

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUN 29 2011

Farmington Field Office
Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
NM113426
6 If Indian, Allottee or Tribe Name
General

1a. Type of work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7 If Unit or CA Agreement, Name and No.
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8. Lease Name and Well No. Ojo Encino 21 Federal #2DWS PWS 2
2 Name of Operator HPOC, LLC		9 API Well No. 30-031- 2111
3a. Address 113 Centennial Plaza, PO Box 5046 Buena Vista CO 81211	3b. Phone No. (include area code) 719-395-8059	10. Field and Pool, or Exploratory Ojo Encino Entrada (48030)
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface Unit K—2,621' FSL and 2,360' FWL At proposed prod. zone same		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 21-T20N-R5W of the NMPM
14. Distance in miles and direction from nearest town or post office* Approx. 23 miles W-SW of Cuba, NM		12. County or Parish McKinley
15 Distance from proposed* 1,606' east to lease boundary / location to nearest 13' north to drilling unit line property or lease line, ft. (Also to nearest drig. unit line, if any)		16. No. of acres in lease 480
18. Distance from proposed location* 177.5' from HPOC's to nearest well, drilling, completed, O.E. 21 Fed #1H applied for, on this lease, ft		17 Spacing Unit dedicated to this well 40 acres; NE/4 SW/4 of section 21
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 6,790 Gt		19. Proposed Depth 6,170'
22 Approximate date work will start* 10/01/2011		20 BLM/BIA Bond No. on file. NMB 000457
23 Estimated duration Two Months		

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4

24. Attachments

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

RCVD SEP 20 11
OIL CONS. DIV.
DIST. 3

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

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

25. Signature 	Name (Printed/Typed) Arthur W. Butler III	Date 06/27/2011
Title Manager, HPOC, LLC		
Approved by (Signature) 	Name (Printed/Typed) Mark Keiser	Date 9/14/11
Title AFN		
Office FFO		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

(Continued on page 2)

*(Instructions on page 2)

HOLD COPY FOR NSL & SO

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

OCT 14 2011

NMOCD

AV

BLM'S APPROVAL OR ACCEPTANCE OF THIS
ACTION DOES NOT RELIEVE THE LESSEE AND
OPERATOR FROM OBTAINING ANY OTHER
AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

HOLD COPY FOR NSL & SO

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

RECEIVED

Form C-102
Revised July 10, 2010

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

JUN 29 2011

~~Submit~~ Submit one copy to appropriate District Office

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION

1220 South St. Francis Dr. Farmington Field Office

Santa Fe, NM 87505 Bureau of Land Management

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-031-2111		² Pool Code 48030	³ Pool Name OJO ENCINO ENTRADA
⁴ Property Code 37743 388608	⁵ Property Name OJO ENCINO 21 FEDERAL DWS		⁶ Well Number 2 DWS
⁷ OGRID No. 246238	⁸ Operator Name HPOC, LLC		⁹ Elevation 6790'

¹⁰ Surface Location

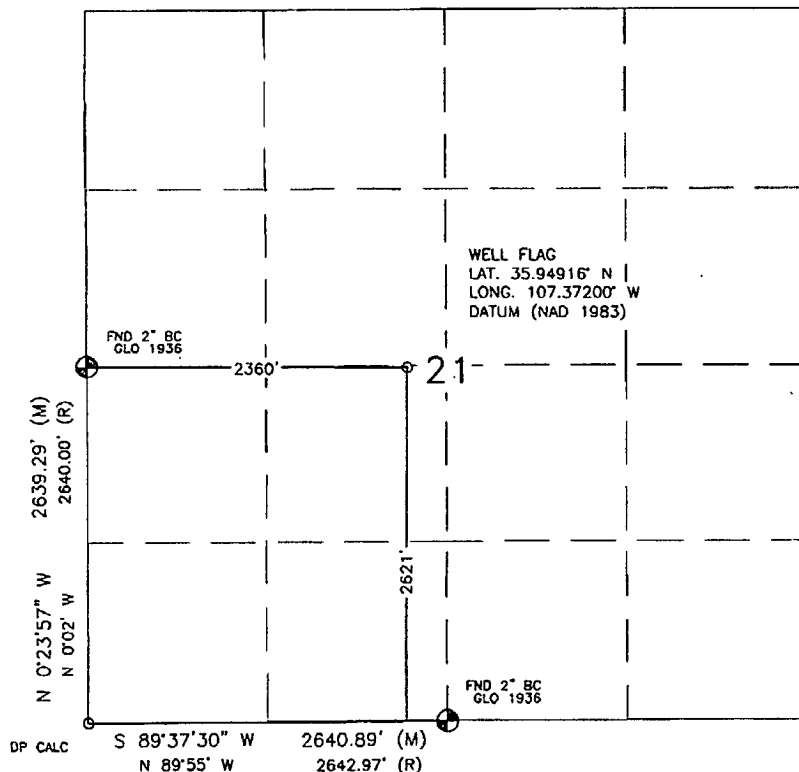
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	21	20N	5W		2621'	SOUTH	2360'	WEST	McKINLEY

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 40.00 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, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature W. Butler Date 6/17/11

ARTHUR W. BUTLER III
Printed Name

bbutler@highplainsop.com
E-mail Address


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.

JUNE 14, 2011

Date of Survey

Signature and Seal of Professional Surveyor:



DAVID - RUSSELL

Certificate Number 10201

HPOC, LLC

Ojo Encino 21 Federal #2DWS—Drilling program

API #: 30-031-
Well location: NE/4 SW/4 of section 21—Township 20 North,
Range 5 West, McKinley County, New Mexico
Surface location: Unit K—2,621' FSL and 2,360' FWL
Bottomhole location: Same
Federal Lease #: NM|NM 113426

DRILLING PROGRAM

Synopsis: HPOC, LLC (HPOC) plans to drill its proposed Ojo Encino 21 Federal #2DWS vertical well in the formerly abandoned Ojo Encino Entrada pool. HPOC plans a well location in Unit K—2,621' FSL and 2,360' FWL of section 21-T20N-R5W, McKinley County, New Mexico. See the accompanying C-102.

Casing will be run and the drilling fluid will be a water-based mud. A reserve pit will be used for collection of drill cuttings and fluid recovery. HPOC plans to penetrate the Entrada reservoir at a depth of 5,892' MD. From this point, we plan to construct a Down-hole Water Sink (DWS) well which will have a dual completion configuration both within the Entrada Formation (see Exhibit A). The upper completion will be in the top of the oil pool and produce oil, whereas the lower completion will be just below the water-oil transition zone and will produce formation water. The design of this well is aimed at minimizing or eliminating the reverse water coning which normally accompanies pumping of the oil zone within the region's Entrada oil fields. The goal of employing the DWS technique is to achieve higher oil cuts over a greater period of time thus ultimately producing more oil and extending field life.

Depending on structural position and formation evaluation, the Ojo Encino 21 Federal #2DWS well will be completed as an Ojo Encino Entrada Pool producing well.

1. FORMATION TOPS

<u>FORMATION NAME</u>	<u>MEASURED DEPTH</u>
Kirtland/Fruitland	Surface
Cliff House	866'
Menefee	1,852'
Point Lookout Sandstone	2,756'
Mancos	2,883'
Gallup	3,553'
Greenhorn	4,718'
Graneros	4,819'
Dakota	4,924'
Morrison	5,043'
Summerville Shale	5,850'
Todilto	5,882'
Entrada Sandstone	5,892'
Chinle	6,112'
Total Depth	6,170'

2. ZONES OF INTEREST

OIL & GAS ZONES	WATER ZONES	COAL ZONE
Entrada Sandstone (5,892' MD)	Point Lookout (2,756' MD)	Fruitland (672' MD)

All fresh water zones will be protected behind 7" casing run to a measured depth of approximately 6,150'.

3. PRESSURE CONTROL

The drilling contractor has not been selected as of this date, so the exact BOP configuration to be used is not yet known. A typical 2,000 psi BOP stack and choke manifold system is shown on Exhibit B. The well will be drilled under the 2,000# psi specification contained in Onshore Order #2, "Drilling Operations."

This BOP and choke manifold will remain in use throughout the drilling operations. A full-opening safety valve shall be on the rig floor at all times in the open position. This valve will have a thread design to be compatible with the drill pipe and drill collars.

All BOP pressure and daily mechanical tests will be recorded in the driller's log. BOP's will be inspected and operated 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 casings strings, which are set and cemented in place.

4. CASING AND CEMENT

Hole Size	Csg O.D.	Weight/Ft.	Grade	Thread Type	Condition	Depth
12.25"	9 5/8"	36#	J-55	8rd ST&C	New	400'
8.75"	7"	23#	J-55	8rd LT&C	New	6,150'

The 9 5/8" surface casing will be cemented in one stage with 240 sks circulated to surface with a final volume no less than 100% excess over gauge hole. Type G cement will be used, containing 2% calcium chloride and 1/8th lb/sk poly-E-flake mixed at 15.8 ppg with a 1.15 yield. Centralizers will be placed and the surface casing will be set and cemented following the provisions of Onshore Order #2, "Drilling Operations."

The 7" intermediate casing will be cemented in one stage with returns to surface using foamed lead cement. The 7" casing will be run as follows. First, a 7" guide shoe will be run, then a 7" shoe joint, followed by a float collar and casing back to surface. Centralizers will be placed according to indicated porous zones. The 7" casing is proposed to be cemented as follows: Pump 10 bbls 8.33 lb/gal fresh water, followed by 20 bbls 10.0 lb/gal Super Flush 101, followed by 10 bbls 8.33 lb/gal fresh water, followed by 750 sks foamed lead cement, followed by 120 sks tail cement, followed by 242 bbls 8.33 lb/gal fresh water. The foamed lead cement will be mixed at 13 ppg with a 1.43 yield. The cement will be foamed to a density no less than 9.0 ppg. Actual cement volumes will be determined using the open-hole log caliper plus 25% excess.

5. MUD PROGRAM

Depth	Type	Weight/PPG	Viscosity	Fluid Loss	pH
0'–450'	Water based, Gel-Chem	8.6–8.8	50–60	No control	8.0–10
450'–6,170'	Water based, Gel-Chem	8.8–9.2	35–45	10–12 cc	8.0–10

Shale formations to be drilled in the area are water sensitive and should be drilled with a low solids, non-dispersed mud system. Drispac and P.H.P.A. polymer should be added to the mud, and water loss controlled at 10–12 cc. A viscosity of 35–40 Sec/Qt should be sufficient to clean the hole.

Significant loss circulation zones have been encountered in the Gallup formation in other wells drilled in the area. The mud will be pre-treated with 5–10% loss materials at 3,400' and possibly maintained until casing point at 6,150'. Fifty feet from casing point, add gel to increase viscosity to 65–70 Sec/Qt to insure casing operations.

Sufficient material needed to maintain mud properties, control loss circulation zones, and contain any unforeseen pressure control situations will be maintained at the well site during all drilling operations.

6. CORING, TESTING & LOGGING PROGRAM

No coring operations or drill stem tests are planned at this time. The logging suite will consist of a Triple-combo log; Gamma Ray-Formation Density Log-Compensated Neutron Log-Spontaneous Potential-Array Induction Log. The Array Induction Log will be run over the open hole from +/- 400' to TD. The porosity log will be run over the logging contractor's minimum footage requirement and any potential pay intervals.

7. DOWNHOLE CONDITIONS

A research of wells drilled in the area shows no abnormally pressured zones or temperatures will be encountered. No hydrogen sulfide is present in any of the formations that will be penetrated. Maximum expected BHP is +/- 2,365 p.s.i. (from the Entrada DST in the Filon Federal #1 at a depth of 5,887'–.402 psi/ft).

8. OTHER PERTINENT INFORMATION

Anticipated spud date will be upon approval of the APD by the BLM and rig availability. Drilling of the well is expected to take +/- 14 days. Completion operations as an Entrada producer will take +/- 7 days, and will commence as soon as possible following release of the drilling rig.

Questions concerning down hole operations should be directed to Troy Salyers in the BLM Farmington NM District office at 505-599-6350.

Exhibit B—Proposed 2,000# Pressure Control System

Ojo Encino 21 Federal #2DWS—Drilling program

Operator: HPOC, LLC
API #: 30-031- (to be determined)
Well total depth: 6,170' MD
Federal Lease #: NM|NM 113426

Typical 2,000 psi BOP Stack and Choke Manifold System

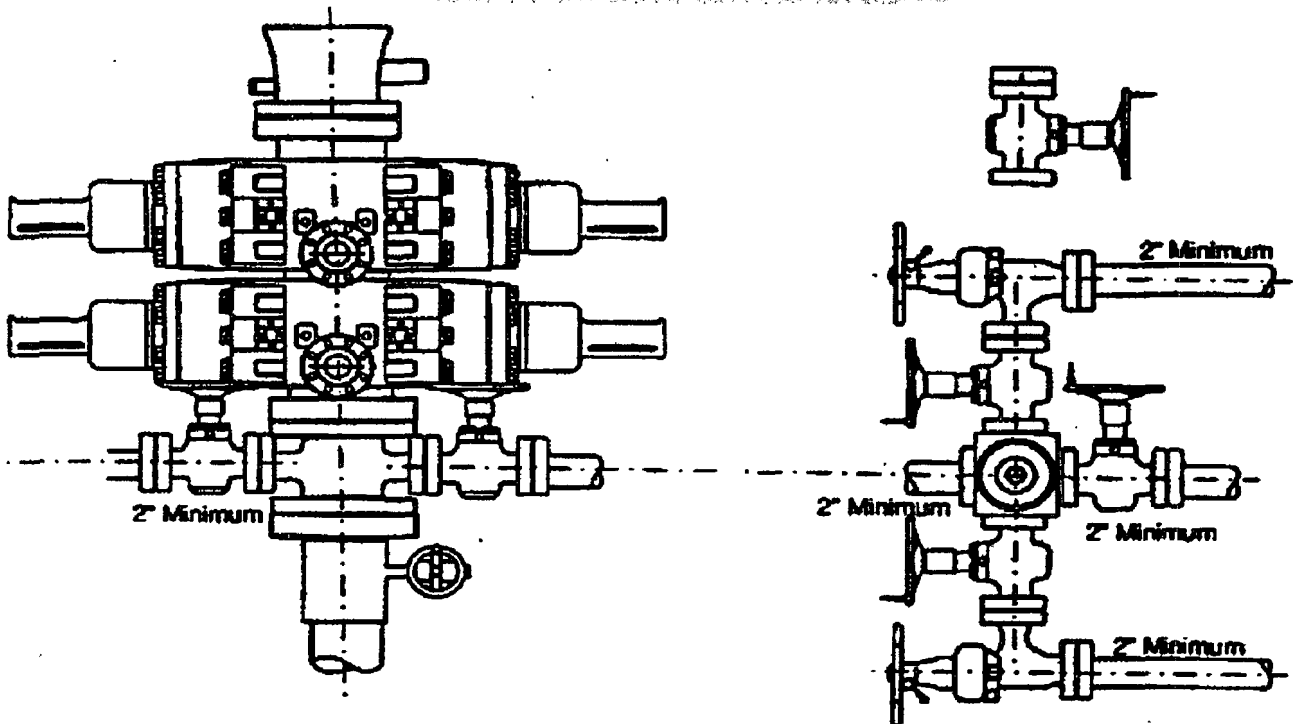


Exhibit A

Ojo Encino 21 Federal #2DWS Schematic Diagram

Dual completion with water produced up the tubing and oil produced up the annulus.

Packer set in the transition zone to prevent water coning into the oil completion.

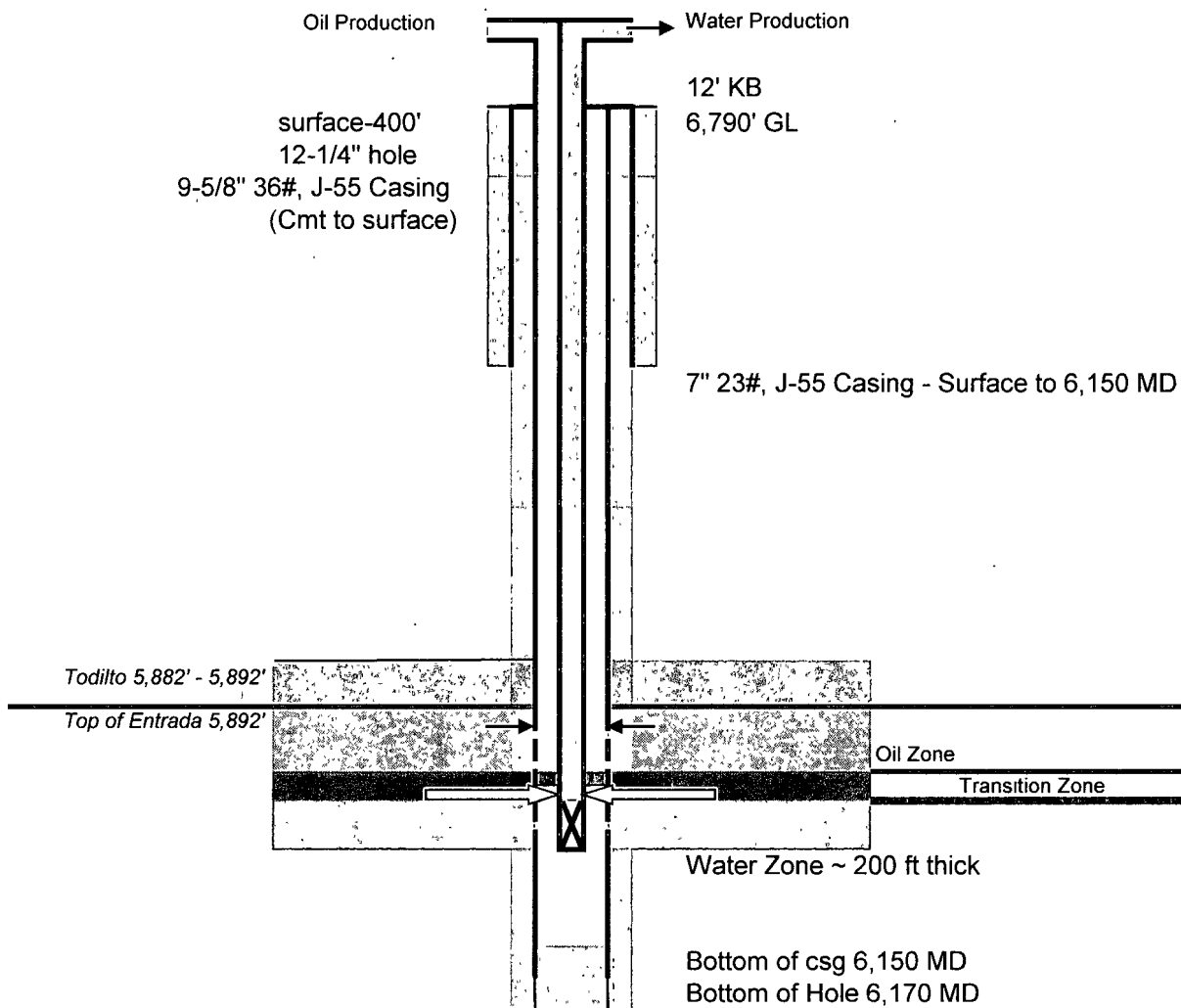


Exhibit C—Directions and Existing Roads

Ojo Encino 21 Federal #2DWS—Surface use plan

Operator: HPOC, LLC

API #: 30-031- (to be determined)

Well total depth: 6,170' MD

Federal Lease #: NM|NM 113426

Field contact: Lynn Hatley at 505-321-3785

HPOC's Ojo Encino property is located about 63 miles to the southeast from the intersection of Hwy 64 and Interstate 550 in Bloomfield and 24 miles west-southwest of Cuba. The proposed well is adjacent to HPOC's Ojo Encino 21 Federal #1H well location in the NE4/SW4 of section 21, Township 20 North, Range 5 West, McKinley County, NM. The location of the proposed well is at Latitude is 35.94916° North and Longitude is 107.37200° West (NAD-83). The location is about 1.4 miles west-southwest of the Navajo Ojo Encino Chapter House.

From Albuquerque or Cuba, follow Route #1. From Farmington, there are two ways to get to location. See directions below.

- **Route 1 from Farmington/Bloomfield through Cuba. This route is longer distance and drive time, but has better roads and is recommended in bad weather conditions.**

From the intersection of NM Highway 550/44 and NM Highway 197 on the south side of Cuba, NM, proceed west and southwest on NM 197 for 15.3 miles. Turn right (due west) on the Ojo Encino School Road (paved road). Proceed west and northwest for about 13 miles. Turn left (south) immediately after the houses at Ojo Encino.

From Bloomfield, this route following Highway 550 into Cuba is about 117 miles to the turnoff from the Ojo Encino paved road.

SEE MAP WITH FINAL INSTRUCTIONS ON NEXT PAGE

- **Route 2 from Farmington/Bloomfield turning off Hwy 550 at Counselor. Less miles, but poor quality road in stretches.**

There is an alternate route to the Ojo Encino property, turning right/south off Hwy 550 at Counselor about 54 miles from Bloomfield. It is about 21 miles to the turnoff from the Ojo Encino paved road. HPOC does not have detailed directions, but we believe the route is marked to Ojo Encino.

From Farmington, this route is about 75 miles, which is 42 miles shorter than going through Cuba. However the first 10 miles off of Hwy 550 is over a poor, washboard dirt road and this route is NOT recommended in wet/muddy conditions. About 30 minutes can be saved, but the poor road can be difficult to navigate in bad weather conditions. It is a typical oil-patch road.

SEE MAP WITH FINAL INSTRUCTIONS ON NEXT PAGE