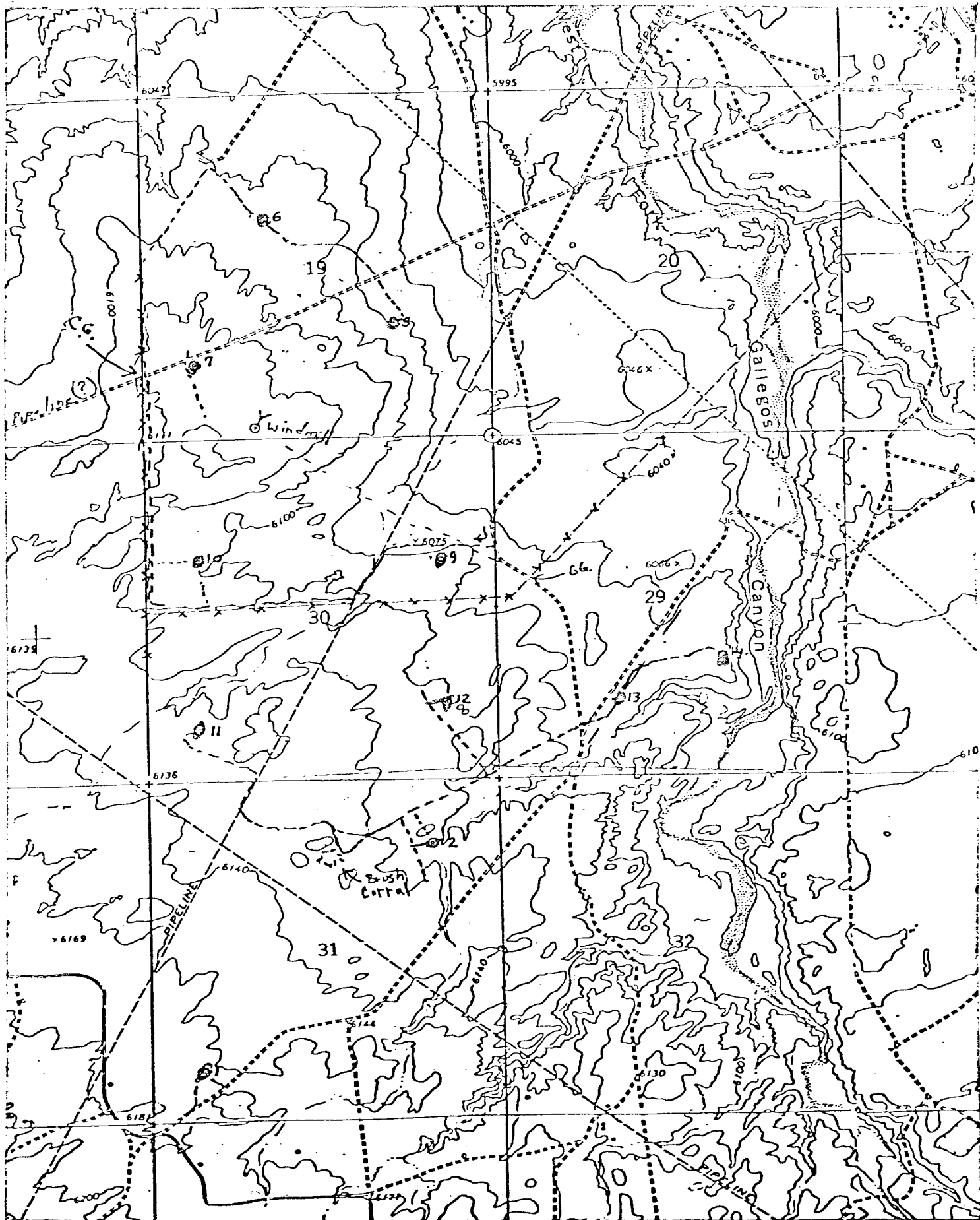
Recommendations

<u>Well</u>	<u>Area</u>	<u>Location</u>	<u>Clearance Status</u>
Frew-Federal No. 6	Pad: 100' x 130' Road: Existing	1,850 feet from the North line, 1,850 feet from the West line in the Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 19, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal No. 7	Pad: 100' x 130' Road: Existing	790 feet from the South line, 790 feet from the West line in the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 19, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal No. 8	Pad: 100' x 130' Road: Existing	1,850 feet from the South line, 1,450 feet from the East line in the Northwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 19, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal No. 9	Pad: 100' x 130' Road: Existing	1,850 feet from the North line 790 feet from the East line in the Southeast $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 30, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal No. 10	Pad: 100' x 130' Road: Existing	1,850 feet from the North line 790 feet from the West line in the Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 30, Township 26 North, Range 12 West, San Juan County, New Mexico. Map Source: U. S. G. S. 7.5 minute	Recommended

<u>Well</u>	<u>Area</u>	<u>Location</u>	<u>Clearance Status</u>
Moncisco Wash Quadrangle.			
Frew-Federal No. 11	Pad: 100' x 130' Road: Existing	790 feet from the South line 790 feet from the West line in the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 30, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal No. 12	Pad: 100' x 130' Road: 20' x 100'	1,190 feet from the South line 790 feet from the East line in the Southeast $\frac{1}{4}$ of the South- east $\frac{1}{4}$ of Section 30, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal	Pad: 100' x 130' Road: Existing	1,190 feet from the South line 1,850 feet from the West line in the Southeast $\frac{1}{4}$ of the South- west $\frac{1}{4}$ of Section 29, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Frew-Federal No. 14	Pad: 100' x 130' Road: Existing	1,750 feet from the South line 1,850 feet from the East line in Northwest $\frac{1}{4}$ of the Southeast $\frac{1}{4}$ of Section 29, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 minute Moncisco Wash Quadrangle.	Recommended
Hanlad-Federal No. 1	Pad: 100' x 130' Road: Existing	790 feet from the South line 790 feet from the West line in the Southwest $\frac{1}{4}$ of the South- west $\frac{1}{4}$ of Section 31, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 min- ute Moncisco Wash Quadrangle.	Recommended

<u>Well</u>	<u>Area</u>	<u>Location</u>	<u>Clearance Status</u>
Hanlad-Federal No. 2	Pad: 100' x 130' Road: 20' x 200'	990 feet from the North line 990 feet from the East line in the Northeast $\frac{1}{4}$ of the North- east $\frac{1}{4}$ of Section 31, Township 26 North, Range 12 West, San Juan County, New Mexico. Map source: U. S. G. S. 7.5 min- ute Moncisco Wash Quadrangle.	Recommended

Because the only cultural material located during this survey were isolated artifacts, it is recommended that archaeological clearance be granted for this proposed well sites. It is felt that there will be no adverse impact to our cultural resources as a result of this work.



Moncisco Wash

3E COMPANY, INC.

Engineering • Energy • Exploration

P. O. Box 190 — 505/327-4020

FARMINGTON, NEW MEXICO 87401

July 18, 1977

U.S. Department of Interior
Geological Survey
P.O. Box 959
Farmington, NM 87401

Attention: Mr. P. T. McGrath
District Engineer

RE: Development Plan for Surface Use
Kirby Exploration Company
Frew Federal #12
1190' FSL & 790' FEL
Sec 30, T26N, R12W
Nipp Pictured Cliff
San Juan County, New Mexico

Gentlemen:

Attached is the "Application for Permit to Drill" (form #9-331C) for the subject well. Also enclosed are the following items: surveyor's plat, drill site plat, vicinity map, and archaeologist report. Mr. Bob Moore of the Bureau of Land Management, Mr. Lee Freeman of the United States Geological Survey and Ms. Pat Zarnowski of the Agency of Conservation Archaeology have inspected the site.

The development plan for surface use is as follows:

Points 1, 3, 4, 6, & 9 Vicinity map and drill site plat attached.

Point 2. Water bars will be used on all roads where necessary.

Point 5. Water for drilling will be trucked from the San Juan River approximately 25 miles to the north.

Point 7. A waste disposal pit will be provided for the garbage and trash. Location shown on drill site plat. Drilling fluids will be contained in reserve pit until such time as evaporation occurs and then pits will be covered.

Point 8. No camps or airstrip.

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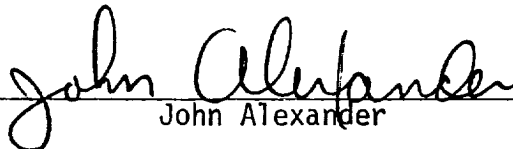
- Point 10. Should the well be a commercial producer, it will be equipped to facilitate producing operations with all drilling pits filled, location leveled and well site reseeded in compliance with current Bureau of Land Management seeding requirements. During dry out time required for the reserve pit it will be fenced to eliminate livestock entry. All facilities will be painted Grey: Federal Standard 595-36357
- Point 11. Rolling, sandy hills compose the location terrain. Low growing vegetation consists of Ring Muhly, Mormon Tea, Yucca and other natural weeds and grasses. About 100' of new road from the west will be necessary.

Point 12.

John Alexander
3E Company, Inc.
P.O. Box 190
Farmington, NM 87401
Phone: 505-327-4020

- Point 13. 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 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 Kirby Exploration Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

7-18-77


John Alexander

Should further information be desired, please advise.

Yours very truly,


John Alexander

JA:st

Attachments