

**McILNAY**

# McILNAY & ASSOCIATES, INC.

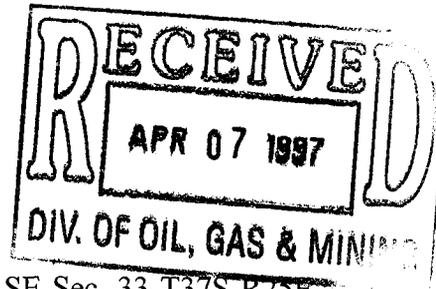
2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

April 3, 1997

Utah Board of Oil, Gas & Mining  
1594 West North Temple  
3 Triad Center, Suite 1210  
Salt Lake City, Utah 84180-1203



Re: Petral Exploration, LLC , #6 Knockdhu Unit, NE SE Sec. 33-T37S-R25E  
San Juan Co., Unit - 75040X Lease # UTU 65915

Dear Sirs:

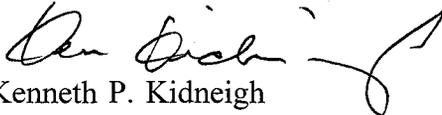
The attached package includes the following for your review and approval.

1. Request for Confidentiality.
2. Copy of Federal APD and NTL-6 package in lieu of Utah APD.

Please let us know if you are in need of any additional information.

Sincerely,

McILNAY & ASSOCIATES, INC.

  
Kenneth P. Kidneigh  
Petroleum Engineer

so

cc: Petral Exploration LLC  
Rose Exploration Associates



206  
347

SAN JUAN COUNTY ROAD DEPARTMENT  
835 East Highway 666  
Post Office Box 188  
Monticello, Utah 84535  
(801) 587-3230

Application for Right-of-Way Encroachment Permit

Date April 2, 1997

TO: San Juan County Surveyor/Engineer  
Post Office Box 188  
Monticello, Utah 84535

Application is hereby made by: (1) Petral Exploration, LLC  
c/o McClunay & Associates, Inc.  
Address (2) 2305 Oxford Lane, Casper WY 82604

Telephone Number: (307) 265-4351 for permission to do the

following: (3) Move in a drilling rig and other equipment  
as needed for drilling, completing and producing a well

located in the NE, SE Sec 33-T37S-R25E, San Juan Co., UT  
utilizing County Roads 206 and 347. Petral Exploration, LLC  
agrees to repair any damages caused by their operations

to said roads at their expense.

(4) Location: As above Knockshu #6

City Blanding County San Juan State UT

or U.S. Highway No. NA Milepost No. NA in accordance  
with the attached plan. (5)

(6) Construction will begin on or about NA 19     and  
will be completed on or before      19    .

If the proposed installation requires breaking of the  
pavement, give the following information:

- a. Type of pavement: NA
- b. The opening to be made will be      feet long by  
     feet wide and      feet deep.
- c. A bond in the amount of \$      has been posted with  
     Telephone No.

to run of a term of three (3) years after completion of work to  
guarantee satisfactory performance.

(7) If this permit is granted, we agree to comply with all  
conditions, restriction, and regulations as contained in the  
"Regulations for the Control and Protection of State Highway

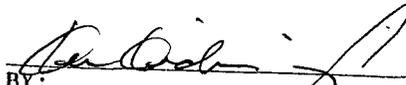
Rights-of-Way", approved by the Utah State Road Commission of October 8, 1962, and all revisions thereto or Regulations adopted by the San Juan County Commission.

(8) In approving this application and locations of utilities, and effort will be made to approve only locations that will not be affected in the event that San Juan County changes the roadway. But, in situations in which the utility has to be moved, this moving shall be done by the utility company or paid for by the company.

(9) For any and all applications requesting authority to use vibratory equipment, applicants shall:

- a. Provide map showing where vibrations will take place.
- b. Agree to repair any damages or replace any property damaged.
- c. Take full responsibility for proper flagging and traffic control.
- d. Agree that vibrating done in the area of dirt roads shall be done on the dirt road rather than in the bar ditch to minimize damage.
- e. Provide a schedule of the planned work and estimated dates of completion.
- f. Attach written permission from all adjacent fee-title owners.
- g. The San Juan County commission has authorized the San Juan County Surveyor/Engineer (or his Assignees) to issue permits.

(10) San Juan County can only grant permission to the extent that the County has the authority to do so and the permission granted hereunder is limited to the interest of authority actually owned by San Juan County and no warranties of ownership or authority to grant permission is expressed or implied by the granting of this permit.

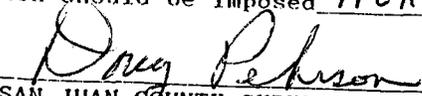
  
 BY: Ken Kidneigh, McIlroy & Associates, Inc.  
Representative for Petral Exploration, LLC  
 TITLE

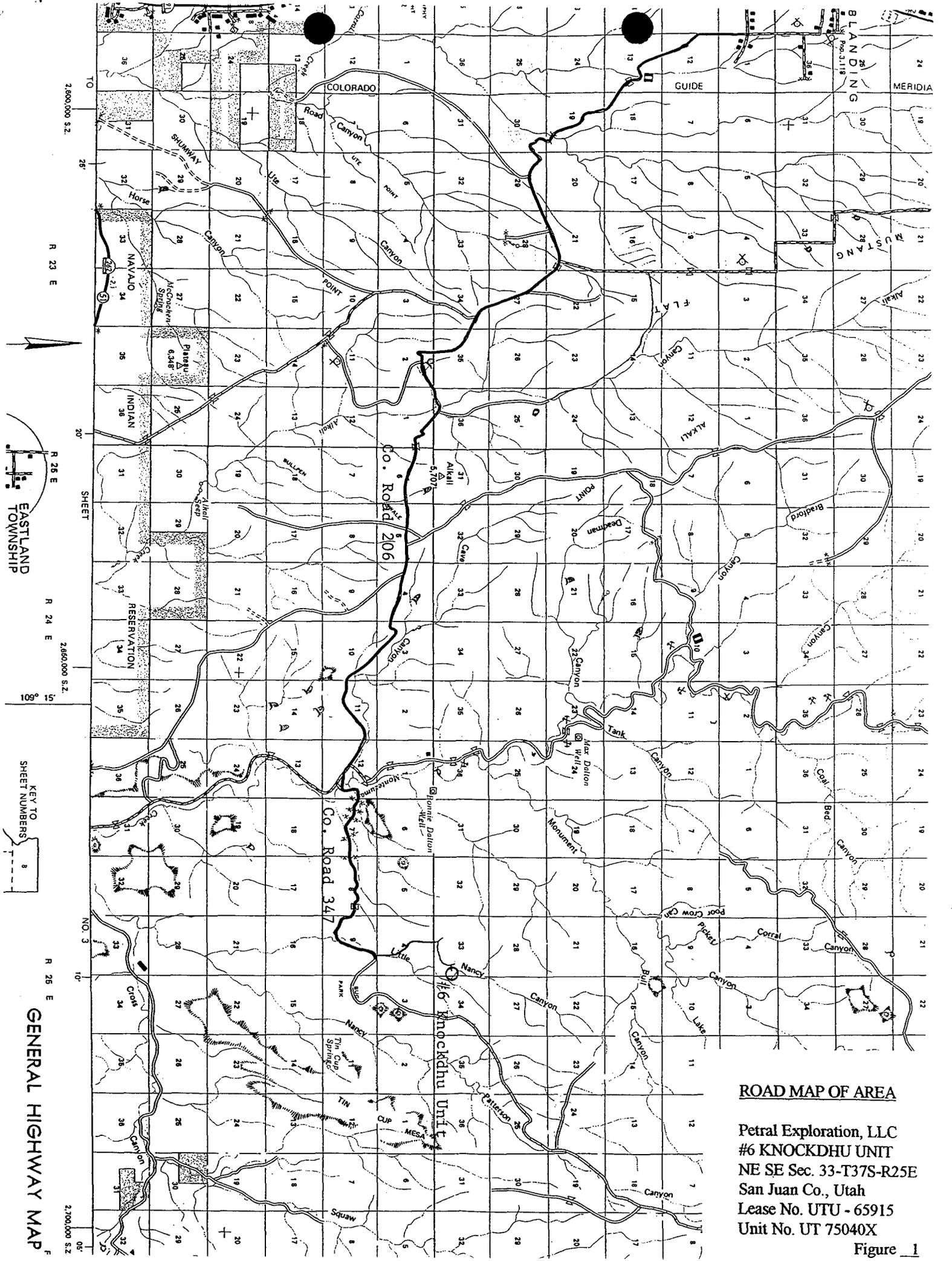
To be filled in by San Juan County Surveyor/Engineer.

(1) Permit should be granted Yes

Permit should not be granted \_\_\_\_\_

(2) Additional requirements which should be imposed None.

  
 SAN JUAN COUNTY SURVEYOR/ENGINEER



**ROAD MAP OF AREA**  
 Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X  
 Figure 1

GENERAL HIGHWAY MAP



KEY TO SHEET NUMBERS



EASTLAND TOWNSHIP



R 23 E

R 24 E

R 25 E

R 26 E

2,600,000 S.Z.

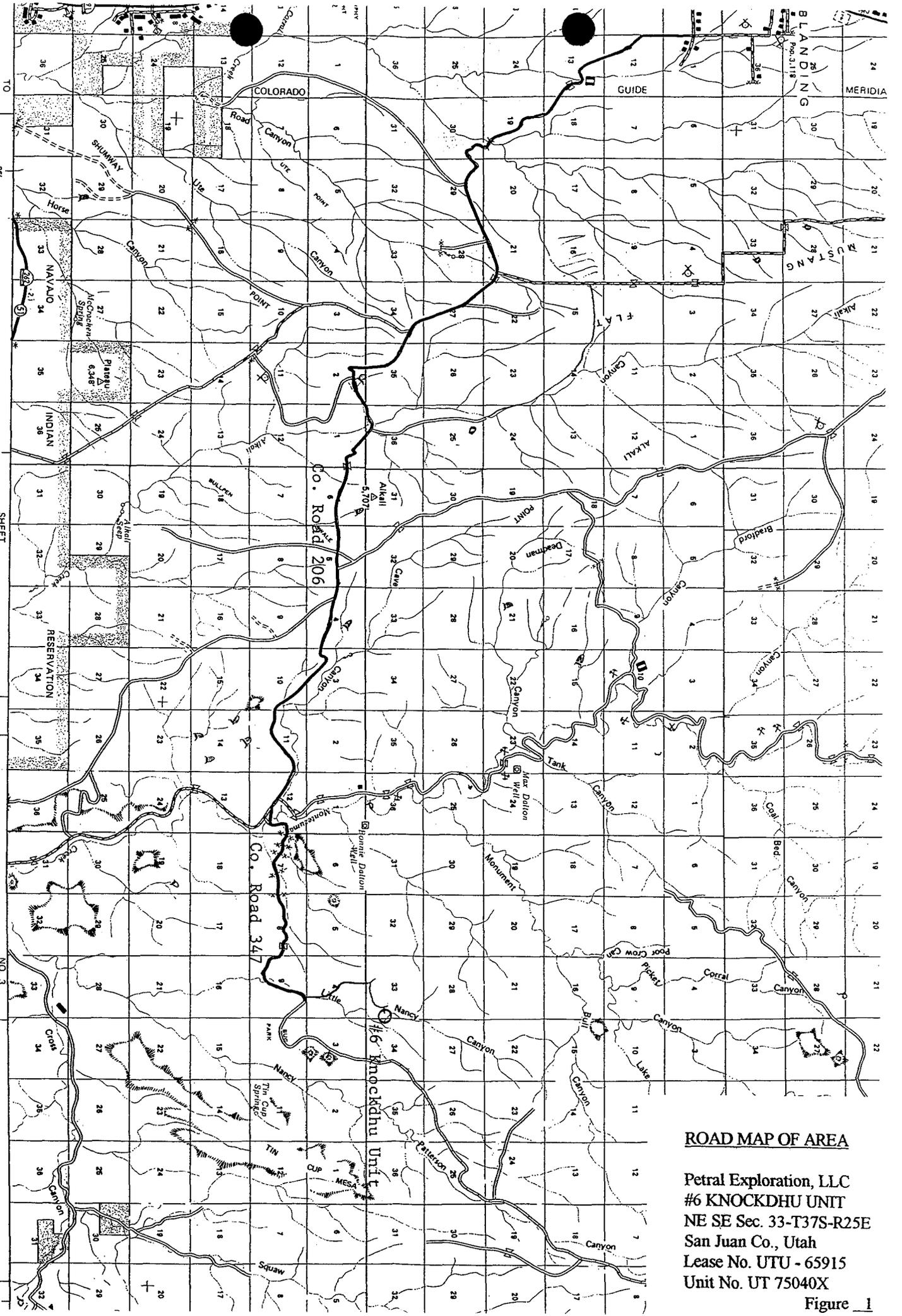
2,650,000 S.Z.

2,700,000 S.Z.

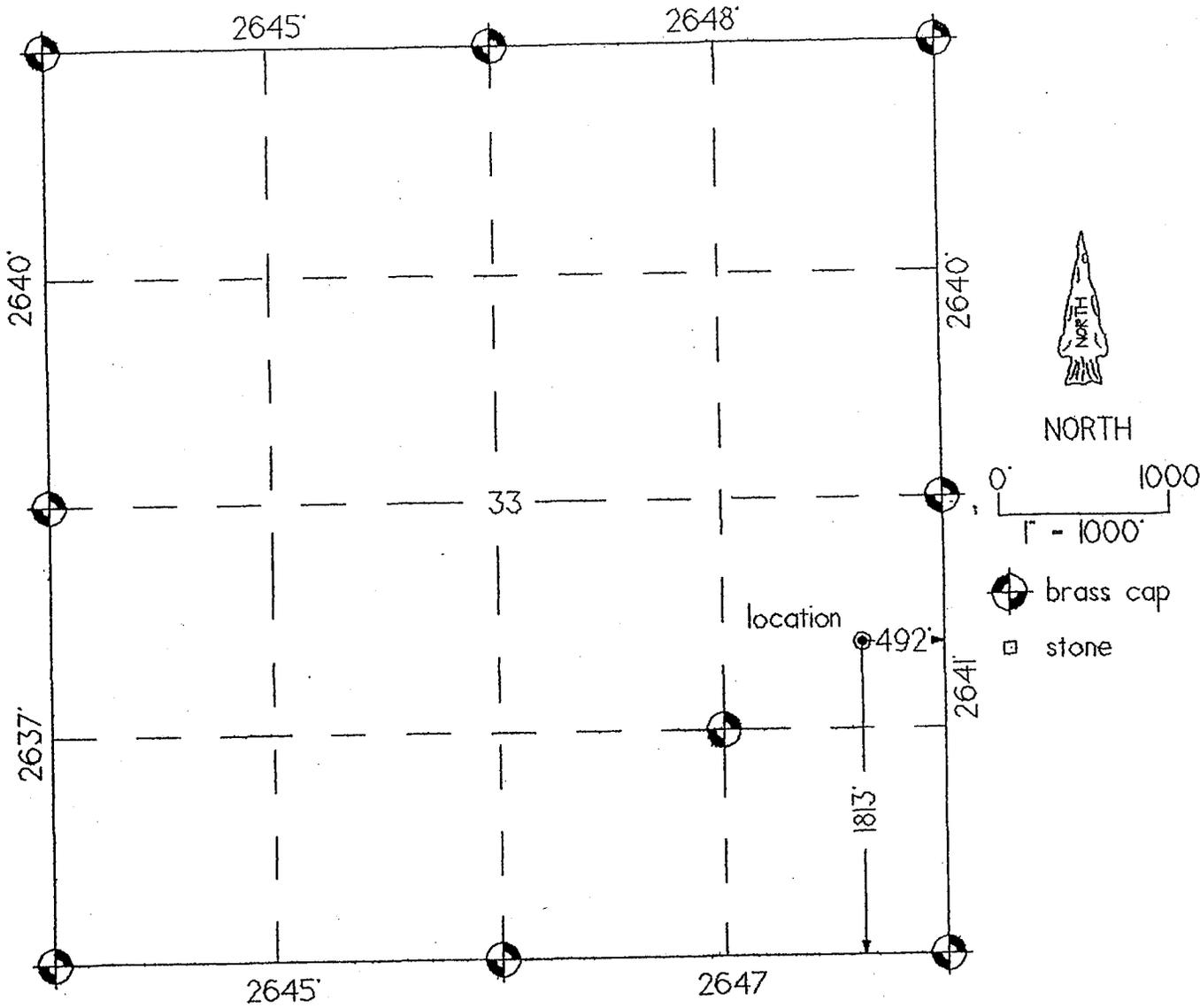
SHEET

NO. 3

NO. 6



Well Location Plat



Well Location Description

PETRAL EXPLORATION

# 6 Knockdhu Unit

1813'FSL & 492'FEL

Section 33, T.37 S., R.25 E., SLM

San Juan County, UT

5395' grd. el. from seismic

320.809 N & 2.675.786 E from seismic - CP 48, CP 50 & CP 3

320.812 N & 2.675.788 E from GPS



6 March 1997

*Gerald G. Huddleston*  
 Gerald G. Huddleston, LS

The above is true and correct to my knowledge and belief.

Form 3160-3  
(November 1983)  
(formerly 9-331C)

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)

Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1. LEASE DESIGNATION AND SERIAL NO.  
UTU- 065915

2. IF ENGLISH, ALLOTTEE OR TRUST NAME  
NA

3. UNIT AGREEMENT NAME  
Knockdhu Unit 75040X

4. FARM OR LEASE NAME  
Knockdhu Unit

5. WELL NO.  
6

6. FIELD AND POOL, OR WILDCAT  
Unnamed

7. SEC. T. R. N. OR BLK. AND SURVEY OR AREA  
Sec. 33-T37S-R25E

8. COUNTY OR PARISH  
San Juan

9. STATE  
UT

10. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

11. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER

12. NAME OF OPERATOR  
Petral Exploration, LLC

13. ADDRESS OF OPERATOR  
c/o McIlroy & Associates, Inc. (307) 265-4351  
2305 Oxford Lane, Casper, WY 82604

14. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
NE SE Sec. 33-T37S-R25E, 1813' FSL & 492' FEL  
At proposed prod. zone  
Same

15. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
18 miles SE from Blanding, UT

16. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest strip well line if any) Unit 392'  
Lease 492'

17. NO. OF ACRES IN LEASE  
Lease 280 Acres  
Unit 600 Acres

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
1000'

19. PROPOSED DEPTH  
5805'

20. ROTARY OR OTHER METHOD  
Rotary

21. ELEVATIONS (Show whether DV, RT, GR, etc.)  
5395' FL & 5403' KB

22. APPROX. DATE WORK WILL START  
May 1997

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	0.25 Wall	80'	To surface
12 1/4"	8 5/8"	24#	1600'	To surface
7 7/8"	5 1/2"	15.5#	5805'	220 sks.

Request is made for all information to be held CONFIDENTIAL.

It is proposed to drill a well at the above location with the primary zone of interest the Upper Ismay Mound formation @ 5470' TVD. If the well proves productive, 5 1/2" casing will be cemented in place and the well completed. If the well is found non-productive, it will be plugged & abandoned and surface restored as per BLM specifications.

See attached "Drilling Program" summary and "Surface Use Program" for details. I hereby certify that Petral Exploration, LLC is responsible under the terms and conditions of the lease to conduct lease operations in conjunction with the application. Bond coverage pursuant to 43 CFR 3104 for lease activities is provided by BLM Bond No. Ut 1040.

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.

SIGNED Anthony R. May TITLE PRESIDENT DATE 4-3-97  
Petral Exploration, LLC, Petro Corp. Manager

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY [Signature] TITLE ADM-Resources DATE 5/2/97  
CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person to...

**McILNAY**

# McILNAY & ASSOCIATES, INC.

2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

April 3, 1997

Utah Board of Oil, Gas & Mining  
1594 West North Temple  
3 Triad Center, Suite 1210  
Salt Lake City, Utah 84180-1203

Re: Petral Exploration, LLC , #6 Knockdhu Unit, NE SE Sec. 33-T37S-R25E  
San Juan Co., Unit - 75040X Lease # UTU 65915

Dear Sirs:

By this letter we are requesting all drilling, completion and production information on the #2 Knockando Unit be held **CONFIDENTIAL** for the period allowed by the State of Utah.

Sincerely,

McILNAY & ASSOCIATES, INC.



Kenneth P. Kidneigh  
Petroleum Engineer

so

cc: Petral Exploration LLC  
Rose Exploration Associates





United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office  
324 South State, Suite 301  
Salt Lake City, Utah 84111-2303

RECEIVED

NOV 10 1995

IN REPLY REFER TO:  
3104  
(UT-923)

NOV 7 1995

DECISION

Obligor	:	Bond Amount:	\$25,000
Patral Exploration LLC	:		
P.O. Box 5083	:		
Denver, CO 80217-5083	:	Bond Type:	Statewide
	:		Oil and Gas
Financial Institution:	:		
Norwest Bank Colorado, N.A.	:	BLM Bond Number:	UT 1040
1740 Broadway	:		
Denver, CO 80274	:		

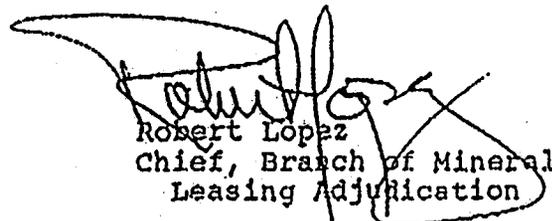
Statewide Oil and Gas Personal Bond and  
Certificate of Deposit Accepted

On November 6, 1995, this office received Bond Form 3000-4 together with Investment Deposit Agreement (Book Entry) No. 101741006 evidencing the purchase of a \$25,000 Certificate of Deposit (CD) in the amount of \$25,000 to secure a statewide oil and gas bond for the above obligor. Both documents have been examined and are accepted effective November 6, 1995.

The CD will be retained by the Bureau of Land Management (BLM) and will automatically renew annually until all terms and conditions of the leases have been fulfilled or until a satisfactory replacement bond has been accepted by the BLM.

The bond will be maintained by this office. The bond constitutes coverage of all operations conducted by or on behalf of the obligor on Federal leases in the State of Utah. The bond provides coverage of the obligor where that obligor has interest in, and/or responsibility for operations on, leases issued under the authority of any of the Acts cited on the bond form. Please note that Federal leases do not include Indian leases.

If you have any questions, please contact Irene Anderson of this office at (801) 539-4108.

  
Robert Lopez  
Chief, Branch of Mineral  
Leasing Adjudication

cc: All Districts

**DRILLING PROGRAM**

**Petral Exploration, LLC  
#6 Knockdhu Unit  
1813' FSL & 492' FEL  
NE SE Sec. 33-T37S-R25E  
San Juan Co., UT  
Unit - 75040X Lease # UTU 65915**

A. Surface Formation:

Morrison

B. Estimated Formation Tops: - (KB Measurements)

<u>Formation</u>	<u>TVD Depth (KB)</u>
Morrison .....	Spud
Entrada .....	408
Navajo .....	602
Wingate .....	1268
Chinle .....	1479
Shinarump .....	2279
Cutler .....	2475
Honaker Trail .....	4363
La Sal .....	5108
Upper Ismay .....	5415
Upper Ismay massive anhydrite .....	5445
Upper Ismay mound .....	5470
Hovenweep Shale .....	5565
Lower Ismay .....	5595
Lower Ismay anhydrite .....	5612
Lower Ismay carbonate .....	5639
Gothic Shale .....	5647
Upper Desert Creek .....	5662
Upper Desert Creek anhydrite .....	5674
Lower Desert Creek .....	5696
Lower Desert Creek anhydrite .....	5708
Lower Desert Creek mound .....	5720
Chimney Rock Shale .....	5758
Akah .....	5780
<b>TOTAL DEPTH .....</b>	<b>5805</b>
Salt .....	5835

**DO NOT PENETRATE SALT**

C. Estimated Depths at which Anticipated Water, Oil, Gas or other Mineral-Bearing Formations are Expected to be Encountered:

Hydrocarbon bearing zones may be found from 5470' (Upper Ismay mound) to 5,758'. Commercial water zones are not anticipated. All formations below surface may contain water. Fresh water zones will be protected through casing and cementing programs (see parts E & F).

D. Minimum Pressure Control Equipment & Auxiliary Equipment: (see attached diagram)

1. One 11" - 3000 psig annular preventer. One 11" - 3000 psig double ram blowout preventer with blind rams and one set of 4 1/2" drill pipe rams (above blind ram) will be installed and utilized prior to drilling below 8 5/8" surface csg. Flow sensor and PVT will be installed prior to drilling below surface casing and utilized to T.D.
2. Blowout preventer or drilling spool will be equipped with one 3" and one 2" side outlet.
3. A 3000 psig choke manifold with two (2) adjustable chokes will be installed prior to drilling below surface casing. The choke line will be as straight as possible and turns, if required, will have a targeted T block.
4. An accumulator rated at 3000 psig W.P. with a minimum of three (3) hydraulic control stations will be utilized. One for annular, one for blind rams and one for pipe rams. Remote controls will be located at the accumulator house at G.L. and on the floor. Manual controls (e.g. hand wheels) will be located at G.L. outside the substructure. A valve shall be installed in the hydraulic closing line to serve as a locking device when the accumulator system is inoperative.
5. Pressure testing procedures and requirements. Prior to drilling out below the 8 5/8" surface casing, surface casing will be tested to 1500 psig (70% of minimum internal yield of the 8 5/8", 24#/ft., K-55 surface casing) for a minimum of 5 min. BOP stack and associated equipment (e.g., choke manifold, lower and upper kelly cocks, valves, etc.) will be tested to 3000 psig for 15 min. utilizing a test plug. The annular preventer will be tested to 1500 psig for 15 m. Certified BOP testing service company will be utilized for pressure testing. All pressure testing operations must be witnessed by Petral's well site representative (McInay & Associates, Inc.).
6. Drilling contractor will perform a daily operational check of all BOP equipment (e.g. includes associated equipment). Pipe and blind rams shall be activated each trip.
7. All BOP pressure testing & operational checks to be recorded in the daily "Tour" book.
8. A BOP and pit level drill will be conducted by the drilling contractor weekly and noted in the "tour" report book.
9. 24 hours prior to pressure testing notify the BLM, and Utah Division of Oil, Gas & Mining.

Every 30 days using a test plug the BOP and accessory equipment must be pressure tested to 3000 psig. The annular preventer will be tested to 1500 psig. Notify the BLM and Utah Division of Oil, Gas & Mining prior to test.

E. Casing Program:

Conductor Casing:

80' of 16" pipe cemented in place to surface.

Surface Casing:

40 Jts. - 1600', 8 5/8", 24 #/ft, J-55, ST&C, "A" Grade (new).

Accessory Equipment

- 1 - 8 5/8" Guide Shoe
- 1 - 8 5/8" Insert Float installed 1st joint above shoe.
- 1 - 8 5/8" Centralizer placed middle of shoe joint.
- 1 - 8 5/8" Centralizer on 2nd collar above shoe.
- 3 - 8 5/8" Centralizer thereafter on every 4th collar for 3 centralizers.
- 6 - 8 5/8" Centralizer thereafter on every 6th collar for 6 centralizers.
- 1 - 8 5/8" Centralizer placed 3rd collar from surface.
- 12 Total Centralizers

Production Casing (New):

Interval	Net-Ft	Gross-Ft	Specifications
0 - 5,805'	5,805'	5,864'	5 1/2", 15.5#/ft., J or K-55, ST&C or LT&C, New

Accessory Equipment

To be determined at time of need.

Testing Procedure:

At time of BOP testing and prior to drilling out, surface casing will be tested to 70% of burst pressure for new casing (1500 psig). Production casing will be pressure tested to a minimum of 3000 psig prior to commencement of completion.

F. Cementing Program: Check water quality for all cementing slurries.

Conductor: Cement to surface.

Surface Casing: (Tentative - volumes and types may be changed. Designed to circulate cement to surface - 100% excess.)

Lead Slurry: 620 sks. Halliburton Light Std. (70) w/2% CaCl<sub>2</sub> & 1/4#/sk. Flocele  
Slurry yield - 1.95 CF/sk

Tail Slurry: 150 sks. Class "G" cement w/2% CaCl<sub>2</sub> & 1/4#/sk. Flocele  
Slurry yield - 1.19 CF/sk

Note: If cement does not circulate to surface, utilize 1" to bring to surface.

**Production Casing:** (Cemented minimum of 1000' fillup above potential pay zone(s))

**Preflush:** 10 Bbls. fresh water  
20 Bbls. mud flush (or equivalent)

**Scavenger:**  
50 sks. Pozmix A (70)

**Primary Slurry:** 220 sks. Std. Pozmix A (70), w/0.5% Micro Bond M, 2% Halliburton Gel, 0.5% Halad 344 & 1/4#/sk. Flocele.

**Note:** Slurry volume to be recalculated based on hole caliper and number and depth of zones. 25% excess and 7 7/8" hole used for initial calculations.

**G. Drilling Fluids:**

Depth	0 - 1600'	1600' - 5550'	5550' - 5805' T.D.
Wt. - #/gal	8.4 - 8.9	* <sup>1</sup> 8.4 - 9.4	10+
Vis - sec./qt.	27 - 40	30 - 35	* <sup>2</sup> 45 - 55
WL - cc	NC	* <sup>3</sup> 6 Max	* <sup>3</sup> 6 Max
Ph	NC	NC	* <sup>4</sup> 7.0 - 8
PV/YP	--	--	14-22/25-35
Gels (sec/min)	--	--	8-15/15-20
Type System	FWG	FWG/Salt Brine/SDF 2000 Sweeps	Saturated Salt Brine/Polymer

\*<sup>1</sup> Drill Upper Ismay mound with as low a mud weight that can be achieved. May require weighting up with salt brine to kill water flows. Pretreat mud w/10 sks. of Magmafiber loss circulation material prior to drilling or coring the Upper Ismay Mound.

\*<sup>2</sup> Recommended Viscosity:  
Coring - 45-50 sec./qt.  
Logging - 50 sec./qt.  
DST's - 45-55 sec./qt.

\*<sup>3</sup> Prior to penetrating the Upper Ismay mound.

\*<sup>4</sup> Raise Ph to 10 prior to drilling anhydrites.

\*<sup>5</sup> Lower Desert Creek may be overpressured and require a weighted mud system.

\*<sup>6</sup> Prior to penetrating the Upper Ismay Mound or the Lower Desert Creek Mound add 100 ppm nitrates to the mud system.

Sufficient mud materials to maintain mud requirements and meet minor lost circulation and blowout problems will be on the wellsite. The pits will be monitored on trips to assure that the hole is kept full while tripping the drilling string. A pit volume totalizer (PVT), stroke counter & flow sensor will be utilized below the surface casing setting depth to T.D.

#### H. Coring, Testing, Logging and Tentative Completion Program:

1. Two 60' cores of Upper Ismay mound at estimated depth of 5,636' TVD and possibly one 60' core of the Lower Desert Creek Mound. On site geologist to pick core point and samples for analyses.
2. Drill stem tests will be at the discretion of the operator and will be based on shows, logs, hole conditions, etc.
3. If a completion attempt is to be made, 5 1/2" casing will be cemented into place. The following presents a summary of tentative completion procedures.
  - a. Perforate pay zones with approximately 4 shots/ft.
  - b. Perforations may be stimulated w/HCl acid.
  - c. A Sundry Notice will be filed with the final completion plan.

Note: All perforations and the size of stimulation jobs are tentative and final design will be based on electric logs, cores, and drill stem test data.

#### 4. Logging:

Schlumberger Platform Express, AIT, GR-BHCS (long spaced integrated) w/Cal - Base surface casing to T.D.

GR-FDC-CNL-w/PE (min.) - Base surface casing to T.D.

FMI (high resolution stratigraphic dipmeter, decision for Imager interpretation to be made later) - Lower 800' of hole.

GR-DLL - Base surface casing to T.D.

Digital Data for all logs to be on disk in LAS format.

#### 5. Samples:

10' samples 5,200' to TD

All cutting samples are to be washed and stored in properly marked cloth bags. Tie the sample bags in 100' depth groups to dry. Store in a clean, dry place. Sample depth intervals may be changed at the discretion of the geologist.

#### I. Abnormal Conditions or Potential Hazards:

Potential problems include possible water flows to 5200'; abnormal pressure in Lower Desert Creek Carbonate (3500 psig); lost circulation and seepage, surface to TD w/possible differential sticking. Estimated temperature at T.D. 140 F. Hydrogen sulfide gas is not anticipated.

#### J. Auxiliary Equipment Required: See Paragraph D.

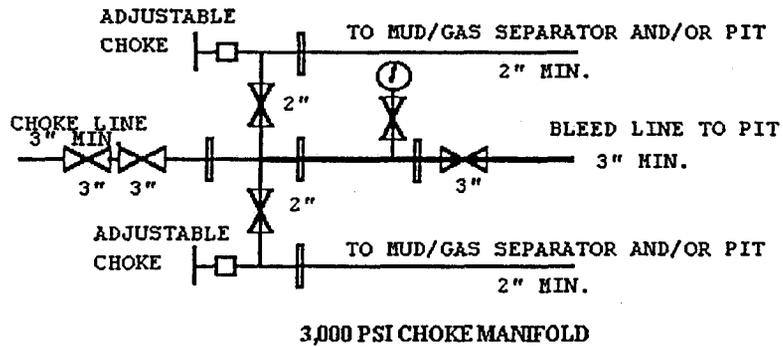
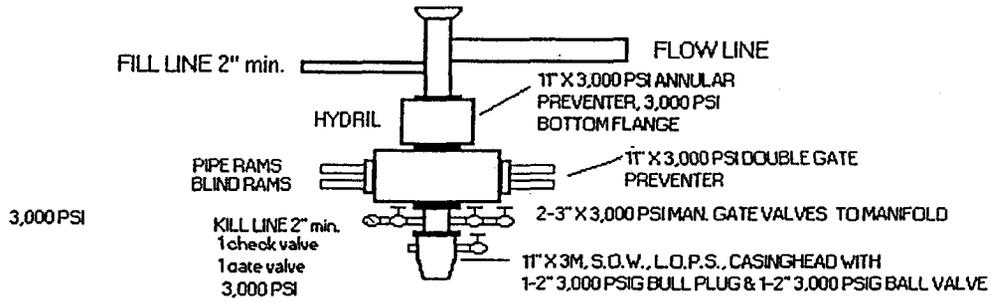
#### K. Anticipated Starting Date of Drilling Operations:

Plan to start drilling May 15, 1997. 15 days should be required to drill, test, log and set casing.

#### L. Additional Considerations:

None.

**BOP EQUIPMENT  
3,000 PSIG W.P.**



**MCILNAY AND ACCOCIATES, INC.**

<b>Operator: PETRAL EXPLORATION, LL</b>	<b>Well Name: #6 Knockdhu Unit</b>
<b>Project ID: #6-97</b>	<b>Location: NE SE Sec. 33-T37S-R2</b>

**Design Parameters:**

Mud weight (10.00 ppg) : 0.519 psi/ft  
 Shut in surface pressure : 2319 psi  
 Internal gradient (burst) : 0.120 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using air weight  
 Service rating is "Sweet"

**Design Factors:**

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 Buttruss : 1.60 (J)  
 Other : 1.50 (J)  
 Body Yield : 1.50 (B)

Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost		
1	5,805	5.500	15.50	J-55	ST&C	5,805	4.825		
	<b>Collapse Load (psi)</b>	<b>Strgth (psi)</b>	<b>S.F.</b>	<b>Burst Load (psi)</b>	<b>Min Int Strgth (psi)</b>	<b>Yield S.F.</b>	<b>Tension Load (kips)</b>	<b>Strgth (kips)</b>	<b>S.F.</b>
1	3016	4040	1.340	3016	4810	1.59	89.98	202	2.24 J

Prepared by : Ken Kidneigh, Casper, WY  
 Date : 04-02-1997  
 Remarks :

Production Casing Design  
 Minimum segment length for the 5,805 foot well is 1,500 feet.  
 String type: Production  
 The mud gradient and bottom hole pressures (for burst) are 0.519 psi/ft and 3,016 psi, respectively.

**NOTE:** The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - collapse (with evacuated casing), 1.0 - (uniaxial) burst, 1.8 - API 8rd tension, 1.6 - buttruss tension, 1.5 - body yield tension, and 1.6 - EUE 8rd tension. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser.  
 Costs for this design are based on a 1987 pricing model. (Version 1.07)

## SURFACE USE PROGRAM

**Petral Exploration, LLC  
#6 Knockdhu Unit  
1813' FSL & 492' FEL  
NE SE Sec. 33-T37S-R25E  
San Juan Co., UT  
Unit - 75040X Lease # UTU 65915**

### A. Existing Roads

1. To visit the wellsite, proceed south for 1 mile from the Comfort Inn in Blanding, Utah and turn left at Amer-Gas on 700 E Brown Canyon Road. Continue 1 mile to County Road #206 and turn right. Stay on Co. 206 for 8.5 miles (keep to left at fork) and go an additional 15.4 miles (total of 23.9 miles on Co. 206) to Perkins Ranch Road (County Road # 347) and turn left. Cross creek and turn right around trailer house in front of ranch house and go east 4 miles through Wexpro Patterson #1 well. Go 500' and take the left fork for 1.2 miles to silver tank and turn right for ½ mile to fork in road. Turn left and proceed north for 1/3 mile. Turn right on proposed new access road to proposed surface location of well.
2. Existing roads are paved, gravel or dirt and are suitable for heavy loads. Existing roads, excluding those maintained by the State or County, will be maintained in the same or better condition. Petral will participate in any cooperative agreement that currently exists, or might be required in the future, to improve and maintain the existing roads. The access road will not cross Indian lands. With the exception of State or County maintained roads, the existing roads are on State of Utah, Bureau of Land Management and land owned by Marvin and Patricia Redburn, 26102 Hwy 145, Dolores, CO, 81323.
3. Proposed wellsite and access roads: See Figures 1 - 3.

### B. Access Roads to be Constructed or Reconstructed:

See Figure 2. The last 1/8 mile to the location will be a newly constructed access road bladed and if necessary with low water crossings. These roads will be upgraded and graveled as needed if production is obtained.

### C. Existing Wells within a One-Mile Radius: (See Figure 2)

- |    |                   |       |
|----|-------------------|-------|
| 1. | Water Wells:      | None  |
| 2. | Injection Wells:  | None  |
| 3. | Abandoned Wells:  | Three |
| 4. | Disposal Wells:   | None  |
| 5. | Producing Wells:  | Three |
| 6. | Drilling Wells:   | One   |
| 7. | Under Completion: | None  |

D. Location of Existing and/or Proposed Facilities if Well is Productive:

1. Facilities Required in the Event of Production on Well Pad:
  - a. Location of Facilities:  
See Figure 5 for location of facilities. All facilities will be on the wellsite pad. Production facilities (including dikes) will be placed on the cut portion of the location (Figure 5).
  - b. Dimension of Facilities:  
Production pad a maximum of 150' x 305' (See Figure 5). A heater treater will be located approximately 120' west of the well. Two 300 or 400 bbl. oil storage tanks will be located approximately 50' north of the heater treater and 135' northwest of the well. The dikes for the production facilities will be constructed of compacted subsoil, hold 1 ½ times the capacity of the largest tank, and be independent of the back cut. That portion of the drilling pad that is not needed for production will be rehabilitated.
2. Facilities Required off Well Pad in the Event of Production:  
Upgrade and maintain access roads as necessary to prevent soil erosion and accommodate year-around traffic.

E. Location and Type of Water Supply: (See figure 1)

1. The water will be trucked from artesian wells located in Section 1-T38S-R24E. Permits will be obtained from the State Engineer.
2. The water source is not located on State land. Water will not be obtained from Indian projects.
3. A water well will not be drilled.

F. Construction Materials:

1. Native soil will be utilized in the drilling site and access road. Newly built access road (1/8 mile) will be graveled as needed if a producing well is obtained. Additional gravel may be needed for the pulling unit pad and wellsite if the well is found to be productive.
2. No construction material from Indian lands.
3. Crushed rock, if necessary, will be purchased from construction contractors in the area from existing gravel pits and hauled over access roads shown on Figures 1 & 2.

#### G. Methods for Handling Waste Disposal:

1. Cuttings:  
Reserve pit 75' x 125' x 10' (3:1 slope) fenced on three sides during drilling operations. The pit will be lined with 24 tons of bentonite worked in with a cat. The fourth side will be fenced when the rig moves out (See Figures 3-6).
2. Drilling Fluids:  
Reserve pit 75' x 125' x 10' (See figures 3 & 4). The reserve pit will be constructed to prevent the collection of surface runoff.
3. Produced Fluids:
  - a. Recovered during drill-stem tests will be disposed of in a test tank.
  - b. During completion, produced fluids will be contained in swab tanks (See Figure 6).
  - c. Water disposal will be provided in accordance with BLM Onshore Order #7.
4. Sewage:  
Porta potty with tank or portable sewage treatment plant (i.e. On Site Sewage Treatment, Inc.) capacity of 700 gal/day of treated water disposed of into reserve pit. Any other sewage will be removed from the location by a commercial service. Closed septic tank may be used for the camp trailer.
5. Garbage and Trash:
  - a. An enclosed trash bin will be utilized.
  - b. Engine oil and lubricants will be collected in containers.
6. Clean-up of Wellsite Area after Rig is removed:
  - a. Trash will be carried off site for disposal.
  - b. All pits and wellsite will be covered, leveled and reseeded as per BLM instructions.

H. Ancillary Facilities:       None.

#### I. Wellsite Layout:

1. Cross section: See Figure 3 for elevations and cross section. Maximum cut is approximately 10' at the west corner of the drilling pad. Maximum fill is 6' at the east corner of the drilling pad.
2. Orientation of rig, pits and associated equipment (See Figure 4).
3. Six inches of topsoil will be removed from the location (drilling pad) including areas of cut and fill. Soil will be stockpiled adjacent to the wellsite pad (See Fig.3).
4. Access road, living facilities, parking area, etc. (See Figure 4).

J. Plans for Restoration of Surface:

1. All pits will be backfilled, leveled and contoured to as near the current condition as is practical.
2. Revegetation and rehabilitation of the wellsite and access road as per BLM specifications.
3. All pits will be fenced until dry and then backfilled.
4. If oil is present on the reserve pit, overhead flagging will be installed.
5. Rehabilitation will be commenced when the rig moves out with the location restored by Fall, 1997. Complete fall seeding after September 1997 and prior to ground frost. Rehabilitation will be completed by November 1, 1998.

K. Surface Ownership:

1. Access roads:  
See Figures 1 & 2. Bureau of Land Management (on lease) and Marvin and Patricia Redburn. An easement has been obtained from Marvin and Patricia Redburn across portions of Section 33-T37S-R25E.
2. Well Location:  
Bureau of Land Management - See Figures 1 & 2.

L. Other Information:

1.
  - a. BLM to be notified 48 hours prior to starting dirtwork.
  - b. Wellsite and access road are located in arid, sandy, hilly terrain.
  - c. Soil is shallow, sandy, and silty.
  - d. Vegetation consists of very sparse native grasses and sparse sagebrush, and small trees.
  - e. The area is a natural habitat for wildlife (i.e., deer, antelope, rabbits, etc.).
2. Livestock were grazing in the area when the wellsite was visited.
3.
  - a. Intermittent streams (i.e., flow during wet seasons of the year) do exist in the area
  - b. There are no occupied buildings within one mile of the proposed wellsite.
  - c. Historical, cultural and archeological survey has been conducted by 4 Corners Archeological Services. No cultural or archaeological evidence was discovered in the area of the access road and wellsite.

M. Lessee's or Operators Representative and Certification:

**Operator**

Petral Exploration, LLC------(303) 832-3131  
P. O. Box 5083  
Denver, CO 80202

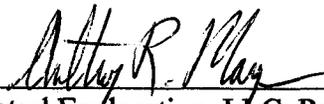
**Representative**

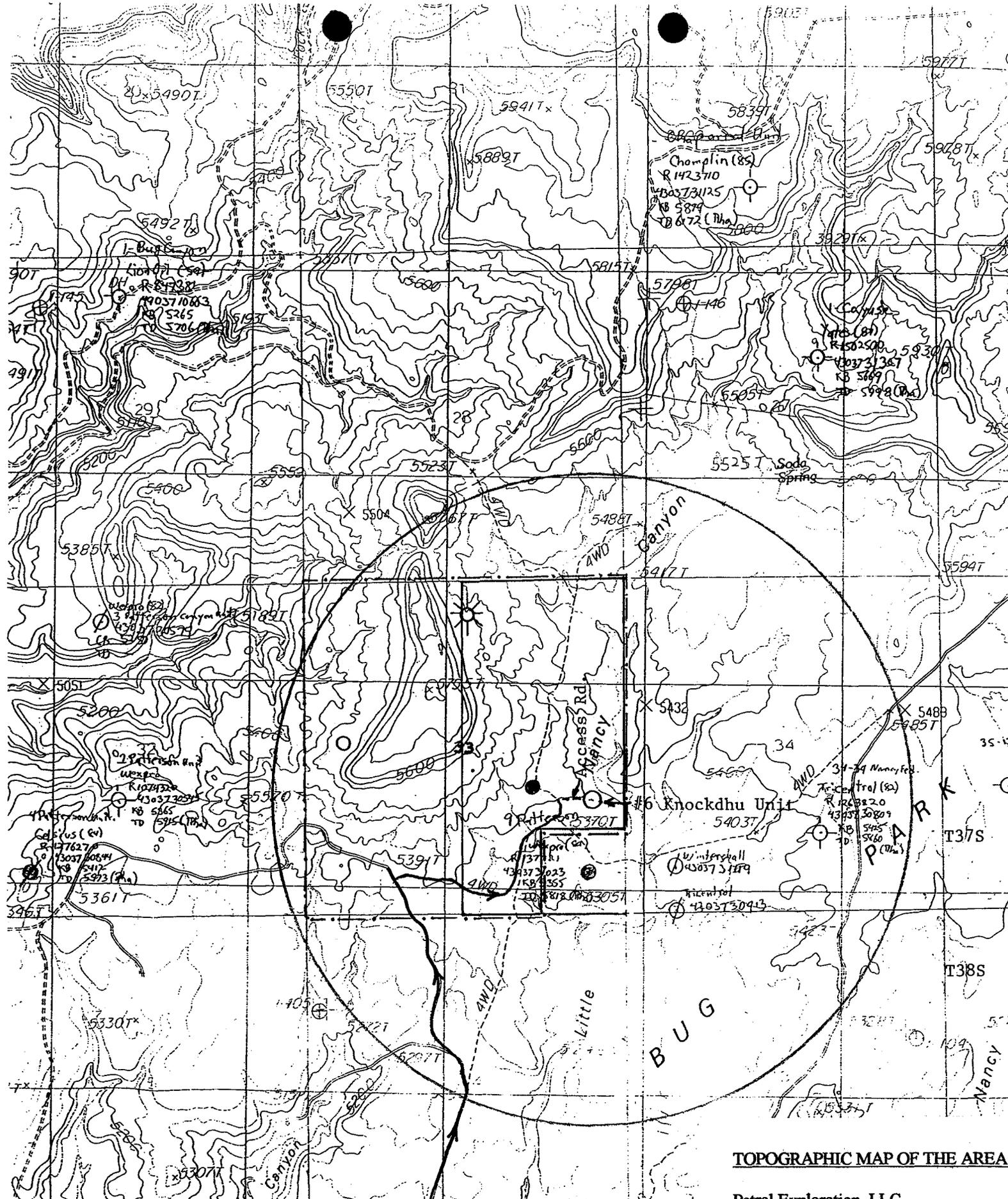
McInay & Associates, Inc.------(307) 265-4351  
2305 Oxford Lane  
Casper, WY 82604

I hereby certify that I or persons under my direct supervision, have inspected the proposed drillsite 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 Petral Exploration, LLC and its' contractors and sub-contractors 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.

4-3-97

Date

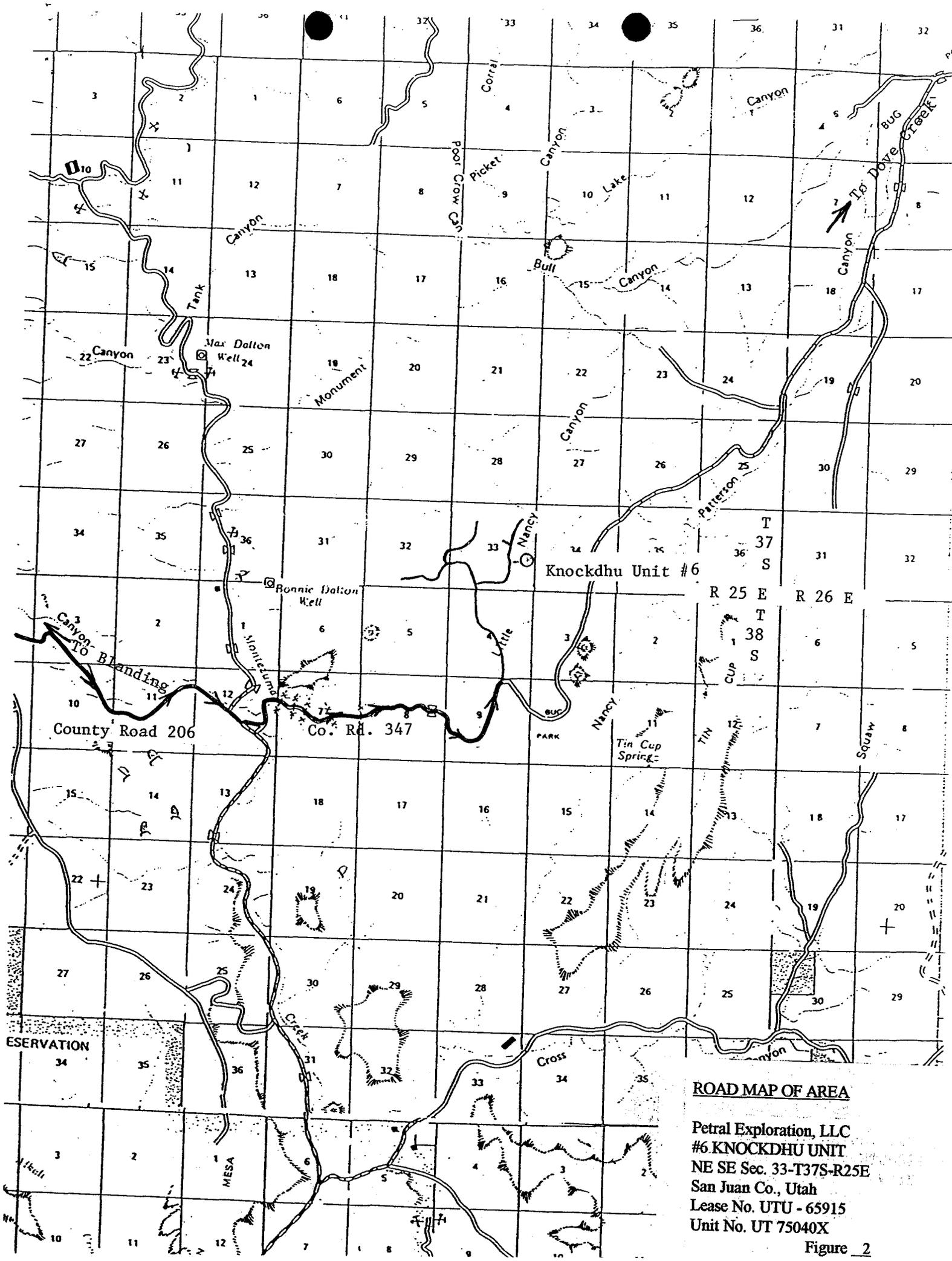
  
\_\_\_\_\_  
Petral Exploration, LLC, Petroco Corp., Manager



**TOPOGRAPHIC MAP OF THE AREA**

Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X

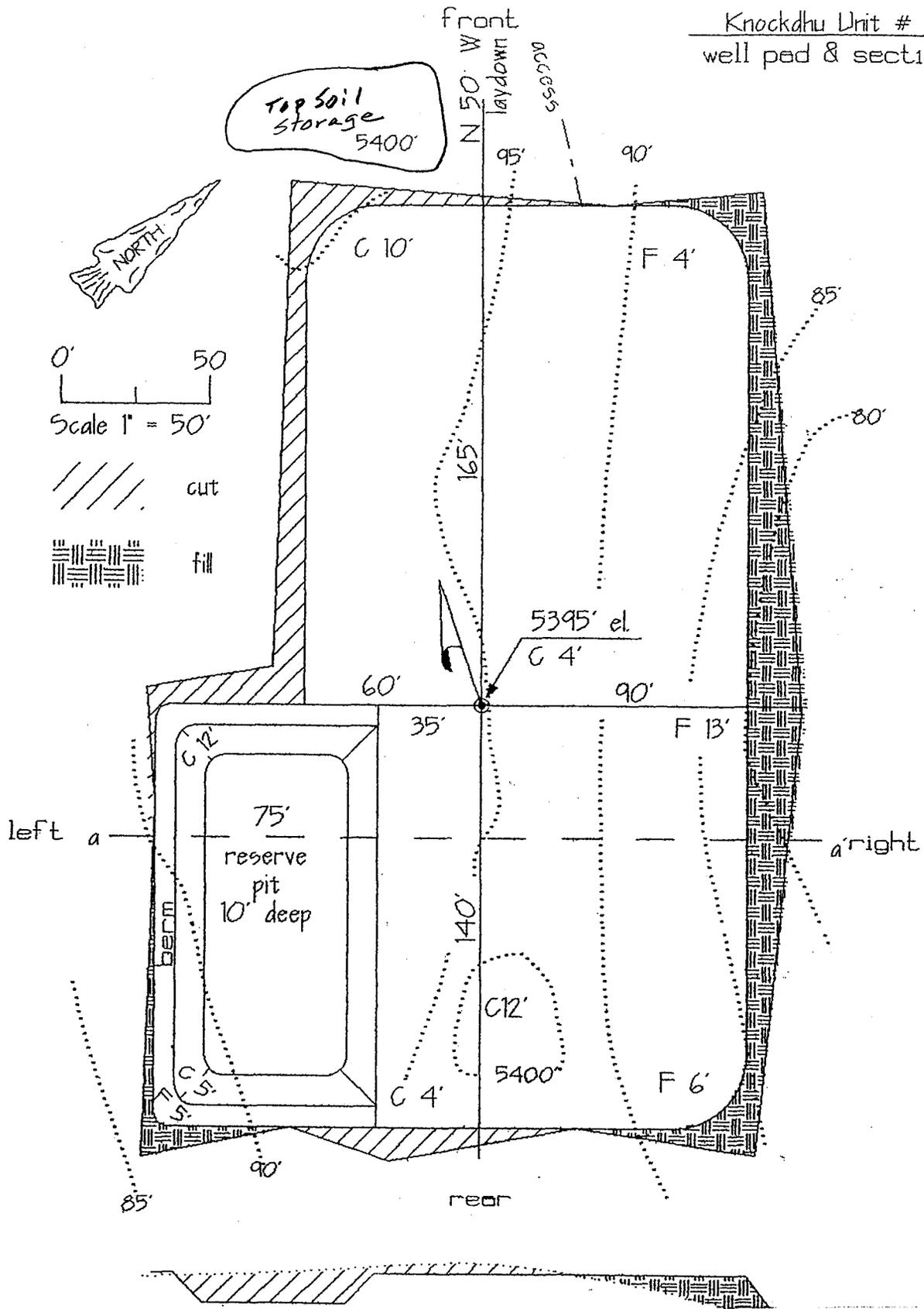
R25E



**ROAD MAP OF AREA**

Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X

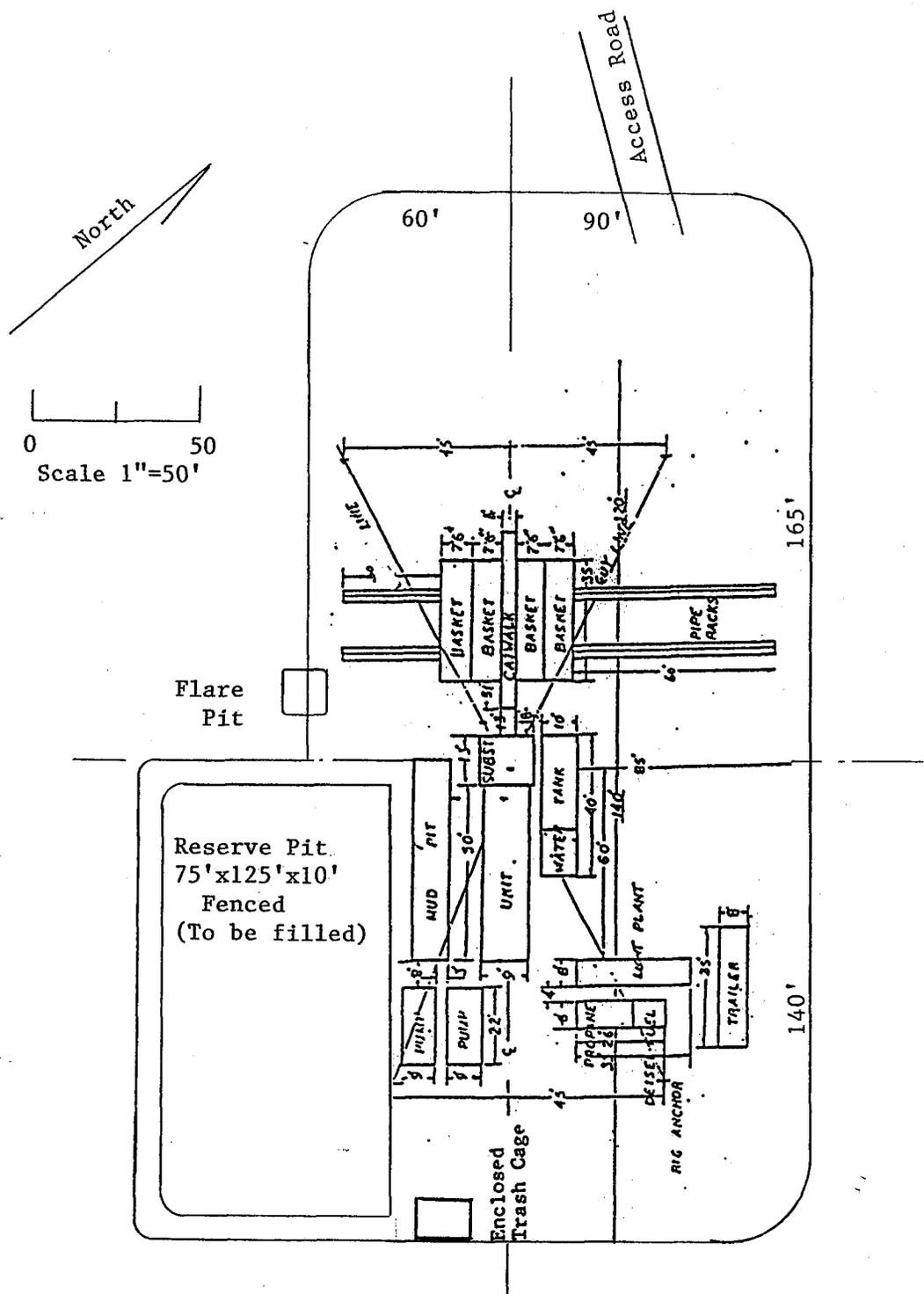
Knockdhu Unit # 6  
well pad & section



a  
Cross section

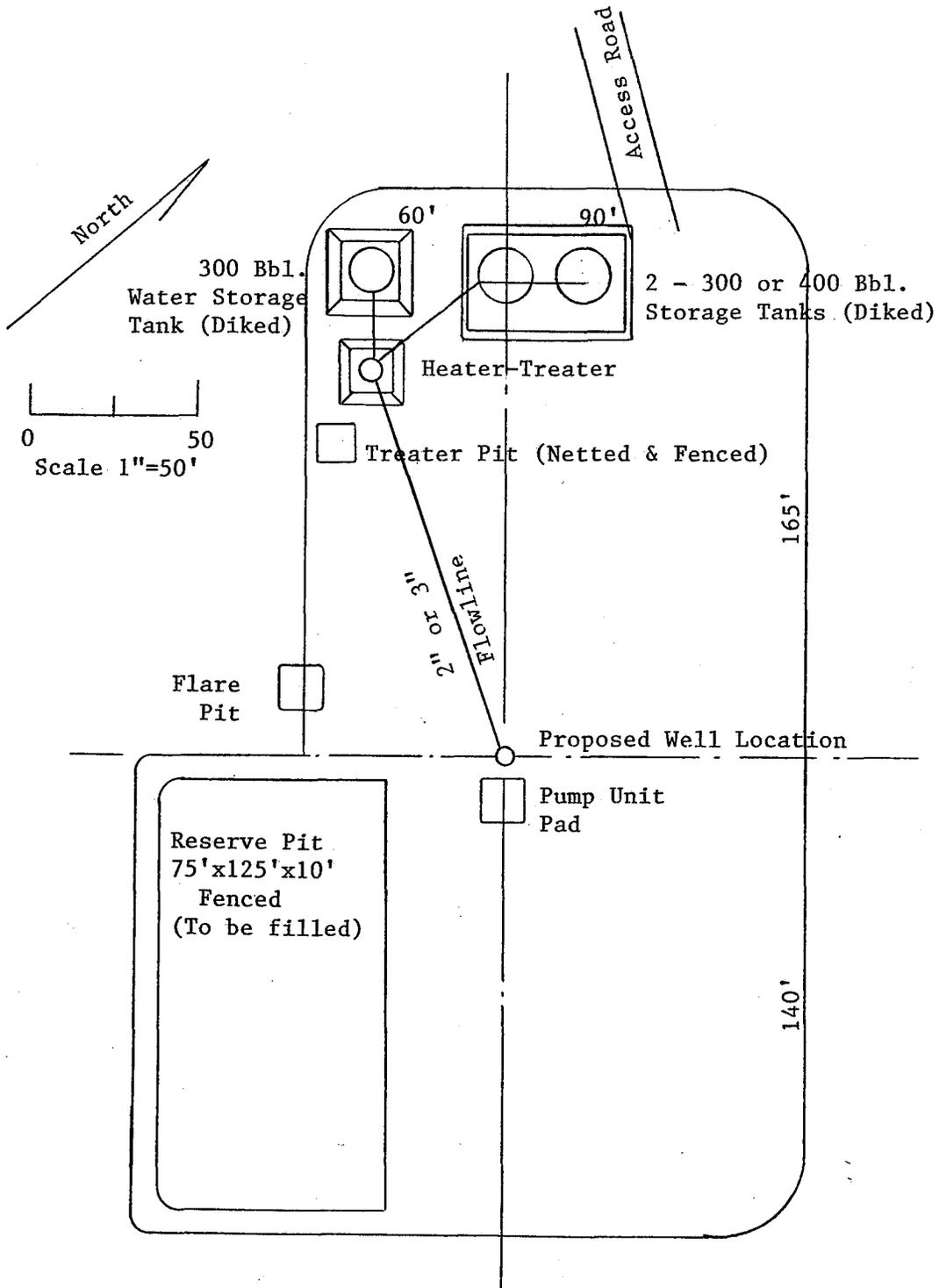
**DRILLING PAD & PIT LAYOUT**

Petral Exploration, LLC  
#6 KNOCKDHU UNIT  
NE SE Sec. 33-T37S-R25E  
San Juan Co., Utah  
Lease No. UTU - 65915  
Unit No. UT 75040X



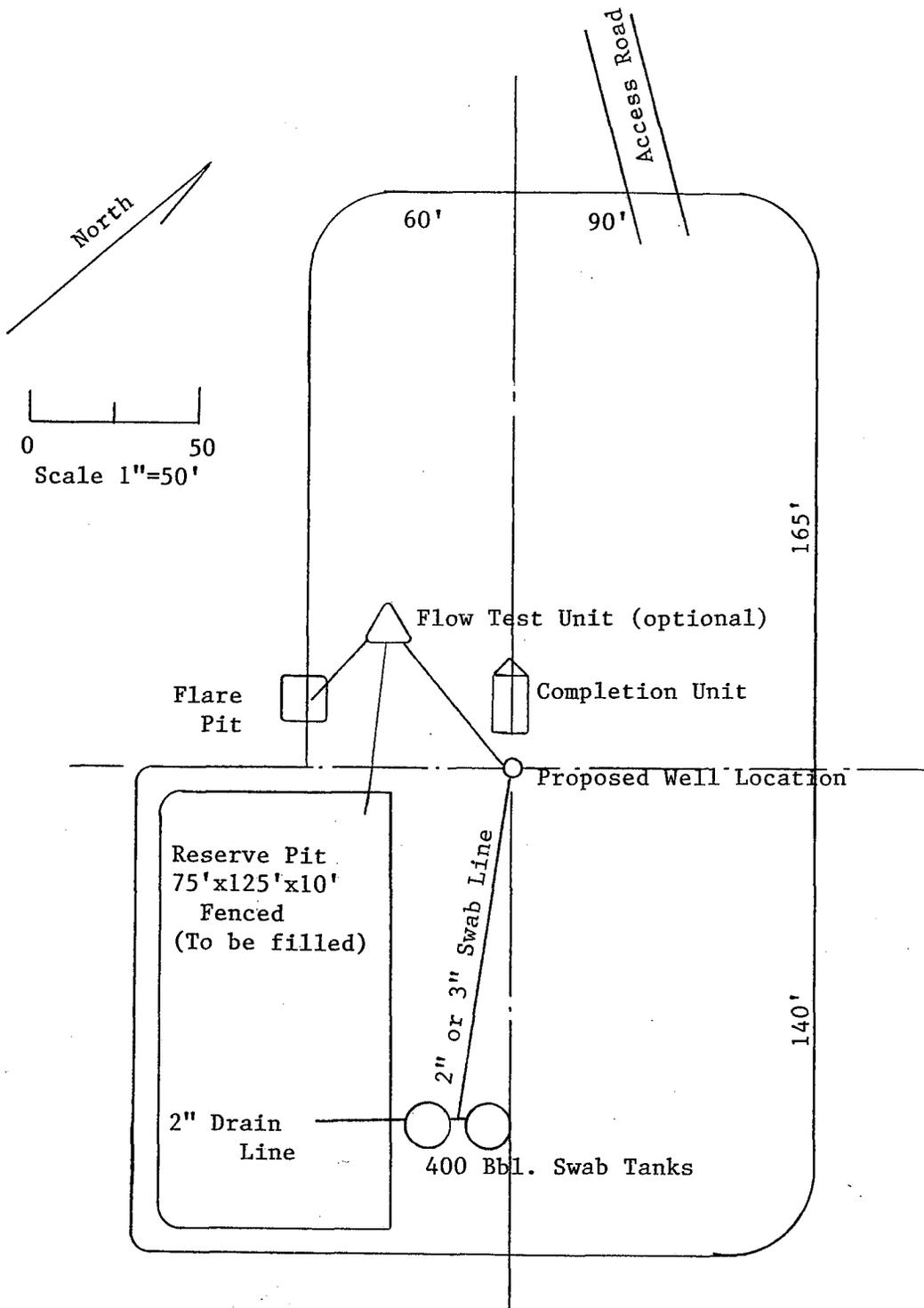
**RIG LAYOUT**

Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X



**PRODUCTION FACILITIES**

Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X



**COMPLETION LAYOUT**

Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X

ARCHAEOLOGICAL SURVEY OF  
PETRAL EXPLORATION COMPANY'S  
PROPOSED #6 KNOCKDHU UNIT WELL PAD & ACCESS  
SAN JUAN COUNTY, UTAH

4-CAS REPORT 9713

by  
Carol S. DeFrancia

4-CORNERS ARCHAEOLOGICAL SERVICES  
76 S. Main Street  
Moab, Utah 84532  
(801) 259-2777

March 10, 1997

FEDERAL ANTIQUITIES PERMIT 96UT62712  
Utah State Permit No. U-97-FE-0055b

Prepared For:  
Petral Exploration  
1700 Lincoln, Suite 5000  
Denver, CO 80203

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## ABSTRACT

The archaeological survey of Petral Exploration Company's proposed #6 Knockdhu Unit well pad and access route was conducted by personnel of 4-Corners Archaeological Services between March 7, and March 9, 1997. The project is located in the vicinity of Little Nancy Canyon in San Juan County, Utah, approximately twenty miles southeast of the town of Blanding. A total of 11.7 acres were inventoried for cultural resources.

No cultural resources were found in the project area and archaeological clearance is recommended.

## INTRODUCTION

The archaeological survey of Petral Exploration Company's proposed #6 Knockdhu Unit well pad and access route was conducted by Carol DeFrancia of 4-Corners Archaeological Services between March 7, and March 9, 1997. The project is located along an east-trending ridge and bench area above Little Nancy Canyon (Figure 1) on lands administered by the Bureau of Land Management, San Juan Resource Area Office, Monticello. The survey was requested by Mr. Ed McIlroy, of McIlroy & Associates, Inc. Huddleston Surveying personnel staked and flagged the well pad and access prior to the survey. The proposed well location will be accessed 500' to the west and tie into an existing well service road. A total of 11.7 acres were inventoried for cultural resources (Figure 2).

Federal and state governments have enacted legislation that is designed to conserve and protect cultural resources. The principal federal legislation includes the Antiquities Act of 1906 (PL 52-209), the National Historic Preservation Act of 1966 (PL 89-665), the National Environmental Policy Act of 1969 (PL 91-190), the 1971 Executive Order No. 11593, the Archaeological and Historical Conservation Act of 1974 (PL 93-291), and the Archaeological Resource Protection Act (ARPA) of 1978 (PL 95-96).

No cultural resources were found in the project area and archaeological clearance is recommended for the project.

## PROJECT AREA

Map Reference: Bug Canyon, Utah 1985 (7.5' series)

Total Project Area: 2.0 acres; area surveyed 11.7 acres

### #6 Knockdhu Unit Well Pad

Legal Description: T37S, R25E: Section 33

Center Stake: 1813' FSL, 492' FEL; T37S, R25E, Section 33

UTM Coordinates: (Surveyed Area)		Easting	Northing
	NW Corner	661720	4154580
	NE Corner	661880	4154490
	SE Corner	661790	4154300
	SW Corner	661620	4154410

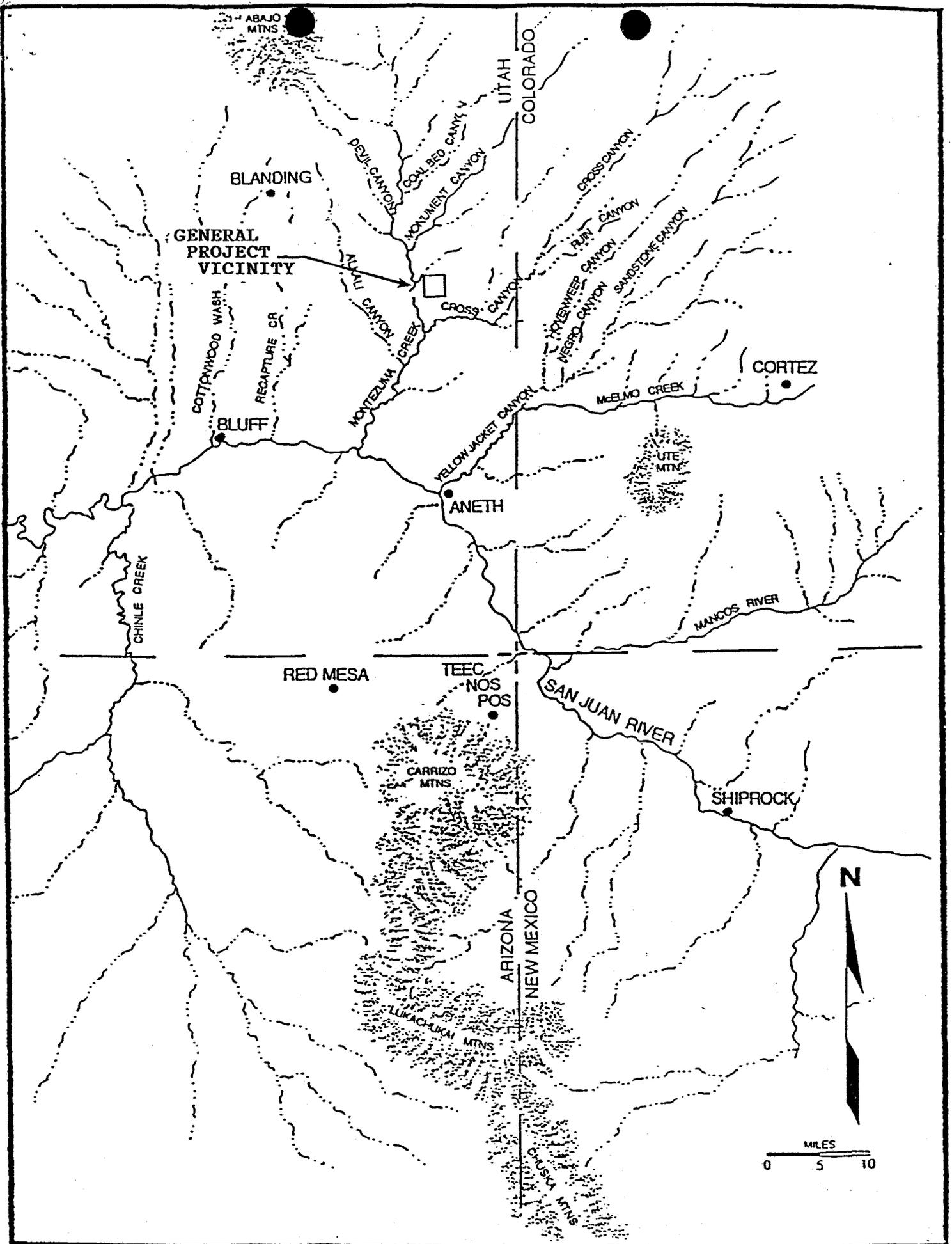
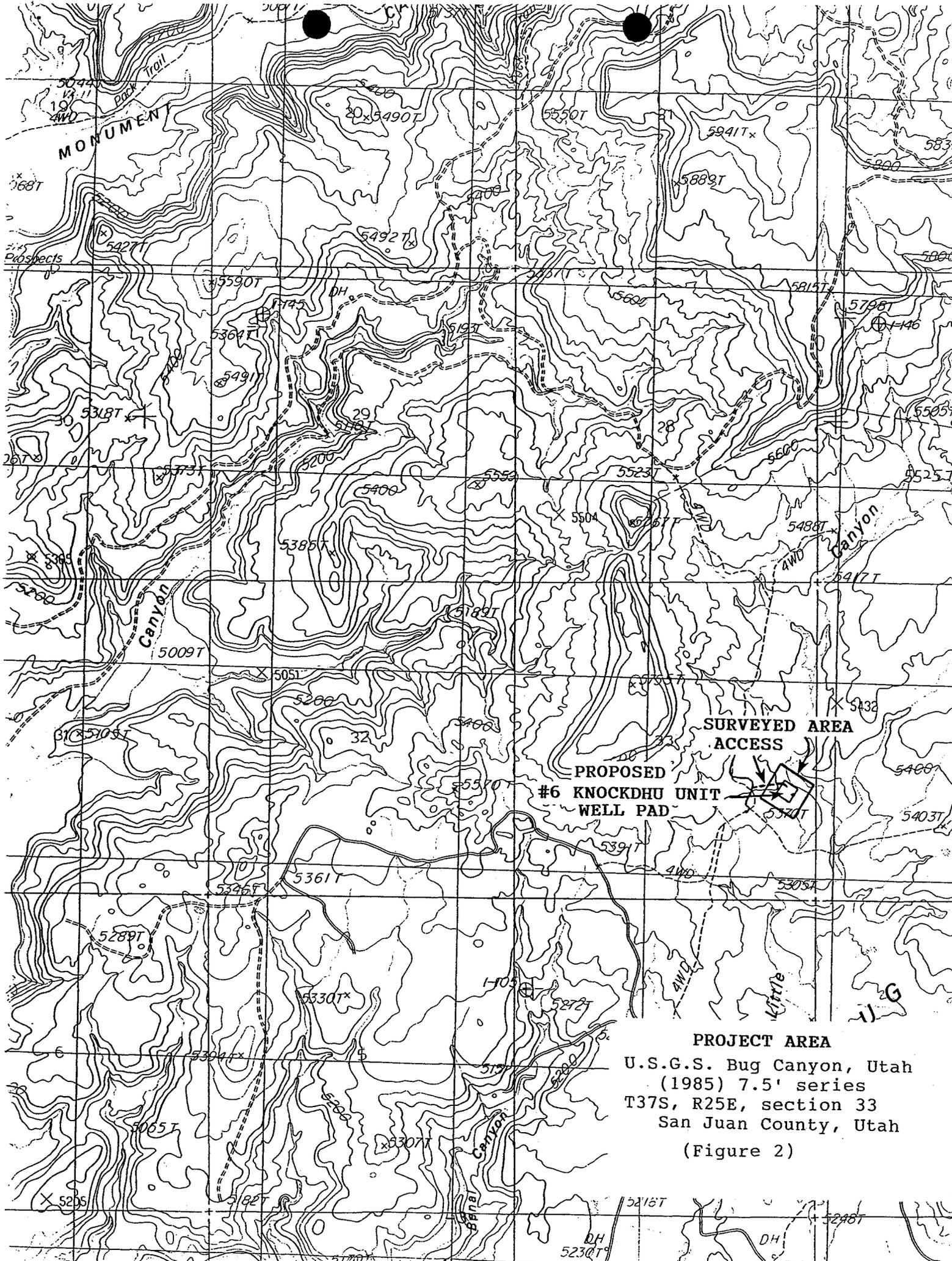


Figure 1. Project Area



**PROJECT AREA**  
U.S.G.S. Bug Canyon, Utah  
(1985) 7.5' series  
T37S, R25E, section 33  
San Juan County, Utah  
(Figure 2)

Project Area: Well Pad 210 x 305'; (1.4 acres)

Surveyed Area: 660 x 660' (10 acres)

Results: No cultural resources found.

#### Well Pad Access

Legal Description: Section 33, T37S, R25E:

UTM Coordinates:	Easting	Northing
W End	661560	4154440 (road tie)
E End	661720	4154480 (well laydown)

Project Area: 500' long, maximum 60' wide (.68 acres)

Surveyed Area: 500' x 150' (1.7 acres)

Results: No cultural resources were found.

### **PHYSIOGRAPHY AND ENVIRONMENT**

The project area is located in San Juan County, Utah approximately twenty miles southeast of the town of Blanding, along the west side of Little Nancy Canyon. The area lies in the Colorado Plateau physiographic province and is a structural element of the Blanding Basin (Stokes 1977). The proposed well pad occupies an east-trending outcropped ridge above Little Nancy Canyon. Terrain in the general area is moderately rugged and heavily dissected with aeolian and colluvial deposits along the canyon bench, cobble to boulder-sized colluvial deposits along canyon slopes, and sandy alluvium along the floodplain. Pockets of Morrison Formation clayey loams are exposed along the slopes above the canyon drainage.

Throughout the Blanding Basin are numerous sources of lithic materials for tool manufacture, outcrops of clay and iron minerals for ceramic construction and decoration, and an abundance of sandstone for construction materials important to the areas prehistory.

Vegetation in the project area consists of scattered juniper, sagebrush, ephedra, bitterbrush, and narrow-leaf yucca. A permanent water source in the area is Soda Spring, approximately one and one-half miles northeast of the location. Nancy Patterson Canyon, which lies approximately two miles east, holds water for several months throughout the late winter/spring season.

Reptilian, avian, and mammalian associations are consistent with those of the Upper Sonoran Life Zone throughout the Colorado Plateau.

Currently, most of the area is used for limited oil and gas development.

### **PREVIOUS RESEARCH**

A file search was conducted on March 8, 1997 at the BLM San Juan Resource Area Office in Monticello. The results of the review indicated that a number of oil and gas related surveys have been conducted in the vicinity between the late 1970's and 1980's, including one extensive 3-D seismic program that was recently conducted within the project area (JBR; 1995). Additionally, two well locations and a pipeline access in the immediate vicinity was recently surveyed (4-CAS; 1996). The file search indicated that a few

archaeological sites (5+) are documented in close proximity to the project area, predominately around Bug Park.

## EXAMINATION PROCEDURES

Prior to the field investigations the well pad was staked and flagged. A 660 x 660' area surrounding the well center stake (10 acres) was inventoried by walking a series of parallel transects spaced 15m apart. Two parallel zig-zag transects were walked along the access route (1.7 acres), covering a 150' wide corridor. This effectively gives a minimal 60' buffer on either side of the access road.

## SURVEY RESULTS

No cultural resources were found in the project area.

## CONCLUSION AND RECOMMENDATIONS

The archaeological survey of Petral Exploration Company's proposed #6 Knockdhu Unit well pad and access route was conducted by personnel of 4-Corners Archaeological Services between March 7, and March 9, 1997. The project is located in San Juan County, Utah, on lands administered by the Bureau of Land Management, San Juan Resource Area, approximately twenty miles southeast of the town of Blanding. A total of 11.7 acres were inventoried for cultural resources.

No cultural resources were found in the project area and archaeological clearance is recommended.

## REFERENCES

- DeFrancia, Carol S.  
1996 Archaeological Survey of Petral Exploration Company's Knockdhu Federal #1 Well Pad & Access Route, San Juan County, Utah. 4-CAS Report No. 9610
- 1996 Archaeological Survey of Petral Exploration Company's Knockdhu Federal #1 Pipeline Route, San Juan County, Utah. 4-CAS Report No. 9612
- 1996 Archaeological Survey of Petral Exploration Company's Proposed Knockdhu Federal #2 Well Pad, San Juan County, Utah. 4-CAS Report No. 9617, Moab.
- Moore, Michele, Jenni Prince-Mahoney, and Scott Billat  
1995 An Archaeological Inventory of 51 Miles of 3-D Seismic Program Across Montezuma Canyon, San Juan County, Utah. JBR Cultural Resource Report 95-16, Sandy.
- Stokes, William Lee  
1987 Geology of Utah. Occasional Paper Number 6. Utah Museum of Natural History, University of Utah, Salt Lake City.

ROADWAY EASEMENT

KNOW ALL MEN BY THESE PRESENTS:

THAT, Marvin Redburn and Patricia Redburn, husband and wife, of 26102 Hwy 145, Dolores, Colorado 81323, hereinafter designated "Grantor", for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration in hand paid by Petral Exploration LLC, of P.O. Box 5083, Denver, Colorado 80202, the receipt of which is hereby acknowledged, Does hereby GRANT and CONVEY unto Petral Exploration LLC, its successors and assigns, an easement for the right to construct, operate, use and maintain a roadway across the following described land and premises situated in the County of San Juan, State of Utah, to-wit:

Township 37 South, Range 25 East  
Section 33: S1/2SW1/4, SW1/4SE1/4

The Right of Way and Easement shall make use of the existing 4WD Trail as set out on the attached plat, attached hereto as Exhibit "A" and made a part hereof.

Petral Exploration, LLC, including its employees, licensees and invitees, hereinafter collectively designated as "Grantee", its successors and assigns shall have full, free and exclusive right and privilege, to travel upon, pass and repass along, and use said road in any lawful manner, including the transportation of persons, materials, supplies and commodities. It is understood, that Grantor shall have the right to use or cross said road at such times and in such manner as may be done without injuring or damaging said road or interfering in any way with Grantee's use thereof or enjoyment of the rights granted.

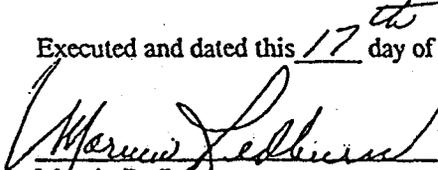
To have and to hold unto Grantee, its successors and assigns, the easement, rights and privileges herein granted and conveyed.

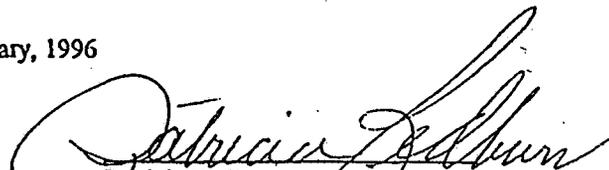
The consideration paid to Grantor hereunder constitutes payment in full for the use of said roadway easement and for all claims for damages out of or incident to the use of the surface of the strip of land located within the above described lands by Grantee, its successors and assigns, in connection with the drilling for and production of oil and gas by Grantee, its licensees, successors and assigns from wells located on lands in the vicinity of said easement, together with all operations incident thereto. Notwithstanding anything contained to the contrary herein, should the well or wells contemplated hereunder be drilled and completed as producing well(s) of oil and/or gas and associated hydrocarbons, Grantor and Grantee shall enter into an easement agreement to be effective so along as the above mentioned oil and/or gas wells are productive.

Grantee agrees that it shall be responsible for any injury caused to the lands of the Grantor and growing crops thereon or adjacent to said Easement caused by Grantee, its successors and assigns, and Grantee shall pay Grantor for any damages resulting therefrom. Grantee also agrees that if a permanent roadway is constructed, the drainage of water to the reservoir will be protected and, if need be, a culvert will be installed to protect such drainage.

The terms and provisions herein shall constitute covenants running with the land, shall be binding upon and inure to the benefit of the successors and assigns of both the Grantor and Grantee.

Executed and dated this 17<sup>th</sup> day of February, 1996

  
Marvin Redburn

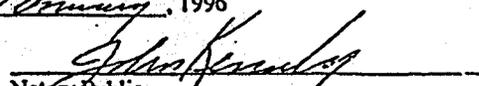
  
Patricia Redburn

STATE OF COLORADO  
County of Costilla de Montezuma

On this 17<sup>th</sup> day of February, 1996, before me personally appeared Marvin Redburn and Patricia Redburn, husband and wife, to me personally known to be the persons who executed the foregoing instrument, acknowledged that they executed the same as their free act and deed.

Witness my hand and seal this 17<sup>th</sup> day of February, 1996

My Commission Expires: 1/9/2000

  
Notary Public.



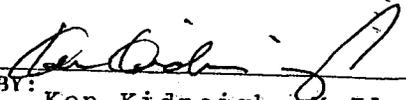
Rights-of-Way", approved by the Utah State Road Commission of October 8, 1962, and all revisions thereto or Regulations adopted by the San Juan County Commission.

(8) In approving this application and locations of utilities, and effort will be made to approve only locations that will not be affected in the event that San Juan County changes the roadway. But, in situations in which the utility has to be moved, this moving shall be done by the utility company or paid for by the company.

(9) For any and all applications requesting authority to use vibratory equipment, applicants shall:

- a. Provide map showing where vibrations will take place.
- b. Agree to repair any damages or replace any property damaged.
- c. Take full responsibility for proper flagging and traffic control.
- d. Agree that vibrating done in the area of dirt roads shall be done on the dirt road rather than in the bar ditch to minimize damage.
- e. Provide a schedule of the planned work and estimated dates of completion.
- f. Attach written permission from all adjacent fee-title owners.
- g. The San Juan County commission has authorized the San Juan County Surveyor/Engineer (or his Assignees) to issue permits.

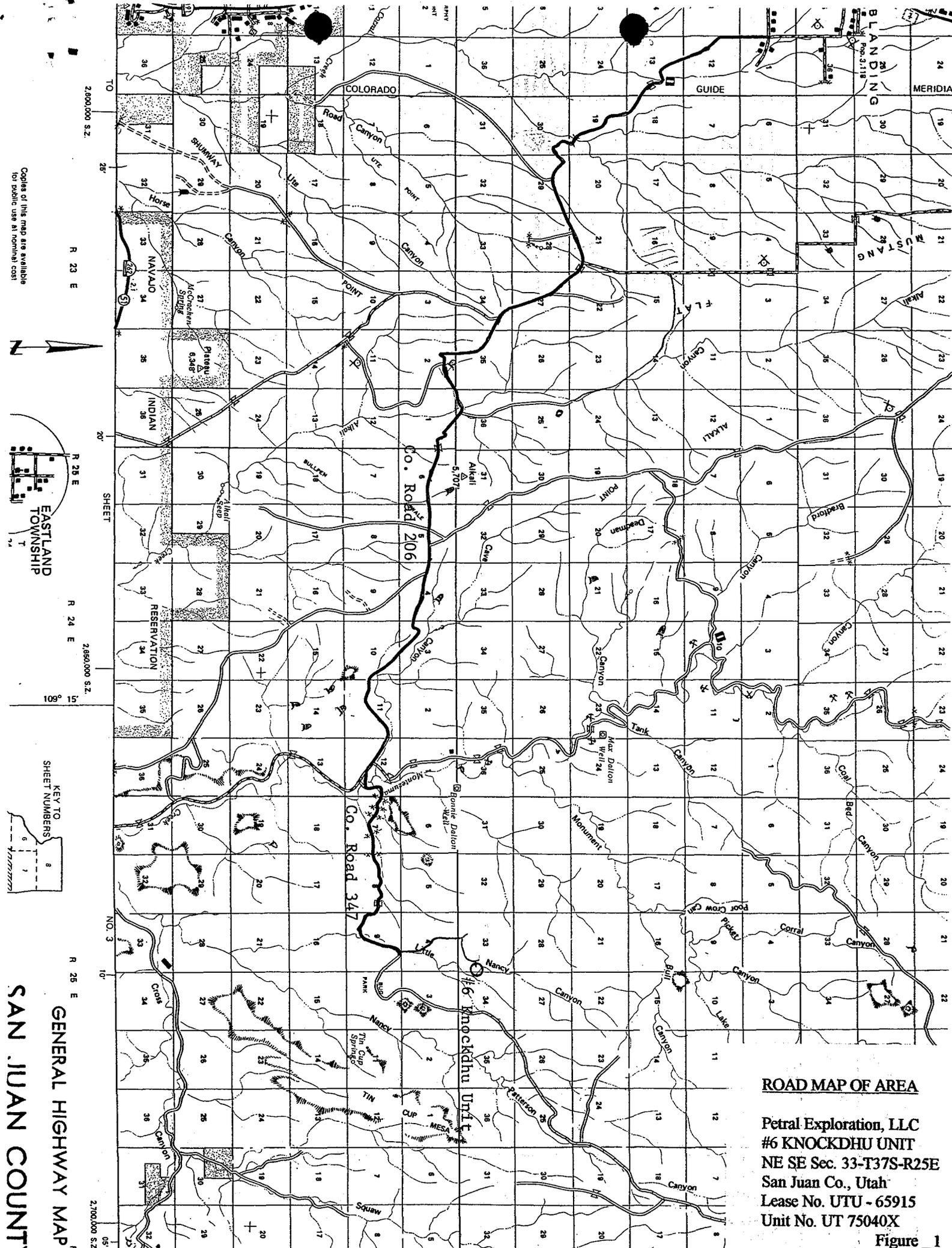
(10) San Juan County can only grant permission to the extent that the County has the authority to do so and the permission granted hereunder is limited to the interest of authority actually owned by San Juan County and no warranties of ownership or authority to grant permission is expressed or implied by the granting of this permit.

  
BY: Ken Kidneigh, McElroy & Associates, Inc  
Representative for Petral Exploration, LLC  
TITLE

To be filled in by San Juan County Surveyor/Engineer.

- (1) Permit should be granted \_\_\_\_\_  
Permit should not be granted \_\_\_\_\_
- (2) Additional requirements which should be imposed \_\_\_\_\_.

SAN JUAN COUNTY SURVEYOR/ENGINEER

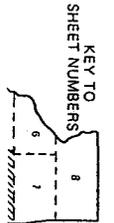
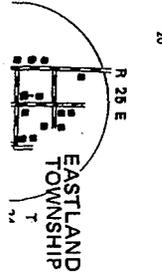
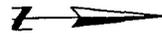


**ROAD MAP OF AREA**

**Petral Exploration, LLC  
 #6 KNOCKDHU UNIT  
 NE SE Sec. 33-T37S-R25E  
 San Juan Co., Utah  
 Lease No. UTU - 65915  
 Unit No. UT 75040X**

**Figure 1**

Copies of this map are available  
 for public use at nominal cost



**SAN JUAN COUNTY**  
**GENERAL HIGHWAY MAP**

2,890,000 S.Z.

R 23 E

R 25 E

R 24 E

R 26 E

TO 28'

SHEET

NO. 3

2,700,000 S.Z.

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 04/07/97

API NO. ASSIGNED: 43-037-31789

WELL NAME: KNOCKDHU UNIT #6  
 OPERATOR: PETRAL EXPLORATION LLC (N7700)

PROPOSED LOCATION:  
 NESE 33 - T37S - R25E  
 SURFACE: 1813-FSL-0492-FEL  
 BOTTOM: 1813-FSL-0492-FEL  
 SAN JUAN COUNTY  
 UNDESIGNATED FIELD (002)

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: FED  
 LEASE NUMBER: UTU - 065915

PROPOSED PRODUCING FORMATION: AKAH

RECEIVED AND/OR REVIEWED:

Plat

Bond: Federal  State  Fee   
 (Number UT 1040)

Potash (Y/N)

Oil shale (Y/N)

Water permit  
 (Number \_\_\_\_\_)

RDCC Review (Y/N)  
 (Date: \_\_\_\_\_)

LOCATION AND SITING:

R649-2-3. Unit: KNOCKDHU UNIT

R649-3-2. General.

R649-3-3. Exception.

Drilling Unit.  
 Board Cause no: \_\_\_\_\_  
 Date: \_\_\_\_\_

COMMENTS: Conf. status req.

STIPULATIONS: \_\_\_\_\_

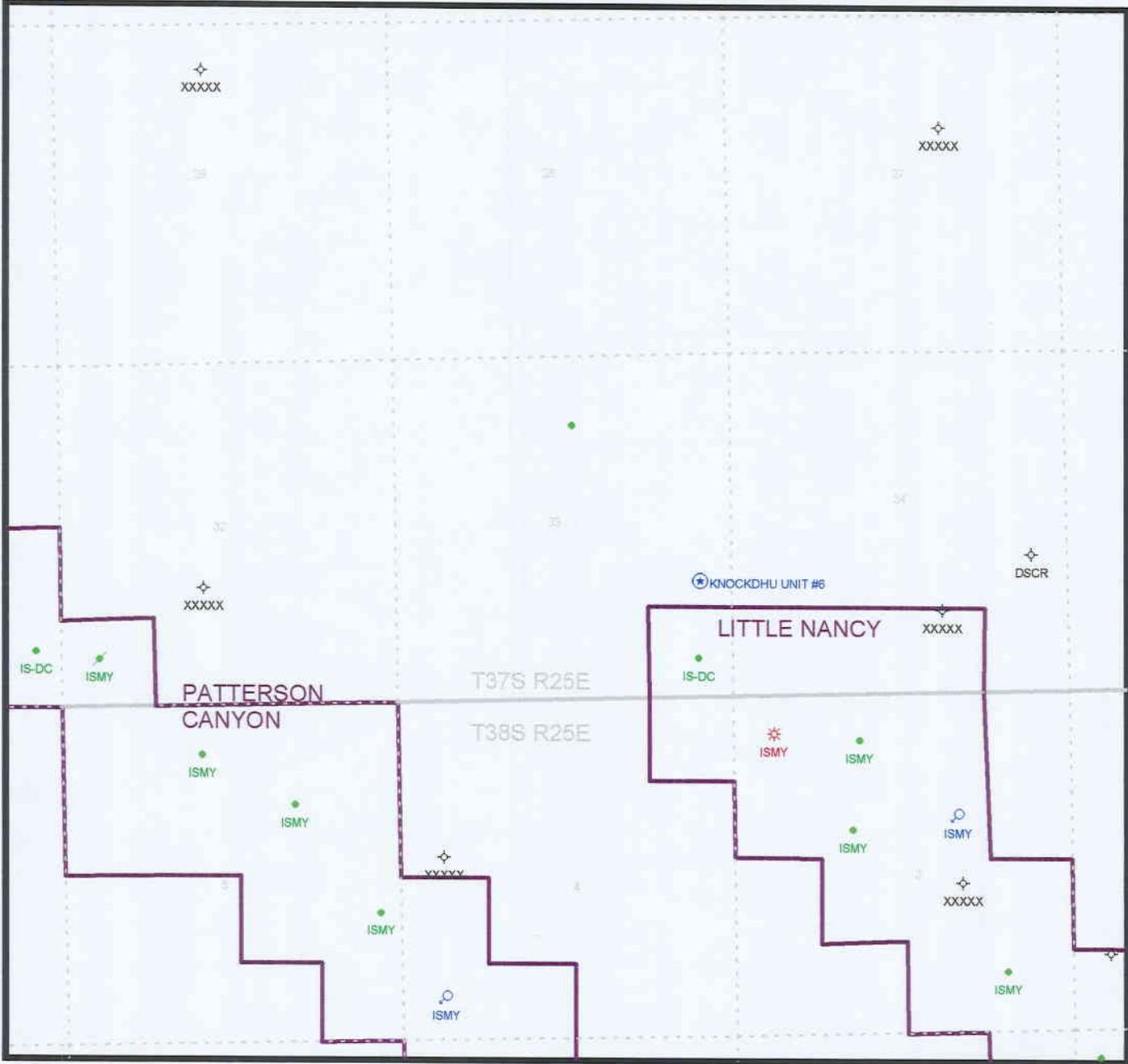
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

OPERATOR: PETRAL (N7700)  
FIELD: UNDESIGNATED (002)  
SEC, TWP, RNG: 33, T37S, R25E  
COUNTY: SAN JUAN  
UAC: R649-2-3 KNOCKDHU UNIT



PREPARED:  
DATE: 8-APR-97



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

May 5, 1997

Petral Exploration, LLC  
c/o McIlnay & Associates, Inc.  
2305 Oxford Lane  
Casper, Wyoming 82604

Re: Knockdhu Unit #6 Well, 1813' FSL, 492' FEL, NE SE, Sec. 33,  
T. 37 S., R. 25 E., San Juan County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-037-31789.

Sincerely,

A handwritten signature in cursive script that reads "Lowell P. Braxton".

Lowell P. Braxton  
Deputy Director

lwp

Enclosures

cc: San Juan County Assessor  
Bureau of Land Management, Moab District Office

Operator: Petral Exploration, LLC  
Well Name & Number: Knockdhu Unit #6  
API Number: 43-037-31789  
Lease: UTU-065915  
Location: NE SE Sec. 33 T. 37 S. R. 25 E.

### Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact John R. Baza (801)538-5334 or Mike Hebertson at (801) 538-5333.

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO. UTU- 065915	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME NA	
7. UNIT AGREEMENT NAME Knockdhu Unit 75040X	
8. FARM OR LEASE NAME Knockdhu Unit	
9. WELL NO. 6	
10. FIELD AND POOL, OR WILDCAT Unnamed	
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 33-T37S-R25E	
12. COUNTY OR PARISH San Juan	13. STATE UT
16. NO. OF ACRES IN LEASE Lease 280 Acres Unit 600 Acres	17. NO. OF ACRES ASSIGNED TO THIS WELL 10
18. PROPOSED DEPTH 5805'	20. ROTARY OR CAMEL TOOLS Rotary
22. APPROX. DATE WORK WILL START* May 15, 1997	

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  
 Petral Exploration, LLC

3. ADDRESS OF OPERATOR  
 c/o McIlroy & Associates, Inc. (307) 265-4351  
 2305 Oxford Lane, Casper, WY 82604

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface  
 NE SE Sec. 33-T37S-R25E, 1813' FSL & 492' FEL  
 At proposed prod. zone  
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 18 miles SE from Blanding, UT

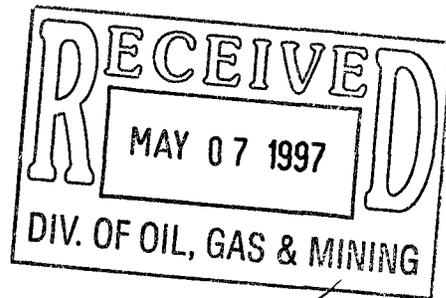
15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.  
 (Also to nearest drlg. unit line, if any) Lease 492' Unit 392'

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
 1000'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5395' FL & 5403' KB

23. PROPOSED CASING AND CEMENTING PROGRAM

43-037-21789



lease to conduct lease operations in conjunction with the application... pursuant to 43 CFR 3104 for lease activities is provided by BLM Bond No. Ut 1040.

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.

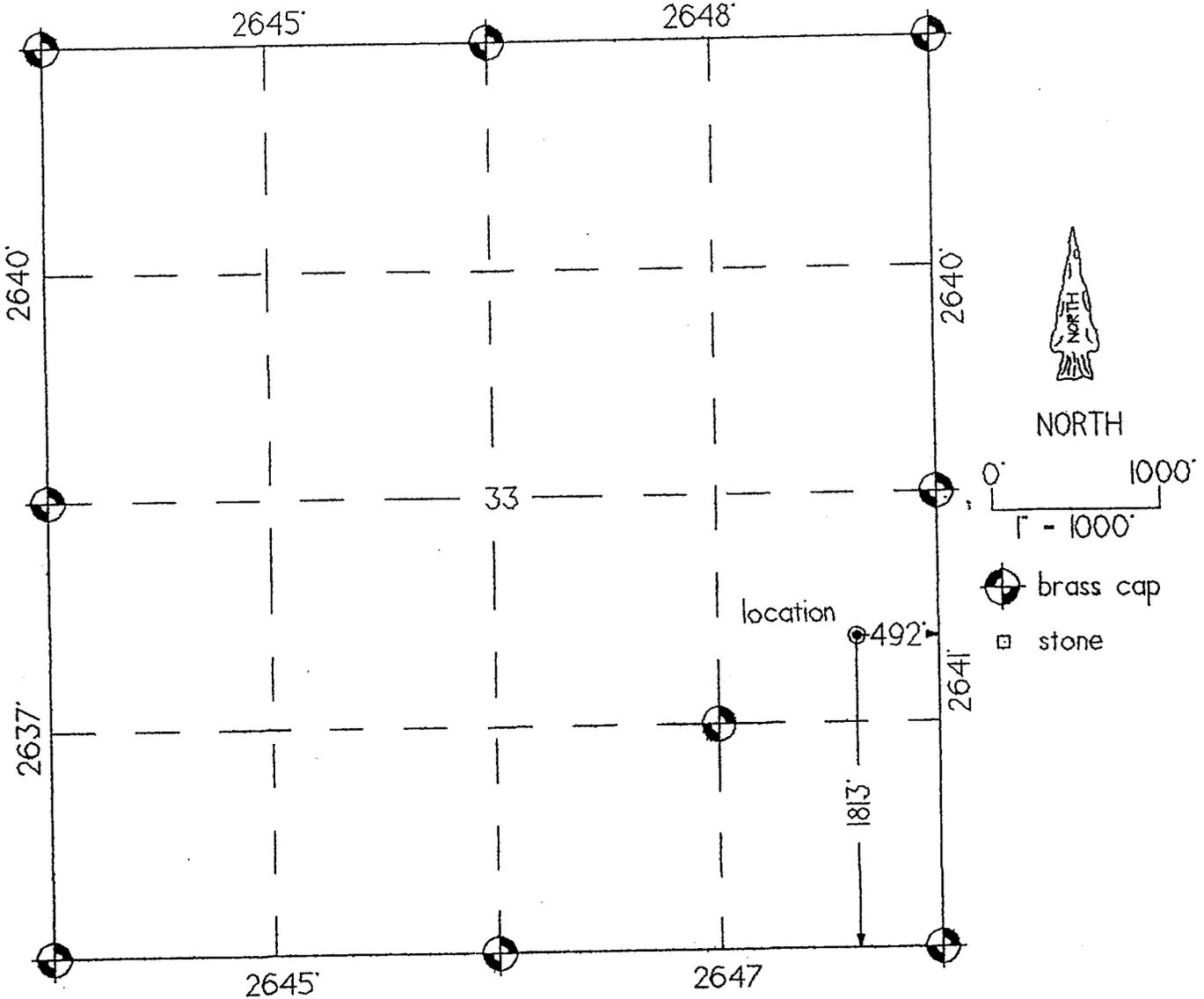
24. SIGNED Anthony R. May TITLE PRESIDENT DATE 4-3-97  
 Petral Exploration, LLC, Petrooro Corp.. Manager

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
/s/ Brad D. Palmer Assistant Field Manager,  
 APPROVED BY \_\_\_\_\_ TITLE Resource Management DATE MAY 2 1997  
 CONDITIONS OF APPROVAL, IF ANY: \_\_\_\_\_

\*See Instructions On Reverse Side

Well Location Plat



Well Location Description

PETRAL EXPLORATION

# 6 Knockdhu Unit  
1813'FSL & 492'FEL

Section 33, T.37 S., R.25 E., SLM  
San Juan County, UT

5395' grd. el. from seismic

320.809 N & 2,675.786 E from seismic - CP 48, CP 50 & CP 3

320.812 N & 2,675.788 E from GPS



6 March 1997

*Gerald G. Huddleston*  
Gerald G. Huddleston, LS

The above is true and correct to my knowledge and belief.

Petral Exploration, LLC  
Knockdhu Unit #6  
Lease U-65915  
NESE Section 33, T. 37 S., R. 25 E.  
San Juan County, Utah

CONDITIONS OF APPROVAL

Approval of this application 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.

Be advised that Petral Exploration, LLC is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT-1040 (Principal - Petral Exploration, LLC) via surety consent as provided for in 43 CFR § 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR § 3106.7-2 continuing responsibility are met.

This permit will be valid for a period of one year from the date of approval. After permit termination, a new application must be filed for approval.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR § 3100), Onshore Oil and Gas Orders, lease terms, notices to lessees, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to field representatives to insure compliance.

## A. DRILLING PROGRAM

1. The proposed 3M BOP system is adequate. Installation, testing and operation of the system shall be in conformance with Onshore Oil and Gas Order No. 2.
2. Any fluid bearing zones or lost circulation zones encountered while drilling will be isolated behind casing and cement.
3. Cement must be circulated to surface for the surface casings (16" and 8-5/8"). The TOC for the production casing (5-1/2") must be from TD to a minimum of 1000' above potential pay zones.
4. If a gas meter run is constructed, it will be located on lease within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and will be buried downstream of the meter until it leaves the pad. Meter runs will be housed and/or fenced. The gas meter shall be calibrated prior to first sales and shall be calibrated quarterly thereafter. All gas production and measurement shall comply with the provisions of 43 CFR § 3162.7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.
5. Any air drilling must be conducted in accordance with Onshore Order No. 2, Section E, Special Drilling Operations. Rig must have spark arresters, blooie line, float valve, automatic igniters, etc.
6. Approval for spacing must be obtained from the Division of Oil, Gas, and Mining prior to initiating any ground disturbing activities.

## **B. SURFACE USE PLAN**

The following stipulations have been developed to mitigate adverse environmental impacts which may result from the action permitted by the accompanying decision. The action permitted and its anticipated impacts are fully described in the environmental assessment or categorical exclusion referenced above.

1. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the operator, or any person working on his behalf, on public or Federal land shall be immediately reported to the San Juan Resource Area Manager. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the San Juan Resource Area Manager. An evaluation of the discovery will be made by the San Juan Resource Area Manager to determine appropriate action to prevent the loss of significant cultural or scientific values. The operator will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the operator.
2. BLM will complete a raptor survey and clearance of the affected area surrounding the proposed drilling site prior to work initiation if the proposed well is drilled between February 1, and August 31. If the raptor survey locates an active raptor nesting territory which will be affected by this proposal, no work will be allowed until nestlings have fledged. This will apply to peregrine falcons found to be nesting within one mile, golden eagles found to be nesting within 0.5 mile and all other raptors found to be nesting within 0.5 mile of the proposed action site. Discussion will be entered into by the San Juan Resource Area with the U.S. Fish & Wildlife Service to determine the feasibility of allowing drilling of said well closer (0.25 mile) of the proposed action site *IF* it can be *PROVEN* that said activity (noise and visual impacts) can take place without impacting the nesting birds and their offspring. The U.S. Fish & Wildlife Service will be fully consulted if peregrine falcon or golden eagle nesting becomes an issue and given updates on the nesting status of said birds.

3. Deer winter range restrictions from December 15, through April 30 are imposed for well pad preparation and drilling operations.
4. All permanent above the ground production equipment will be painted Juniper Green.
5. The reserve pit shall remain free of hydrocarbons at all times. Any hydrocarbons entering the reserve pit will be removed promptly.
6. Netting material will be installed over the top and around the sides of the reserve pit. The netting material will be one inch or less and maintain in a tight condition and good repair.
7. The reserve pit fence will be kept in good repair and maintained in a tight condition to prevent mule deer entry. The reserve pit fence will be constructed as follows:
  - 32" high woven wire fence, with 2 smooth wire stands set 4" and 16" above the woven wire. Total fence height will be 48".
  - posts will be set no farther apart than 16.5'
  - corners will consist of posts that are at least 6" in diameter (h-brace construction will not be required due to the short distance between corners and temporary nature of the fence. All corners will be stabilized with a "deadman".
  - steel t-posts will be placed between corner posts
  - wire stays will be installed between T-posts
  - there will be a 10 wide distance between the top lip of the reserve pit and reserve pit fence.
8. Reclamation of the entire disturbed area will be accomplished by grading the area to approximately the natural contour and spreading the top soil evenly as possible over the area. The entire disturbed area will be scarified with a 6 inch or less distance between ripped surfaces. The soil surface will be dry and loose prior to seeding and will be broadcast seeded between October 1, and February 28 with the following mixture of pure live seed:

Fourwing saltbush	2 pounds/acre
Wild sunflower	1 pound/acre
Morman tea	1 pound/acre
Galleta	1 pound/acre
Sand dropseed	1 pound/acre
Indian ricegrass	1 pound/acre

### C. REQUIRED APPROVALS, REPORTS AND NOTIFICATIONS

Required verbal notifications are summarized in Table 1, enclosed.

Building Location- Contact the BLM Petroleum Engineering Technician at the Monticello BLM Field Office at least 48 hours prior to commencing construction of location.

Spud- The spud date will be reported to BLM 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the Moab BLM Field Office within 24 hours after spudding, regardless of whether spud was made with a dry hole digger or big rig.

Daily Drilling Reports- Daily drilling reports shall detail the progress and status of the well and shall be submitted to the Moab BLM Field Office on a weekly basis.

Monthly Reports of Operations- In accordance with Onshore Oil and Gas Order No. 1, this well shall be reported on Minerals Management Service (MMS) Form 3160, "Monthly Report of Operations," starting the month in which operations commence and continuing each month until the well is physically plugged and abandoned. This report will be filed directly with MMS.

Sundry Notices- There will be no deviation from the proposed drilling and/or workover program without prior approval. "Sundry Notices and Reports on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR § 3162.3-2. Safe drilling and operating practices must be observed.

Drilling Suspensions- Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Moab BLM Field Office. All conditions of this approval shall be applicable during any operations conducted with a replacement rig.

Undesirable Events- Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be immediately reported to the BLM in accordance with requirements of NTL-3A.

Cultural Resources- If cultural resources are discovered during construction, work that might disturb the resources is to stop, and the BLM is to be notified.

First Production- Should the well be successfully completed for production, the Moab BLM Field Office will be notified when the well is placed in producing status. Such notification may be made by phone, but must be followed by a sundry notice or letter not later than five (5) business days following the date on which the well is placed into production.

A first production conference will be scheduled as soon as the productivity of the well is apparent. This conference should be coordinated through the Monticello BLM Field Office. The Monticello BLM Field Office shall be notified prior to the first sale.

Well Completion Report- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the Moab BLM Field Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR § 3162.4-1. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and

all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. When requested, samples (cuttings and/or samples) will be submitted to the Moab BLM Field Office.

Venting/Flaring of Gas- Gas produced from this well may not be vented/flared beyond an initial, authorized test period of 30 days or 50 MMcf, whichever occurs first, without the prior, written approval of the BLM. Should gas be vented or flared without approval beyond the authorized test period, the well may be ordered shut-in until the gas can be captured or approval to continue the venting/flaring as uneconomic is granted. In such case, compensation to the lessor shall be required for that portion of the gas that is vented/flared without approval and which is determined to have been avoidably lost.

Produced Water- Produced waste water may be confined to an unlined pit for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted to the Moab BLM Field Office for approval pursuant to Onshore Oil and Gas Order No. 7.

Off-Lease Measurement, Storage, Commingling- Prior approval must be obtained from the Moab BLM Field Office for off-lease measurement, off-lease storage and/or commingling (either down-hole or at the surface).

Plugging and Abandonment- If the well is completed as a dry hole, plugging instructions must be obtained from the Moab BLM Field Office prior to initiating plugging operations.

A "Subsequent Report of Abandonment" (Form 3160-5) shall be filed with the Moab BLM Field Office within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR § 3162.6. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the BLM, or the appropriate surface managing agency.

### TABLE 1. NOTIFICATIONS

Notify Jeff Brown of the Monticello BLM Field Office in Monticello, Utah, at (801) 587-2141, or at home (801) 587-2046 for the following:

2 days prior to commencement of dirt work, construction and reclamation;

1 day prior to spudding;

50 feet prior to reaching each casing setting depth;

3 hours prior to testing BOPE

If the person at the above number cannot be reached, notify the Moab BLM Field Office at (801) 259-6111. If unsuccessful, contact one of the people listed below.

Well abandonment operations require 24 hour advance notice and prior approval. In the case of newly drilled dry holes, verbal approval can be obtained by calling the Moab Field Office at (801) 259-6111. If approval is needed after work hours, you may contact the following:

Gary Torres, Petroleum Engineer	Office:	(801) 587-2141
	Home:	(801) 587-2705

Eric Jones, Petroleum Engineer	Office:	(801) 259-2117
	Home:	(801) 259-2214

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: PETRAL EXPLORATION LLC

Well Name: KNOCKDHU UNIT # 6

Api No. 43-037-31789

Section: 33 Township: 37S Range: 25E County: SAN JUAN

Drilling Contractor FOUR CORNERS

Rig # 7

SPUDDED:

Date 5/11/97

Time 6:00 PM

How ROTARY

Drilling will commence \_\_\_\_\_

Reported by SUNDRY NOTICE

Telephone # \_\_\_\_\_

Date: 5/20/97 Signed: JLT

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well  
 Oil Well     Gas Well     Other

2. Name of Operator  
 Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.  
 2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
 NE SE Sec. 33-T37S-R25E, 1813' FSL & 492' FEL

**CONFIDENTIAL**

5. Lease Designation and Serial No.  
 UTU-065915

6. If Indian, Allottee or Tribe Name  
 NA

7. If Unit or CA, Agreement Designation  
 Knockdhu Unit 75040X

8. Well Name and No.  
 Knockdhu Unit #6

9. API Well No.  
 43-037-31789

10. Field and Pool, or Exploratory Area  
 Unnamed

11. County or Parish, State  
 San Juan, UT

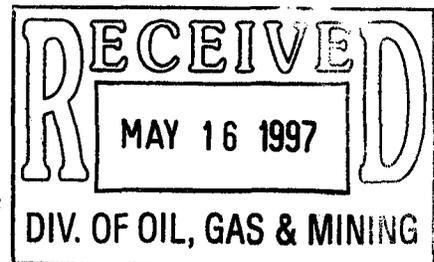
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other Spud
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Notification of Spud  
 Well was spudded with a 12 1/4" hole 5/11/97 @ 6 PM. Drilling Contractor is Four Corners Drilling, Rig 7.



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

Signed *Edward A. McIlnay* Title McIlnay & Associates, Inc. Consulting Engineers Date 5-12-97

(This space for Federal or State office use)

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
 Conditions of approval, if any:

# facsimile

## TRANSMITTAL

---

**to:** State of Utah, Division of Oil, Gas & Mining  
**fax #:** (801) 359-3940  
**re:** Petral Exploration, LLC, Knockdhu #6, UTU-065915  
NE SE Section 33-T37S-R25E, San Juan Co., UT  
**date:** May 16, 1997  
**pages:** 4, including cover sheet.

Attached are weekly drilling reports for the above referenced wells.

From the desk of...

Sharon Orr

McInay & Associates, Inc.  
2305 Oxford Lane  
Casper, WY 82604

307 265-4351  
Fax: 307 473-1218

### Daily Drilling Report

Petral Exploration, LLC  
 Knochdhu Unit #6, UTU-065915  
 API No. 43-037-31789  
 NE SE Section 33-T37S-R25E  
 San Juan Co., UT  
 GRGL: 5391.9'

McIlnay representative on location: Larry Miller

**5-12-97** 1 day from spud  
**Depth:** 400' - made 400' in 11 1/4 Hrs.  
**Status:** Drilling surface hole  
**Hours:** 11 1/4 Drilling  
 1/4 Surveying  
 9 1/2 Rigging up  
 2 1/2 Drilling Mouse and Rat Hole  
**BIT** 1, 12 1/4", Reed, HP51, SN - RR In @ 0' - made 400' in 11 1/4 Hrs., 35.6'/Hr.  
**Surveys:** 96' - 3/4° 211' - 3/4°, 299' - 1/2°  
**Mud:** Wt. 8.4, Vis 29,  
**BHA:** Bit, Shock sub, 2-8" DC - Stabilizer, 2-8" DC, 7-7" DC = 358'  
 WOB - 40,000#, RPM - 110, Pump - 1400 PSI,  
 Pump #1 - 6 x 8, 101 SPM  
 Pump #2 - 6 x 8, 101 SPM  
**Details:** Moved in and rigged up Four Corners Rig #7. Set anchors. Moved 3 Jts. 8 5/8" casing from Triad yard to location. Moved 1 bad Jt. & 2 cut off Jts. 8 5/8" from Dalmore 1A and moved 4 Jts. 5 1/2" from Dalmore 1A. Drilled rat hole and mouse hole. Spudded well at 6 PM 5/11/97.

**5-13-97** 2 day from spud  
**Depth:** 1620' - made 1220' in 15 1/4 Hrs., Cum Drlg 26 1/2 Hrs.  
**Status:** Running Surface Casing  
**Hours:** 15 1/4 Drilling  
 2 1/2 Tripping  
 2 3/4 Surveying  
 1 1/2 Circulating  
 1/4 Rig Service  
 1 3/4 Lay Down 8" DC  
**BIT** 1, 12 1/4", Reed, HP51, SN - RR In @ 0', Out @ 1620' - made 1620' in 26 1/2 Hrs., Jcts 14-14-15, Hrs., T5-B5-In Gauge, 63.13'/Hr.  
**Surveys:** 516' - 1/2°, 622' - 1°, 776' - 1°, 933' - 1/2°, 1059' - 1/4°, 1341' - 1°, 1600 - 1/4°  
**Mud:** Wt. 8.4, Vis 27, pH 8  
**BHA:** Bit, Shock sub, 2-8" DC - 1-12 1/4 Stabilizer, 2-8" DC, 12-7" DC, 4 HWDP = 604.43'  
 WOB - Pump - 1000 PSI, GPM 574, AVDP/AVDC 108/126/162  
 Pump #1 - 6 x 8, 101 SPM  
 Pump #2 - 6 x 8, 101 SPM  
**Geo:** Top Chinle 1512', Sand and Shale

Daily Drilling Report  
Petral Exploration, LLC

Knockdhu #6, UTU-065915  
Page 2

**5-14-97** 3 day from spud

**Depth:** 1620'

**Status:** BOP Testing

**Hours:** 2 ¼ Cementing  
1 ¼ Circulating  
6 ¼ WOC  
2 BOP  
1 ¼ Run Casing  
¼ Lay DC Down  
2 ¼ Cutting Off Casing  
2 ¼ Weld & Test Hd  
5 ¼ N.U.

**Mud:** Wt. 8.4, Vis 26, pH 9, Alk (Pf/Mf) .2/.3, Calcium TR, Chlorides 400

**BHA:** Pump #1 - 6 x 8

Pump #2 - 6 x 8

**Details:** Ran 8<sup>5</sup>/<sub>8</sub>" cgs. Circulated 1 ¼ hrs. Hooked up Dowell to cement surface. Cemented surface casing. Cleaned mud tanks. WOC 6 ¼ hrs. Cut cgs off, weld on head and NU. Tested BOP blind rams and choke manifold to 3000 psig for 10 mins each. Still pressure testing at report time. Jeff Brown with BLM witnessed.

#### Surface Casing Detail

1 Guide Shoe (Dowell) .....	1.00'
1 Jt. 8 5/8", 24#/ft., STC, J55, IPSCO .....	44.71'
1 8 5/8" Dowell Insert Fill Float .....	1.25'
37 Jts. 8 5/8", 24#/ft., J55, ST&C, IPSCO .....	1561.64'
1 8 5/8" landing joint .....	<u>21.00'</u>
Total .....	1629.60'
Landed above KB .....	- 10.00'
Casing landed KB .....	1619.60' KB

43 Jts. Delivered

38 Jts. Used

5 Jts. On location

Delivered 3 Jts. from Triad yard, 4 Jts. from Dalmore Fed. (8<sup>5</sup>/<sub>8</sub>" casing), 36 Jts. shipped from Pipe Sales.

#### Casing Accessories

Guide Shoe, Insert Float Valve

12 Centralizers

1 Centralizer in center of the shoe joint.

1 Centralizers on 2nd collar

3 Centralizers - one every 4th collar

6 Centralizers - 1 every 6th collar

1 Centralizer - 3 collars down from surface

#### Cementing Details

Circulated casing with rig pump. Hooked up Dowell and pumped 15 Bbls. FW ahead of cement. Mixed-625 sks 35/65 Poz Class "C" with 6% D20 and 2% S-1, ¼#/sk Flocele. Tailed in with 150 sks Class "G" with 2% CaCl. ¼#/sk Flocele. Lost 50% returns half way thru lead cement. Slowed pump down to 4 BPM. Regained 90% returns. Finished mixing @ 3-4 BPM with 90% returns. 80 sks excess to reserve pit. Float held. Bumped plug with 500 psi. Plug down @ 11:30 a.m. Cement did not settle below bottom of collar.

Daily Drilling Report  
Petral Exploration, LLCKnockdhu #6, UTU-065915  
Page 3

**5-15-97** 3 day from spud  
**Depth:** 2350' - made 730' in 15 Hrs., Cum Drlg 41½ Hrs.  
**Status:** Drilling  
**Hours:** 15 Drilling  
 1 ¼ Tripping  
 ½ Surveying  
 ¼ Rig Service  
 5 ½ BOP  
 1 Drilling FC & GC  
**BIT** 2, 77/8", STC, F-2-II, SN - LM-4957, In @ 1620' - made 730' in 15 Hrs., Jets 12-12-B, 48.66'/Hr.  
**Surveys:** 2124' - ¼° S74W  
**Mud:** Wt. 8.4, Vis 27, pH 9.5, Water 100, Alk (Pf/Mf) .2/.3, Calcium TR, Chlorides 500  
**BHA:** Bit, Sub bit, Monel, 6¼ DC, Stabilizer, 18 DC, 4 WDP - 713.59'  
 WOB - 40,000#, RPM - 65/75, Pump - 1425 PSI, GPM 286, AVDP/AVDC 166/307  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8  
**Details:** Tested BOP with Quadco. Tested blind pipe, choke line, kill line valves, choke manifold, Kellycock and safety valve to 3000 psig for 15 minutes each. Held OK. Tested casing and hydrill to 1500 psig for 30 minutes. Held OK. Test witnessed by Jeff Brown with the BLM.

**5-16-97** 4 day from spud  
**Depth:** 3330' - made 980' in 21 Hrs., Cum Drlg 63 Hrs.  
**Status:** Drilling  
**Hours:** 21 ½ Drilling  
 2 ¼ Surveying  
 ¼ Rig Service  
**BIT** 2, 77/8", STC, F-2-H, SN - LM-4957, In @ 1620' - made 1710' in 15 Hrs., Jets 12-12-B, 46.84'/Hr.  
**Surveys:** 2751' - ¼° S 32W, 3216' - 1° S 43E  
**Mud:** Wt. 8.7, Vis 26, pH 8, Water 98.1, Alk (Pf/Mf) -.2, Solids 1.9, Calcium 1600 ppm, Chlorides 1400 ppm  
**BHA:** Bit, Sub bit, Monel, 6¼ DC, Stabilizer, 18 DC, 4 WDP - 713.59'  
 WOB - 40-42,000#, RPM - 65/75, Pump - 1500 PSI, GPM 286, AVDP/AVDC 166/307  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8  
**Details:** 1" water flow @ 2884'. Not necessary to weight up. Drilling ahead with no problems.

**McILNAY**

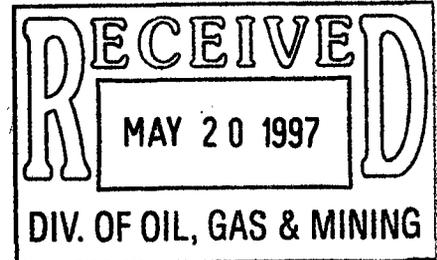
# McILNAY & ASSOCIATES, INC.

2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

May 19, 1997



Utah Board of Oil, Gas & Mining  
1594 West North Temple  
3 Triad Center, Suite 1210  
Salt Lake City, Utah 84180-1203

Re: Petral Exploration, LLC , #6 Knockdhu Unit, NE SW Sec. 33-T37S-R25E  
San Juan Co., Unit - 75040X Lease # UTU 75521

Dear Sirs:

The attached package includes the following for your review and approval.

1. Request for Confidentiality.
2. Copy of Federal APD and NTL-6 package in lieu of Utah APD.

Please let us know if you are in need of any additional information.

Sincerely,

McILNAY & ASSOCIATES, INC.

A handwritten signature in cursive script, appearing to read "Ken Kidneigh".

Kenneth P. Kidneigh  
Petroleum Engineer

so

cc: Petral Exploration LLC  
Rose Exploration Associates



*file*

# facsimile

TRANSMITTAL

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**to:** State of Utah, Division of Oil, Gas & Mining  
**fax #:** (801) 359-3940  
**re:** Petral Exploration, LLC, Knockdhu #6, UTU-065915  
NE SE Section 33-T37S-R25E, San Juan Co., UT  
**date:** May 23, 1997  
**pages:** 5, including cover sheet.

Attached are weekly drilling reports for the above referenced wells.

From the desk of...

Sharon Orr

McIlnay & Associates, Inc.  
2305 Oxford Lane  
Casper, WY 82604

307 765-4351  
Fax: 307 473 1218

Daily Drilling Report  
Petrol Exploration, LLC

Knockdhu #6, UTU-065915

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**5-17-97** 6 day from spud  
**Depth:** 4080' - made 750' in 22 Hrs., Cum Drlg 85 Hrs.  
**Status:** Drilling  
**Hours:** 22 Drilling  
 1/2 Surveying  
 1 Rig Repair (Stand pipe valve)  
 1/2 Rig Service  
**BIT** 2, 7 7/8", STC, F-2-II, SN - LM-4957, In @ 1620' - made 2460' in 58 1/2 Hrs., Jets 12-12-B, 42.05'/Hr.  
**5/17/97** **Continued**  
**Mud:** Wt. 8.6, Vis 26, pH 8, Water 99.3, Solids .7, Calcium 2520 ppm, Chlorides 21,000 ppm  
**BHA:** Bit, Sub bit, Moncl, 6 1/4 DC, Stabilizer, 18 DC, 4 WDP = 713.59'  
 WOB - 40-42,000#, RPM - 65/75, Pump - 1650 PSI, GPM 287, AVDP/AVDC 166/307  
 Pump #1 - 6 x 8, SPM 102 Kill rate 575 psi @ 52 SPM  
 Pump #2 - 6 x 8  
**Details:** Check BOPs. BOP drill 2 minutes. Still have 1" water flow.

**5-18-97** 7 day from spud  
**Depth:** 4758' - made 678' in 21 3/4 Hrs., Cum Drlg 106 3/4 Hrs.  
**Status:** Drilling  
**Hours:** 21 3/4 Drilling  
 1 1/2 Tripping Hole pipe  
 1/2 Surveying  
 1/4 Rig Service  
**BIT** 2, 7 7/8", STC, F-2-H, SN - LM-4957, In @ 1620' - made 3138 80 1/4 Hrs., Jets 12-12-B, 34.1'/Hr.  
**Surveys:** 3716' - 3/4° N 72E, 4217' - 3/4° N 85E  
**Mud:** Wt. 8.9, Vis 27, pH 8, Water 98.6, Alk (P/MI) -.1, Solids 1.4, Calcium 3400 ppm, Chlorides 45,000 ppm  
**Geo:** Sand and Shale  
**BHA:** Bit, Sub bit, Monel, 6 1/4 DC, Stabilizer, 18 DC, 4 WDP = 713.59'  
 WOB - 42,000#, RPM - 65/75, Pump - 1650 PSI, GPM 287, AVDP/AVDC 166/307  
 Pump #1 - 6 x 8, SPM 102 Kill rate 575 psi @ 52 SPM  
 Pump #2 - 6 x 8  
**Details:** Trip for hole in drill pipe 28 stands from surface.

**5-19-97** 8 day from spud  
**Depth:** 5008' - made 250' in 9 1/2 Hrs., Cum Drlg 116 1/4 Hrs.  
**Status:** Tripping In  
**Hours:** 9 1/2 Drilling  
 5 Tripping  
 1/2 Surveying  
 3/4 Rig Repair  
 3/4 Wash & Ream  
 1/4 Rig Service  
 4 1/2 Mixing Mud  
 3/4 Wash Bridges  
 2 Work Tight Hole  
**BIT** 2, 7 7/8", STC, F-2-II, SN - LM-4957, In @ 1620', Out @ 5008' - made 3388 89 3/4 Hrs., Jets 12-12-B, T6-B5-In Gauge, 37.54'/Hr  
 3, 7 7/8", STC, F-3-H, SN - IJ-1818, In @ 5008', Jets 12-12-B  
**Surveys:** 4718' - 1° S 80E

Daily Drilling Report  
 Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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**Mud:** Wt. 9.6, Vis 36, WL 7.4, FC 2/32, pH 7, Water 98.8, PV 8, YP 17, Gels 5/7, Alk (Pf/Mf) -.1, NaCl 214,500 ppm, Solids 1.2, Calcium 4000 ppm, Chlorides 130,000 ppm

**Geo:** Sand and Shale

**BHA:** Bit, Junk Sub, Monel, 19-6 1/4 DC, 4 WPIOP = 713.19'  
 WOB - 42,000#, RPM - 65/75, Pump - 1650 PSI, GPM 287, AVDP/AVDC 168/307  
 Pump #1 - 6 x 8, SPM 102 Kill rate 575 psi @ 52 SPM  
 Pump #2 - 6 x 8  
 SLM Board 5808.54, Talley 5809.14, No Correction

**Details:** TIH with Bit #3. Hit bridge @ 2721'. Washed through same. Hit bridge @ 3590'. Pulled drill pipe to 3405' and conditioned hole. At report time finishing trip into hole. Brought weight of mud up 1 #/gal for purpose of killing water flow. Required 9.6 ppq mud to hold water flow. Killed water flow prior to TOH for bit #3. Four Corner's toolpusher was given option of mudding up prior to tripping for Bit #3. He elected to TOH and mud up after running bit #3.

**5-20-97** 9 day from spud

**Depth:** 5008' - Cum Drlg 116 1/4 Hrs.

**Status:** Washing & Reaming

**Hours:** 3 1/4 Tripping  
 4 3/4 Wash & Ream  
 2 1/4 Circulating  
 9 Work Pipe  
 2 3/4 Rig up Free Point  
 2 Pick Up Fishing Tools

**Mud:** Wt. 9.6, Vis 55, WL 4.8, FC 1/32, pH 7, Water 98.5, PV 20, YP 34, Gels 15/20, Alk (Pf/Mf) -.1, NaCl 198,000 ppm, Solids 1.5, Sand .75, Calcium 3440 ppm, Chlorides 120,000 ppm

**BHA:** Screw in sub - XO, Jars, Bumper sub, XO 4 1/2 FH pin x 4 1/2 x 11, Bumper, Accelerator, 6-6" DC - 212.71'  
 WOB - GPM 287, AVDP/AVDC 168/306  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8

**Details:** Finishing TIH with Bit #3. Hit bridge at 3765'. Washed and reamed through same with pump pressure at 1600 psig. Ran into hole with additional 18 stands and hit bridge at 4816'. Put pump on hole and began to wash and ream. Pump pressure had fallen off from 1600 psig (i.e. = 1200 psig). Toolpusher stated appeared had hole in drill pipe. Probably in last 18 stands that were ran. Hole quite tight. Worked drill pipe 9 hours. Worked pipe up hole 2 stands to 4690' (Bit). Could not free drill pipe. Could not circulate other than through hole in drill pipe. Were circulating at approximately 550 psig. Broke kelly off and dropped 3 welding rods for purpose of propping open float at bit. Also, dropped soft line as a flag. When soft line hit hole in drill pipe pressured up to approximately 1300 psig. With hole in drill pipe plugged could not circulate. Drill pipe stuck with bit at 4690'. Could not work free. Ran free point. No free pipe at 3967'. 50% free pipe at 3930'. 100% free point at 3897'. Backed off two joints above weight pipe at 3897'. Toolpusher elected not to TOH to look for hole in drill pipe. Conditioned mud with end off drill pipe at approximately 3896' (See mud details above). TOH. Found hole in drill pipe at 1400'. Picked up fishing tools and tripped into hole and hit bridge at 2430'. Washing and reaming through bridge and tight spot at report time. Recovering considerable amount of shale. Having problems dropping shale out of mud system with linear shaker. Are changing shaker screens at report time. May require changing out shaker if shaker will not satisfactorily clean mud of shale. Currently bypassing shaker with 50% of mud system. Fish left in hole consists of: Bit, junk sub, 1 monel drill collar, 19-6" drill collars, 4 jts. of 4 1/2" weight pipe and 2 jts. of 4 1/2" drill pipe (723').

Daily Drilling Report  
Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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**Mud:** Wt. 10.1, Vis 82, WL 7.6, FC 2/32, pH 7, Water 98, PV 30, YP 40, Gels 15/45, Alk (P/M) -.2, NaCl 272,250 ppm, Solids 2.5, Sand .25, Calcium 3200 ppm, Chlorides 165,000 ppm

**BHA:**

WOR - Pump 75- PSI, GPM 287, AYDP/AYDC 166/310

Pump #1 - 6 x 8 SPM 102

Pump #2 - 6 x 8

**Details:** TIH with fishing assembly. Screwed into fish. Jarred for 5 hours. Moved fish down hole  $\approx$  20'. Could only move up hole 5'. Backed off at fish & TOH. Picked up and ran 4 jts. of wash pipe. Washed over from 3911' to 4031'. Circulated hole clean and TOH. Picked up 4 more jts. of wash pipe. TIH and washed over from 4031' to 4151'. Circulating hole @ report time. Plans are to TOH and pick up fishing assembly, screw into fish and try to jar free. Note. During wash over operations took very little weight to wash over. Very few cuttings over shale shaker.

Daily Drilling Report  
Petral Exploration, LLCKnockdhu #6, UTU-065915  
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**5-21-97** 10 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** Mixing Salt Gel Mud  
**Hours:** 3 ¾ Tripping  
 1 ½ Repack Swivel  
 6 ¼ Wash & Ream  
 1 ¼ Shale Shaker  
 1 ¼ Clean Pits & Mix Mud  
**BIT** 3, 7⅞", STC, F-3-H, SN - JJ-1818, In @ 5008', Jets 12-12-B  
 4, 7⅞", HTC, J-22, SN - RR, Jets 12-12-12  
**Mud:** Wt. 9.6, Vis 53, WL 5, FC 1/32, pH 7, Water 98.1, PV 53, YP 30, Gels 10/22, Alk (Pf/Mf) -.2, NaCl 198,000 ppm, Solids 1.9, Calcium 3200 ppm, Chlorides 120 ppm  
**BHA:** Bit, Sub bit, 6-6" DC = 184.50'  
 Pump #1 - 6 x 8  
 Pump #2 - 6 x 8  
**Details:** Worked through bridge at 2430-70'. Worked bridge portion of hole for 3¼ hrs. with fishing tool assembly (see 5/20/97 report for details). No bit utilized. Raised vis. from 55 to 80 and up to 110. Modified linear shaker screens to avoid the need to partially by pass shaker. Utilizing 20 mesh screens. Shaker working OK. TOH and picked up Bit #4. TOH and worked through bridge at 2430-70' for 2¼ hrs. Hole continued to sluff. Unable to keep open. Pulled bit up into surface casing. Cleaned mud pits and began converting mud from polymer brine system to a salt gel system. Will add soltex to system. Soltex on location at 6:10 a.m. 5/21/97. MI had to ship Soltex from Greybull, Wyoming.

Injury report: Allen Ferguson (rig crew) smashed three fingers while tripping drill collars out of hole. Taken to Farmington NM by J. D. Griffith, Asst. Drlg. Superintendent..

**5-22-97** 11 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** Picking Up Fishing Tools  
**Hours:** 4 ¼ Tripping  
 12 ¾ Wash & Ream  
 5 ¾ Circulating  
 ¾ Short Trip  
 ½ Pick Up Tools  
**BIT** 4, 7⅞", HTC, J-22, SN - RR, Jets 12-12-12  
**Mud:** Wt. 10.1, Vis 170, WL 6.2, FC 2/32, pH 7, Water 97.5, PV 31, YP 54, Gels 28/50, Alk (Pf/Mf) -.2, NaCl 280,500 ppm, Solids 2.5, Sand .25, Calcium 3200 ppm, Chlorides 190,000 ppm  
**BHA:** #1 BHA, Bit, BS, 6-6" DC = 184.50'  
 Pump #1 - 6 x 8 SPM 102  
 Pump #2 - 6 x 8  
**Details:** Washed & reamed from 2430 - 2697'. Trip in 16 stands. Washed & reamed from 3834' to top of fish @ 3897'. 63' fill on top of fish. Circulated 1 hr. @ 3897'. Short trip 8' of fill. Circulated 1 hr. TOH. Picking up fishing assembly at report time.

**5-23-97** 12 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** Circulating & Conditioning  
**Hours:** 9 ¾ Tripping  
 ½ Rig Repair (Brakes)  
 1 Circulating  
 ¾ Cut Drlg. Line  
 ½ Pick Up Tools  
 3 ¼ Pick Up Wash Pipe  
 3 ¼ Wash Over  
 5 Jar on Fish

*File*

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TRANSMITTAL

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**to:** State of Utah, Division of Oil, Gas & Mining  
**fax #:** (801) 359-3940  
**re:** Petral Exploration, LLC, Knockdhu #6, UTU-065915  
NE SE Section 33-T37S-R25E, San Juan Co., UT  
**date:** May 30, 1997  
**pages:** 4, including cover sheet.

Attached are weekly drilling reports for the above referenced wells.

From the desk of...

Sharon Orr

McInay & Associates, Inc.  
2305 Oxford Lane  
Casper, WY 82604

307 265-4351  
Fax: 307 473-1218

Daily Drilling Report  
 Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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**BHA:** Circulating sub, Pack off sub, XO, Bumper, Jars X DC  
 WOB - Pump 250 PSI, GPM 42.5  
 Pump #1 - 6 x 8  
 Pump #2 - 6 x 8

**Details:** TOH with wash pipe. TIH with fishing assembly and screwed into fish. Jarred on fish 4¼ hrs. Moved same 37' up hole. Backed off at top of fish and circulated hole clean. TOH. WO Dia-Log. TIH with DP, DC, jars, bumper sub, accelerator and Dia-Log circulating sub and pack off assembly. Ran on Dia-Log wire line small OD sand pump. Tried to break up plug in fish with same. Were unsuccessful. Had to make extra trip out of hole to lay down accelerator, which had too small an ID to allow running of Dia-Log Hydraulic Clean Out Tool. TIH and screwed into fish. At report time running Hydraulic Clean Out Tool on Dia-Log wireline. If successful in cleaning out inside of fish, can back-off deeper and recover additional fish, which will allow washing over of additional fish.

**5-27-97** 16 day from spud

**Depth:** 5008' - Cum Drlg 116¼ Hrs.

**Status:** Run 1¼" pipe for Clean Out

**Hours:** ¾ Cut Drlg. Line  
 16 Clean Inside Fish with Wire Line  
 2 ½ Strap 1¼" Pipe  
 4 ¾ Try Manual Back Off

**Mud:** Wt. 10.1, Vis 180, WL 10, FC 2/32, pH 7, Water 94.3, PV 28, YP 46, Gels 25/65, Alk (P/M) 0/3, NaCl 204,600 ppm, Solids 5.7, Sand .75, Calcium 3200 ppm, Chlorides 124,000 ppm

**BHA:** Circulating sub, Pack off sub, XO, Bumper, Jars X DC  
 WOB - Pump 1250/1500 PSI, GPM 60  
 Pump #1 - 6 x 8  
 Pump #2 - 6 x 8

**Details:** Top fish @ 3967'. Run Dia-Log, clean out tool inside DP @ 3986' - 3991'. After 5 hrs. tools failed. TOH and repair tool. TIH to 3991'. Cleaned out to 4015'. Tools failed at seal assembly (seal washed out). Only had enough spare parts to repair one time. Cleaned out total of 29' (3986' - 4015'). Picked up Dia-Log sinker bars, jars and sand pump. TIH. Tried cleaning but made no progress. TOH with wire line and tools. Rig down Dia-Log. Picked up 1 joint drill pipe. Torqued up pipe string to try for manual back off at top of collars (3925'). Pipe backed off up in surface casing. Spaced string out. Screwed back into pipe. Prepared to run 1¼" pipe to drill out plug inside stuck pipe @ 4015'. Present operations running 1¼" pipe.

**5-28-97** 17 day from spud

**Depth:** 5008' - Cum Drlg 116¼ Hrs.

**Status:** TIH with Wash Pipe

**Hours:** 6 ½ Tripping  
 2 ¼ Wash & Rcam  
 ½ Circulating  
 5 Pick Up 1¼" Tbg.  
 2 ¼ Rig Up & Lay Down Swivel  
 1 ½ Rig Down 1¼"  
 6 Rig Up Free Point

**Mud:** Wt. 10.1, Vis 80, WL 11, FC 2/32, pH 7, Water 94.6, PV 24, YP 38, Gels 18/50, Alk (P/M) 0/3, NaCl 211,200 ppm, Solids 5.4, Sand .75, Calcium 3200 ppm, Chlorides 118,000 ppm

**BHA:** Shoe, 8 jts. Wash Pipe, XO, Jars, XO, Accelerator, 10 Dc (571')  
 WOB - Pump 800/1250 PSI, GPM 287  
 Pump #1 - 6 x 8  
 Pump #2 - 6 x 8

**Details:** Picked up 1¼" tubing and washed plug out of tubing form 4011' - 4041'. Remainder of fish open. Ran 1¼" tubing to 4591'. Circulated clean and TOH with 1¼" tubing. Ran Dia-Log free point. At least one drill collar free above where stuck. Could not circulate because sub in string. Backed off at 4385'. TOH with 2 jts. weight pipe

Daily Drilling Report  
 Petral Exploration, LLC

Knockdhu #6, UTU-065915

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**5-24-97** 13 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** Clean Out with Dia-Log  
**Hours:** 9 ½ Tripping  
 3 ½ Wash & Ream  
 1 Circulating  
 5 ¼ Jar on Fish  
 1 Pick Up Jars  
 2 ¾ Back Off  
 1 Lay Down Back Off  
**Mud:** Wt. 10.1, Vis 120, WL 8.0, FC 2/32, pH 7, Water 94.6, PV 33, YP 44, Gels 20/70, Alk (Pf/Mf) -.2, NaCl 211,200 ppm, Solids 5.4, Sand .25, Calcium 3200 ppm, Chlorides 128,000 ppm  
**BHA:** Shoe, Wash Pipe, XO, Jars, XO - Accelerator, XO, 10 DC = 541 Ft.  
 WOB - Pump 900/1200 PSI, GPM 287, AVDP/AVDC 116/310  
 Pump #1 - 6 x 8 SPM 102  
 Pump #2 - 6 x 8  
**Details:** TOH with wash pipe. Pick up and TIII with fishing assembly (i.e. screw in sub, bumper, jars, drill collars, accelerator, etc.). Screwed into fish and jarred on fish 5½ hrs. Moved fish up hole 25'. Moved a few inches at a time. Ran string shot and backed off at 3987'. Fish plugged inside 20' below this depth. TOH and recovered 1 jt, drill pipe and two jts. of weight pipe. Picked up 7 jts. wash pipe and TIII with same. Washed over from 3987' to 4138' (151'). During washing over operations there were intervals where no weight was required to wash down and intervals where weight was required. Where weight was required cutting over shaker were large pieces of shale and fine gummy cuttings. At report time were circulating and conditioning hole and mud. Four Corner's plans are to run back in hole with fishing assembly and further jar on fish.

**5-25-97** 14 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** TOH  
**Hours:** 12 ¼ Tripping  
 3 ¾ Wash & Ream  
 3 ¾ Jar on Fish  
 4 ¼ Pick Up Wash Pipe  
**Mud:** Wt. 10.7, Vis 180, WL 10, FC 2/32, pH 7, Water 93.5, PV 28, YP 44, Gels 25/65, NaCl 204,600 ppm, Solids 6.5, Sand .5, Calcium 3500 ppm, Chlorides 124,000 ppm  
**BHA:** Shoe, 12 jts. wash over pipe, XO, Jars XO, Accelerator, 10 DC (691')  
 WOB - Pump 850/1000 PSI, GPM 287  
 Pump #1 - 6 x 8 SPM 102  
 Pump #2 - 6 x 8  
**Details:** TOH, pick up fishing assembly. TIII and screw into fish. Jarred 3¾ hrs. Moved fish up hole 15'. Backed off at fish and TOH. Picked up 12 jts. wash pipe and TIII. Washed over fish 4017' - 4356' (339'). Washed over fish in 3¾ hrs. with no problems. Circulated hole clean and at report time TOH. Four Corners will pick up fishing assembly. TIIH and jar on fish.

**5-26-97** 15 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** Clean Out with Dia-Log  
**Hours:** 10 ¾ Tripping  
 1 Circulating  
 3 ¾ Waiting on Dia-log  
 4 ¼ Jar on Fish  
 4 ¼ Clean Out  
**Mud:** Wt. 10.1, Vis 90, WL 14, FC 2/32, pH 7, Water 94.2, PV 25, YP 28, Gels 20/34, Alk (Pf/Mf) 0/3, NaCl 201,300 ppm, Solids 5.8, Sand .75, Calcium 3200 ppm, Chlorides 122,000 ppm

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 Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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and 12 DC. Left 7-6¼" Monel Collar and bit. Top of fish at 4385'. TIH with 8 jts. of wash pipe.

**5-29-97** 18 day from spud

**Depth:** 5008' - Cum Drlg 116¼ Hrs.

**Status:** WO Tools

**Hours:** 10 ½ Tripping  
 6 ½ Wash & Ream  
 ½ Circulating  
 ¼ Rig Service  
 2 ½ Pick Up & Lay Down Tools  
 2 ¾ WO Tools  
 1 Fishing

**BIT:** 3, 7/8, STC, F-3-4, SN - 12-18-18, In @ 5008', Jets 12-12-B

**Mud:** Wt. 10.1, Vis 90, WL 10, FC 2/32, pH 7, Water 94.1, PV 18, YP 24, Gels 16/32, Alk (Pf/Mf) 0/3, NaCl 178,000 ppm, Solids 5.9, Sand .75, Calcium 3200 ppm, Chlorides 120,000 ppm

**BHA:** 7% Overshot, XO, Jars, XO, Accelerator, 10 DC = 335'

WOB - Pump 500/1000 PSI

Pump #1 - 6 x 8

Pump #2 - 6 x 8

**Details:** TIH with 8 jts. wash pipe. Had difficulty getting over top of fish. Washed over from 4385' - 4443'. Cuttings over shale shaker fine gummy shale with metal cuttings present. Made connection at 4443'. Fish had fallen away. Washed down to 4640'. Worked pipe and circulated hole clean. TOH and stood wash pipe back. TIH with screw in sub, jars, bumper sub, accelerator and 10 DC. Found top of fish at 4695'. Tried to screw into fish but were unsuccessful. TOH. Screw in sub had deep ring groove in threads. TIH with 7¾" overshot, jars, bumper sub, accelerator and drill collars. Unable to latch onto fish at 4695'. TOH. Lip on overshot cut shoe rolled in and deep grooves on face of shoe. WO additional fishing tools. Contractor had not made decision at report time as to approach to take.

# facsimile

TRANSMITTAL

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**to:** State of Utah, Division of Oil, Gas & Mining  
**fax #:** (801) 359-3940  
**re:** Petral Exploration, LLC, Knockdhu #6, UTU-065915  
NE SE Section 33-T37S-R25E, San Juan Co., UT  
**date:** June 6, 1997  
**pages:** 5, including cover sheet.

Attached are weekly drilling reports for the above referenced wells.

From the desk of...

Sharon Orr

McInay & Associates, Inc.  
2305 Oxford Lane  
Casper, WY 82604

307 265-4351  
Fax: 307 473 1218

Daily Drilling Report  
 Petral Exploration, LLC

Knockdhu #6, UTU-065915

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**5-30-97** 19 day from spud  
**Depth:** 5008' - Cum Drlg 116¼ Hrs.  
**Status:** TIIH with Bit, Picking Up DCs  
**Hours:** 14 ¼ Tripping  
 1 ¼ Wash & Ream  
 ¼ Rig Service  
 ¼ Make Up Tool  
 4 ¼ WO Tools  
 1 Work Fish Loose  
 2 ¾ Lay Down Tools  
**BIT:** 3, 7⅞, STC, F-3-4, SN - 12-18-18, In @ 5008', Jets 12-12-B  
**Mud:** Wt. 9.8, Vis 65, WL 12, FC 2/32, pH 7, Water 95.8, PV 20, YP 25, Gels 16/30, Alk (Pf/Mf) 0/3, NaCl 178,700 ppm, Solids 4.2, Sand .75, Calcium 3200 ppm, Chlorides 108,000 ppm  
**BHA:** Bit, Bit Sub, 20-6⅞" DC  
 Pump #1 - 6 x 8  
 Pump #2 - 6 x 8  
**Details:** WO delivery of mill shoe. TIII with mill shoe and 22" extension. Washed & milled over top of fish. TOH and pick up and TIII with overshot, jars, etc. Latched onto fish. Worked same loose and TOH. Recovered 7-6" DC, 1-6" Moncl DC and 7⅞" bit. DC full of hard shale. Laid down DC, wash pipe & fishing tools. Clean mud pits and start trip into hole with Bit #3.

**5-31-97** 20 day from spud  
**Depth:** 5089' - Made 81' in 6¼ Hrs., Cum Drlg 122½ Hrs.  
**Status:** Drilling  
**Hours:** 6 ¼ Drilling  
 12 ¼ Tripping  
 2 Wash & Ream  
 ¾ Cut Drilling Line  
 ½ Work Junk Basket  
 ¾ Work Magnet  
 1 ½ Try Work Past Junk  
**BIT:** 3, 7⅞, STC, F-3-4, SN - I.J 1818, In @ 5008' - Made 81' in 6¼ Hrs., Jets 12-12-B, Ft./Hr. 13  
**Mud:** Wt. 9.6, Vis 55, WL 8, FC 2/32, pH 7, Water 97.5, PV 18, YP 26, Gels 15/35, Alk (Pf/Mf) 0/4, NaCl 187,500 ppm, Solids 2.5, Sand .5, Calcium 3200 ppm, Chlorides 108,000 ppm  
**BHA:** Bit, Junk Basket, Bit Sub, 20-6⅞" DC, 2 Jts. WP - 656.37'  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8  
**Details:** TIIH with Bit #3. Broke circulation approximately ½ way into hole. Finished TIII. Hit fill at 4844'. Could not clean out due to what appeared to be junk in hole. TOH & picked up and TIIH with magnet and junk sub. Worked magnet and junk sub on bottom and TOH with same. Recovered large pieces of metal, which were from milling over the top of the fish (drill collar). TIIH with Bit #3 and junk sub. Drilling ahead.

**6-1-97** 21 day from spud  
**Depth:** 5348' - Made 259' in 23¼ Hrs., Cum Drlg 145¾ Hrs.  
**Status:** Drilling  
**Hours:** 23 ¼ Drilling  
 ½ Surveying  
 2 Wash & Ream  
 ¼ Rig Service  
**BIT:** 3, 7⅞, STC, F-3-4, SN - LJ 1818, In @ 5008' - Made 340' in 29½ Hrs., Jets 12-12-B, Ft./Hr. 11.89  
**Survey:** ¼° @ 5220'

Daily Drilling Report  
 Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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**6/1/97** **Continued**

**Mud:** Wt. 9.7, Vis 44, WL 10, FC 2/32, pH 7, Water 96.3, PV 16, YP 18, Gels 10/23, Alk (Pf/Mf) 0/.35, NaCl 171,600 ppm, Solids 3.7, Sand .5, Calcium 3000 ppm, Chlorides 103,000 ppm

**BHA:** Bit, Junk Basket, Bit Sub, 20-6 1/8" DC, 2 Jts. WP = 656.37'  
 WOB - 40-47,000#, RPM - 65/75, Pump - 1650 PSI, GPM 287, AVDP/AVDC 115/167  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8

**Details:** Drilling ahead with no problems.

**6-2-97** 22 day from spud

**Depth:** 5484' - Made 136' in 18 1/4 Hrs., Cum Drlg 164 Hrs.

**Status:** Drilling

**Hours:** 18 1/4 Drilling  
 4 3/4 Tripping  
 1/4 Wash & Ream  
 1/2 Rig Service  
 1/4 Shaker Screen

**BIT:** 3, 7 7/8, STC, F-3-4, SN - LJ 1818, In @ 5008', Out @ 5381' - Made 373' in 34 Hrs., Jets 12-12-B, Ft./Hr. 11

4, 7 7/8, STC, F-3-11, SN - LJ 4628, In @ 5381' - Made 103' in 13 1/2 Hrs., Jets 13-13-B, Ft./Hr. 7.62

**Mud:** Wt. 9.8, Vis 56, WL 13, FC 2/32, pH 10, Water 96.6, PV 18, YP 38, Gels 21/35, Alk (Pf/Mf) 0/.4, NaCl 198,000 ppm, Solids 3.4, Sand .75, Calcium 1800 ppm, Chlorides 120,000 ppm, Nitrates 110 ppm

**BHA:** Bit, Junk Basket, Bit Sub, 20-6 1/8" DC, 2 Jts. WP = 656.37'  
 WOB - 40-42,000#, RPM - 65, Pump - 1500 PSI, GPM 287, AVDP/AVDC 115/167  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8

**Details:** Drilled to 5381' KB. Trip for bit #4. Drilling with no hole problems. Working on mud to bring water loss to 5 or less. Should reach upper Ismay mound core point this p.m. Will circulate and condition mud prior to picking up core barrel.

**6-3-97** 23 day from spud

**Depth:** 5560' - Made 76' in 6 Hrs., Cum Drlg 170 Hrs.

**Status:** Coring

**Hours:** 6 Drilling  
 6 3/4 Tripping  
 6 1/4 Circulating  
 1 1/2 PU Core Bbl.  
 3 1/2 Coring

**BIT:** 4, 7 7/8, STC, F-3-11, SN - LJ 4628, In @ 5381', Out @ 5529' - Made 148' in 17 1/4 Hrs., Jets 13-13-B, Ft./Hr. 7 1/2

5, 7 27/37, Chris, SN - 03712220, In @ 5529' - Made 31' in 3 1/2 Hrs., Ft./Hr. 8.85

**Mud:** Wt. 9.8, Vis 90, WL 5, FC 2/32, pH 8.5, Water 93.3, PV 30, YP 50, Gels 20/35, Alk (Pf/Mf) 0/.5, NaCl 188,100 ppm, Solids 6.7, Sand .75, Calcium 1800 ppm, Chlorides 117,000 ppm, Nitrates 100 ppm

**BHA:** Core bit, Bore Bbl., Jars, XO, BS, 20DC, 2 Jts. WP = 726.43'  
 WOB - 8-12#, RPM - 45/50, Pump - 1250 PSI, GPM 287, AVDP/AVDC 115/167  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8

**Details:** Made 10 stand short trip after reaching core point @ 5529'. Circulated and conditioned mud and hole. TOH, picked up core bbl. and THH. Coring at report time.

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 Petral Exploration, LLC

Knockdhu #6, UTU-065915

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**6-4-97** 24 day from spud  
**Depth:** 5678' - Made 89' in 11½ Hrs., Cum Drlg 181½ Hrs.  
**Status:** Drilling  
**Hours:** 11 ½ Drilling  
 5 ¼ Tripping  
 ¾ Wash & Ream  
 ¼ Rig Service  
 3 Coring  
 1 ¼ Lay Corc Down  
 2 Cir. WOC  
**BIT:** RR 4, 7⅞, STC, F-3-11, SN - LJ 4628, In @ 5589' - made 89' in 11½ Hrs., Cum. Made 237' in 29¼ Hrs., Jets 13-13-13, Ft./Hr. 8.10  
 5, 7 27/37, Chris, SN - 03712220, In @ 5529', Out @ 5589' - Made 60' in 6½ Hrs., Ft./Hr. 9.23  
**Mud:** Wt. 9.8, Vis 44, WL 3, FC 2/32, pH 8.5, Water 96.2, PV 15, YP 15, Gels 16/18, Alk (Pf/Mf) 0/45, NaCl 148,000 ppm, Solids 4.8, Sand .50, Calcium 2000 ppm, Chlorides 120,000 ppm  
**BHA:** Bit, Junk Sub, Bit Sub, 20-6½" DC, 2 jt. WP = 656.37'  
 WOB - 40,000#, RPM - 40, Pump - 1500 PSI, GPM 287, AVDP/AVDC 115/167  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8  
**Details:** Cut Core 1 - 5529'-5589'. TOH. Lay down corc. Lay down core bbl. Pick Bit #4. TIH. Ream core hole. WOO. Mud showing signs of bacterial degradation ("turning sour"). Bacteria found in make up water. Treating for same.

**6-5-97** 25 day from spud  
**Depth:** 5860' - Made 182' in 22½ Hrs., Cum Drlg 204 Hrs.  
**Status:** Circulating for Logs  
**Hours:** 22 ½ Drilling  
 1 ¼ Circulating Samples  
 ¼ Rig Service  
**BIT:** RR 4, 7⅞, STC, F-3-11, SN - LJ 4628, In @ 5589', Out @ 5860' - made 182' in 22½ Hrs., Cum. Made 419' in 51¼ Hrs., Jets 13-13-13, Ft./Hr. 8.10  
**Mud:** Wt. 9.7, Vis 57, WL 4.4, FC 2/32, pH 7.5, Water 97.4, PV 17, YP 23, Gels 20/32, Alk (Pf/Mf) 0/7.5, NaCl 198,000 ppm, Solids 2.6, Sand .25, Calcium 2000 ppm, Chlorides 120,000 ppm, Nitrates 110 ppm  
**BHA:** Bit, Junk Sub, Bit Sub, 20-6½" DC, 2 jt. WP = 656.37'  
 WOB - 40,000#, RPM - 55/60, Pump - 1600/1650 PSI, GPM 287, AVDP/AVDC 115/169  
 Pump #1 - 6 x 8, SPM 102  
 Pump #2 - 6 x 8  
**Details:** Drilling. Circulating for samples @ Desert Creek. TD @ 05:30 a.m. 6/5/97. Currently circulating and conditioning hole for logs.

**6-6-97** 26 day from spud  
**Depth:** 5863' Corr. - Hrs., Cum Drlg 204 Hrs.  
**Status:** Circulating and Conditioning Hole  
**Hours:** 10 ½ Drilling  
 1 ¼ Circulating Samples  
 ¼ Rig Service  
**BIT:** RR 4, 7⅞, STC, F-3-11, SN - LJ 4628, In @ 5860' - Made 419' in 51¼ Hrs., Jets 13-13-13, Ft./Hr. 8.10  
**Mud:** Wt. 9.7, Vis 55, WL 8, FC 2/32, pH 7, Water 97.1, PV 15, YP 15, Gels 12/22, Alk (Pf/Mf) 0/4.5, NaCl 191,400 ppm, Solids 3.9, Sand .25, Calcium 4000 ppm, Chlorides 116,000 ppm

Daily Drilling Report  
Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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6/6/97 **Continued**

**BHA:** Bit, Junk Sub, Bit Sub, 20-6½" DC, 2 jt. WP - 656.37'  
WOB - Pump - 1600 PSI, GPM 287, AVDP/AVDC 115/167  
Pump #1 - 6 x 8, SPM 102

Pump #2 - 6 x 8

SLM - Board 5867.08, Talley 5870.21, Correction + 3.13'

**Details:** TOH to log. Ran Schlumberger Platform Express tools. Hit bridge at 2490'. Could not work through bridge. TII with drill pipe. Hit bridge at 2490'. Took approximately 7000# weight to break through. TII. 10' of fill on bottom. Conditioned hole and mud. Raised viscosity from 55 to 65. TOII. Ran Schlumberger Platform Express log. Hit bridge at 2490'. Could not work through bridge. TII with drill pipe. Hit bridge at 2490'. Only took 3000 to 4000# weight to break through. TII to 2770'. Hole free (No drag and did not take weight). TOII. Ran Schlumberger Platform Express log. Hit bridge at 2499'. Worked through to 3000'. Could go no further. TII with drill pipe to 3000'. Circulated hole at this depth. Nothing over shale shaker. Finished trip to bottom. Note viscosity had dropped from 65 to 55. Currently circulating on bottom. Raising mud weight and viscosity to = 80.

OPERATOR Petral Exploration LLC  
 ADDRESS c/o McIlnay & Associates, Inc.  
2305 Oxford Lane  
Casper, WY 82604

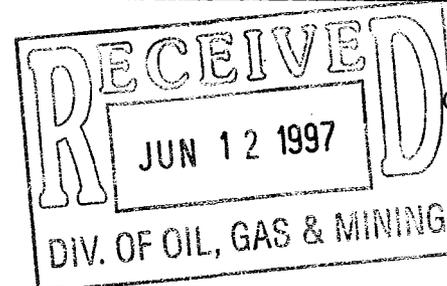
OPERATOR ACCT. NO. H7100

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
B	11890 →		43-037-31789	Knockdhu #6	NE SE	33	37S	25E	San Juan	5/11	
WELL 1 COMMENTS: <i>Entity added 6-13-97. Jec</i> Within Knockdhu Unit 75040X - Federal Lease No. UTU-065915											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

- ACTION CODES (See instructions on back of form)
- A - Establish new entity for new well (single well only)
  - B - Add new well to existing entity (group or unit well)
  - C - Re-assign well from one existing entity to another existing entity
  - D - Re-assign well from one existing entity to a new entity
  - E - Other: (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)



*Stacy A.*  
 Signature McIlnay & Associates, Inc.  
 Cons. Engineers 6-5-97  
 Title \_\_\_\_\_ Date \_\_\_\_\_  
 Phone No. (307) 265-4351

# facsimile

TRANSMITTAL

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**to:** State of Utah, Division of Oil, Gas & Mining  
**fax #:** (801) 359-3940  
**re:** Petral Exploration, LLC, Knockdhu #6, UTU-065915  
NE SE Section 33-T37S-R25E, San Juan Co., UT  
Petral Exploration, LLC, Knockando #2 RDII, UTU-043651  
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT  
**date:** June 13, 1997  
**pages:** 6, including cover sheet.

Attached are weekly drilling reports for the above referenced wells.

From the desk of...

Sharon Orr

McIlnay & Associates, Inc.  
2305 Oxford Lane  
Casper, WY 82604

307 265-4351  
Fax: 307 473-1218

Daily Drilling Report  
Petral Exploration, LLCKnockdhu #6, UTU-065915  
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**6-7-97** 27 day from spud  
**Depth:** 5863' Corr. - Cum Drlg 204 Hrs.  
**Status:** TIH Open for DP for plugging  
**Hours:** 5 ½ Tripping  
 4 Circulating  
 1 Cut Drilling Line  
 12 ½ Logging  
 1 Lay DC Down  
**BIT:** RR 4, 7/8, STC, F-3-H, SN - LJ-4628, In @ 5860', Out @ 5863' - Made 419' in 51 ¾ Hrs., Jets 13-13-13, 8.10'/Hr.  
**Mud:** Wt. 9.4, Vis 50  
**BHA:** Bit, Junk Sub, Bit Sub, 20-6½" DC, 2 jt. WP = 656.37'  
 WOB - Pump - 400 PSI, GPM 287  
 Pump #1 - 6 x 8, SPM 102 Pump #2 - 6 x 8  
**Details:** Circulated hole to raise vis. and mud wt. TOIL. Ran Schlumberger logs as follows:  
 GR-DLL-LDT-CNL-Microlog from TD to surface casing.  
 GR-BHCS from TD to base of surface casing.  
 GR-Dipmeter-B min run (200').  
 Finished logging at 3:30 a.m. 6/7/97.  
 Received OK to P&A at 4 a.m.  
 Plugging procedure OK by Gary Torres and Jeff Brown with BLM

**Log Tops:**

<b>Formation</b>	<b>Log Top</b>	
Chinle	1512'	
Shinarump	2334'	
Cutler	2490'	
Honaker Trail	4296'	
La Sal	5150'	
Ismay	5452'	
Massive Anhydrite	5488'	(36')
Ismay Mound	5524'	(76') tight
Hovenweep Shale	5600'	(35')
Lower Ismay	5635'	
Lower Ismay anhydrite	5654'	(24')
Gothic Shale	5684'	(4')
Desert Creek	5688'	
Upper Desert Creek anhydrite	5700'	(40')
Lower Desert Creek anhydrite	5772'	(7')
Lower Desert Creek mound	5779'	(15') tight
Sub Mound	5794'	(12') tight
Chimney Rock Shale	5806'	(20')
Akah	5826'	
Salt	5860'	
Total Depth	5867'	

**6-8-97** 28 day from spud  
**Depth:** 5863' Corr. - Cum Drlg 204 Hrs.  
**Status:** Plugged  
**Hours:** 2 ¼ Tripping  
 2 ¼ Circulating  
 4 WOO  
 2 BOP  
 ½ Pick Up Pipe  
 2 ½ Cementing  
 2 ¾ Lay DP Down  
 3 ¾ Clean Tanks

DAILY RE-DRILL REPORTS

Petral Exploration, L.L.C.  
#2 Knockando Unit, UTU 043651  
API 43-037-31780  
NW NE SW Sec. 19-T37S-R25E  
San Juan Co., UT

Big "A" - Rig #14  
McInay & Associates - Ken Kidneigh

Reports for work performed the day prior.

5/16/97

Road and location ready to move in. Estimate 200 bbl. fluid in reserve pit.

6/6/97

Move in Big "A" rig #14. Will RU and squeeze perms in a.m.

6-6-97

**PBD:** 5,142'                      **Perfs:** 5084 -5134' KB

**Operations:** RU Big "A" Rig #14. Set pump and tank. Blew well down to flat tank through 1/2" choke nipple. RU Dowell to squeeze perms from 5084' -5134'. Pumped 15 BW down the annulus and 10 BW down the tubing. ND tubing head and NU BOP. PU 4 jts. of 2 3/8" tubing and tagged PBD at 5142'. Rolled the hole with fresh water. Took 63 BW to fill the well then circulated until clean. Mixed and pumped 50 sks. Class "G" cement with 0.5% D-14 Fluid Loss agent. Spotted cement from 5140' - 4710'. POH to 4500' and reverse circulated the tubing clean. Shut BOP and started to squeeze the cement into the perms. displaced 1 1/4 bbls. of cement @ 1/4 - 1/2 bpm. After displacing 1 bbl. the pressure started to increase. Shut down at 2000 psig after displacing 1 1/4 bbls. of cement (8.6 sks) into the perms. The pressure decreased to 1750 psig after 10 minutes. Tried to pump again. Pressure immediately increased to 2000 psig. Shut well in with 2000 psig. RD Dowell. Estimated top of the cement plug is 4785' KB. Transferred approximately 55 BO circulated from the well to a 400 bbl. frac tank. SDFN.

6-7-97

**PBD:** 5,142'                      **Perfs:** 5084 -5134' KB

**Operations:** SICP after 16 hrs. was 1650 psig. Opened well and RIH with 2 3/8" tubing. Tagged cement at 4888' KB. Will have approximately 116' of cement to drill out. POH laying down 2 3/8" tubing. Laid down total of 161 jts. ND BOP, NU tubing head. RDMO service rig. Waiting on Rotary Tools.

6-9-97

1 day from spud  
**Depth:** 4888'  
**Status:** Pick Up and Strap Drill Collars  
**Hours:** 8      NU BOP  
7      MIRU  
6      Test BOP  
1 1/2      RU Tongs  
1 1/2      PU DC's  
**BIT:** 1, 4 3/4", HTC, SN - 541844, Jets Open  
**Mud:** Wt. 8.4, Vis 28  
**BHA:** Bit, Bit Sub, 20-4" DC, XO Sub = 595.78'  
WOB -  
Pump #1 - 4 1/2 x 16

Daily Drilling Report  
Petral Exploration, LLC

Knockdhu #6, UTU-065915  
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**6/8/97 Continued**

**Mud:** Wt. 9.4, Vis 50

**Details:** Following plugs set with Dowell. Plugs displaced with 9.4//gal mud:

160 sks 5863' - 5328' Pozmix cement

140 sks 2700' - 2623' KB Pozmix with 2% CaCl cement

WO cement 4 hrs and tagged plug at 2620' with 8000#

85 sks 1719' - 1500' Pozmix cement

15 sks 60' 0 Pozmix cement

Plugs witnessed by Jeff Brown with BLM. ND BOP. Cut off casing head and install dry hole marker. Clean mud tanks. Well has been plugged. Rig released at 2 a.m.

6/8/97. Trucks on location at 5 a.m. to move rig to Knockando #2.

**6/9/97 Continued**

**Details:** MIRU Four Corners Drilling Rig #7. NU BOP stack. Had to use 2" outlets on the tubing spool for choke and kill lines because the use of a mud cross would make the BOP stack too high to attach a flow line. Got approval from Jeff Brown to use 2" outlet with flanged adaptor for choke line. RU Quadco to pressure test BOP equipment. BOP testing witnessed by Jeff Brown with BLM. Tested pipe rams, blind rams, safety valves to 3000 psig for 10 minutes with test plug in well head. Removed test plug and tested choke line valves, kill line valves, hydrill, casing and choke manifold to 1500 psig for 30 minutes. All tested OK. RD tester and RU tongs etc. to PU 4" DC's and 2 7/8" DP. This is a new string of DP. Will have to pick up DP then TOH, TII, change breaks and then TOII and TIH so that all DP tool joints are properly doped and made up to specifications. Started to PU BHA.

**6-10-97**

2 day from spud

**Depth:** 4960' - made 72'

**Status:** Drilling Cement

**Hours:** 3 Drilling Cement  
 18 PU DP & Trip  
 1 1/2 RU Power Swivel  
 1 1/2 Change Pump Lines

**BIT:** 1, 4 3/4", HTC, SN - 541844, In @ 4888' - made 72' in 3 hrs., Jets Open, Ft/Hr 24

**Mud:** Wt. 8.4, Vis 28

**BHA:** Bit, Bit Sub, 20-4" DC, XO Sub = 595.78'  
 WOB - 6000#, RPM 80, Pump PSI 1000, GPM 152, AVDP/AVDC 259/665  
 Pump #1 - 4 1/2 x 16, SPM 102

**Details:** PU new string of drill pipe. TOH and TIH redoping and torquing the DP. Change the break joint on the DP and TOII and TIH redoping and torquing the DP (mandatory the first time new DP is used). RU power swivel and changed pump liners to 4 1/2". Started drilling cement. No problems.

**6-11-97**

3 day from spud

**Depth:** 5030' - made 70'

**Status:** Milling Window in 5 1/2" Casing.

**Hours:** 1 1/4 Drilling Cement  
 14 1/2 Tripping  
 5 Gyro Survey & Set Whipstock  
 1 Circulating  
 1/2 Mill Casing  
 1 3/4 Set CIBP

**BIT:** 1, 4 3/4", HTC, SN - 541844, In @ 4888', Out @ 5030' - made 142' in 4 1/4 hrs., Jets Open, 33.4/hr.

**Surveys:** Gyro Survey

MD	Angle	Dir.	TVD	N+S-	E1/W-	Closure	Direction
4974.8	1.22	24.16	4974.24	29.20	11.90	31.54	22.17

**Mud:** Wt. 8.4, Vis 28

**BHA:** Window mill, Watermelon mill, Bit sub, 1 jt. 2 7/8" DP, XO sub, 20-4" DC, XO - 630.33'  
 WOB - 3000#, RPM 50, Pump PSI 1000, GPM 152, AVDP/AVDC 259/665  
 Pump #1 - 4 1/2 x 16, SPM 102

**Details:** Drilled cement to 5030' KB (driller). TOH. RU Schlumberger to set CIBP. Ran junk basket and gauge ring to 5023' KB (log). Correlated to open-hole GR-CNL and cased-hole GR-CCL. Set CIBP at 5010' KB log depth. RD Schlumberger. RU Scientific Drilling. PU Weatherford bottom-trip whipstock and starting mill and Scientific Drilling oriented sub. Oriented sub to whipstock and TIH. Stopped above CIBP and ran Gyro survey. Oriented to 28° with Gyro and set whipstock with top @ 4998' KB (log depth). Milled 18" with starting mill. Circulated hole clean and tripped for window mill. Milling window in 5 1/2" casing with no problems.

**6-12-97** 4 day from spud  
**Depth:** 5033' - made 33' in 3½ hrs.  
**Status:** LD Gyro, PU Steering Tool  
**Hours:** 3 ½ Drilling  
 6 ¼ Tripping  
 ½ Circulating  
 10 Mill Window  
 1 ¼ LD Drill Pipe  
 2 ½ PU BHA

**BIT:** 1, 4¾", HTC, SN - 541844, In @ 4888', Out @ 5030' - made 142' in 4¼ hrs., Jets 15-15-15, T1-B1-In gauge, 33.4'/hr.  
 2, 4¾", STC, MFP37P, SN - LM-8257, In @ 5008' - made 25' in 3½ hrs., Jets 15-15-15, 7.1'/hr.

**Surveys:** Gyro Survey

MD	Angle	Dir.	TVD	N+S-	E+W-	Closure	Direction
5006	2.6	36.2	5005.2	30	12	32.39	22.79
5013	4.4	44.4	5012.2	30.18	12.83	32.79	23.03

**Mud:** Wt. 8.7 Vis 28  
**BHA:** Bit, 3° motor, 2-Monel DCs, 30 Jts. PH6 27/8" tubing, XO, 4 Jts. DP, XO, 20-4" DCs, XO - 1709.55'  
 WOB - 4-6000#, RPM 265, Pump PSI 1300/1350, GPM 145, AVDP/AVDC 227/583  
 Pump #1 - 4½ x 16, SPM 102

**Details:** Finished milling window in 5½" casing. Mill was approximately 3.5' outside the casing at end of job. Smooth window. Circulated the hole clean. TOH. LD mills. PU BHA to build 145' radius curve. Dumped pits and filled with produced water mixed with fresh water. T111. Oriented motor with gyro. Began building curve. At 5033' MD changed from Gyro to steering tool/MWD GR. No problems.

**6-13-97** 5 day from spud  
**Depth:** 5089' - made 56' in 8 hrs.  
**Status:** Work on Steering Tools  
**Hours:** 4 ½ Drilling  
 5 ½ Tripping  
 ¼ Surveying  
 11 ½ Repair Steering Tools  
 2 ¼ Change BHA

**BIT:** 2, 4¾", STC, MFP37P, SN - LM-8257, In @ 5008' - made 81' in 8 hrs., Jets 15-15-15, 10'/hr.

**Surveys:** Gyro Survey

MD	Angle	Dir.	TVD	N+S-	E+W	Closure	Direction
5006	2.6	36.2	5005.2	30	12	32.39	22.79
5013	4.4	44.4	5012.2	30.18	12.83	32.79	23.03
5036	12.1	46.9	5034.9	33	15	36.25	24.44
5067	23.3	60.4	5064.4	38	23	44.42	31.18

**Mud:** Wt. 8.7 Vis 28  
**BHA:** Bit, 3° motor w/4 11/16" offset 0.15" stabilizer, 2-Monel DCs, 30 Jts. PH6 27/8" tubing, XO, 4 Jts. DP, XO, 20-4" DCs, XO = 1709.55'  
 WOB - 4-6000#, RPM 265, Pump PSI 1300/1350, GPM 137, AVDP/AVDC 233/507  
 Pump #1 - 4½ x 16, SPM 92

**Details:** Steering tool went down. Shut down for 5 hrs. trying to repair steering tools. Drilled to 5057' and steering tool went down again. 3 hrs. to repair steering tools. Drilled to 5089'. Pumped polymer sweep to clean hole. Angle is not building fast enough. TOH and change BHA for greater build. T1H. Work on steering tools. NOTE: As of 7:00 a.m. tools were working again. Strip logging GR.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE\*

(See other In-  
structions on  
reverse side)

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other \_\_\_\_\_

b. TYPE OF COMPLETION:  
NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. RESVR.  Other \_\_\_\_\_

2. NAME OF OPERATOR  
Petral Exploration, LLC

3. ADDRESS OF OPERATOR c/o McIlnay & Associates, Inc.  
2305 Oxford Lane, Casper, WY 82604

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface  
NE SE Sec. 33-T37S-R25E, 1813' FSL and 492' FEL  
At top prod. interval reported below  
NA  
At total depth  
Same

14. PERMIT NO. 43-037-31789  
DATE ISSUED

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5. LEASE DESIGNATION AND SERIAL NO.  
UTU-065915

6. IF INDIAN ALLOTTEE OR TRIBE NAME  
NA

7. UNIT AGREEMENT NAME  
Knockdhu Unit 75040X

8. FARM OR LEASE NAME  
Knockdhu Unit

9. WELL NO.  
6

10. FIELD AND POOL, OR WILDCAT  
Unnammed

11. SEC. T. R., M., OR BLOCK AND SURVEY OR AREA  
Sec. 33-T37S-R25E

12. COUNTY OR PARISH San Juan  
13. STATE UT

15. DATE SPUNDED 5-11-97  
16. DATE T.D. REACHED 6-4-97  
17. DATE COMPL. (Ready to prod.) P & A 6-7-97  
18. ELEVATIONS (DF. RKB, RT, GR, ETC.)\* 5407' KB 5395' GL  
19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 5863' DRLR  
21. PLUG, BACK T.D., MD & TVD Surface  
22. IF MULTIPLE COMPL., HOW MANY\*  
23. INTERVALS DRILLED BY ROTARY TOOLS CABLE TOOLS  
0 - 5863'

24. PRODUCING INTERVAL(S). OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*  
25. WAS DIRECTIONAL SURVEY MADE  
No

26. TYPE ELECTRIC AND OTHER LOGS RUN  
GR-DLL-LDT; GR-BHCS; GR-Dipmeter  
MICROLOGS 6-11-97  
27. WAS WELL CORED  
Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#/ft.	1620'	12 1/4"	775 sks.	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

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PERIOD  
EXPIRED  
ON 7-14-98

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33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
		Plugged

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY—API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

35. LIST OF ATTACHMENTS

**RECEIVED**  
TEST WITNESSED BY  
JUN 24 1997  
DIV. OF OIL, GAS & MINING

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records  
McIlnay & Associates, Inc.  
SIGNED *[Signature]* TITLE Consulting Engineers DATE 6-10-97

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
			Core #1 - 5529 - 5589' - 60' Upper Ismay	Log Tops		
				Chinle	1512	
				Shinnarump	2334	
				Cutler	2490	
				Honaker Trail	4296	
				LaSale	5150	
				Ismay	5452	
				Ismay Mound	5524	
				Hovenweep	5600	
				Lower Ismay	5635	
				Low. Ismay Anh	5654	
				Gothill	5684	
				Desert Creek	5688	
				U.D.C. Anhy	5700	
				L.D.C. Anhy	5772	
				L.D.C. mound	5779	
				Chimney Rock Sh	5806	
				Akah	5826	
				Salt	5860	

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02-Jun-1997

©EASTMAN CHRISTENSEN  
0 MINIMUM CURVATURE  
OSURVEY CALCULATIONS

OPERATOR:PETRAL  
WELL NAME:KNOCKDHU #6  
UNITS:FEET

MEAS. DEPTH	DRIFT	DIRECTION		TVD	VERTICAL SECTION	DLS	NORTH SOUTH	EAST WEST
		QUADRANT	AZIMUTH					
0.00	0.00	N00.00E	0.00	0.00	0.00	0.00	0.00N	0.00E
2124.00	0.75	S74.00W	254.00	2123.94	0.00	0.04	3.83S	13.36W
2751.00	0.25	S32.00W	212.00	2750.92	0.00	0.09	6.12S	18.03W
3216.00	1.00	S43.00E	137.00	3215.89	0.00	0.21	9.95S	15.80W
3716.00	0.75	N72.00E	72.00	3715.84	0.00	0.19	12.13S	9.71W
4217.00	0.75	N85.00E	85.00	4216.80	0.00	0.03	10.83S	3.33W
4718.00	1.00	S80.00E	100.00	4717.74	0.00	0.07	11.31S	4.24E

BOTTOM HOLE LOCATION

Closure Distance 12.07 Feet  
Closure Direction S20.57E  
Closure Azimuth 159.43 Degrees

**Log Tops:**

<u>Formation</u>	<u>Log Top</u>	
Chinle	1512'	
Shinarump	2334'	
Cutler	2490'	
Honaker Trail	4296'	
La Sal	5150'	
Ismay	5452'	
Massive Anhydrite	5488'	(36')
Ismay Mound	5524'	(76') tight
Hovenweep Shale	5600'	(35')
Lower Ismay	5635'	
Lower Ismay anhydrite	5654'	(24')
Gothic Shale	5684'	(4')
Desert Creek	5688'	
Upper Desert Creek anhydrite	5700'	(40')
Lower Desert Creek anhydrite	5772'	(7')
Lower Desert Creek mound	5779'	(15') tight
Sub Mound	5794'	(12') tight
Chimney Rock Shale	5806'	(20')
Akah	5826'	
Salt	5860'	
Total Depth	5867'	

REPORT OF WATER ENCOUNTERED DURING DRILLING

1. Well name and number: Knockdhu #6

API number: 43-0037-31789

2. Well Location: QQ NE SE Section 33 Township 37S Range 25E County San Juan

3. Well operator: Petral Exploration, LLC  
c/o McIlnay & Associates, Inc.

Address: 2305 Oxford Lane,

Casper, WY 82604

Phone: (307) 265-4351

4. Drilling contractor: Four Corners Drilling Co.

Address: P. IO. Box 1067

Farmington, NM 87499

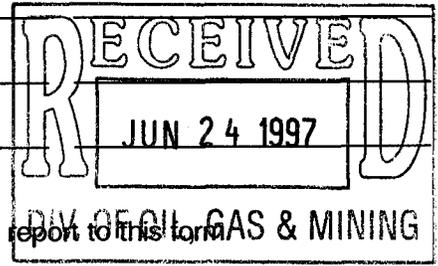
Phone: ( 505) 326-3371

5. Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
@ 2884'		1" flow	Salty Water

6. Formation tops: See attached

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge.

Name & Signature: *Edward W. McIlnay*

Date: June 12, 1997  
McIlnay & Associates, Inc.  
Title: Consulting Engineer

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

5. Lease Designation and Serial No.

UTU-065915

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

Knockdhu Unit 75040X

8. Well Name and No.

Knockdhu Unit #6

9. API Well No.

43-037-31789

10. Field and Pool, or Exploratory Area

Unnamed

11. County or Parish, State

San Juan, UT

**SUBMIT IN TRIPLICATE**

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

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

NE SE Sec. 33-T37S-R25E, 1813' FSL & 492' FEL

**CONFIDENTIAL**

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

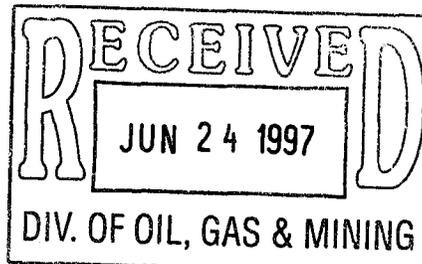
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Well was spudded 5/11/97 with a 12 1/4" hole. 8 5/8" surface casing was set @ 1620' and cemented in place w/775 sks. cement. Well was drilled to T.D. @ 5863' with a 7 7/8" hole. No zones of commercial quantities of oil and/or gas were encountered. Decision was made and verbal permission granted to P & A as follows:

160 sks. 5863 - 5328'  
140 sks. 2700 - 2623' tag plug  
85 sks. 1719 - 1500'  
15 sks. 60 - 0'

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

Signed

*[Signature]*

McIlnay & Associates, Inc.

Title Consulting Engineers

Date

6-10-97

(This space for Federal or State office use)

Approved by \_\_\_\_\_

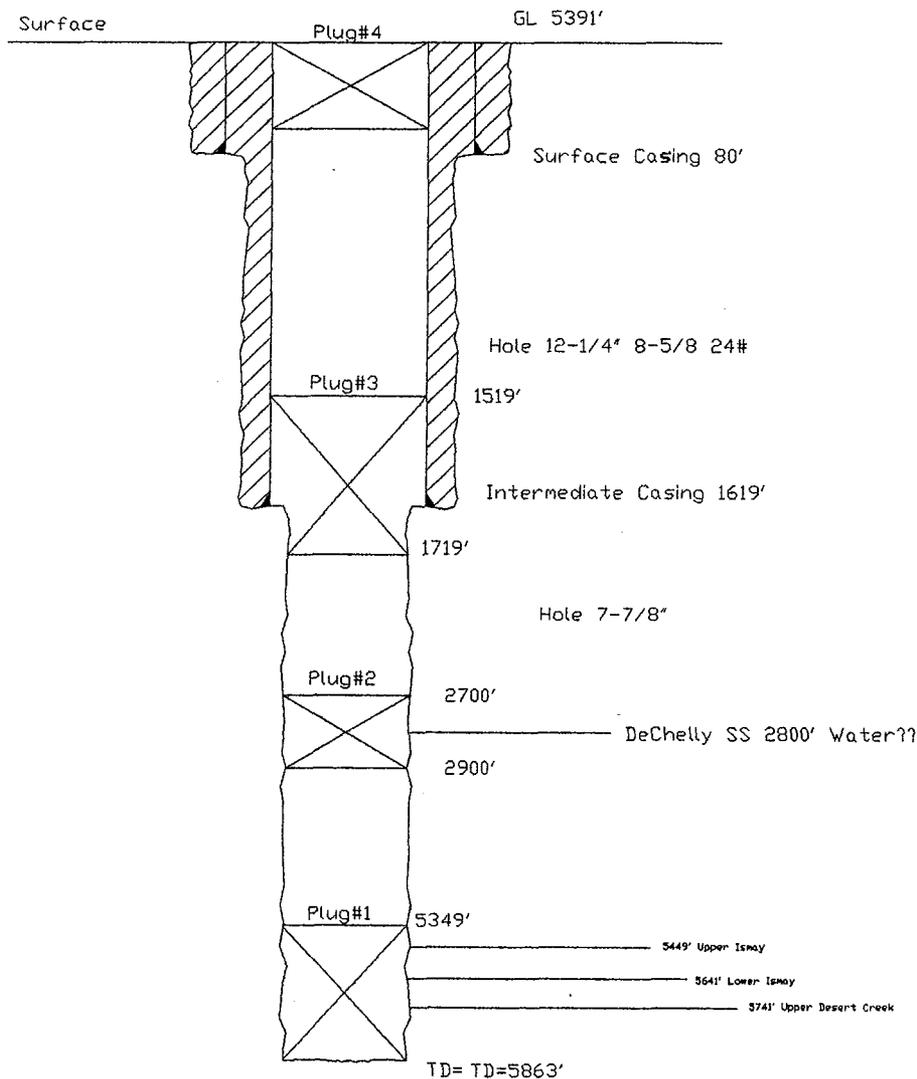
Title \_\_\_\_\_

Date \_\_\_\_\_

Conditions of approval, if any:

# Plugging Order

## Bureau of Land Management Moab District



Lease Number U-65915  
 Well Number: Knockdhu #6  
 Location: NESE Sec 33, T37S R25E  
 Operator: Petral Exploration, LLC

Cement Type: A or B neat

Other Instructions: \_\_\_\_\_

Tag plug #2 on drawing

9ppg mud placed between all plugs

\_\_\_\_\_  
 Depths based on information from Larry Miller, prior to logging.

Date: June 6, 1997

Prepared by: G. Torres

*4/6/97 G. Torres*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

5. Lease Designation and Serial No.

UTU-065915

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

Knockdhu Unit 75040X

8. Well Name and No.

Knockdhu Unit #6

9. API Well No.

43-037-31789

10. Field and Pool, or Exploratory Area

Unnamed

11. County or Parish, State

San Juan, UT

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

Petral Exploration, LLC

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CONFIDENTIAL

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	<input type="checkbox"/> Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Well was plugged and abandoned 6-7-97 as follows utilizing 9.4#/gal mud ladden fluid.

160 sks. 5863 - 5328'

140 sks. 2700 - 2623' WOC 4 Hrs. & tagged plug @ 2620' w/8000#.

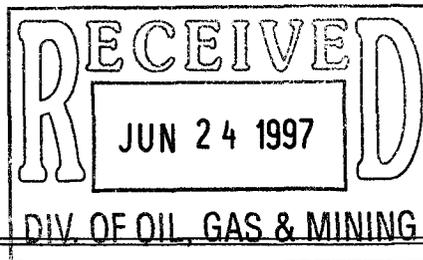
85 sks. 1719 - 1500'

15 sks. 60 - 0' w/marker at surface

Plugs were witnessed by Jeff Brown, BLM.

Location will be cleaned and restored as per NTL instructions. Notification will be given for final inspection and bond release.

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

Signed

*[Signature]*

McIlnay & Associates, Inc.

Title Consulting Engineers

Date 6-10-97

(This space for Federal or State office use)

Approved by \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

Conditions of approval, if any: