



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

December 24, 1997

RECEIVED
JAN 12 1998
OIL CON. DIV.
DIST. 3

Limark Corporation
c/o Permits West, Inc.
37 Verano Loop
Santa Fe, New Mexico 87505
Attention: Brain Wood

Administrative Order NSL-3922

Dear Mr. Wood:

Reference is made to the following: (i) Limark Corporation's ("Limark") original application filed by Permits West, Inc. with the Division on December 3, 1997; (ii) the Division's initial response to said application by letter from Mr. Michael E. Stogner dated December 15, 1997; (iii) my telephone conversation with Mr. Bill Rutter, III on December 16, 1997; and, (vi) Mr. Rutter's response by fax dated December 16, 1997: all concerning Limark's request for an unorthodox oil well to test the Entrada formation with the proposed Federal "27" Well No. 1 to be drilled 1395 feet from the South line and 1575 feet from the East line (Unit J) of Section 27, Township 20 North, Range 4 West, NMPM, Sandoval County, New Mexico. The NE/4 SE/4 of said Section 27 shall be dedicated to the well forming a standard 40-acre oil spacing and proration unit for said interval.

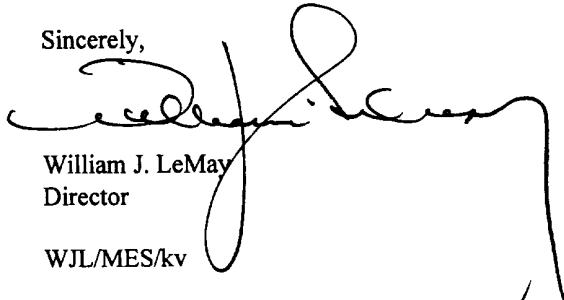
The geologic interpretation submitted with this application indicates that a well drilled at the proposed unorthodox oil well location will be at a more favorable geologic position within the potentially oil productive interval of the Entrada formation than a well drilled at a location considered to be standard within the subject 40-acre oil spacing and proration unit.

Further, the E/2 of said Section 27 is a single Federal lease (Lease No. NM-98716) in which Limark Corporation is the leasehold operator; therefore, there are no affected offsets to the subject 40-acre tract other than Limark Corporation.

The subject application has been duly filed under the provisions of Rule 104.F of the General Rules and Regulations of the New Mexico Oil Conservation Division.

By the authority granted me under the provisions of Division General Rule 104.F(2), the above-described unorthodox oil well location is hereby approved.

Sincerely,


William J. LeMay
Director

WJL/MES/kv

cc: Oil Conservation Division - Aztec
U. S. Bureau of Land Management - Albuquerque

December 3, 1997

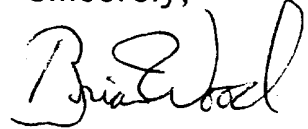
William LeMay, Director
NM Oil Conservation Div.
2040 Pacheco
Santa Fe, NM 87505

Dear Mr. LeMay:

On behalf of Limark Corporation, I am submitting two copies of an application for administrative approval of a non-standard location for the Federal 27 #1.

Please call me if you have any questions.

Sincerely,



Brian Wood

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OIL CON. DIV.
DIST. 3

cc: Aztec OCD
Philpy

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling
☒ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

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DEC - 5 1997
OIL CON. DIV.
DIST. 3

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

BRIAN WOOD
Print or Type Name

Brian Wood
Signature

Consultant
Title

12-3-97
Date

REQUEST FOR ADMINISTRATIVE APPROVAL FOR NON-STANDARD LOCATION
FOR LIMARK CORPORATION'S FEDERAL 27 #1 OIL WELL
1395' FSL & 1575' FEL SEC. 27, T. 20 N., R. 4 W., SANDOVAL COUNTY, NM

I. The well is on BLM surface and BLM 320 acre oil and gas lease NM-98716. The existing location is non-standard (75' from the south quarter-quarter line and 255' from to the east quarter-quarter line instead of the standard minimum 330'). The APD is attached. An onsite was conducted with Ms. Pat Hester of the Albuquerque BLM on December 1, 1997.

II. A C-102 showing the well location and proration unit (NWSE of Sec. 27 which totals 40 acres) and lease (NM-98716 is the east half of Sec. 27 which totals 320 ac.) is attached.

III. According to NM Oil Conservation Records, there is no production of any kind within a mile radius. A composite copy of the Johnson Trading Post and Ojo Encino Mesa 7.5' USGS maps is attached showing the proposed well (triangle), spacing units (thin solid lines), and lease (thick solid line). There are only two leases within a minimum 1,395' radius. Limark is the operator of all oil and gas interests in its 320 acre Federal 27 lease. San Juan Joint Venture has BLM oil and gas lease NM-98717 for the adjacent 320 acres to the west (west half of Sec. 27). A registered letter has been sent to San Juan Joint Venture (see attached notice).

IV. A copy of the composite copy of the Johnson Trading Post and Ojo Encino Mesa 7.5' USGS map is attached. The proposed well is marked by a triangle. Proration units (quarter-quarters) are marked by thin lines.

V. Limark selected its location based on a 1996 3-D seismic survey with lines spaced at quarter mile intervals. A standard drilling window does not overlap the indicated reservoir.

VI. No archaeology sites were found.

VII. Surface conditions are not an issue.

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DEC - 5 1997

OIL CON. DIV.
PST. 3

VIII. Directional drilling is not feasible because it is not cost effective for this wildcat well.

IX. I hereby certify that notice has been sent to the following lessees, lessors, surface management agencies, operators of spacing units, or owners of undrilled leases which adjoin the applicant's spacing unit on one or more of the two sides or the single closest corner to the proposed well and that the information is current and correct:

Bureau of Land Management
San Juan Joint Venture

Brian Wood, Consultant, 12-3-97
Signature, Title, & Date

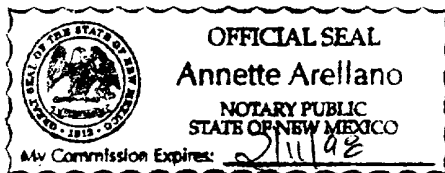
STATE OF New Mexico)
COUNTY OF Santa Fe) SS:

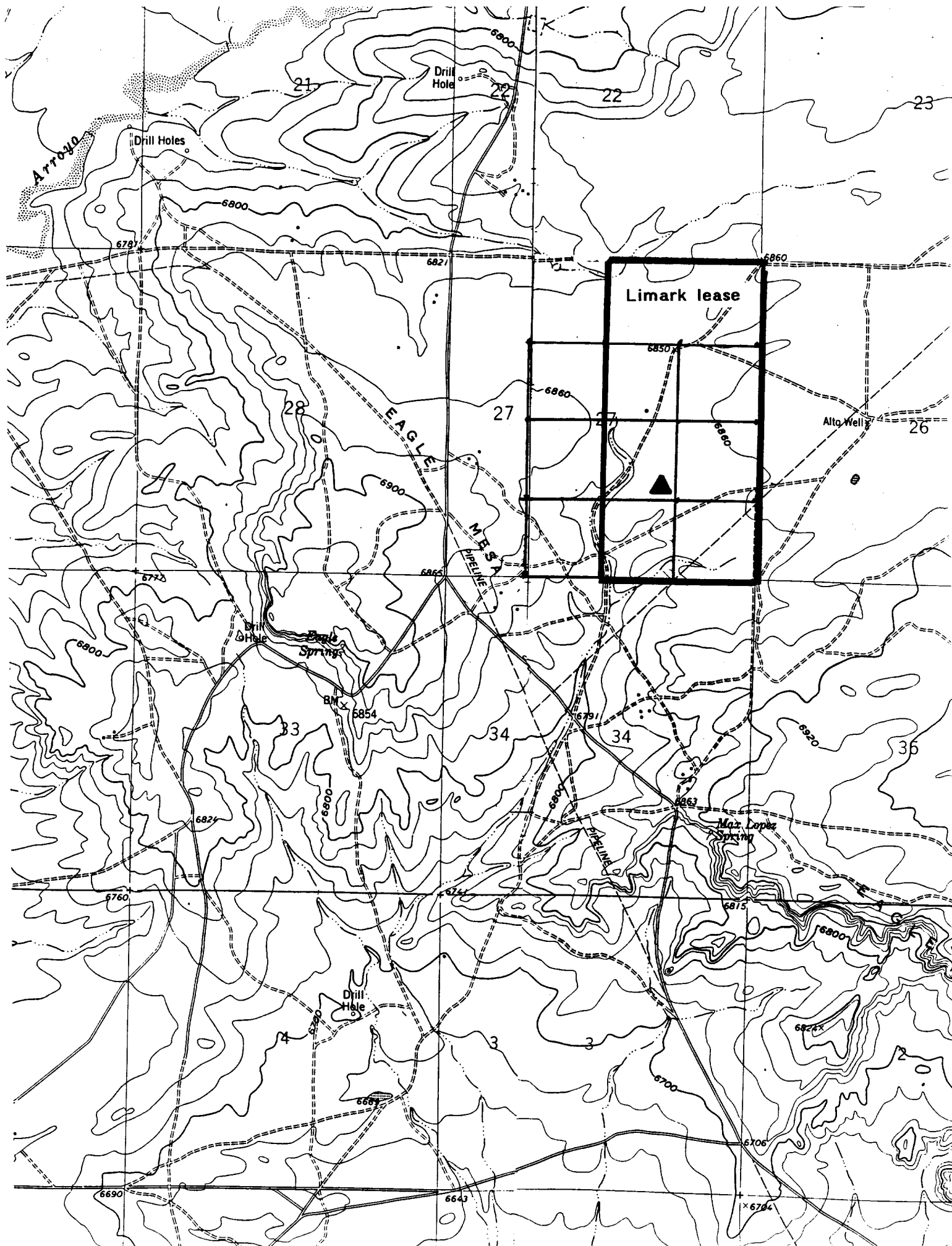
The foregoing instrument was acknowledged before me this 3rd day of December, 1997 by Brian Wood. Witness my hand and official seal.

Annette Arellano
Notary Public

My Commission Expires: 2/11/98

Business Address: 1234 St. Michael's Drive Santa Fe NM 87505





District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name Wildcat (Entrada)	
4 Property Code		5 Property Name Federal 27			6 Well Number 1
7 OGRID No. 152527		8 Operator Name LIMARK CORPORATION			9 Elevation 6847'

10 Surface Location

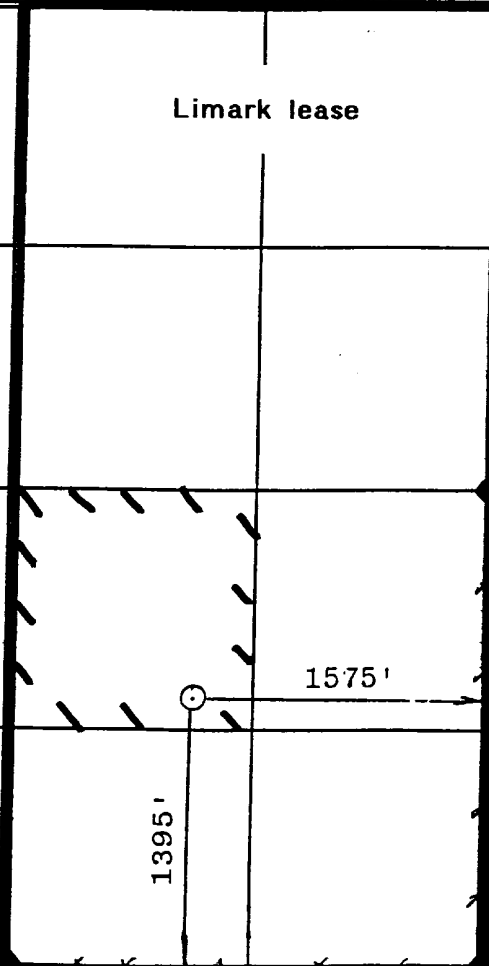
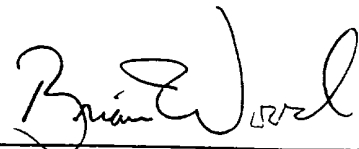

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	27	20 N.	4 W.		1395	South	1575	East	Sandoval

11 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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 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

16			17 OPERATOR CERTIFICATION	
			I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief	
			Signature 	
			Printed Name Brian Wood	
Title Consultant		Date December 2, 1997		
		18 SURVEYOR CERTIFICATION		
		I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief		
		Date of Survey 12/2/97		
		Signature 		
		Certificate Number 6844		

PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37 Verano Loop, Santa Fe, New Mexico 87505

(505) 466-8120

December 2, 1997

Bureau of Land Management
435 Montano NE
Albuquerque, NM 87107-4935

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following non-standard location for a well. This letter is a notice only. No action is needed unless you have questions or objections.

Limark Corporation is applying to drill the Federal 27 #1 oil well. The wellbore is only 75' to 255' from the closest quarter-quarter lines. This is less than the state minimum 330' from a quarter-quarter line. It is 1,065' from the closest lease line.

Well Name: Federal 27 #1

Proposed Producing Zone: Entrada

Legal Location: 1395' FSL & 1575' FEL Sec. 27, T. 20 N., R. 4 W.,
Sandoval County, NM on BLM lease NM-98716

Approximate Locations: ~18 air miles WSW of Cuba, NM

Applicant Name: Limark Corporation (915) 684-5765

Applicant's Address: P.O. Box 10708, Midland, Tx. 79702-7708

Submittal Information: Application for a non-standard location will be filed with the NM Oil Conservation Division this week. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 2040 S. Pacheco, Santa Fe, NM 87504. Their phone number is (505) 827-7131.

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

BLM
435 Montano NE
Albuquerque, NM 87107

4a. Article Number

4b. Service Type

- ☐ Registered ☐ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *[Signature]*

8. Addressee's Address (Only if requested and fee is paid)

Sincerely,

[Signature]

Brian Wood

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37 Verano Loop, Santa Fe, New Mexico 87505

(505) 466-8120

December 2, 1997

San Juan Joint Venture
c/o High Plains Associates
1557 Ogden St., Suite 300
Denver, Co. 80218

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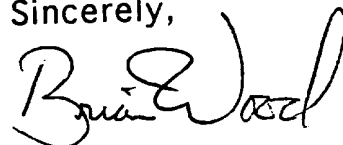
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Please call me if you have any questions.

Sincerely,



Brian Wood

Z 290 069 895

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to	San Juan JV		
Street & Number	1557 Ogden, # 300		
Post Office, State, & Zip Code	Denver Co 80218		
Postage	\$	8.00	
Certified Fee	\$	0.00	
Special Delivery Fee	\$	0.00	
Restricted Delivery Fee	\$	0.00	
Return Receipt Showing to Whom & Date Delivered			
Return Receipt Showing to Whom, Date, & Addressee's Address			
TOTAL Postage & Fees	\$		
Postmark or Date			

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.

NM-98716

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A

7. UNIT AGREEMENT NAME

N/A

8. FARM OR LEASE NAME, WELL NO.

Federal 27 #1

9. API WELL NO.

10. FIELD AND POOL, OR WILDCAT

Wildcat Entrada

11. SEC., T., R., M., OR BLK.
AND SURVEY OR AREA

27-20n-4w NMPM

12. COUNTY OR PARISH 13. STATE

Sandoval NM

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐

OTHER

SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Limark Corporation (915) 684-5765

3. ADDRESS AND TELEPHONE NO.

P.O. Box 10708, Midland, Tx 79702-7708

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

At surface

1395' FSL & 1575' FEL

At proposed prod. zone

Same

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

18 air miles WSW of Cuba, NM

15. DISTANCE FROM PROPOSED*

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

1,065'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

N/A

19. PROPOSED DEPTH

6,000'

20. ROTARY OR CABLE TOOLS

Rotary

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

6,847' ungraded ground

22. APPROX. DATE WORK WILL START*

Dec. 20, 1997

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" (J-55)	36#	250'	≈230 cu ft & to surface
8-3/4"	7" (J-55)	20#	6,000'	≈1,708 cu ft & to surface

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

TITLE

Consultant (505) 466-8120

DATE

12-2-97

(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

☐ AMENDED REPORT

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name Wildcat (Entrada)	
4 Property Code		5 Property Name Federal 27			6 Well Number 1
7 OGRID No. 152527		8 Operator Name LIMARK CORPORATION			9 Elevation 6847'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	27	20 N.	4 W.		1395	South	1575	East	Sandoval

" 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
¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ 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**

16				<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Brian Wood</i></p> <p>Signature</p>
				<p>Printed Name Brian Wood</p> <p>Title Consultant</p> <p>Date December 2, 1997</p>
		<p>1575'</p> <p>1395'</p>		<p>18 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 of Survey 11/26/97</p> <p>Signature and Seal of Professional Surveyor: <i>Gerald S. Huddleston</i></p> <p>Certificate Number</p>

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 1

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Subsea Elevation</u>
Ojo Alamo Ss	000'	12'	+6,847'
Fruitland Fm/Kirtland Sh	100'	112'	+6,747'
Pt. Lookout Ss	2,250'	2,262'	+4,597'
Gallup Ss	3,350'	3,362'	+3,497'
Dakota Ss	4,750'	4,762'	+2,097'
Morrison Fm	4,900'	4,912'	+1,947'
Entrada Ss	5,750'	5,762'	+1,097'
Total Depth (TD)*	6,000'	6,012'	+847'

* all elevations reflect the ungraded ground level of 6,847'

2. NOTABLE ZONES

<u>Oil & Gas Zones</u>	<u>Water Zones</u>	<u>Coal Zone</u>
Pt. Lookout (2,250')	Ojo Alamo (000')	Fruitland (100')
Gallup (3,350')	Pt. Lookout (2,250')	
Dakota (4,750')		
Entrada (5,750')		

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model

Limark Corporation
 Federal 27 #1
 1395' FSL & 1575' FEL
 Sec. 27, T. 20 N., R. 4 W.
 Sandoval County, New Mexico

to be used is not yet known. A typical 3,000 psi model is on PAGE 3.

An 11" 3,000 psi BOP and choke manifold system will be installed and tested to 2,500 psi before drilling surface casing plug. It will remain in use until the well is completed or P&A. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O.D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>GL Setting Depth</u>
12-1/4"	9-5/8"	36	J-55	ST&C	New	250'
8-3/4"	7"	20	J-55	LT&C	New	6,000'

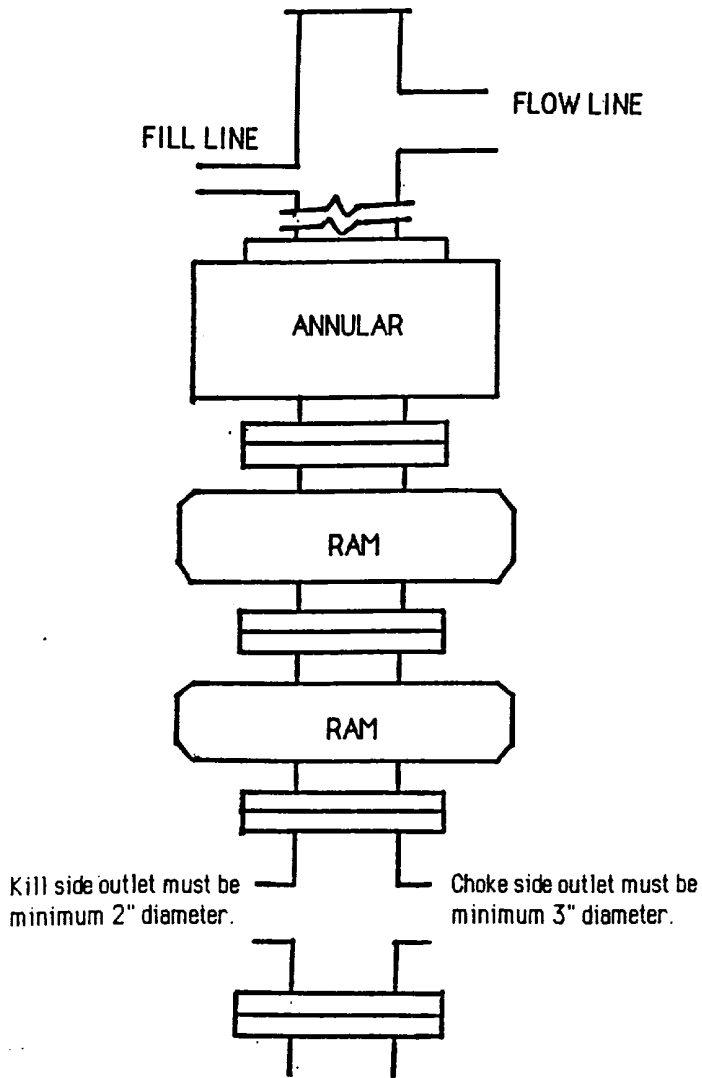
Surface casing will be cemented to the surface with ≈ 200 sacks Class B with 3% CaCl_2 + 1/4 #/sk Flocele. Volume is based on $\approx 200\%$ excess. Centralizers will be installed on the first two to three joints.

Production casing will be cemented to the surface in two stages. Stage tool will be set at $\approx 2,760'$. A minimum of ten centralizers will be installed on alternating joints. Cement volumes are based on $\approx 90\%$ excess. Caliper log will be used to determine actual volume needed.

First stage lead will consist of ≈ 450 sx (≈ 963 cu. ft.) Class B with 2% sodium silicate. Tail will consist of ≈ 120 sx (≈ 144 cu. ft.) Class H with 2% gel.

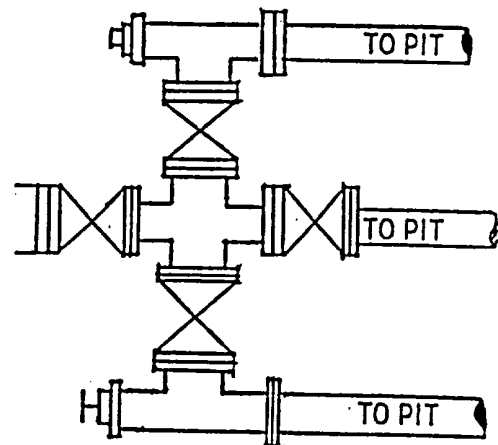
Limark Corporation
 Federal 27 #1
 1395' FSL & 1575' FEL
 Sec. 27, T. 20 N., R. 4 W.
 Sandoval County, New Mexico

PAGE 3



TYPICAL BOP STACK
 & CHOKE MANIFOLD

There will be at least 2 chokes and 2 choke line valves (3" minimum). The choke line will be 3" in diameter. There will be a pressure gauge on the choke manifold.



Kill line will be minimum 2" diameter and have 2 valves, one of which shall be a minimum 2" check valve.

Upper kelly cock will have handle available.
 Safety valve and subs will fit all drill string connections in use.
 All BOPE connections subjected to well pressure will be flanged, welded, or clamped.

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 4

Second stage lead will consist of ≈ 225 sx (≈ 481 cu. ft.) Class B with 2% sodium silicate. Tail will consist of ≈ 100 sx (≈ 120 cu. ft.) Class H with 2% gel.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' - 250'	Gel w/ lime spud mud	8.4-8.6	30-40	NC	10
250' - TD'	Low solids non-dispersed	8.4-9.0	35	<6 cc	9.5-10

Sufficient material to maintain mud quality, control lost circulation, and contain a blowout will be at the well while drilling. A mud logging unit, gas detector, and pit gauge will be used from the base of the surface casing to TD. Material to absorb possible oil or fuel spills will be on site.

6. CORING, TESTING, & LOGGING

No core is planned. GR, CNL, FDL, Sonic, SP, and DIL logs and a DST may be run.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, or hydrogen sulfide are expected. Maximum pressure will be $\approx 2,500$ psi.

8. OTHER INFORMATION

The anticipated spud date is December 20, 1998. It is expected it will take ≈ 14 days to drill and ≈ 10 days to complete the well.

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 5

Questions or notices concerning down hole matters should be directed to BLM's petroleum engineers Steve Salzman in Santa Fe at 505-438-7409 or Dave Sitzler in Albuquerque at 505-761-8919; or petroleum engineering technician Al Yepa in Cuba at 505-289-3748.

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 6

Surface Use Plan

1. DIRECTIONS & EXISTING ROADS (See Pages 11 & 12)

From the junction of NM 44 and NM 197 in Cuba ...
Go SW 15.5 mi. on the NM 197.
Then turn right and go NW 6.5 mi. on the paved Ojo Encino School Road.
Then bear right at a hilltop and go N 875' on a crowned & ditched dirt road.
Then turn sharply right and go SE 350' on a dirt two track trail.
Then turn left and go NE 325' on a dirt two track trail.
Then turn right and go E 2,250' on a dirt two track trail.
Then turn left and go NE 575' on a new seismic trail to the well.

Junctions and the seismic trail are marked with orange and pink flags. Roads will be maintained to a standard at least equal to their present condition. A BLM right-of-way application will be filed for the off-lease (i.e., W2 Sec. 27) portion of access from the pavement if production results.

2. ROADS TO BE BUILT OR IMPROVED

No new road will be built. The final 3,500' of access may be upgraded in spots for drilling. If possible, the drill rig and associated traffic will use the trails "as is". If not, upgrading will be intermittent and in stages such as widening and straightening turns, isolated flat blading, and shaving off sagebrush.

If production results, then the trails will be crowned, ditched, culverted, and surfaced where needed. Borrow ditches will turn out and be skewed to drain at least once every 300'. A minimum 18" x 50' CMP culvert will be installed in the east borrow ditch of the crowned and ditched dirt road. A minimum 24" x 25' culvert will be installed \approx 1,100' southwest of the

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 7

well. Travel surface will be $\approx 16'$ wide. Total disturbed width will not exceed 36', except at culverts and borrow ditch turnouts (which will not be longer than 30'). No fence is crossed. Maximum grade will be 5%.

3. EXISTING WELLS (See PAGE 12)

According to NMOCD records reviewed in Santa Fe on October 15, 1997, there are no existing disposal, injection, oil or gas wells within a mile radius. There are 2 plugged wells and one windmill ("Alto Well") within a mile. The windmill was non-functional in 1996.

4. PROPOSED PRODUCTION FACILITIES (See Page 15)

Production facilities will include a separator, heater-treater, and 400 bbl tanks. All will be on lease on the north (cut) side of the well pad. Above ground equipment will be painted a flat juniper green color.

5. WATER SUPPLY

Water will be trucked ≈ 9 miles from Tim Johnson's water hole.

6. CONSTRUCTION MATERIALS & METHODS

The top 6" of soil and brush will be stripped and stored west of the reserve pit. Subsoil will be stored south of the reserve pit. A flare pit may be built east of the reserve pit. A minimum 12 mil plastic liner will be installed in the reserve pit. A diversion ditch will be cut on the north side.

Material needed for surfacing will be bought and hauled from private land.

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 8

7. WASTE DISPOSAL

The reserve pit will be fenced sheep tight on 3 sides with woven wire fence topped with barbed wire. The 4th side will be fenced once the rig moves off. The fence will be kept in good repair while the pit dries. Once dry, contents of the reserve pit will be buried in place.

All trash will be placed in a portable trash cage. It will be hauled to an approved landfill. Human waste will be disposed of in 10' deep rat holes under trailers or in chemical toilets. Rat holes will be filled when the trailers are removed.

8. ANCILLARY FACILITIES

There will be no air strips or camps. Camper trailers will be on location for the company man, tool pusher, and mud logger.

9. WELL SITE LAYOUT

See Pages 13 and 14 for depictions of the well pad, cross sections, cut and fill diagrams, reserve pit, trash cage, access road onto the location, parking, living facilities, soil stockpile, and rig orientation.

10. RECLAMATION

Reclamation starts once the reserve pit is dry. It usually takes a year for a reserve pit to fully evaporate. All disturbed areas will be recontoured to a natural shape to blend with the surrounding topography.

Stockpiled topsoil and brush will be evenly spread. Compacted areas will

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 9

be ripped before seeding. The final 575' of road will be blocked and totally reclaimed. The remaining 2,925' of upgraded road will be ripped down the center and the sides to allow for a 10' wide travel way resembling the original condition. Water bars will be built every 300' on all 3,500' of road. The following certified weed free seed mix will be drilled:

blue grama grass - 2 pounds per acre
galleta grass- 2 pounds per acre
Indian ricegrass - 2 pounds per acre
western wheatgrass - 2 pounds per acre

If the well is a producer, then the reserve pit, and any other area not needed for workovers will be reclaimed in the same manner. Cut slopes, fill slopes, and any topsoil pile left after covering the reserve pit will be seeded.

11. SURFACE OWNER

The well and all road work are on Federal land managed by BLM.

12. OTHER INFORMATION

The nearest clinic (505-289-3291) is a half hour drive away in Cuba. (The nearest hospital is over two hours away in Albuquerque.) Locally call 911 for an EMT ambulance or county sheriff from Cuba. State police number in Cuba is 505-289-3443.

13. REPRESENTATION

Anyone having questions concerning the APD should contact:

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 10

Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop
Santa Fe, NM 87505
(505) 466-8120

FAX: (505) 466-9682

Mobile: (505) 699-2276

The field representative will be:

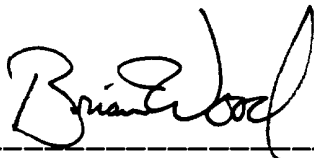
Drew Bates
P.O. Box 55
Farmington, NM 87499
(505) 326-3192

Mobile: (505) 320-2425

Pager: (505) 564-1987

Limark Corporation has the necessary consents from the proper lease owners to conduct lease operations in conjunction with this well. Bond coverage pursuant to 43 CFR 3104 for lease activities and operations is being provided by Limark Corporation.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Limark Corporation 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.

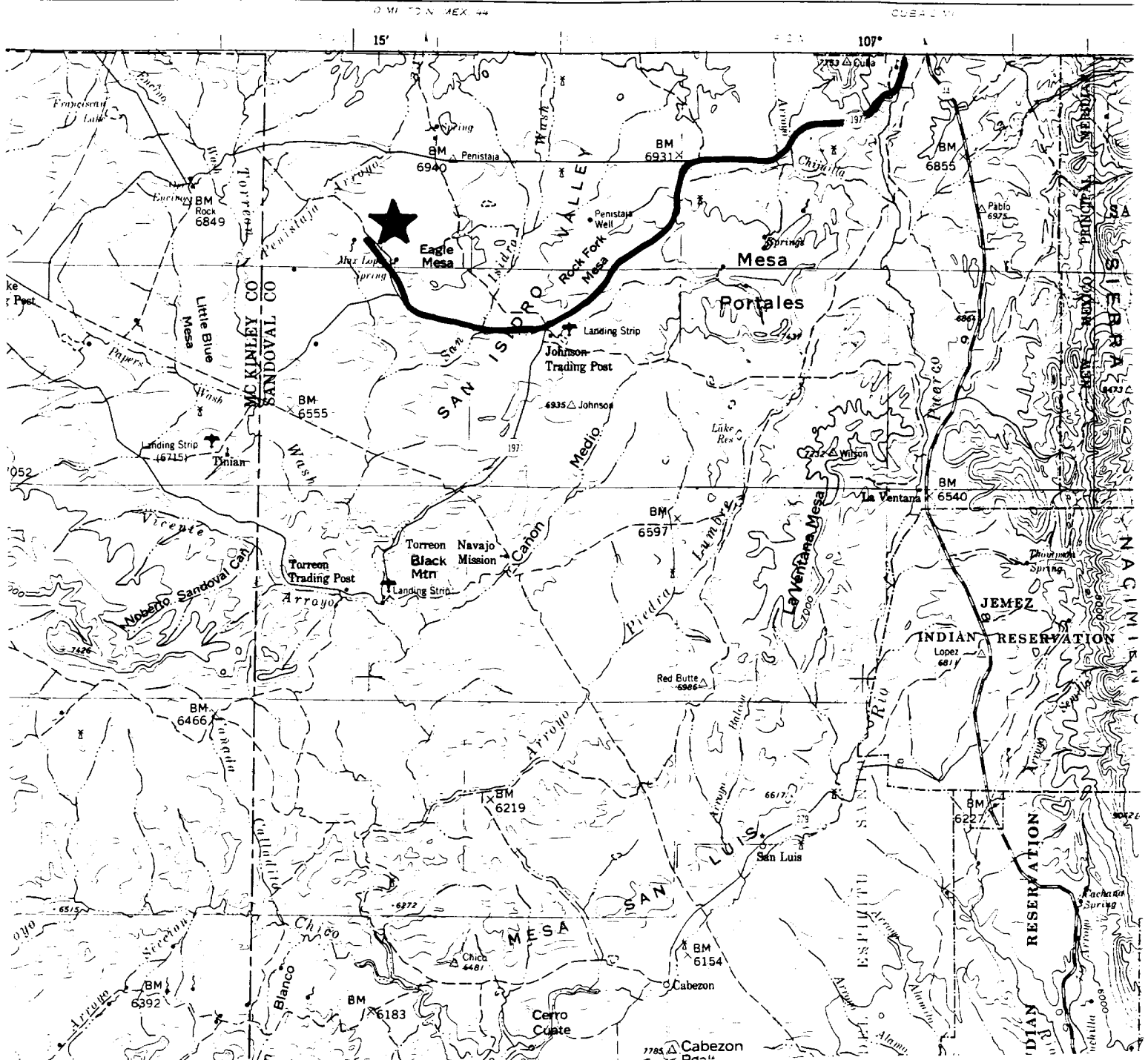


Brian Wood, Consultant

December 2, 1997

Limark Corporation
 Federal 27 #1
 1395' FSL & 1575' FEL
 Sec. 27, T. 20 N., R. 4 W.
 Sandoval County, New Mexico

PAGE 11



PROPOSED WELL:



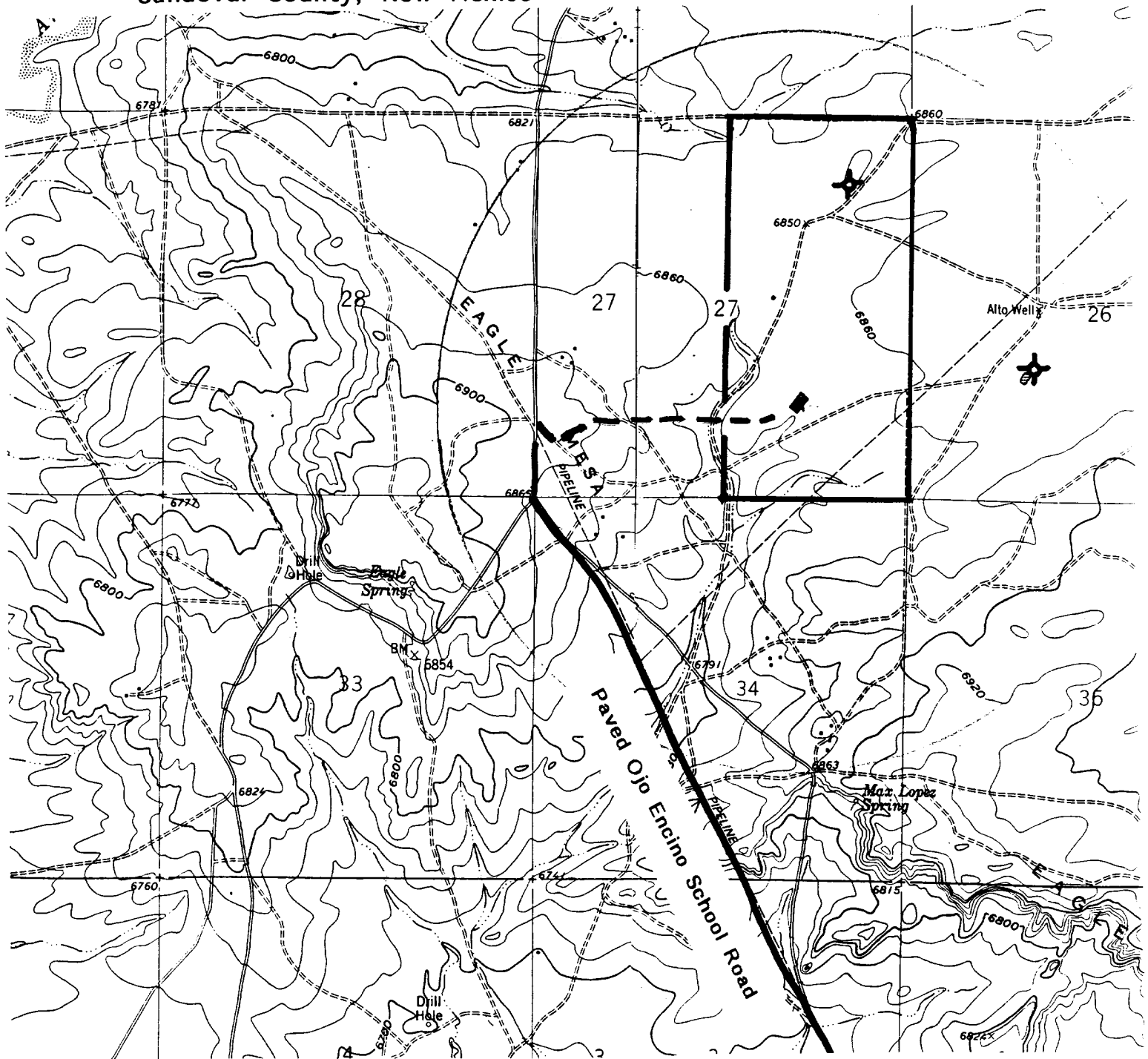
ACCESS ROUTE:



PERMITS WEST INC.
 PROVIDING PERMITS for LAND USERS

Limark Corporation
Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 12



PROPOSED WELL: ◆

LEASE BOUNDARY: ┌

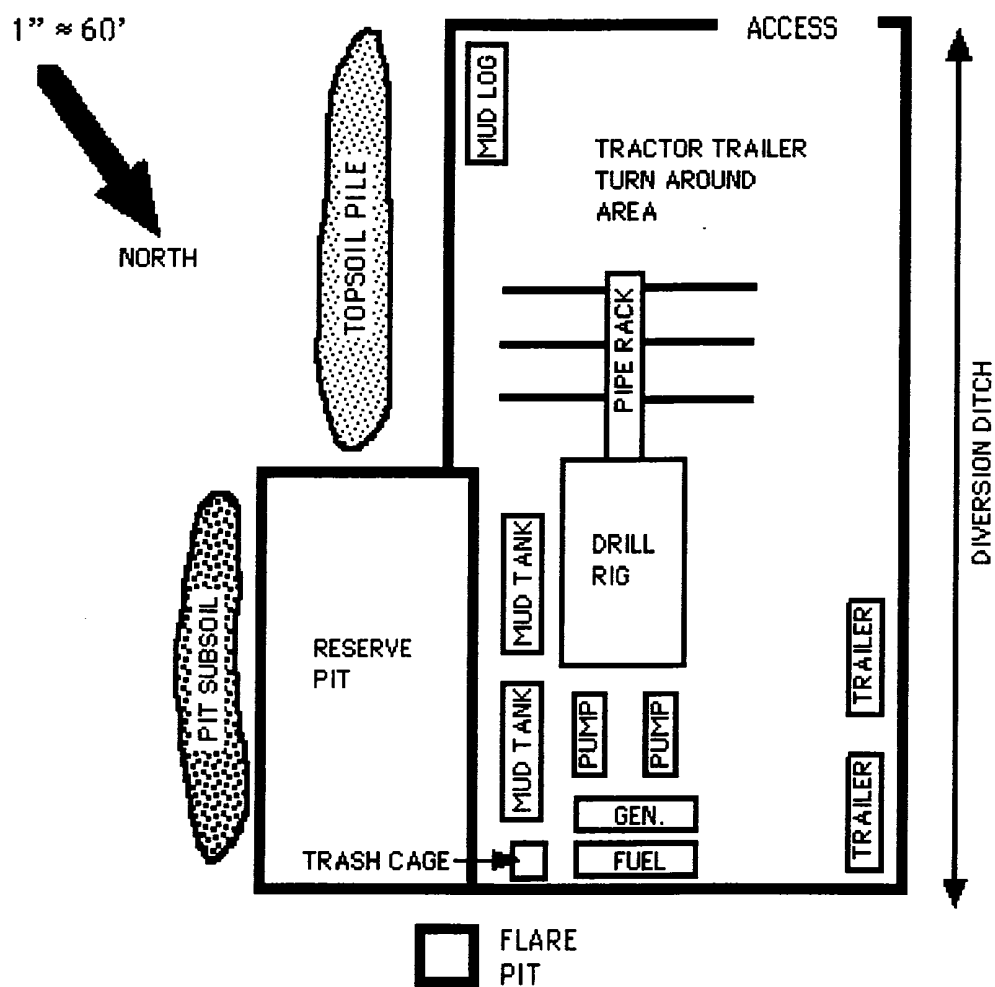
ROAD TO BE UPGRADED: - - -

PAVED OR CROWNED & DITCHED ROAD: ~

PERMITS WEST .INC.
PROVIDING PERMITS for LAND USERS

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Federal 27 #1
1395' FSL & 1575' FEL
Sec. 27, T. 20 N., R. 4 W.
Sandoval County, New Mexico

PAGE 13



Federal 27 # 1
well pad & section

