

7900 Moorsbridge Road  
Kalamazoo, MI 49024  
Phone: (616) 324-3390  
Fax: (616) 324-1294

# Miller Energy, Inc.

## FAX

<b>To:</b> Mike Hebertson	<b>From:</b> Don Lehman
<b>Company:</b> Utah O&G Division	<b>Date:</b> January 8, 1998
<b>Fax:</b> 801-359-3940	<b>Pages:</b> 2
<b>Phone:</b>	<b>CC:</b>
<b>Re:</b> Horse Canyon Fed 1-10 APD	

Urgent     For Review     Please Comment     Please Reply     Please Recycle

• **Comments:**

Attached is a copy of the recently issued APD for the above referenced well. Thanks again for your help.

Regards.  
Don Lehman  
Exploration Mgr

(December 1990)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUBMIT IN THIS MANNER (Other instructions reverse side)

Form approved. Budget Bureau No. 1004-0136 Expires: December 31, 1991

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1. TYPE OF WORK: DRILL [X] DEEPEN [ ]
2. NAME OF OPERATOR: Miller Energy Inc.
3. ADDRESS AND TELEPHONE NO.: 7900 Moorsbridge Road, Kalamazoo, MI 49002 (616) 324-3390
4. LOCATION OF WELL: 2,540' FNL, 508' FEL (SE/4, SE/4, NE/4 Sec 10, T38S R23E)
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: 11 miles southeast of Blanding, UT
16. NO. OF ACRES IN LEASE: 1674.79
17. NO. OF ACRES ASSIGNED TO THIS WELL: 160
20. METHOD OF CABLE TOOLS: Rotary
22. APPROX. DATE WORK WILL START: November 24, 1997

PROPOSED CASING AND CEMENTING PROGRAM table with columns: SIZE OF HOLE, CASE SIZE OF CASING, WEIGHT PER FOOT, SETTING DEPTH, QUANTITY OF CEMENT. Includes rows for 17 1/2", 12 1/4", and 7 7/8" hole sizes.

See attached Drilling Program and Surface Use Plan.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided for by Miller Energy Inc. underal Federal statewide bond #UT1092.

Miller Energy Inc. will be responsible for compliance with all of the lease conditions for that portion of the lease associated with this application.

A Utah Spacing Exception, if necessary, will be applied for separately.

CONDITIONS OF APPROVAL ATTACHED

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A Dated 1/1/80

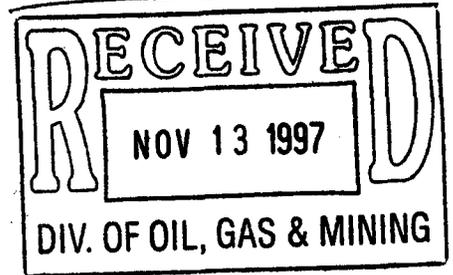
IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zones and proposed new productive zones. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout prevention program,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

SIGNED: DAVID T. BANKO Agent for Miller Energy, Inc. DATE: November 12, 1997

PERMIT NO. APPROVAL DATE Assistant Field Manager, Resource Management APPROVED BY: [Signature] TITLE: ADM-Resources DATE: 1/6/98

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

BANKO  
PETROLEUM  
MANAGEMENT INC.



November 12, 1997

Federal Express

Ms. Kate Kitchell  
Bureau of Land Management  
Moab District Office  
82 E. Dogwood  
Moab, UT 84532

RE: Application for Permit to Drill  
Miller Energy, Inc.  
Horse Canyon Federal 1-10  
2,540' FNL 508' FEL (SE/4 SE/4 NE/4)  
Sec. 10 T38S R23E  
San Juan County, Utah  
Fed. Lse. #UTU-76283

Dear Ms. Kitchell:

Enclosed please find three (3) original copies of the Application for Permit to Drill, filed on behalf of Miller Energy, Inc. for the above captioned well. A copy has been sent directly to Mr. Jeff Brown in the Monticello BLM office. Separately, we have sent two copies of this application to the Utah Department of Natural Resources, Division of Oil, Gas and Mining in Salt Lake City. We understand that a Utah filing fee is not required.

The Federal Designation of Agent (for Permitting) was submitted to the Moab office of the BLM and is on file.

Upon approval of this permit, please send one approval copy directly to Miller Energy, Inc. in Kalamazoo and keep one in your office to be picked up by the dirt contractor for use on location.

If there are any questions or additional requirements, please immediately contact Don Lehman at Miller Energy, Inc. (616) 324-3390 ext. 233 or the permit agent, David F. Banko at (303) 820-4480 ext. 12, fax (303) 820-4124. Your early approval of this permit is greatly appreciated, thank you for your concern.

Very truly yours,

David F. Banko  
Agent for Miller Energy, Inc.

DFB:rk

Enclosure

cc: Utah Division of Oil, Gas and Mining  
Miller Energy, Inc.  
Bureau of Land Management, Monticello Resource Area

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK  
 DRILL  DEEPEN

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 Miller Energy Inc.

3. ADDRESS AND TELEPHONE NO.  
 7900 Moorsbridge Road, Kalamazoo, MI 49002 (616) 324-3390

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface 2,540' FNL, 508' FEL (B/M/A, SE/4, NE/4 Sec 10, T38S R23E)  
 At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Sec 10, T38S, R23E SLM

12. COUNTY OR PARISH 13. STATE  
 San Juan UT

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 11 miles southeast of Blanding, UT

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)  
 508' LSE

16. NO. OF ACRES IN LEASE  
 1674.79

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 160

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

19. PROPOSED DEPTH  
 6,250'

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5,335' GR

22. APPROX. DATE WORK WILL START\*  
 November

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" J55	54.4#	250'	To surface w/ ±210 sxs
12 1/4"	9 5/8" J55	36#	2,250'	To surface w/ ±400 sxs LITE & ±100 sx "B"
7 7/8"	5 1/2" J55	15.5#	TD	TD to 500' above producing zone w/ ±400 sx LITE & 200 sx C1 "B"

See attached Drilling Program and Surface Use Plan.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided for by Miller Energy Inc. underal Federal statewide bond #UT1092.

Miller Energy Inc, will be responsible for compliance with all of the lease conditions for that portion of the lease associated with this application.

A Utah Spacing Exception, if necessary, will be applied for separately.

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

24. SIGNED David F. Banko TITLE Agent for Miller Energy, Inc, DATE November 12, 1997

(This space for Federal or State office use)

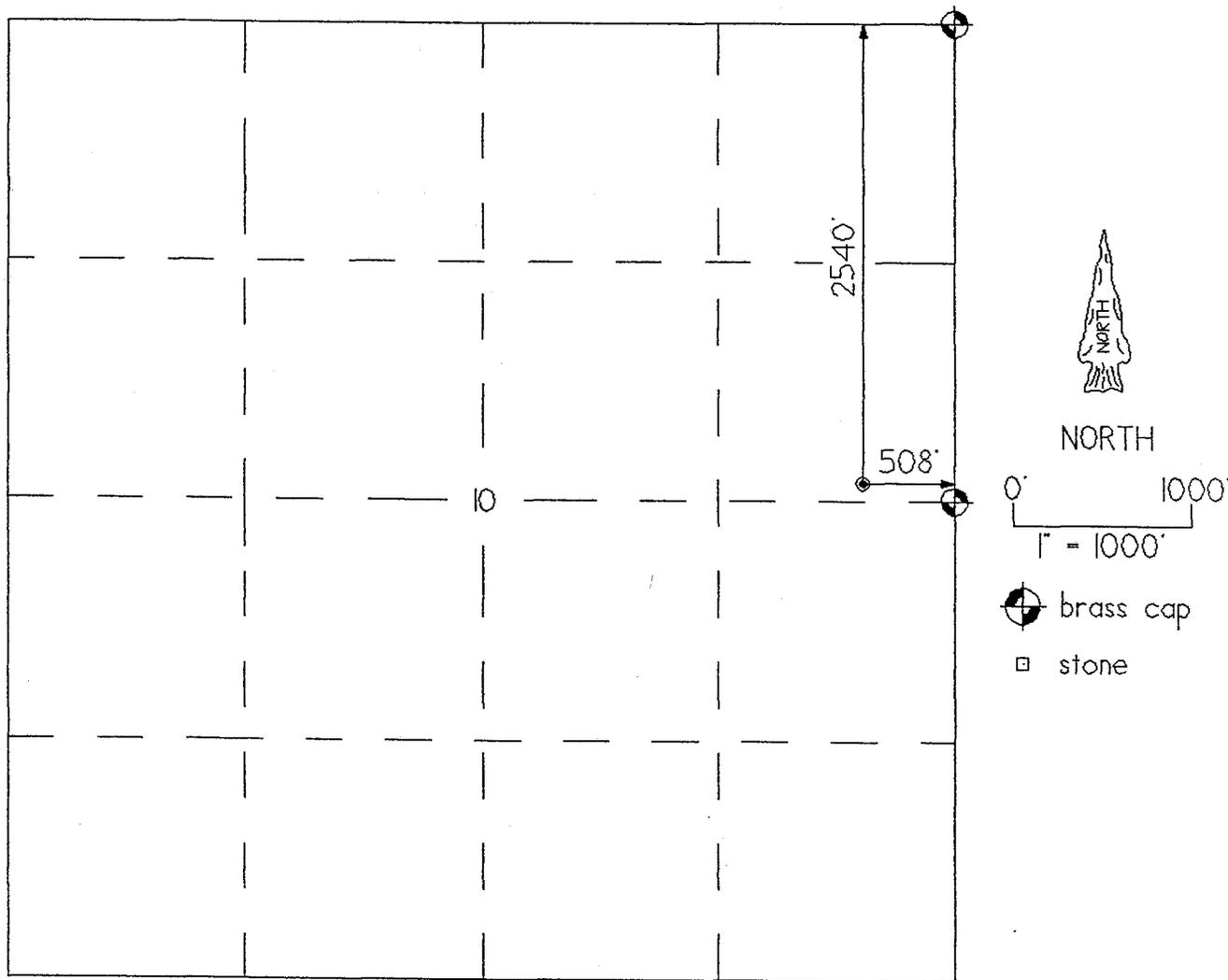
PERMIT NO. 43-037-31796 APPROVAL DATE \_\_\_\_\_

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
 CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY John R. Baya TITLE Associate Director Utah DOGM DATE 1/29/98

\*See Instructions On Reverse Side

Well Location Plat



Well Location Description

MILLER ENERGY, INC.  
Horse Canyon Federal H-0  
2540' FNL & 508' FEL  
Section 10, T.38 S., R.23 E., SLM  
San Juan County, UT  
5335' grd. el.  
state plane : 309.761 N & 2.618.325 E (NAD 27)



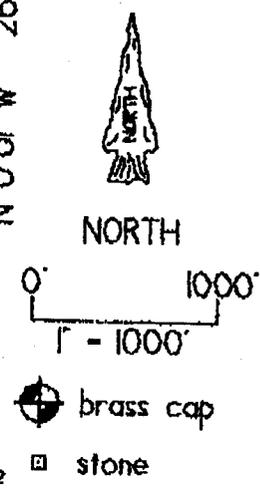
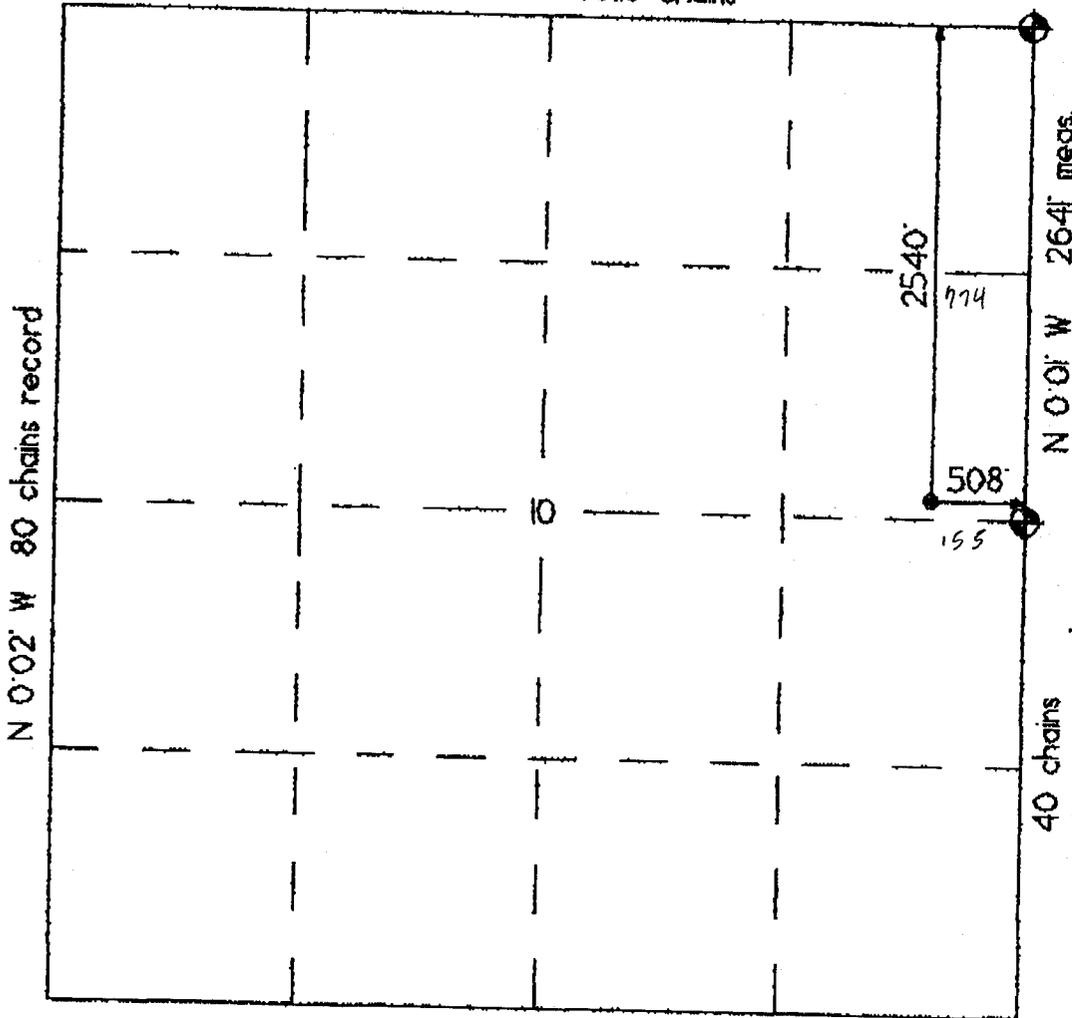
16 October 1997

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

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

Well Location Plat

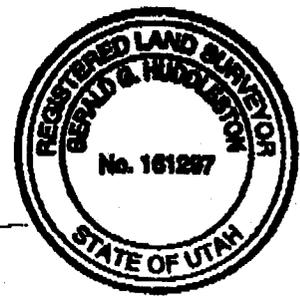
S 89°50' W 80.10 chains



S 89°54' W 79.94 chains

Well Location Description

MILLER ENERGY, INC.  
 Horse Canyon Federal H-10  
 2540' FNL & 508' FEL  
 Section 10, T.38 S., R.23 E. SLM  
 San Juan County, UT  
 5335' grd. el.  
 state plane : 309.761 N & 2,618.325 E (NAD 27)

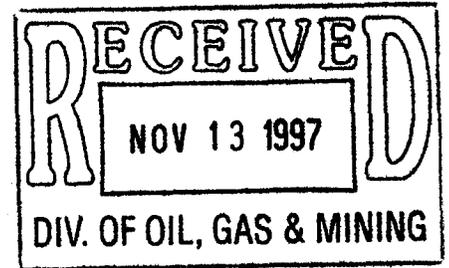


16 October 1997

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

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

BANKO  
PETROLEUM  
MANAGEMENT INC.



Mr. Mike Hebertson  
State of Utah - Department of Natural Resources  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-5801

November 11, 1997

RE: Well Spacing Exception  
Application for Permit to Drill  
Miller Energy, Inc.  
Horse Canyon Federal 1-10  
2,540' FNL 508' FEL (SE/4 SE/4 NE/4)  
Sec. 10 T38S R23E  
San Juan County, Utah  
Fed. Lse. #UTU-76283

Dear Mr. Hebertson:

Enclosed please find a survey plat and land map from Miller Energy, Inc. which shows the lease picture at the above captioned wellsite. The well location is 559' south and 153' east of the center of the SE/4 NE/4, also 101' from the south 1/4 1/4 section line of the SE/4 NE/4 of section 10. However, the lease is contiguous into the NE/4 SE/4 Section 10 and is held by jointly by Miller Energy, Inc and its partner Westec Energy. A letter of concurrence between Miller Energy, Inc. and Westec Energy is also enclosed. The well location is greater than 460' from all lease boundaries as shown on the enclosed map.

The need for an Exception to Rule R649-3-2 (Location and Siting of Wells) is that the well is located on a 3-D seismic feature.

If there are any questions or additional requirements, please immediately contact Don Lehman at Miller Energy, Inc. (616) 324-3390 ext 233 or the permit agent, David F. Banko at (303) 820-4480 ext. 12, fax (303) 820-4124. Your early approval of this permit is greatly appreciated, thank you for your concern.

Very truly yours,

A handwritten signature in dark ink, appearing to read "D. F. Banko".

David F. Banko  
Agent for Miller Energy, Inc.

DFB:jb

Enclosure

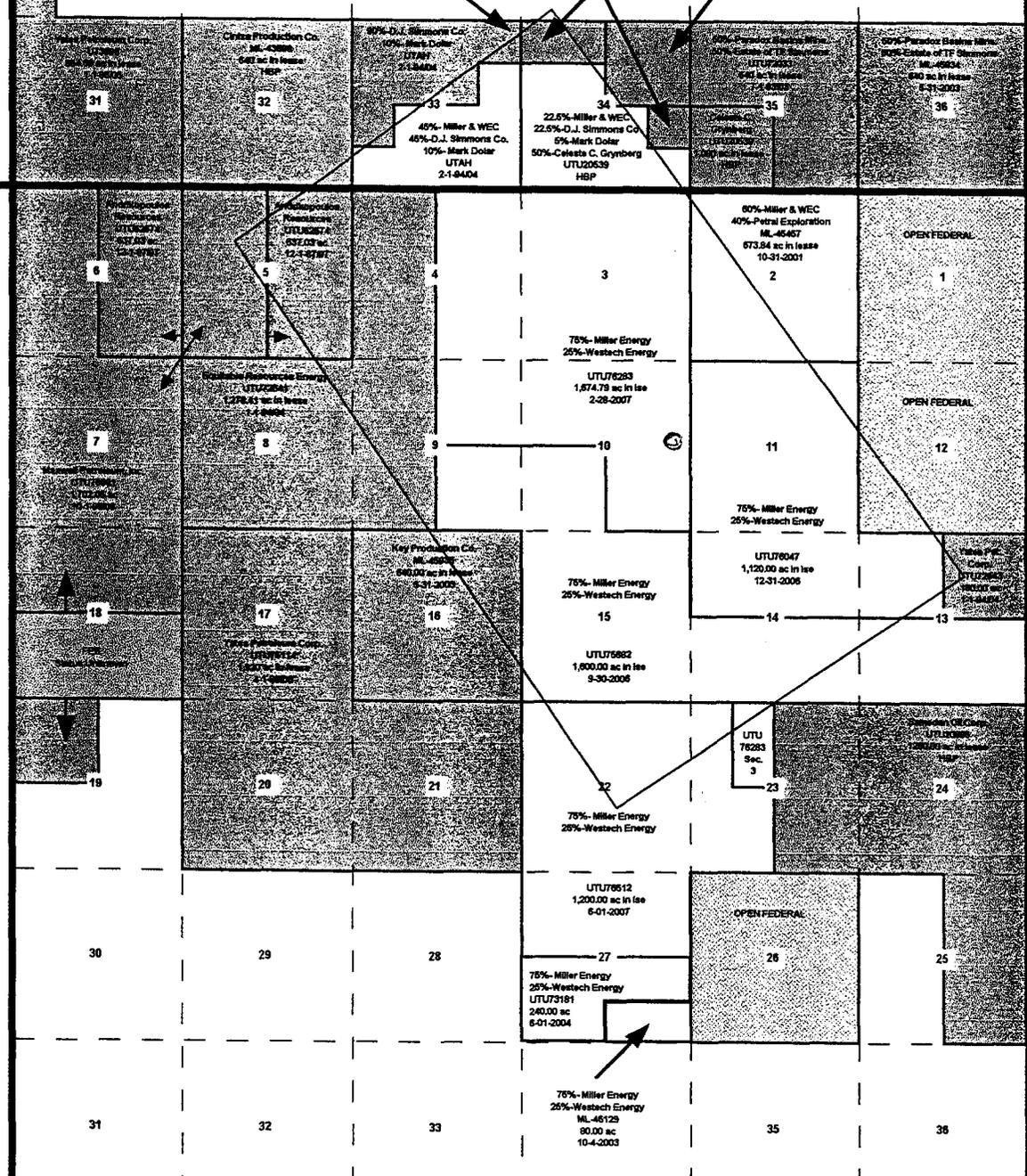
cc: Bureau of Land Management - Moab District  
Miller Energy, Inc.

R23E

3-D Seismic Survey Outline

T 37 S

T 38 S



-  Miller/Westech (Leased Federal)
-  Miller/Westech (EARNED SEISMIC)
-  Leased Federal
-  Leased State
-  Fee
-  Open Federal for Comp Sale

**Miller Energy, Inc.**

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**Blanding Area  
San Juan County, Utah  
Lease Ownership**

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Prepared by J. Sullivan 6-6-97



October 3, 1997

Tom Williams  
Westech Energy Corp.  
4643 S. Ulster St., Suite 1190  
Denver, CO 80237

*cc: Mike  
Bent/WF*

*North  
Cochise*

RE: Blanding, proposed location  
San Juan Co., Utah

*Horse Canyon Fed 1-10*

Dear Tom,

Attached is a plat and prognosis for the first planned location at our Blanding project. It falls on line #1069, trace #116 on our interpretation. The State plane coordinates are X: 2618190 and Y: 309759. Please confirm this with your interpretation; sign and return one copy of this letter if Westech is in agreement with the above.

The surveyor should be in the field Monday or Tuesday the week of Oct 6<sup>th</sup>, to stake the location and permitting will proceed as soon as possible after that.

Sincerely,

*Donald D. Lehman*  
Donald D. Lehman  
Exploration Manager

Agreed this Date: 10-6, 1997.

By: D. P. Andrews Title: V.P., Land

D. P. Andrews, Vice President, Land

WESTECH ENERGY CORPORATION  
4643 S. Ulster St., Suite 1190  
Denver, CO 80237

cc: Mike Miller

BANKO  
PETROLEUM  
MANAGEMENT INC.

Ms. Kate Kitchell  
Bureau of Land Management  
Moab District Office  
82 E. Dogwood  
Moab, UT 84532

November 11, 1997

RE: Notifications Regarding Wellsite Spacing to Accompany  
Application for Permit to Drill  
Miller Energy, Inc.  
Horse Canyon Federal 1-10  
2,540' FNL 508' FEL (SE/4 SE/4 NE/4)  
Sec. 10 T38S R23E  
San Juan County, Utah  
Fed. Lse. #UTU-76283

Dear Ms. Kitchell:

Enclosed please find copies of the Exception to Utah State Spacing justification letter for the above captioned wellsite, filed on behalf of Miller Energy, Inc.

If there are any questions or additional requirements, please immediately contact Don Lehman at Miller Energy, Inc. (616) 324-3390 ext 233 or the permit agent, David F. Banko at (303) 820-4480 ext. 12, fax (303) 820-4124. Thank you for your concern.

Very truly yours,



David F. Banko  
Agent for Miller Energy, Inc.

DFB:jb

Enclosure

cc: Miller Energy, Inc.

# MILLER ENERGY, INC.

October 8, 1997

Ms. Kate Kitchell  
Bureau of Land Management  
Moab District Office  
82 E. Dogwood  
Moab, UT 84532

RE: Drilling Permit and Right of Way  
Authorized Agency – Utah

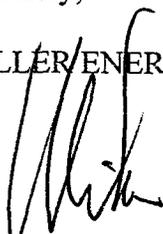
Dear Ms. Kitchell:

Miller Energy, Inc. hereby designates Banko Petroleum Management, Inc. c/o David F. Banko, Tim Kelly and Keith Dana as authorized agents for matters relative to Applications for Permits to Drill, Right of Way, Access Agreements and regulatory matters associated with Miller Energy, Inc.'s oil and gas drilling, completion and production activities in the State of Utah.

Should you have any questions relative to this authorization, please feel free to contact the undersigned at your convenience.

Sincerely,

MILLER ENERGY, INC.



Michael J. Miller  
President

Cc: Banko Petroleum Management, Inc.

Miller Energy, Inc.  
Horse Canyon Federal 1-10  
2,540' FNL 508' FEL (SE/4 SE/4 NE/4)  
Sec. 10 T38S R23E  
San Juan County, Utah  
Fed. Lse. #UTU-76283

### DRILLING PROGRAM

All operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil & Gas Orders, the approved plan of operations and the conditions of approval. The operator is fully responsible for the actions of its subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

#### BLM Notifications

Notify Jeff Brown of the Monticello BLM Field Office in Monticello, Utah, at (801) 587 1525. 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 hours advance notice and prior approval. In the case of newly drilled by 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

SURFACE ELEVATION - 5,335'

SURFACE FORMATION - Morrison - Fresh water intervals possible to 250'.

ESTIMATED FORMATION TOPS (Water, oil, gas and/or other mineral-bearing formations).

Morrison		
Entrada	1,050'	Sandstone, shales & siltstones, some water bearing
Navajo	1,720'	Sandstone, shales & siltstones, some water bearing
Chinle	2,250'	Shales & siltstones
Cutler	3,120'	Sandstone, shales & siltstones, some water bearing
Honaker		
Trail	4,330'	Sandstone, shales & siltstones, some water bearing
Upper Ismay	5,830'	Anhydrite and limestones
Hoverweep	5,950'	Shale
Shale		

## DRILLING PROGRAM

Lower Ismay	5,980'	Dolomites, limestones and anhydrite, some water oil and/or gas bearing
Gothic Steele	6,035'	Shale
Desert Creek	6,125'	Dolomites, limestones and anhydrite, some water oil and/or gas bearing
Chimney	6,150'	Shale
Rockshale		
Akah	6,170'	Limestones and anhydrites, some water oil and/or gas bearing

TOTAL DEPTH 6,250'

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and will be cased and cemented. When possible, water flow rates will be measured, and samples taken and analyzed with the results being submitted to BLM. All oil and gas shows will be tested to determine commercial potential.

CASING PROGRAM

Depth	Hole Dia.	Cas. Dia.	Casing Wt. & Grd.	Cement (See below)
0 - 250' (Conductor)	17 1/2"	13 3/8"	J-55 54.4# STC New	To surface (±210 sxs "G")
0 - 2,250' (Surface Csg)	12-1/4"	9-5/8"	J-55 36# LTC New L-80 72# STC New	To surface (±400 sxs Lite ±100 sxs "B"neat)
0'-TD (Prod. Csg)	7-7/8"	5-1/2"	J-55 15.5# LTC New	TD to 500' above prod zone (±400 sx lite, ±200 sx Cl "B")

NOTE: Actual Production Casing cement volumes to be based on geological top of the highest potentially productive zone and on actual hole volumes as calculated from electric logs.

PRESSURE CONTROL (See attached schematic diagram)

BOP's and choke manifold will be installed and pressure tested before drilling out under surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating condition. BOP's will be pressure tested at least once every 30 days. Ram type preventors and related pressure control equipment will be pressure tested to rated working pressure of the stack assembly if a test plug is used. If a plug is not used, the stack assembly will be tested to the rated working pressure of the stack assembly or to 70% of the minimum internal yield of the casing, whichever is less. Annular type preventors will be pressure tested to 50% of their rated working pressure. All casing strings will be pressure tested to 0.22 psi/ft. or 1500 psi, whichever is greater, not to exceed 70% of internal yield.

MUD PROGRAM

0' - 250'	Spud mud
250 - 2,250	Spud mud - water flows possible. Weight to be maintained with production brine water or barite if necessary
2,250' - TD	Low Solids with PHPA Mud Weight 8.4 to 8.9 ppg Vis 28 -50 sec W.L. 15cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at wellsite. (Note: Possibility of 8.9 ppg mudweight is based on typical mud properties, not on anticipated pressure.)

AUXILIARY EQUIPMENT

- A) Upper kelly cock
- B) Inside BOP or stab-in valve (available on rig floor)
- C) Mud monitoring will be visually observed.

LOGGING, CORING, TESTING PROGRAM

- A) Logging: DLL-SFL-GR - TD to base of surface casing  
CNL-FDC-GR - TD to base of surface casing
- B) Coring: None
- C) Testing: Possible DST - Cutler Fm. Drill Stem tests may be run on shows of interest.

ABNORMAL CONDITIONS

- A) Pressures: No abnormal conditions are anticipated. Cutler/Ismay/Desert Creek pressure gradient - 0.40 psi/ft
- B) Temperatures: No abnormal conditions are anticipated
- C) H2S: None anticipated
- D) Estimated bottomhole pressure: 2,687 psi

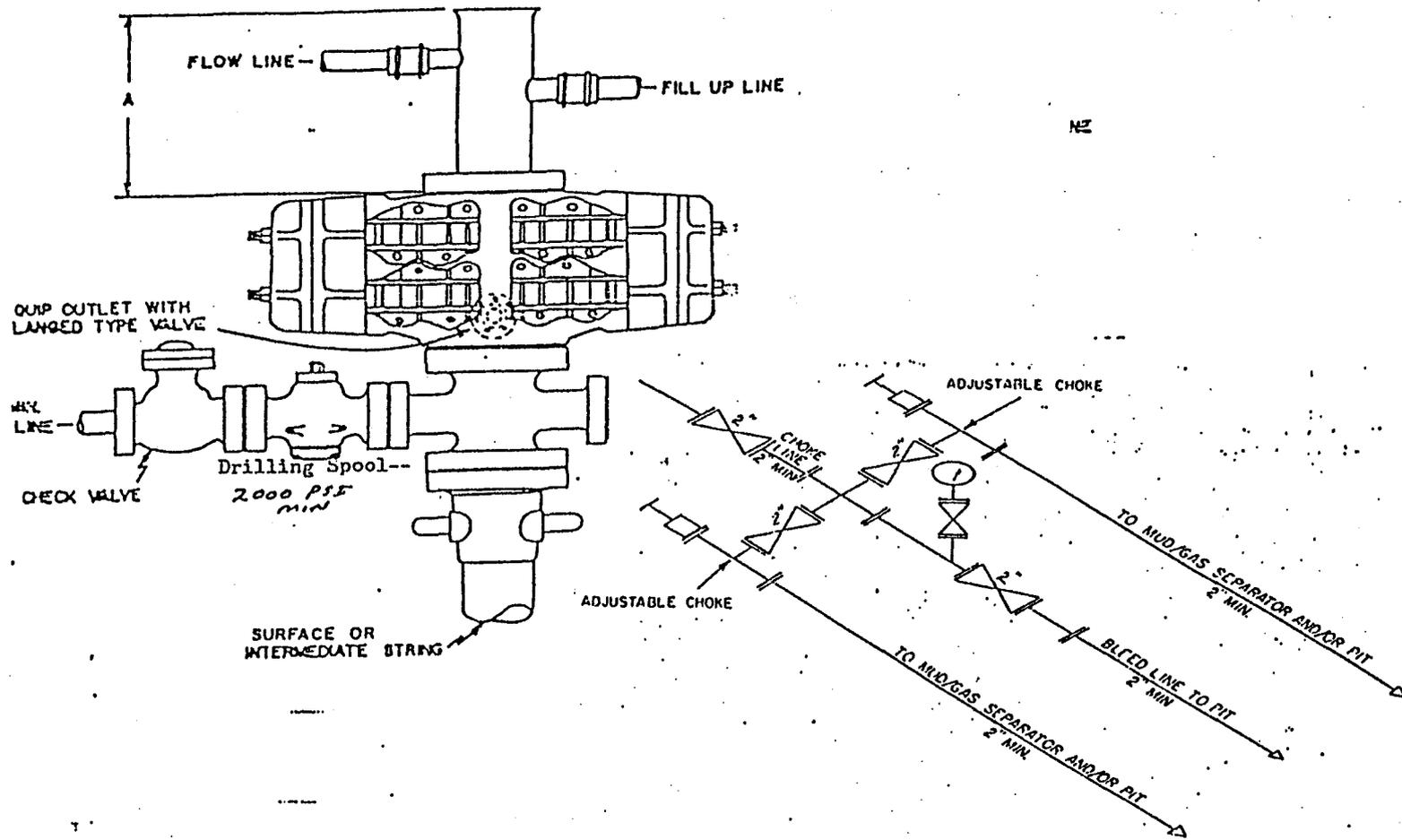
ANTICIPATED START DATE

November 24, 1997

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-7/8" 6.5# J-55 tubing will be run for a flowing/pumping string. A Sundry Notice will be submitted with a revised completion program if warranted.

ANNULAR PREVENTOR MAY BE SUBSTITUTED FOR DOUBLE GATE PREVENTORS



2M CHOKES MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

BLOWOUT PREVENTER

9-10 inch      2,000 psi      MINIMUM

SURFACE CASING, BOP & CENTRALIZER DESIGN

Miller Energy, Inc.  
 Horse Canyon Federal 1-10  
 2,540' FNL 508' FEL Sec. 10 T38S R23E  
 San Juan County, Utah  
 Fed. Lse. #UTU-76283

Proposed Total Depth - 6,250'  
 Proposed Depth - Surface Casing - 2,250'  
 Estimated Pressure Gradient - 0.43 psi/ft.  
 Bottom Hole Pressure at 6,250' (T.D.)  
 $0.43 \text{ psi/ft} \times 6,250' = 2,687 \text{ psi}$

Hydrostatic head - gas/oil cut mud - 0.22 psi/ft  
 $0.22 \text{ psi/ft} \times 6,250' = 609 \text{ psi}$

Maximum Design Surface Pressure

Bottom Hole Pressure - hydrostatic head  
 $(0.43 \text{ psi/ft} \times 6,250') - (0.22 \text{ psi/ft} \times 6,250')$   
 2,687 psi - 1,375 psi = 1,312 psi

Casing Strengths - 9 5/8" J-55 LTC

<u>Grd &amp; Wt.</u>	<u>Tension(lbs)</u>	<u>Burst(psi)</u>	<u>Collapse(psi)</u>
J-55 36#	394,000	3,520	2,020
J-55 40#	452,000	3,920	2,570

Safety Factors

Tension (Dry) - 1.60    Burst - 1.10    Collapse - 1.00

Tension (Dry) -  $(36\#/ft \times 2,250') = 81,000\#$                       S.F.  $\frac{394,000}{81,000} = 4.86$

Burst -                                      S.F. =  $\frac{3,520 \text{ psi}}{1,312 \text{ psi}} = 2.68$

Collapse - Hydrostatic =  $0.052 \times 9.0 \times 2,250 = 1,053 \text{ psi}$   
 S.F. =  $\frac{2,020 \text{ psi}}{1,053 \text{ psi}} = 1.92 @ 2,250'$

- Use 2,250' 9 5/8" J-55 36# STC or better
- Use 2,000 psi, wp BOP stack

Centralizers - 5 Total

- 1 - near surface @ 160'
  - 1 - middle of bottom joint
  - 3 - every other joint,  $\pm 80'$
- Total Centralized =  $\pm 280'$

Based on previous experience additional centralizers substantially increase the risk of the casing sticking prior to reaching bottom.

### **REQUIRED APPROVALS, REPORTS AND NOTIFICATION**

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 a 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 BLM NOTIFICATIONS

Notify Jeff Brown of the Monticello BLM Field Office in Monticello, Utah, at (801) 587 1525. 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 hours advance notice and prior approval. In the case of newly drilled by 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

Miller Energy, Inc.  
Horse Canyon Federal 1-10  
(SE/4 SE/4 NE/4)  
2,540' FNL 508' FEL Sec. 10 T38S R23E  
San Juan County, Utah  
Fed. Lse. #UTU-76283

#### SURFACE USE PLAN

#### WELL LOCATION AND INTRODUCTION:

The proposed location is 2,540' FNL 508' FEL of Sec. 10. The wellsite was surveyed and staked on October 16, 1997, by Gerald Huddleston, Surveyor, on a site that was geologically, and topographically acceptable at 2,540' FNL 508' FEL. An on-site meeting was held on October 21, 1997. Attending were Jeff Brown - BLM, James Hellixson - Consolidated Construction and Bob Griffie - Agent for Miller Energy, Inc.

\* Specific stipulations arising from the on-site meeting are shown as starred.

#### BLM NOTIFICATIONS

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Home:(801) 587-2705

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

#### DIRECTIONS TO LOCATION:

From Blanding, Utah travel 1 mile south on U.S. 191 then east 1.0 mile and south on County Road 408 for approximately 11 miles, then east 0.1 mile on County Road 296, then northwest 0.6 miles, then southwest 0.1 miles to location.

## 1) EXISTING ROADS

- A) The well is an Exploratory well.
- B) Existing roads within 2 mile - Paved county road 0.6 mile south of location. Two track trail to within 600' of the location.
- \* C) Plans for improvement and/or maintenance of existing roads are to maintain in as good or better conditions than at present. The two track trail will be discussed in "Planned Access" below.

## 2) PLANNED ACCESS ROADS - 0.6 miles upgraded construction Right of Way and 600' new construction (on lease)

- \* A) Subgrade (Running surface) width to be approximately 16'-18', total disturbed width to be 45'-50'.
- B) Borrow ditches to be backsloped 3:1 or shallower.
- C) Maximum grades - 2% for 400'.
- \* D) Drainage to consist of borrow ditches on both sides. Low water crossings will be used during drilling, as conditions dictate, and upon completion, crossings will be upgraded w/corrugated metal pipes and/or gravel bottomed low water crossings, if necessary. Culvert sizes to be a minimum of 18" diameter.
- \* E) Surfacing material to consist of native material from borrow ditches, topsoil will be buried in road crown. Gravel surfacing will be applied prior to commencing drilling operations. Gravel will be obtained from permitted commercial sources.
- F) No major road cuts are necessary.
- \* G) Fence cuts, gates and cattleguards will not be required.
- \* H) Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed must be approved by the area manager in advance.
- \* I) If a right-of-way is necessary, no surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to conditions of approval of the Surface Use Program of the approved APD, relevant to any right-of-way facilities.
- \* J) If a right-of-way is secured, boundary adjustments in the lease or unit shall automatically amend the right-of-way to include the portion of the facility no longer contained within the lease or unit. In the event of an automatic amendment to this right-of-way grant, the prior on lease/unit conditions of approval of this facility will not be affected even though they would now apply to facilities outside of the lease/unit as a result of a boundary adjustment. Rental fees, if appropriate, shall be recalculated based on the conditions of this grant and the regulations in effect at the time of an automatic amendment.
- \* K) If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or boundary change) the BLM will process a change in

2) Planned Access Roads - (con't)

authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligations determined by the authorized officer.

- \* L) If the well is productive, the access road will be rehabilitated or brought to Resource (Class III) Road Standards within 60 days of dismantling the rig. If upgraded, the access road must be maintained at these standards until the well is properly abandoned. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed along the access road.

3) LOCATION OF EXISTING WELLS

Within a 2-mile radius

Drilling	None
Abandoned -	T38S R23E Sec 10:SE/4 Sec 11: NW/4 Sec 14: SE/4 NE/4 Sec 15: NW/4 NW/4
Proposed -	None
Disposal injection -	None
Shut-In -	None
Producing -	None

4) LOCATION OF EXISTING PRODUCING FACILITIES OPERATED BY *Miller Energy, Inc.*

Within two miles: None

NEW PRODUCTION FACILITIES PROPOSED

- \* A) Facilities to be constructed on location will be applied for separately. Production equipment will be placed away from edge of "fill."
- \* B) Dimension of Proposed Facility is approximately 300' x 200'. Pad size will be reduced to minimum size necessary to conduct safe operations cuts and fills will be reduced to 2:1 or shallower.
- C) Site preparation for production will be done with standard excavation equipment using native materials. Additional surface material will be obtained from commercial sources or an approved borrow area.

## NEW PRODUCTION FACILITIES PROPOSED (con't)

- \* D) All above ground permanent structures including production equipment will be painted to blend with the surrounding landscape. The color specified is given with the Munsell Color Reference Number as agreed to with BLM. Efforts will be made to chose environmental colors which are as light reflective as possible to limit evaporation and waste of liquid hydrocarbons.
- \* E) Production facilities may vary according to actual reservoir discovered and will be engineered upon completion of well tests.
- \* If well is a producer, all production facilities will be authorized by Sundry Notice.
- F) All pits will be fenced on all sides.
- G) No facilities will be constructed off location.
- H) Rehabilitation of unneeded, previously disturbed areas will consist of backfilling and contouring the reserve pit area, back sloping and contouring all cut and fill slopes. These areas will be re-seeded. Refer to plans for restoration of surface for additional details.
- I) Pits which contain oil will be netted.
- \* J) All site security guidelines identified in 43 CFR 3162.7-5 and Onshore Order No.3 shall be followed.
- \* K) If a gas meter is constructed, it will be located on lease within 500' of the wellhead. The gas flowline will be buried form the wellhead to the meter and will be buried downstream of the meter until it leaves the wellpad. 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 & Gas Order No. 5 and American Gas Association (AGA) Report No. 3.
- \* L) If a tank battery is constructed on this lease, it will be surrounded by a berm of sufficient capacity to contain 1 1/2 times the storage capacity of the largest tank. All loading lines and valves will be placed inside the berm surrounding the tank battery. All oil production and measurement shall conform to the provisions of 43 CFR 3162.7-3 and Onshore Oil & Gas Order No. 4.
- \* M) Production facilities on location may include a lined or unlined water pit as specified in NTL-2B. If water is produced from the well, an NTL-2B application must be submitted.

## 5) LOCATION OF WATER SUPPLY

Water will purchased from the town of Blanding and be transported by truck. Alternatively, water may be hauled from a private source which has been previously permitted by R&W Water Service. Water may be hauled from Montezuma Creek under R&W Water Service permits.

## 6) SOURCE OF CONSTRUCTION MATERIALS

- A) Construction materials will consist of native materials from borrow ditches and location areas.
- B) Surfacing materials will be obtained from available permitted sources and consist of pit gravel.

## 7) WASTE DISPOSAL

- A) Drill cuttings will be buried in reserve pit.
- B) Fresh water drilling fluids will be evaporated then buried in the reserve pit when dry. Oil based fluids will be removed from drill cuttings to the maximum extent possible, then the cuttings solidified and buried in a separate pit.
- C) Produced fluid will be contained in test tanks during completion and testing.
- \* D) Sewage disposal facilities will be in accordance with State and Local Regulations. Sewage will not be buried on location or put in a borehole. Chemical toilets and/or holding tanks will be utilized and the contents hauled to an approved disposal site.
- \* E) Garbage and other waste - burnable waste will be contained in a portable trash cage which will be totally enclosed with small mesh wire. Cage and contents will be transported to an trash dumped at a D.E.Q. approved Sanitary Landfill upon completion of operations.
- F) Trash will be picked up if scattered and contained in trash cage as soon as practical after rig is moved off.
- G) Reserve pit will be fenced "stock tight" on three sides during drilling operations, and on fourth side at time of rig release. Pit will remain fenced until backfilled. (See Section 9 Wellsite Layout Part E for further reserve pit requirements).
- H) Upon release of the drilling rig, rathole and mousehole will be filled. Debris and excess equipment will be removed.

## 8) ANCILLARY FACILITIES

No ancillary facilities will be necessary.

## 9) \* WELLSITE LAYOUT

- A) See attached drillsite plat and cut/fill diagram.
- \* B) Reserve pit will be lined with 24 tons of bentonite and "walked down" with a tractor.
- \* C) Flare pit will be located adjacent to the reserve pit at least 100' from the wellbore. The "blooie" line outlet will have a diffuser.
- \* D) The reserve pit fence will be kept in good repair and maintained in a tight condition. 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.

## 10) SURFACE RESTORATION

- \* A) Topsoil will be removed prior to location construction from all disturbed areas that will be in "cut" and from the reserve pit area. Topsoil depth to be removed as stipulated by BLM.
- \* Topsoil Depth 6". Topsoil from fill areas will be not be removed but will be stockpiled with any excess material.
- B) Backfilling, leveling and contouring are planned as soon as all pits have dried. Waste and spoils materials will be buried immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible.
- C) The soil banked material will be spread over the area. Revegetation will be accomplished by planting mixed grasses as per formula by BLM. Revegetation is recommended for road area as well as around drill pad.
- D) The rehabilitation will begin after the drilling rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed.
- E) Reclamation of the entire disturbed area will be accomplished by grading the area to approximately the natural contour, applying top soil and re-establishing vegetation over the area. Topsoil shall be spread evenly over the area. A seed bed shall be prepared by scarifying the soil surface to a depth 4 inches. The operator shall use a harrow, disc or similar implement with tools spaced no greater than six inches apart. Seeds shall be lightly covered if broadcast methods are used. Seeding will be done between October 1, and February 28. The following prescription of pure live seed shall be applied:
  - 2#/acre PLS - Fourwing saltbush
  - 2#/acre PLS - Galleta grass
  - 2#/acre PLS - Indian ricegrass
  - 2#/acre PLS - Globemallow
  - 1#/acre PLS - Sand dropseed
  - 9#/acre PLS - TOTAL
- F) An above-ground tubular metal dry-hole marker will be erected over the drill-hole upon cessation of drilling and/or testing operations. The marker will be inscribed with the operator's name, well number, well location, and federal lease number. Upon request of the surface owner, the casing may be cut off three (3) feet below reclaimed ground surface (or below plow depth) with a metal plate affixed to the top providing the same well information as stated above. This must consist of a piece of pipe not less than four inches in diameter and ten feet in length, of which four feet shall be above the general ground level and the remainder being imbedded in cement. The top of the pipe must be closed by a welded or screw cap, cement or other means.

11) GENERAL INFORMATION

- A) Project area is situated in the undulated uplands west of the Montezuma Creek.
- B) Topographic and geologic features - moderate relief area, moderately drained, silt deposition, surrounded by cliffs and rolling uplands with highly eroded drainages.
- C) Soil characteristics - clay loam.
- D) Flora consists of Shadscale, Fourwing saltbush, Pricklypear cactus, Musterweed, Cheatgrass & short grasses.
- E) Fauna - none observed, assume antelope, coyotes, rabbits, raptors, and rodents.
- F) Concurrent surface use - grazing and hunting.
- G) Mineral Lessor - Bureau of Land Management.
- H) Surface Owner - Drillsite - Bureau of Land Management  
- Access - Bureau of Land Management
- I) Proximity of water, occupied dwellings or other features - County Road #408 - 0.1 miles west of location.
- J) Archaeological, cultural and historical information has been submitted separately by 4 Corners Archaeological Services.
- K) Historic, Cultural, and Paleontological Resources

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO). Within 5 working days the AO will inform the operator as to:  
- whether the materials appear eligible for the National Register of Historic Places;

- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,

- a timeframe for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

"The holder of this authorization shall immediately bring any paleontological resources or fossils discovered as a result of operations under this authorization to the attention of the authorized officer. The holder shall suspend all activities in the vicinity of such discovery until notified to proceed by the authorized officer. The authorized officer will evaluate, or will have evaluated, such discoveries not later than 5 working days after being notified, and will determine what action shall be taken with respect to such discoveries. The decision as to the appropriate measures to mitigate adverse effects to significant paleontological resources will be made by the authorized officer after consulting with the holder. The holder may be responsible for the cost of any investigations necessary for the evaluation, and for any mitigative measures."

12) LESSEE'S OR OPERATOR'S REPRESENTATIVE

Operator

Miller Energy, Inc.  
2900 Moorsbridge Road  
Kalamazoo, MI 49002  
(616) 324-3390  
Don Lehman - Exploration Manager

Agent

\*Banko Petroleum Management, Inc.  
1200 17th Street  
Suite 2330  
Denver, CO 80202

David F. Banko - Cons. Engr./Reg. Spec.  
(303) 820-4480 - Phone  
(303) 820-4124 - Fax

Keith Dana - Surface Use Specialist  
(307) 362-5822

Tim Kelly - Project Geologist  
(303) 820-4480 - Phone

\* Contact to arrange on-site meeting and for any questions or comments regarding this permit.

13) CERTIFICATION

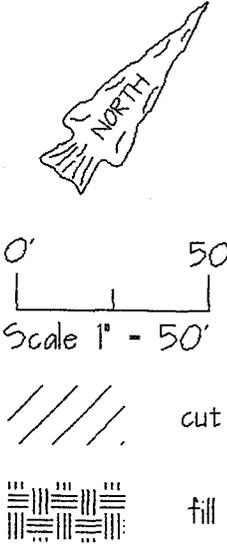
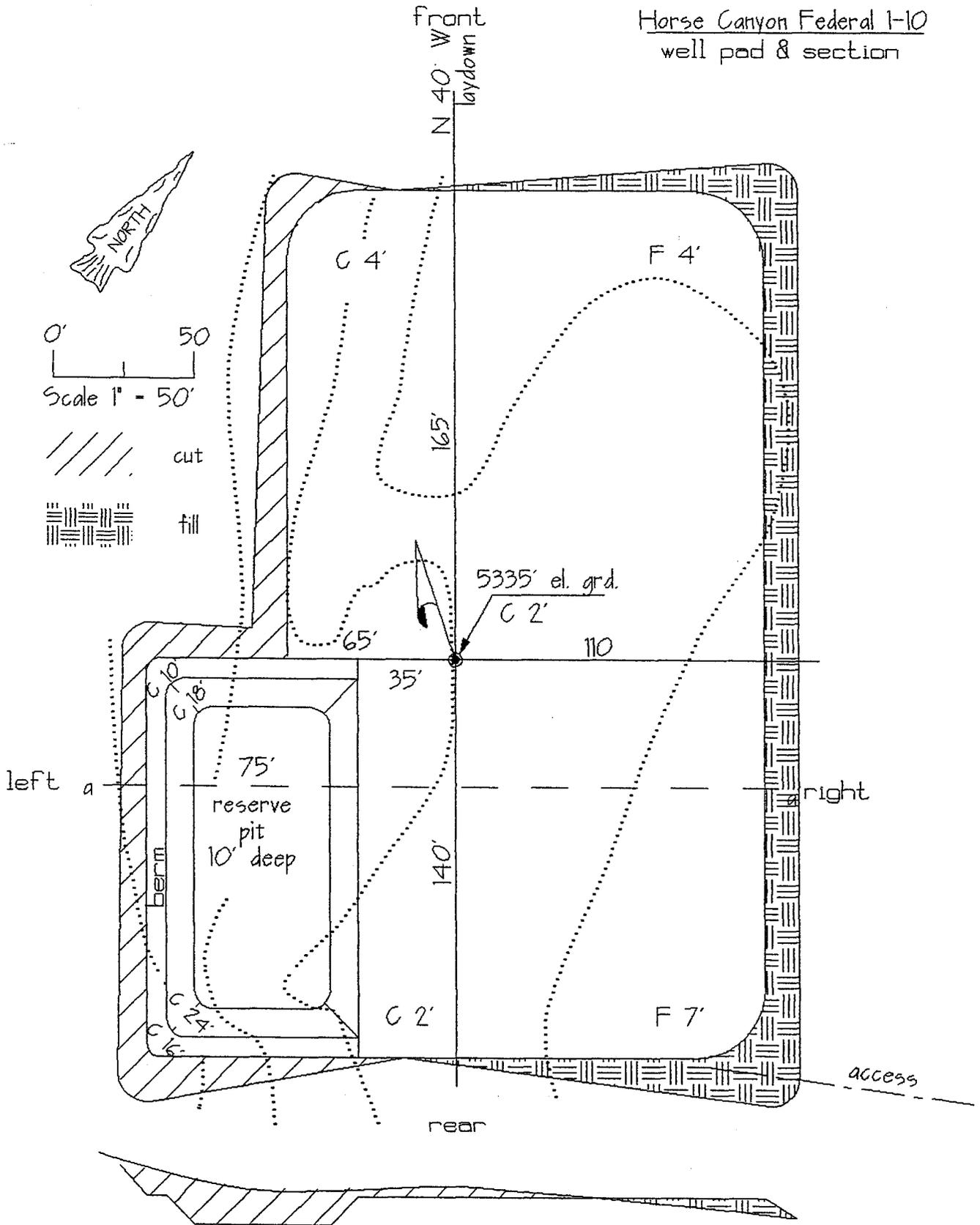
I hereby certify that I, or persons under my direct supervision, have inspected the drillsite and access road; that I am familiar with the conditions which presently exist; that the statements made in this plan area, to the best of my knowledge, are true and correct; and that the work associated with the operations proposed herein will be performed by Miller Energy, Inc. and its contractors and sub-contractors in conformity with this plan and conditions under which it is approved. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application, with bond coverage being provided under a letter of credit as submitted to the BLM for nationwide bond coverage. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

November 12, 1997



David F. Banko  
Agent for Miller Energy, Inc.  
Consulting Petroleum Engineer

Horse Canyon Federal 1-10  
well pad & section



a

Cross section

a'

Map to Accompany  
APPLICATION FOR PERMIT TO DRILL  
Access Road

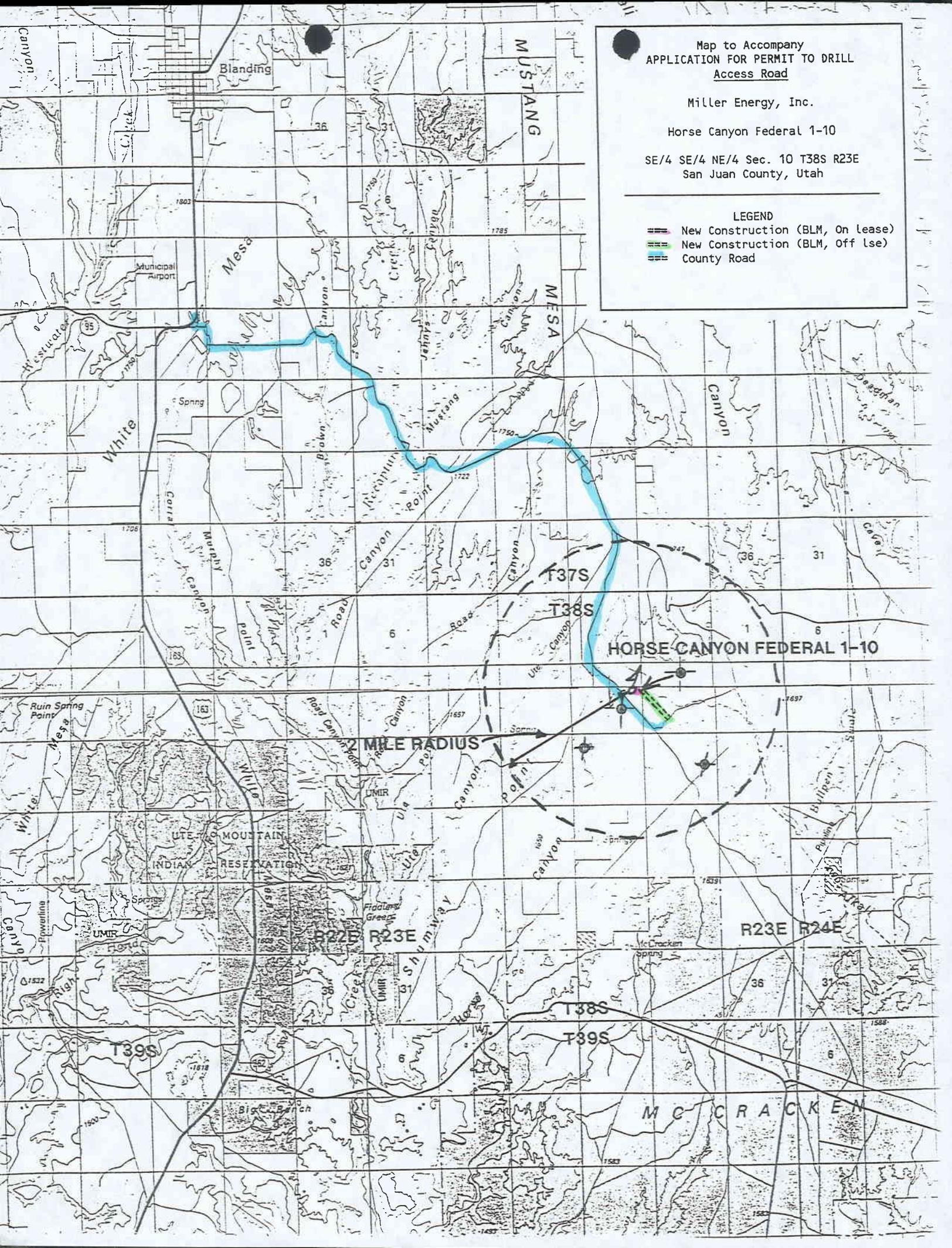
Miller Energy, Inc.

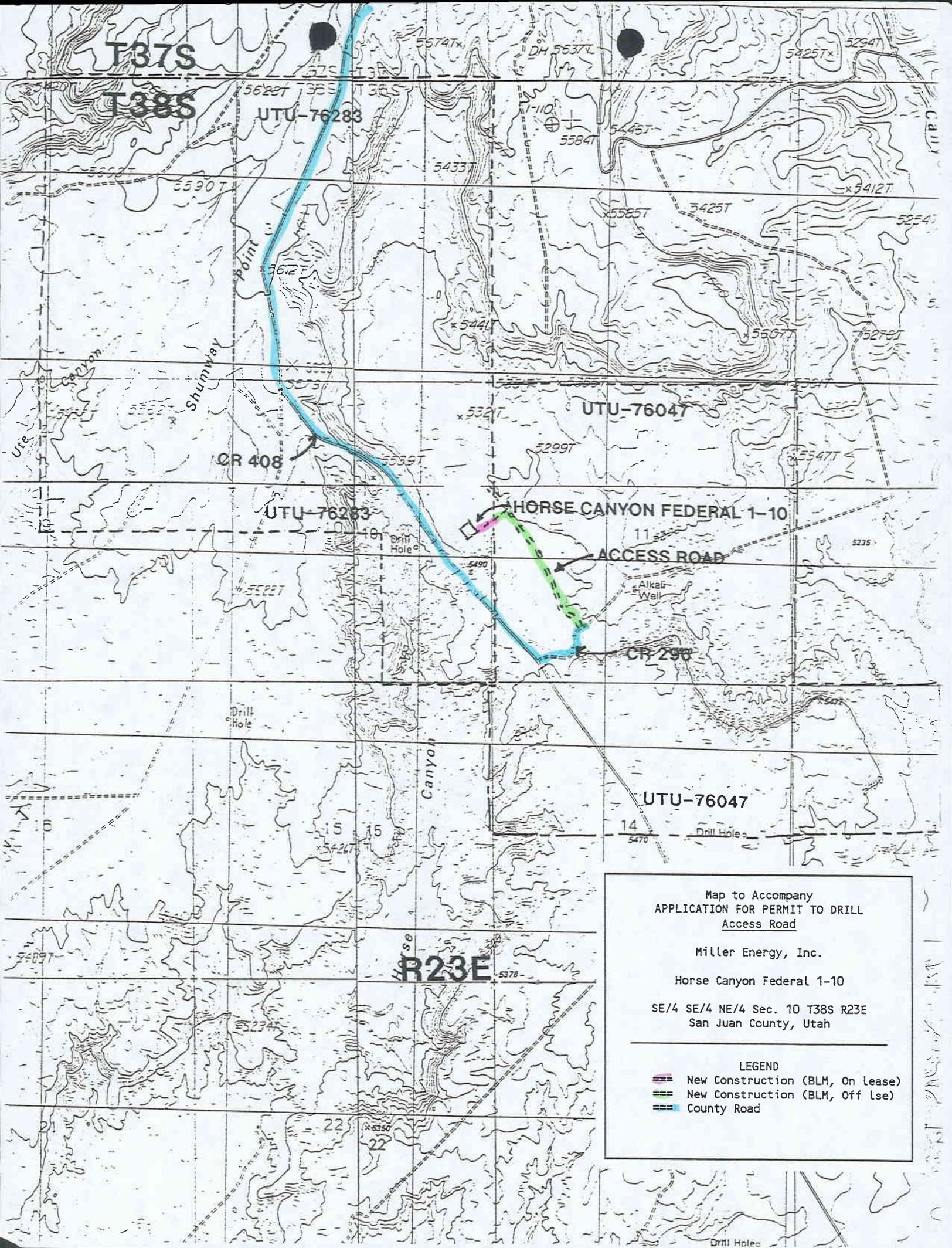
Horse Canyon Federal 1-10

SE/4 SE/4 NE/4 Sec. 10 T38S R23E  
San Juan County, Utah

LEGEND

-  New Construction (BLM, On Lease)
-  New Construction (BLM, Off Use)
-  County Road





T37S

T38S

UTU-76283

UTU-76047

CR 408

UTU-76283

HORSE CANYON FEDERAL 1-10

ACCESS ROAD

CR 298

UTU-76047

R23E

Map to Accompany  
APPLICATION FOR PERMIT TO DRILL  
Access Road

Miller Energy, Inc.

Horse Canyon Federal 1-10

SE/4 SE/4 NE/4 Sec. 10 T38S R23E  
San Juan County, Utah

LEGEND

-  New Construction (BLM, On lease)
-  New Construction (BLM, Off lse)
-  County Road

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/13/97

API NO. ASSIGNED: 43-037-31796

WELL NAME: HORSE CANYON FEDERAL1-10  
 OPERATOR: MILLER ENERGY (N6720)

PROPOSED LOCATION:  
 SENE 10 - T38S - R23E  
 SURFACE: 2540-FNL-0508-FEL  
 BOTTOM: 2540-FNL-0508-FEL  
 SAN JUAN COUNTY  
 WILDCAT FIELD (001)

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

LEASE TYPE: FED  
 LEASE NUMBER: UTU - 76283

PROPOSED PRODUCING FORMATION: ISMAY

RECEIVED AND/OR REVIEWED:

Plat

Bond: Federal  State  Fee   
 (Number UT 1092 )

Potash (Y/N)

Oil shale (Y/N)

Water permit  
 (Number FILED FOR R2W SERVICES)

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

LOCATION AND SITING:

\_\_\_ R649-2-3. Unit: \_\_\_\_\_

\_\_\_ R649-3-2. General.

R649-3-3. Exception.

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

COMMENTS: Exc. loc. OK.

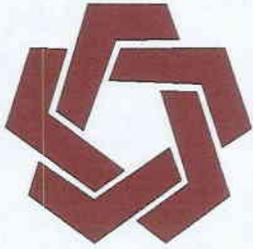
STIPULATIONS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



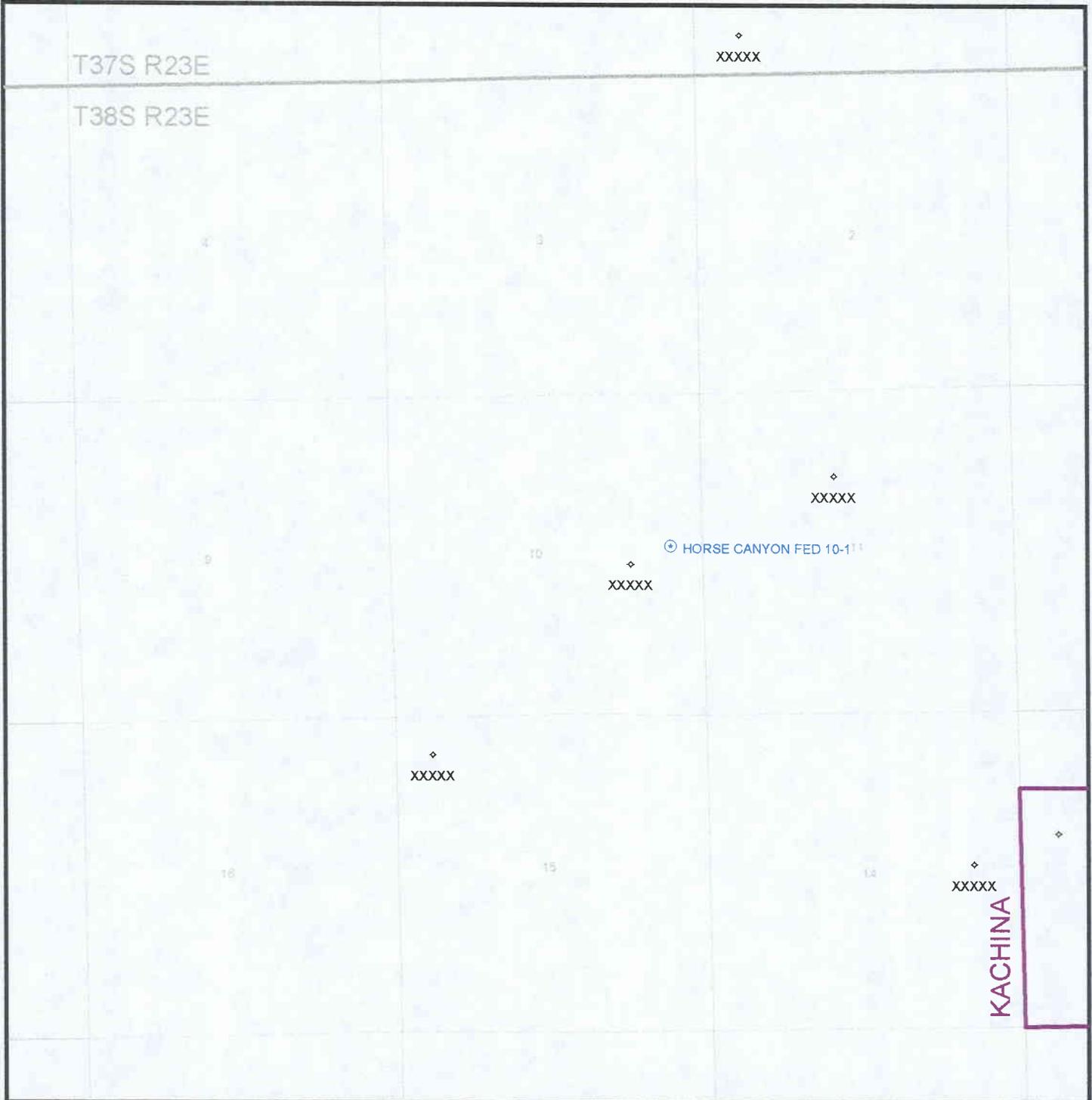
DIVISION OF OIL, GAS & MINING

OPERATOR: MILLER ENERGY INC. (N)

FIELD: WILDCAT (001)

SEC. TWP. RNG.: SEC. 10, T38S, R23E

COUNTY: SAM JUAN UAC: R649-3-3



DATE PREPARED:  
17-NOV-1997

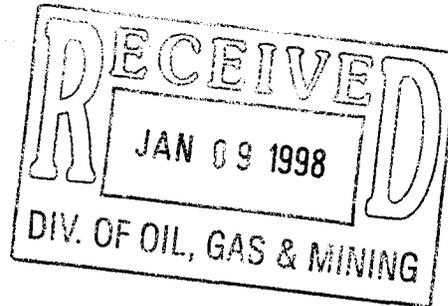
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. UTU-76283		
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME		
2. NAME OF OPERATOR Miller Energy Inc.			7. UNIT AGREEMENT NAME		
3. ADDRESS AND TELEPHONE NO. 7900 Moorsbridge Road, Kalamazoo, MI 49002 (616) 324-3390			8. FARMOR LEASE NAME, WELL NO. Horse Canyon Federal 1-10		
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 2,540' FNL, 508' FEL (SE/4, SE/4, NE/4 Sec 10, T38S R23E) At proposed prod. zone			9. AP WELL NO.		
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 11 miles southeast of Blanding, UT			10. FIELD AND POOL OR WILDCAT Wildcat		
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drilg. unit line, if any) 508' LSE		16. NO. OF ACRES IN LEASE 1674.79		17. NO. OF ACRES ASSIGNED TO THIS WELL 160	
13. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.		19. PROPOSED DEPTH		20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.)			22. APPROX. DATE WORK WILL START* November 24, 1997		
23.					

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" J55	54.4#	250'	To surface w/ ±210 SXS
12 1/4"	9 5/8" J55	36#	2,250'	To surface w/ ±400 SXS LITE&



CONDITIONS OF APPROVAL ATTACHED

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

SIGNED David F. Banko TITLE Agent for Miller Energy, Inc. DATE November 12, 1997

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
CONDITIONS OF APPROVAL, IF ANY:

/s/ Brad D. Palmer

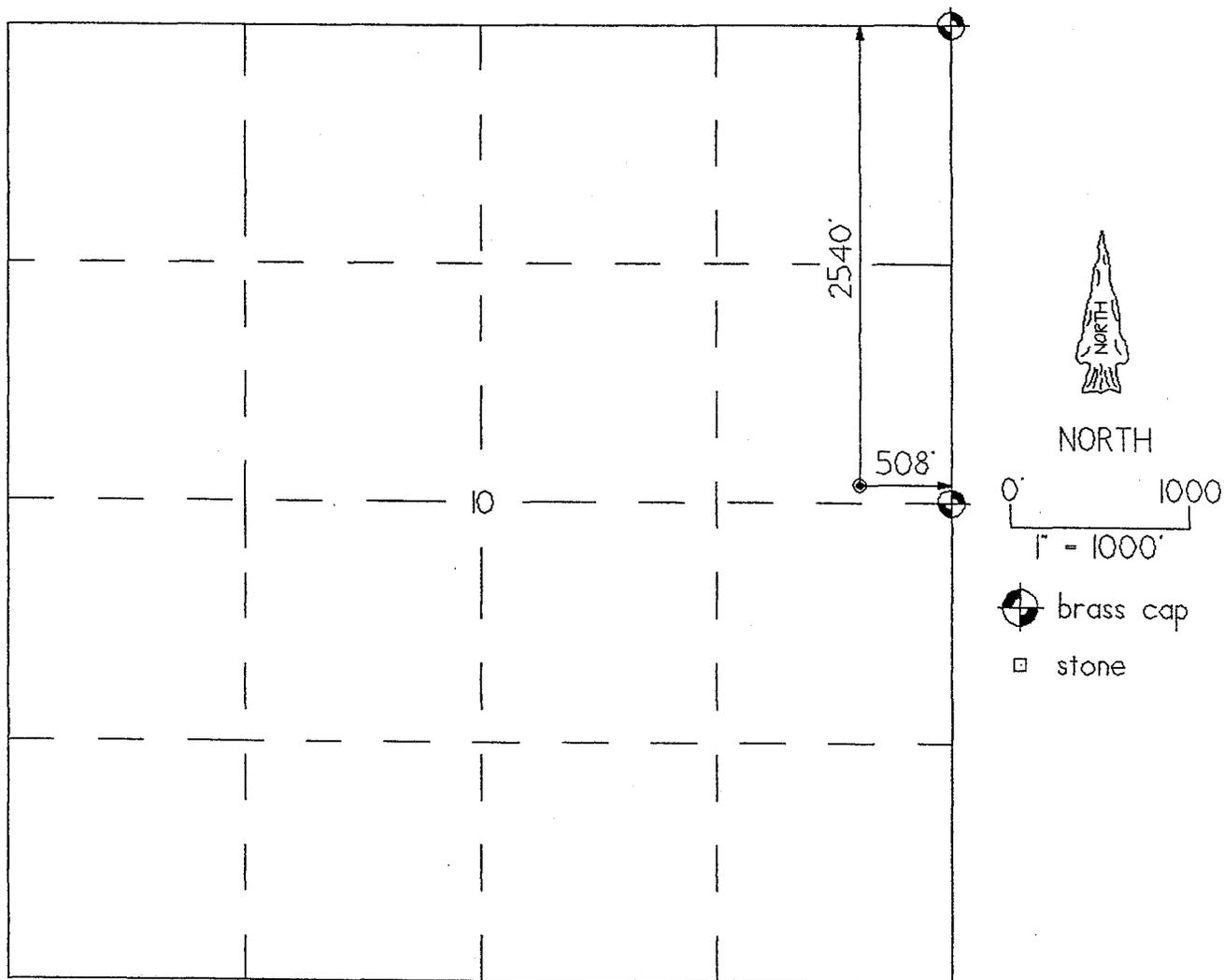
Assistant Field Manager,  
Resource Management

JAN - 6 1998

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

\*See Instructions On Reverse Side

Well Location Plat



Well Location Description

MILLER ENERGY, INC.  
Horse Canyon Federal H-10  
2540' FNL & 508' FEL  
Section 10, T.38 S., R.23 E., SLM  
San Juan County, UT  
5335' grd. el.  
state plane : 309.761 N & 2.618.325 E (NAD 27)



16 October 1997

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

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

MILLER ENERGY INC  
Lease U-76283  
SENE Section 10, T. 38 S., R. 23 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 Miller Energy Inc 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-1092 (Principal - Miller Energy Inc) 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 2M 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. The TOC for the production casing (5-1/2") must be from TD to a minimum of 500' above potential pay zones. Cement must be circulated to surface for the 13-3/8" and 9-5/8" casing.
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.

## **B. SURFACE USE PLAN**

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 will be imposed for well location preparation and drilling operations unless an exception is granted by the Area Manager.
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 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
Green ephedra	1 pound/acre
Galleta	1 pound/acre
Sand dropseed	1 pound/acre
Indian ricegrass	1 pound/acre

UT-069-1790-3  
January 1993

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### 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 Filed 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



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

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
Lowell P. Braxton  
Division Director

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

January 29, 1998

Miller Energy Inc.  
7900 Moorsbridge Road  
Kalamazoo, MI 49002

Re: Horse Canyon Federal 1-10, 2540' FNL, 508' FEL, SE NE  
SEC. 10, T. 38 S., R. 23 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 to 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 43-037-31796.

Sincerely,

A handwritten signature in black ink that reads "John R. Baza".

John R. Baza  
Associate Director

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

Operator: Miller Energy Inc.  
Well Name & Number: Horse Canyon Federal 1-10  
API Number: 43-037-31796  
Lease: UTU-76283  
Location: SE NE Sec. 10 T. 38 S. R. 23 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.
2. Notification Requirements  
Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jim 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.
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.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: MILLER ENERGY INC

Well Name: MILLER HORSE CANYON FEDERAL 1-10

Api No. 43-037-31796

Section 10 Township 38S Range 23E County SAN JUAN

Drilling Contractor FOUR CORNERS

Rig # 7

SPUDDED:

Date 1/30/98

Time \_\_\_\_\_

How ROTARY

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

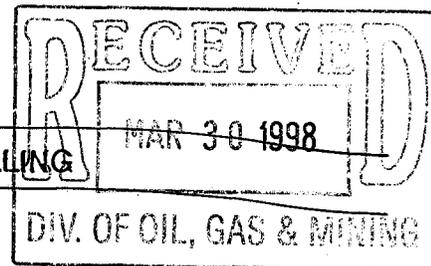
Reported by JACK KOUCHOUKOS

Telephone # 1-616-324-3390

Date: 2/2/98 Signed: JLT

✓

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING



REPORT OF WATER ENCOUNTERED DURING DRILLING

1. Well name and number: Horse Canyon Federal 1-10

API number: 43-037-31796

2. Well Location: QQ SENE Section 10 Township 38S Range 23E County San Juan

3. Well operator: Miller Energy, Inc.

Address: 7900 Moorsbridge Road, Portage, MI 49024

Phone: (616) 324-3390

4. Drilling contractor: Big A/Four Corners

Address: Farmington, NM

Phone: (505) 327-4935

5. Water encountered (attach additional pages as needed): NONE

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		

6. Formation tops:

<u>Entrada</u> 1044	<u>Lower Ismay</u> 5987
<u>Navajo</u> 1712	<u>Gothic Shale</u> 6040
<u>Chinle</u> 2258	<u>Desert Creek</u> 6077
<u>Shinarump</u> 2692	<u>Lower Desert Crk</u> 6132
<u>Cutler</u> 3100	<u>Chimney Rock Sh</u> 6150
<u>Hoanker Trail</u> 4301	
<u>Upper Ismay</u> 5821	
<u>Hovenweep Sh</u> 5966	

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.

Date: 3/25/98

Name & Signature: D.D. Lehman

D.D. Lehman

Title: Exploration Mgr

OPERATOR Miller Energy, Inc.  
ADDRESS 7900 Moorsbrige Rd  
Portage, MI 49024

OPERATOR ACCT. NO. N 6720

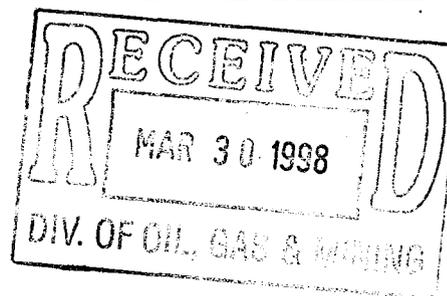
ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	N/A	12324	43-037-31796	Horse Canyon Federal 1-10	SENE	10	38S	23E	San Juan	1/30/98	
WELL 1 COMMENTS: <i>Entity added 4-2-98. Jec</i>											
WELL 2 COMMENTS:											
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)



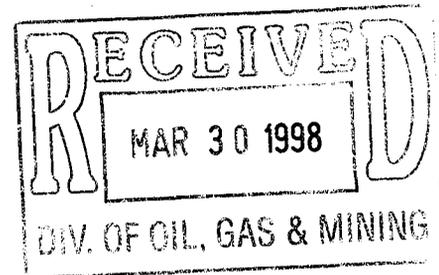
*[Signature]*  
Signature  
*Expl. Mgr*  
Title  
Date *3/24/98*  
Phone No. *(616) 324-3390*



# MILLER ENERGY, INC.

March 27, 1998

John Baza  
Utah Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84114-5801



RE: Miller Energy, Inc.  
Horse Canyon Federal 1-10  
API #43-037-31796  
San Juan Co., Utah

Dear John,

Enclosed are data as follows for the above referenced well:

1. Completed BLM form 3160-4. Well completion form, in lieu of State form 8.
2. Completed Form 6. Entity Action; request for Entity number.
3. Completed form 7. Report of water encountered during drilling.
4. Location plat. Showing all wells within a one-mile radius of the Horse Canyon Federal 1-10.
5. One copy each of: E-logs, Mud-log and Drillstem test #1.

Miller Energy hereby requests that the Horse Canyon Federal 1-10 be designated a new field wildcat discovery well and that the field name be "Horse Canyon". The producing formation is the Ismay and there are no producing wells within a one mile radius of the 1-10. There is no known geologic structure in the area. The bottomhole pressure on the drillstem test of this interval was 1940 psi (extrapolated p\*). This is comparable to the original field pressures in other Ismay reservoirs in this area and confirms that the 1-10 is in a new reservoir. A cross section is not provided since there are no producing wells within the one mile designated area for the 1-10.

If the State of Utah requires more information or there any questions, please call.

Sincerely,

A handwritten signature in black ink, appearing to read "Donald D. Lehman".

Donald D. Lehman  
Exploration Manager

cc: M. Miller, A. Davis, J. Kouchoukos

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

SUBMIT IN DUPLICATE\*

(See other instructions on reverse side)

FORM APPROVED  
OMB NO. 1004-0137  
Expires: February 28, 1995

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other

2. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. SERV.  Other

2. NAME OF OPERATOR: Miller Energy, Inc.

3. ADDRESS AND TELEPHONE NO.: 49002  
7900 Moorsbridge Rd., Kalamazoo MI (616) 324-3390

5. LEASE DESIGNATION AND SERIAL NO.: U-76283

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: \_\_\_\_\_

7. UNIT AGREEMENT NAME: \_\_\_\_\_

8. FARM OR LEASE NAME, WELL NO.: Horse Canyon Federal 1-10

9. API WELL NO.: 43-037-31796

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

At surface 2450' FNL x 508' FEL Section 10 T38S, R23E

At top prod. Interval reported below SAME

At total depth SAME

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: SEC 10, T38S, R23E

12. COUNTY OR PARISH: San Juan

13. STATE: Utah

14. PERMIT NO. \_\_\_\_\_ DATE ISSUED \_\_\_\_\_

15. DATE SPUDDED: 1/30/98

16. DATE T.D. REACHED: 2/13/98

17. DATE COMPL. (Ready to prod.): 3/04/98

18. ELEVATIONS (DF, RKB, RT, CR, ETC.): 5335' GL 5350' KB

19. ELEV. CASINGHEAD: 5337'

20. TOTAL DEPTH, MD & TVD: 6200' (md&Tvd)

21. PLUG, BACK T.D., MD & TVD: 6175'

22. IF MULTIPLE COMPL., HOW MANY\*: 1

23. INTERVALS DRILLED BY: \_\_\_\_\_

ROTARY TOOLS: XX

CABLE TOOLS: \_\_\_\_\_

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*: Upper Ismay 5877-5905'

25. WAS DIRECTIONAL SURVEY MADE: NO

26. TYPE ELECTRIC AND OTHER LOGS RUN: CNL, FDC, DLL MicroLog BHC Sonic Dipmeter

27. WAS WELL CORRED: NO

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

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
13 3/8" J55	54.50	255	17-1/2"	Surface, 325sks Class 'B'	N/A
9 5/8" J55	36	2250	12-1/4"	Surface, 485sk 65/35 POZ	N/A
5 1/2" J55	15.50	6198	7-7/8"	4964 (CBL), 300sks class'h	N/A

29. LINER RECORD

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

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8	5860'	NONE

31. PERFORATION RECORD (Interval, size and number)

5905'-5877' 4JSPF - Producing

5965'-5963', 5940'-5924' 4JSPF [shut off with CIPB]

6138-6135' 4JSPF [shut off with CIBP]

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5905' - 5877'	2800 gals 28% HCL
5965' - 5940'	500 gals 7 1/2% HCL-shut off w/CIP
6138'-6135'	1000 gals 28% HCL

33.\* PRODUCTION

DATE FIRST PRODUCTION: 03/02/98

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump): FLOWING

WELL STATUS (Producing or shut-in): Shut-in w.o. Pipeline

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
03/02/98	1	1/2"	→	40	39.200	0	980 MSAF/BBL

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
485 psi	500 psi	→	960 BOPD	940 MCFD	0	43° API

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

TEST WITNESSED BY: R. GRIFFEE

35. LIST OF ATTACHMENTS: \_\_\_\_\_

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED: Robert R. Griffin TITLE: CONSULTING ENGINEER DATE: 3/19/98

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

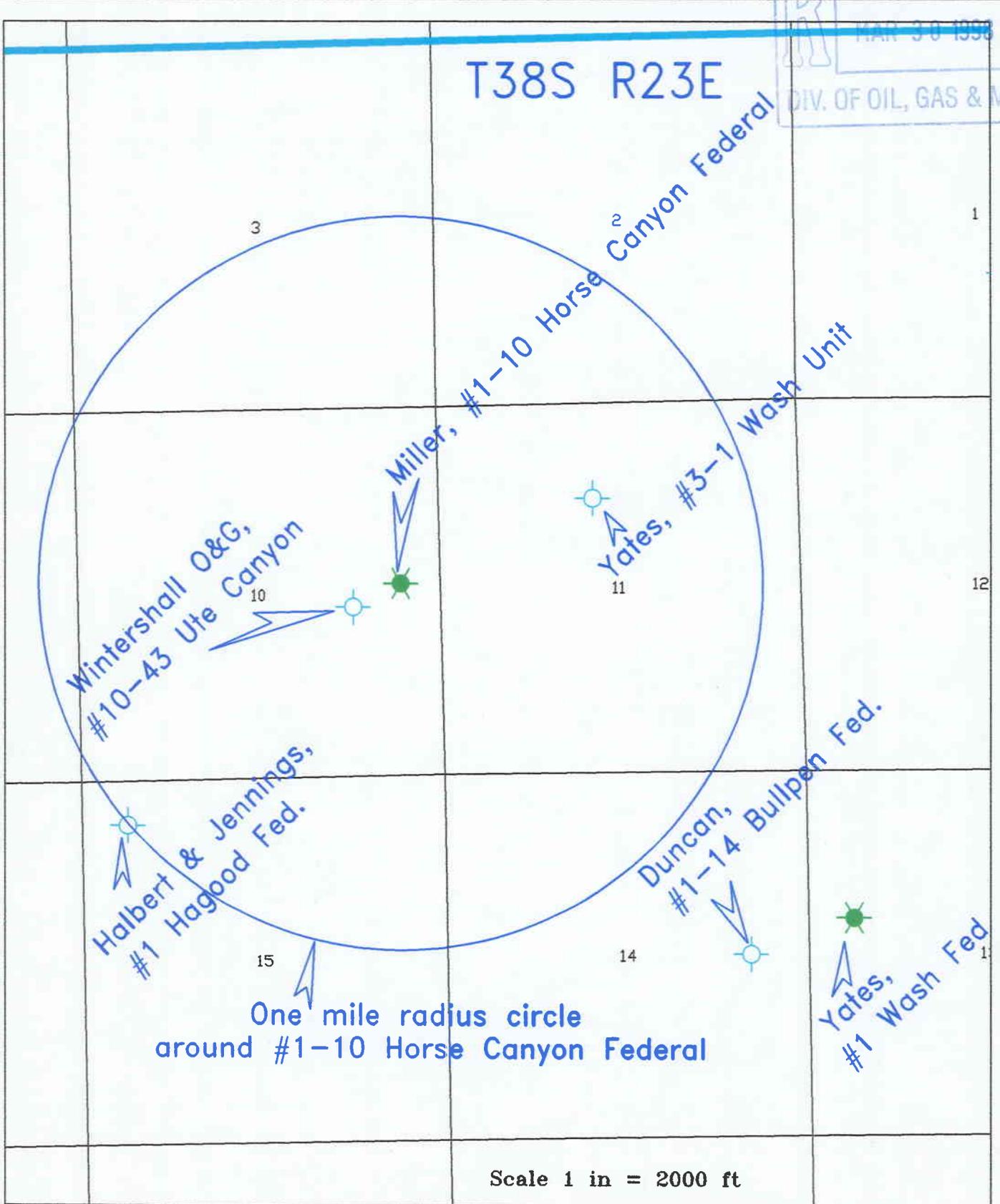
37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	GEOLOGIC MARKERS		
				NAME	MEAS. DEPTH	TRUE VERT. DEPTH
UPPER ISMAY	5821	5966	DST Interval 5860 - 5915, 58 bbls oil recovered, strong gas blow. Flowed oil to surface No Cushion. Tool opened at 7:34AM 1/11/98, ran 15, 30, 60, 210 min test. on 2nd opening IFP = 558.81 psi FFP = 1302.41 psi FSIP = 1953.25 psi	Entrada	1044	1044
LOWER ISMAY	5987	6040	Limestone L.S., Anhy, DOL, No mudlog shows, No tests	Navajo	1712	1712
DESERT CREEK	6077	6132	DOL. No mudlog shows, no tests	Chinle	2258	2258
LOWER DESERT CREEK	6132	6150	DOL. No mudlog shows, No tests	Shinarump	2692	2962
				Cutler	3100	3100
				Honaker Trail	4301	4301
				Upper Ismay	5821	5821
				Hovenweep Shale	5966	5966
				Lower Ismay	5987	5987
				Gothic Shale	6040	6040
				Desert Creek	6077	6077
				Lower Desert Creek	6132	6132
				Chimney Rock Shale	6150	6150

38.

RECEIVED  
MAR 30 1998  
DIV. OF OIL, GAS & MINING

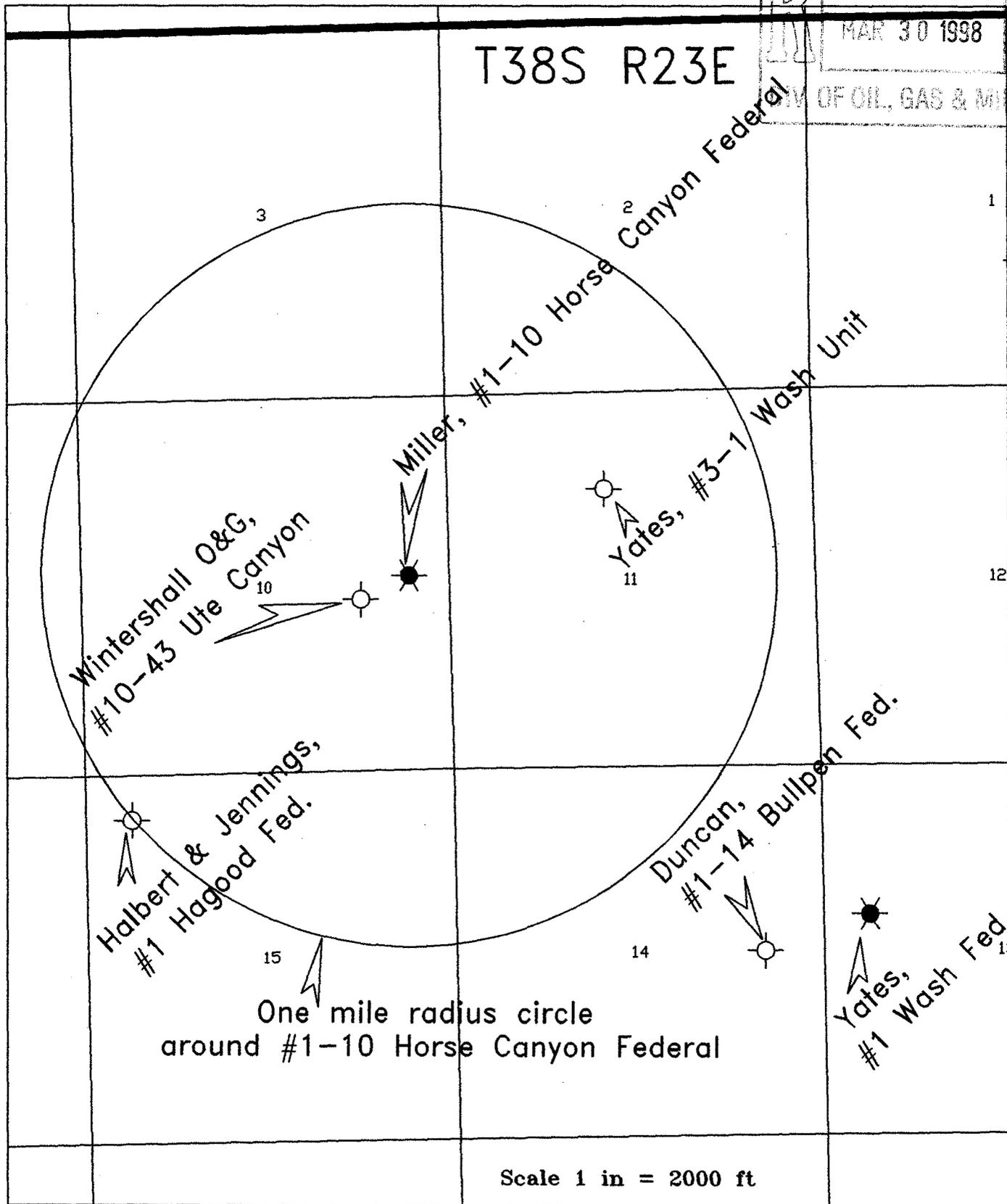
T38S R23E



LOCATION OF THE MILLER ENERGY, INC.  
#1-10 HORSE CANYON FEDERAL  
SAN JUAN COUNTY, UTAH

RECEIVED  
MAR 30 1998  
DEPARTMENT OF OIL, GAS & MINING

T38S R23E



One mile radius circle  
around #1-10 Horse Canyon Federal

Scale 1 in = 2000 ft

**LOCATION OF THE MILLER ENERGY, INC.  
#1-10 HORSE CANYON FEDERAL  
SAN JUAN COUNTY, UTAH**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

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

RECEIVED  
MOAB FIELD OFFICE  
7007 DEC 16 P 11:25

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well  
 Oil Well     Gas Well     Other

2. Name of Operator  
 Robert L. Bayless, Producer LLC

3a. Address  
 PO Box 168, Farmington, NM 87499

3b. Phone No. (include area code)  
 (505) 326-2659

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
 2540' FNL and 508' FEL, Section 10, T38S, R23E

5. Lease Serial No.  
 U-76283

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.  
 Horse Canyon Federal 1-10

9. API Well No.  
 43-037-31796

10. Field and Pool, or Exploratory Area  
 Wildcat

11. County or Parish, State  
 San Juan, Utah

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Change of Operator</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

Effective 12/01/02 operations for this well were transferred from Miller Energy, Inc. (7900 Moorsbridge Rd., Kalamazoo MI 49024) to Robert L. Bayless, Producer LLC.

BLM Bond # N1M0883  
 (\$25,000 collective bond covers operations in Utah, New Mexico & Wyoming)

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

Name (Printed/Typed)  
 Tom McCarthy

Title  
 Engineer

Signature *Tom McCarthy*

Date  
 December 11, 2002

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by  
 ACCEPTED

Title  
 Division of Resources

Office  
 Moab Field Office

Date  
 DEC 16 2002

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

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

cc: UDOGM  
 Conditions Attached

Robert L. Bayless Producer LLC  
Well No. Horse Canyon 1-10  
Section 10, T. 38 S., R. 23 E.  
Leases UTU76283  
San Juan County, Utah

CONDITIONS OF ACCEPTANCE

Acceptance 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 Robert L. Bayless Producer LLC is considered to be the operator of the above well effective December 1, 2002, 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 NM0883 (Principal – Robert L. Bayless Producer 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 43CFR 3106.7-2 continuing responsibility are met.

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STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-76283
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or GA AGREEMENT NAME:
1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____	8. WELL NAME and NUMBER: HORSE CANYON FEDERAL 1-10	
2. NAME OF OPERATOR: MILLER ENERGY INC.	9. API NUMBER: 4303731796	
3. ADDRESS OF OPERATOR: 8225 MOORSBRIDGE CITY PORTAGE STATE MI ZIP 49024	PHONE NUMBER: (269) 324-3390	10. FIELD AND POOL, OR WILDCAT: WILDCAT
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2540 FNL 508 FEL COUNTY: SAN JUAN CITY/CTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENE 10 38S 23E STATE: UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 10/1/2002	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

NEW OPERATOR EFFECTIVE OCTOBER 1, 2002:

ROBERT E. BAYLESS, PRODUCER L.L.C.  
621 SEVENTEENTH STREET, SUITE 1640  
DENVER, CO 80293

NAME (PLEASE PRINT) <u>GARY G. DOOLITTLE</u>	TITLE <u>JOINT INTEREST ACCOUNTANT</u>
SIGNATURE	DATE <u>1/8/2003</u>

(This space for State use only)



6. (R649-9-2)Waste Management Plan has been received on: IN PLACE

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: 12/16/2002

8. **Federal and Indian Units:**

The BLM or BIA has approved the successor of unit operator for wells listed on: N/A

9. **Federal and Indian Communization Agreements ("CA"):**

The BLM or BIA has approved the operator for all wells listed within a CA on: N/A

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

**DATA ENTRY:**

1. Changes entered in the **Oil and Gas Database** on: 01/08/2003

2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 01/08/2003

3. Bond information entered in RBDMS on: N/A

4. Fee wells attached to bond in RBDMS on: N/A

**STATE WELL(S) BOND VERIFICATION:**

1. State well(s) covered by Bond Number: N/A

**FEDERAL WELL(S) BOND VERIFICATION:**

1. Federal well(s) covered by Bond Number: NM 0883

**INDIAN WELL(S) BOND VERIFICATION:**

1. Indian well(s) covered by Bond Number: \_\_\_\_\_

**FEE WELL(S) BOND VERIFICATION:**

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number N/A

2. The **FORMER** operator has requested a release of liability from their bond on: N/A

The Division sent response by letter on: N/A

**LEASE INTEREST OWNER NOTIFICATION:**

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

**COMMENTS:**

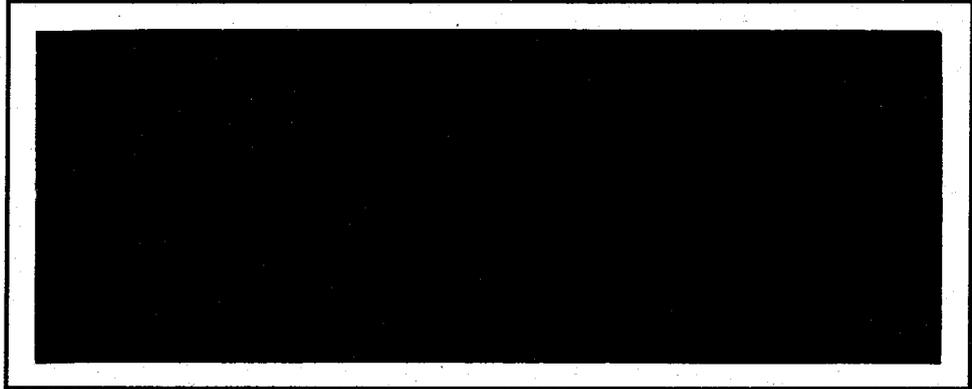
\_\_\_\_\_  
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# NOMENCLATURE

- B = Formation Volume Factor ..... (Res Vol/Std Vol)
- $c_t$  = System Total Compressibility ..... (Vol/Vol)/psi
- DR = Damage Ratio
- h = Estimated Net Pay Thickness ..... Ft



- k = Permeability ..... md
- m { = (Liquid) Slope Extrapolated Pressure Plot ..... psi/cycle  
       = (Gas) Slope Extrapolated m(P) Plot ..... MM psi<sup>2</sup>/cp/cycle
- m(P\*) = Real Gas Potential at P\* ..... MM psi<sup>2</sup>/cp
- m(P<sub>i</sub>) = Real Gas Potential at P<sub>i</sub> ..... MM psi<sup>2</sup>/cp
- AOF<sub>1</sub> = Maximum Indicated Absolute Open Flow at Test Conditions ... MCFD
- AOF<sub>2</sub> = Minimum Indicated Absolute Open Flow at Test Conditions .... MCFD
- P\* = Extrapolated Static Pressure ..... Psig
- P<sub>f</sub> = Final Flow Pressure ..... Psig
- Q = Liquid Production Rate During Test ..... BPD
- Q<sub>1</sub> = Theoretical Liquid Production w/Damage Removed ..... BPD
- Q<sub>g</sub> = Measured Gas Production Rate ..... MCFD
- r<sub>i</sub> = Approximate Radius of Investigation ..... Ft
- r<sub>w</sub> = Radius of Well Bore ..... Ft
- S = Skin Factor
- t = Total Flow Time Previous to Closed-in ..... Minutes
- Δt = Closed-in Time at Data Point ..... Minutes
- T = Temperature Rankine ..... °R
- φ = Porosity (fraction)
- μ = Viscosity of Gas or Liquid ..... cp
- Log = Common Log



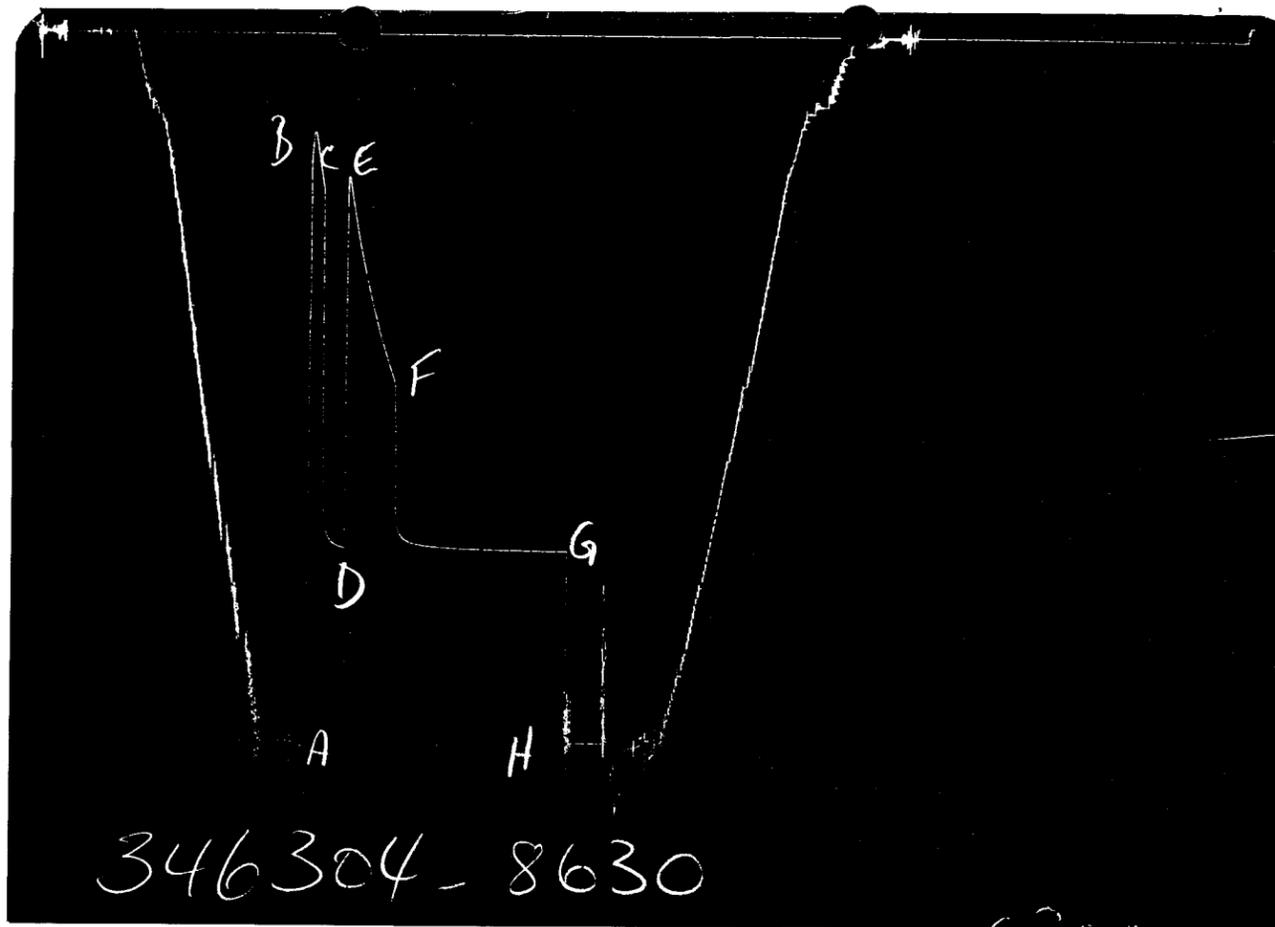
# DRILL STEM TEST REPORT



HORSE CANYON  
 LEASE NAME  
 TEST NO. 1-10  
 WELL NO. 1  
 TESTED INTERVAL 5861.2 - 5919.0  
 MILLER ENERGY, INC.  
 LEASE OWNER/COMPANY NAME  
 LEGAL LOCATION 10 - 38 S - 23 E  
 SEC. - TWP. - RANG.  
 FIELD AREA WILDCAT  
 COUNTY SAN JUAN  
 STATE UTAH

**MILLER ENERGY, INC.**  
 43 037 31796  
 LEASE : HORSE CANYON  
 2540 FNL 0508 FEL  
 WELL NO. : 1-10  
 SENE TEST NO. : 1 SOW

TICKET NO. 34630400  
 13-FEB-98  
 VERNAL



GAUGE NO: 8630 DEPTH: 5915.9 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2232	2656.3			
B	INITIAL FIRST FLOW	373	437.8			
C	FINAL FIRST FLOW	652	576.2	15.0	15.3	F
C	INITIAL FIRST CLOSED-IN	652	576.2			
D	FINAL FIRST CLOSED-IN	1953	1920.9	30.0	29.0	C
E	INITIAL SECOND FLOW	559	524.6			
F	FINAL SECOND FLOW	1302	1305.4	60.0	60.1	F
F	INITIAL SECOND CLOSED-IN	1302	1305.4			
G	FINAL SECOND CLOSED-IN	1953	1927.4	210.0	210.5	C
H	FINAL HYDROSTATIC	2485	2649.7			

EQUIPMENT & HOLE DATA		
FORMATION TESTED: <u>ISMAY</u>	TICKET NUMBER: <u>34630400</u>	
NET PAY (ft): <u>30.0</u>	DATE: <u>02-11-98</u> TEST NO: <u>1</u>	
GROSS TESTED FOOTAGE: <u>57.8</u> PACKER TO T.D.	TYPE DST: <u>OPEN HOLE</u>	
ALL DEPTHS MEASURED FROM: <u>K.B.</u>	FIELD CAMP: <u>VERNAL</u>	
CASING PERFS. (ft): _____	TESTER: <u>BRANDON ROSS</u> <u>DAN AULD</u>	
HOLE OR CASING SIZE (in): <u>7.875</u>	WITNESS: <u>BOB GRIFFIN</u> <u>DON LEHMAN</u>	
ELEVATION (ft): <u>5335.0</u> AT GROUND LEVEL	DRILLING CONTRACTOR: <u>FOUR CORNERS</u>	
TOTAL DEPTH (ft): <u>5919.0</u>		
PACKER DEPTH(S) (ft): <u>5854, 5861</u>		
FINAL SURFACE CHOKE (in): <u>0.25000</u>		
BOTTOM HOLE CHOKE (in): <u>0.750</u>		
MUD WEIGHT (lb/gal): <u>9.00</u>		
MUD VISCOSITY (sec): <u>40-43</u>		
ESTIMATED HOLE TEMP. (°F): <u>200</u>		
ACTUAL HOLE TEMP. (°F): <u>165</u> @ <u>5915.0</u> ft		
FLUID PROPERTIES FOR RECOVERED MUD & WATER		
SOURCE	RESISTIVITY	CHLORIDES
<u>MUD TANK</u>	<u>3.800</u> @ <u>60</u> °F	<u>38000</u> ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
SAMPLER DATA		
Psig AT SURFACE: <u>1050.0</u>		
cu.ft. OF GAS: <u>0.960</u>		
cc OF OIL: <u>1900.0</u>		
cc OF WATER: _____		
cc OF MUD: _____		
TOTAL LIQUID cc: <u>1900.0</u>		
HYDROCARBON PROPERTIES		
OIL GRAVITY (°API): <u>36.0</u> EST. @ <u>60</u> °F		
GAS/OIL RATIO (cu.ft. per bbl): _____		
GAS GRAVITY: <u>0.650</u> EST.		
CUSHION DATA		
TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____
_____	_____	_____
RECOVERED:		
5156.53 FT OF GAS CUT OIL		
NOTE: GAS CUT OIL FLOWED TO SURFACE DURING THE SECOND FLOW PERIOD.		
REMARKS:		
MEASURED FROM TESTER VALVE		

TYPE & SIZE MEASURING DEVICE: POSITIVE CHOKE NIPPLE					TICKET NO: 34630400
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
02-11-98					
0030					ON LOCATION
0211					STARTED B.T. GAUGE #8630
0230					PICKED UP TOOLS FOR DST #1
0400					STARTED IN THE HOLE
0728					ON BOTTOM
0734	B.H.	2			HYDROSPRING OPENED THRU A 1/8" BUBBLE HOSE
0735	B.H.	5			BUBBLE HOSE ON BOTTOM OF BUCKET
0736	B.H.	5			
0741	B.H.	5			
0746	B.H.	5			
0749	B.H.				CLOSED TOOL
0819	B.H.				OPENED TOOL THRU A 1/8" BUBBLE HOSE
0824	B.H.	15			
0829					SHUT NEEDLE VALVE AND CHANGED GAUGE
0831	.250	98	165		OPENED NEEDLE VALVE THRU CHOKE
0834	.250	105	176		
0839	.250	110	182		
0841	.250	118	195		
0851	.250	135	220		
0901	.250	155	250		
0911	.250	160	255		
0916	.250				FLUID TO SURFACE; CAUGHT SAMPLES
0919					CLOSED TOOL; WAITED ON TRUCK TO BRING TANK
1249					RELEASED PACKERS; OPENED BYPASS
1335					DRDPPED BAR AND STARTED REVERSING INTO TANK
1416					PRESSURE DOWN; MUD TO SURFACE; HOOKED KELLY AND PUMPED PILL
????					STARTED OUT OF HOLE WITH TOOLS
1900					LAI D DOWN TOOLS; READ CHART

TICKET NO: 34630400						GAUGE NO: 8630					
CLOCK NO: 2240 HOUR: 24						DEPTH: 5915.9					
REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
FIRST FLOW						SECOND FLOW - CONTINUED					
B	1	0.0	437.8			8	7.0	630.6	17.9		
	2	1.0	425.8	-12.0		9	8.0	647.9	17.3		
	3	2.0	396.4	-29.4		10	9.0	665.1	17.1		
	4	3.0	366.1	-30.3		11	10.0	685.5	20.5		
	5	4.0	362.7	-3.4		12	12.0	721.2	35.7		
	6	5.0	365.6	2.9		13	14.0	754.3	33.0		
	7	6.0	385.3	19.7		14	16.0	787.8	33.6		
	8	7.0	404.1	18.8		15	18.0	815.7	27.9		
	9	8.0	426.7	22.6		16	20.0	844.6	28.8		
	10	9.0	448.5	21.8		17	22.0	874.3	29.8		
	11	10.0	469.7	21.2		18	24.0	904.4	30.0		
	12	11.0	493.5	23.8		19	26.0	931.3	26.9		
	13	12.0	508.7	15.2		20	28.0	958.0	26.7		
	14	13.0	531.3	22.6		21	30.0	985.4	27.4		
	15	14.0	552.5	21.3		22	35.0	1045.7	60.3		
C	16	15.3	576.2	23.7		23	40.0	1109.2	63.5		
FIRST CLOSED-IN						SECOND CLOSED-IN					
C	1	0.0	576.2			F	1	0.0	1305.4		
	2	1.0	951.9	375.6	0.9 1.232		2	1.0	1680.9	375.5	1.0 1.890
	3	2.0	1482.7	906.5	1.7 0.944		3	2.0	1810.2	504.8	1.9 1.589
	4	3.0	1765.2	1189.0	2.5 0.785		4	3.0	1834.7	529.3	2.9 1.420
	5	4.0	1815.1	1238.9	3.1 0.687		5	4.0	1848.6	543.2	3.8 1.302
	6	5.0	1840.5	1264.2	3.8 0.608		6	5.0	1858.4	553.0	4.7 1.203
	7	6.0	1855.7	1279.4	4.3 0.551		7	6.0	1864.9	559.5	5.5 1.133
	8	7.0	1866.8	1290.5	4.8 0.505		8	7.0	1869.6	564.2	6.4 1.069
	9	8.0	1875.7	1299.5	5.2 0.465		9	8.0	1874.2	568.8	7.2 1.020
	10	9.0	1881.8	1305.5	5.7 0.432		10	9.0	1878.9	573.5	8.0 0.972
	11	10.0	1887.4	1311.2	6.0 0.404		11	10.0	1882.2	576.8	8.8 0.932
	12	12.0	1894.9	1318.7	6.7 0.358		12	12.0	1887.3	581.9	10.3 0.864
	13	14.0	1901.3	1325.1	7.3 0.321		13	14.0	1890.9	585.5	11.8 0.806
	14	16.0	1906.0	1329.8	7.8 0.292		14	16.0	1894.1	588.7	13.2 0.758
	15	18.0	1909.3	1333.0	8.3 0.268		15	18.0	1897.6	592.2	14.6 0.715
	16	20.0	1912.4	1336.2	8.7 0.247		16	20.0	1900.4	595.0	15.8 0.679
	17	22.0	1915.3	1339.1	9.0 0.230		17	22.0	1902.2	596.8	17.0 0.647
	18	24.0	1917.1	1340.9	9.3 0.214		18	24.0	1903.6	598.2	18.2 0.617
	19	26.0	1918.7	1342.5	9.6 0.201		19	26.0	1905.4	600.0	19.3 0.592
	20	28.0	1920.1	1343.8	9.9 0.189		20	28.0	1906.5	601.1	20.4 0.567
D	21	29.0	1920.9	1344.7	10.0 0.184		21	30.0	1907.4	602.0	21.5 0.546
SECOND FLOW						SECOND FLOW					
E	1	0.0	524.6				22	35.0	1909.7	604.3	23.9 0.499
	2	1.0	524.5	-0.1			23	40.0	1912.1	606.7	26.1 0.461
	3	2.0	528.2	3.7			24	45.0	1913.6	608.2	28.2 0.428
	4	3.0	549.7	21.5			25	50.0	1914.8	609.4	30.1 0.400
	5	4.0	571.6	21.9			26	55.0	1915.9	610.5	31.8 0.375
	6	5.0	592.5	20.9			27	60.0	1917.1	611.7	33.4 0.354
	7	6.0	612.8	20.3			28	70.0	1919.1	613.7	36.3 0.318
							29	80.0	1920.5	615.1	38.8 0.288
							30	90.0	1920.9	615.5	41.0 0.264

REMARKS:

TICKET NO: 34630400

CLOCK NO: 2240 HOUR: 24

GAUGE NO: 8630

DEPTH: 5915.9

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
31	100.0	1921.5	616.1	43.0	0.244
32	110.0	1922.8	617.4	44.7	0.227
33	120.0	1923.3	617.9	46.3	0.212
34	135.0	1924.3	618.9	48.4	0.193
35	150.0	1924.6	619.2	50.2	0.177
36	165.0	1925.1	619.7	51.8	0.164
37	180.0	1925.9	620.5	53.2	0.152
38	195.0	1926.5	621.1	54.4	0.142
G 39	210.5	1927.4	622.0	55.5	0.133

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

REMARKS:

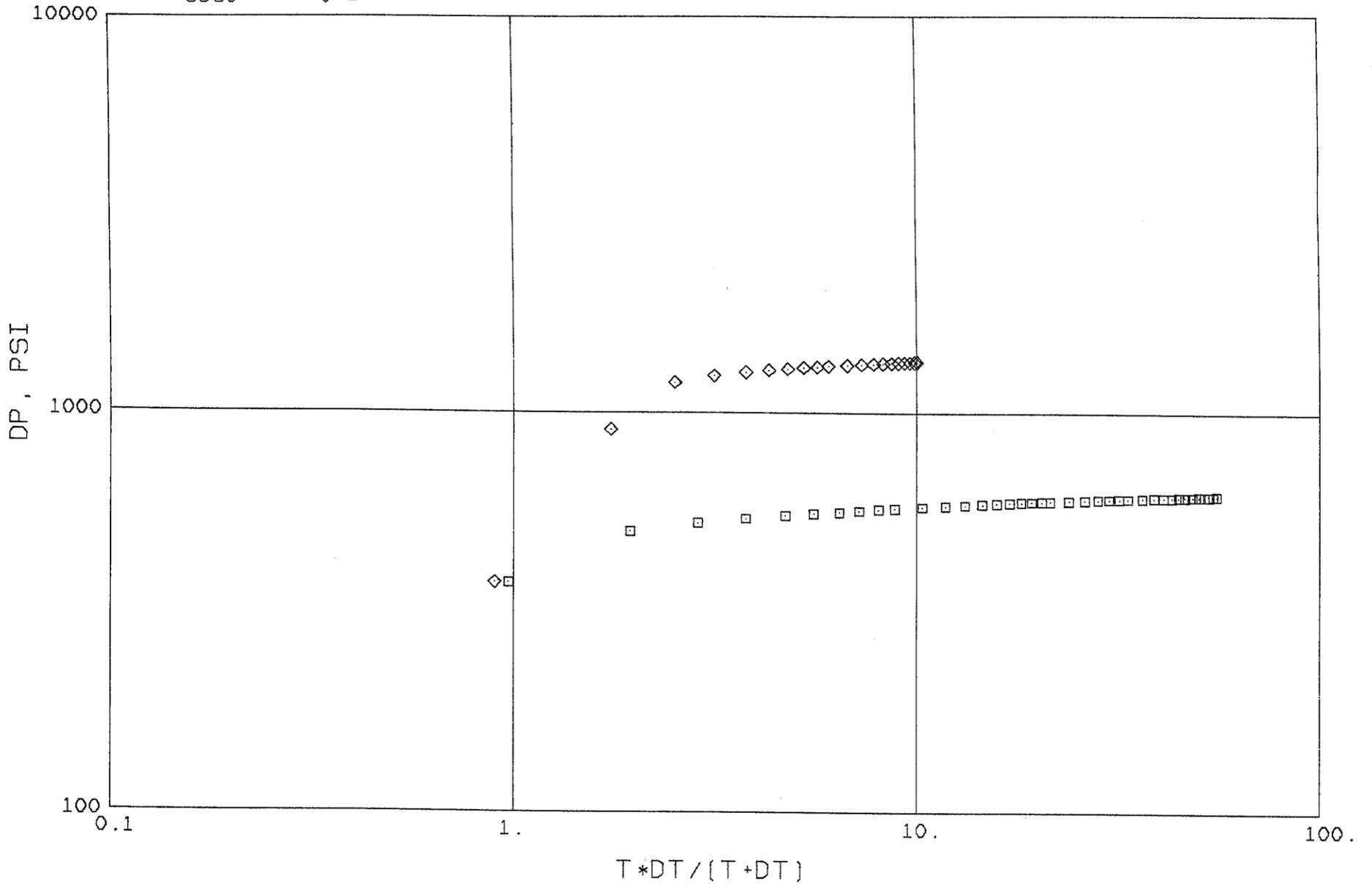
122

TICKET NO. 34630400

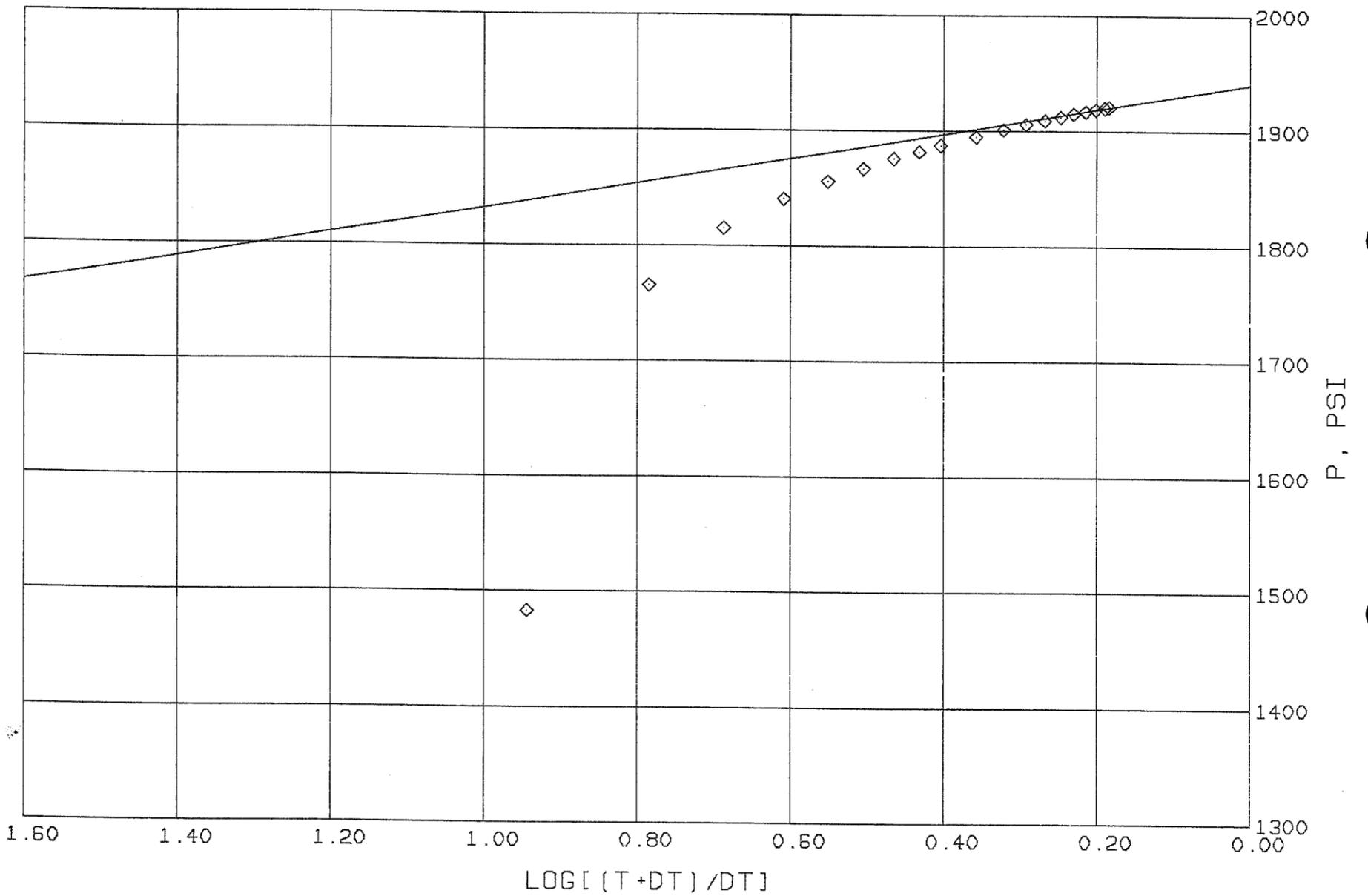
		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	5126.5	
4	FLEX WEIGHT.....	4.500	2.764	173.4	
3	DRILL COLLARS.....	6.000	2.875	466.3	
50	IMPACT REVERSING SUB.....	6.000	3.000	1.0	5766.7
3	DRILL COLLARS.....	6.000	2.875	56.9	
5	CROSSOVER.....	6.000	2.375	0.8	
13	DUAL CIP SAMPLER.....	5.000	0.750	7.0	
60	HYDROSPRING TESTER.....	5.000	0.750	5.0	5835.9
87	ELECTRONIC GAUGE RUNNING CASE...	5.000	2.250	5.1	
15	JAR.....	5.000	1.750	5.0	
16	VR SAFETY JOINT.....	5.000	1.000	2.7	
70	OPEN HOLE PACKER.....	7.000	1.530	5.1	5853.7
70	OPEN HOLE PACKER.....	7.000	1.530	7.4	5861.2
5	CROSSOVER.....	6.000	2.375	0.9	
3	DRILL COLLARS.....	6.000	2.875	27.9	
5	CROSSOVER.....	6.000	2.375	0.7	
20	FLUSH JOINT ANCHOR.....	5.000	2.250	23.0	
81	BLANKED-OFF RUNNING CASE.....	5.000		4.1	5915.9
TOTAL DEPTH					5919.0

EQUIPMENT DATA

GAUGE NO CIP 1 2  
8630  $\diamond$   $\square$

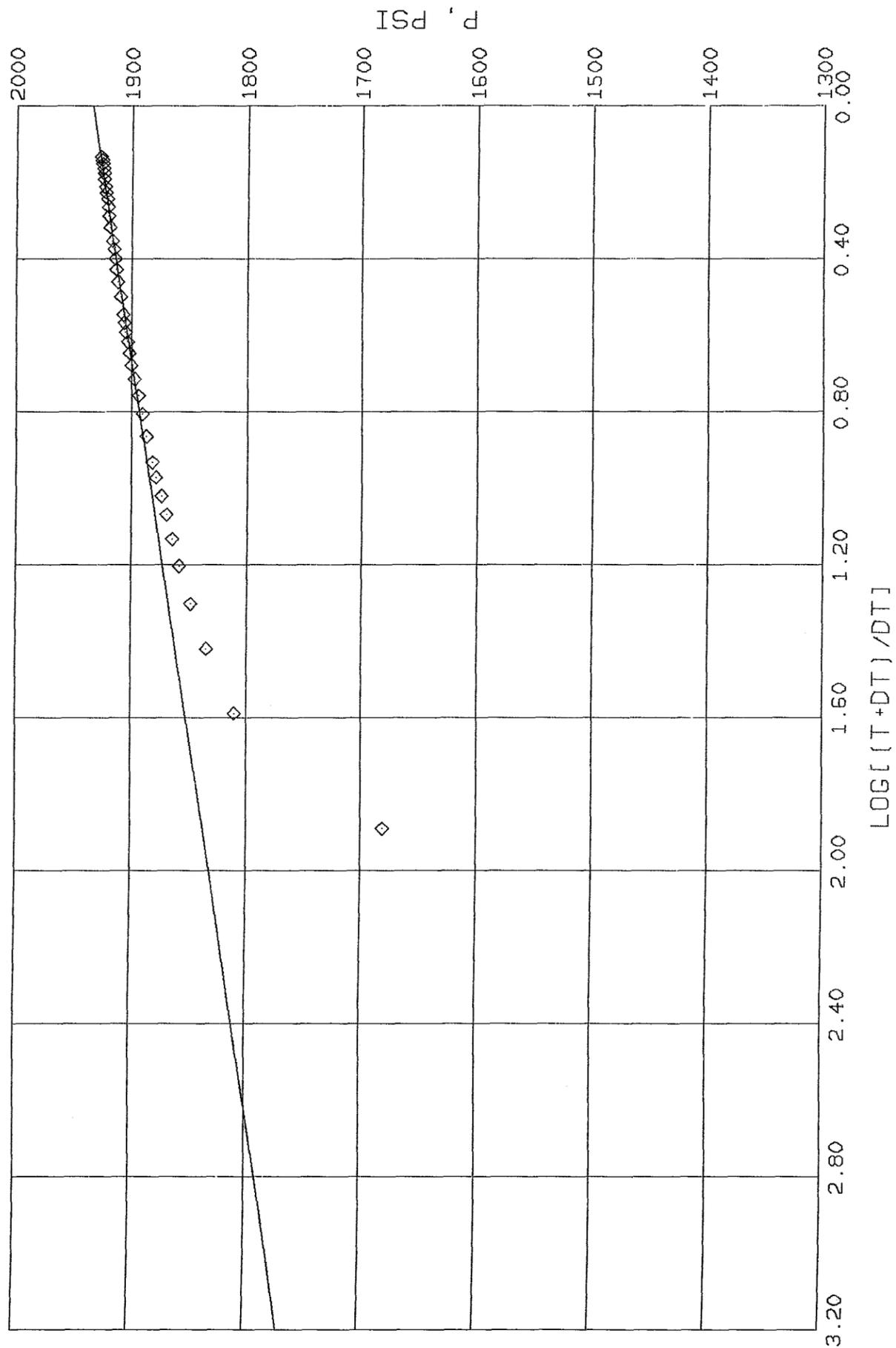


GAUGE NO CIP 1 2  
8630  $\diamond$



TICKET NO 34630400

GAUGE NO CIP 1 2  
8630



TICKET NUMBER 34630400

921

### SUMMARY OF RESERVOIR PARAMETERS USING HORNER METHOD FOR LIQUID WELLS

OIL GRAVITY 36.0 °API@60 °F      WATER SALINITY 0.0 % SALT  
 GAS GRAVITY 0.650      FLUID GRADIENT 0.3660 psi/ft  
 GAS/OIL RATIO 366.6 SCF/STB      FLUID PROPERTIES AT 1935.0 psig  
 TEMPERATURE 165.0 °F      VISCOSITY 0.804 cp  
 NET PAY 30.0 ft      FMT VOL FACTOR 1.238 Rvol/Svol  
 POROSITY 10.0 %      SYSTEM COMPRESSIBILITY 16.96 x10<sup>-6</sup> vol/vol/psi  
 PIPE CAPACITY FACTORS 0.00803 0.00742 0.01422 bbl/ft

GAUGE NUMBER		8630	8630					
GAUGE DEPTH		5916.0	5916.0					
FLOW AND CIP PERIOD		1	2					UNITS
FINAL FLOW PRESSURE	P <sub>f</sub>	576.2	1305.4					psig
TOTAL FLOW TIME	t	15.3	75.4					min
EXTRAPOLATED PRESSURE	P*	1940.3	1934.7					psig
ONE CYCLE PRESSURE		1831.8	1883.3					psig
PRODUCTION RATE	Q	1148.1	1062.7					BPD
TRANSMISSIBILITY	kh/μ	2130.2	4161.4					md-ft cp
FLOW CAPACITY	kh	1713.66	3347.73					md-ft
PERMEABILITY	k	57.1221	111.591					md
SKIN FACTOR	S	9.0	7.5					
DAMAGE RATIO	DR	2.7	2.1					
POTENTIAL RATE	Q <sub>1</sub>	3043.3	2270.0					BPD
RADIUS OF INVESTIGATION	r <sub>i</sub>	104.6	324.5					ft

REMARKS:

**NOTICE:** BECAUSE OF THE UNCERTAINTY OF VARIABLE WELL CONDITIONS AND THE NECESSITY OF RELYING ON FACTS AND SUPPORTING SERVICES FURNISHED BY OTHERS, HRS IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, JOB RECOMMENDATION OR OTHER DATA FURNISHED BY HRS. HRS PERSONNEL WILL USE THEIR BEST EFFORTS IN GATHERING SUCH INFORMATION AND THEIR BEST JUDGMENT IN INTERPRETING IT BUT CUSTOMER AGREES THAT HRS SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING FROM THE USE OF SUCH INFORMATION EXCEPT WHERE DUE TO HRS GROSS NEGLIGENCE OR WILLFUL MISCONDUCT IN THE PREPARATION OF FURNISHING OF INFORMATION.

## EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6 QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu} \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[ \frac{P^* - P_i}{m} - \text{LOG} \left( \frac{k (t/60)}{\phi \mu c_i r_w^2} \right) + 3.23 \right]$	
Damage Ratio	$DR = \frac{P^* - P_i}{P^* - P_i - 0.87 mS}$	
Theoretical Potential w/Damage Removed	$Q_1 = Q DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k (t/60)}{\phi \mu c_i}}$	ft

## EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{.001637 Q_g T}{m}$	md-ft
Average Effective Permeability	$kh = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[ \frac{m(P^*) - m(P_i)}{m} - \text{LOG} \left( \frac{k (t/60)}{\phi \mu c_i r_w^2} \right) + 3.23 \right]$	
Damage Ratio	$DR = \frac{m(P^*) - m(P_i)}{m(P^*) - m(P_i) - 0.87 mS}$	
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_i)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_i)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k (t/60)}{\phi \mu c_i}}$	ft

Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, Halliburton is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by Halliburton. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it but customer agrees that Halliburton shall not be responsible for any damages arising from the use of such information except where due to Halliburton gross negligence or willful misconduct in the preparation of furnishing of information.

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>			5. LEASE DESIGNATION AND SERIAL NUMBER: <b>U-76283</b>
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____			7. UNIT or CA AGREEMENT NAME:
2. NAME OF OPERATOR: <b>Robert L. Bayless, Producer LLC</b>			8. WELL NAME and NUMBER: <b>Horse Canyon Federal 1-10</b>
3. ADDRESS OF OPERATOR: PO Box 168 CITY <b>Farmington</b> STATE <b>NM</b> ZIP <b>87499</b>		PHONE NUMBER: <b>(505) 326-2659</b>	9. API NUMBER: <b>037-31796</b>
4. LOCATION OF WELL FOOTAGES AT SURFACE: <b>2540' FNL &amp; 508' FEL</b>			COUNTY: <b>San Juan</b>
QTR/CTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SENE 10 38S 23E</b>			STATE: <b>UTAH</b>

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will start: _____  <input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of work completion: _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input checked="" type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/RESUME) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input type="checkbox"/> OTHER: _____

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

5/23 -31/2007: Road rig to location and rig up Bobby Higgins Well Service. Trip out rods and pump. Nipple up BOP. Trip out tubing.

6/1/2007: Pick up bridge plug and packer and trip in hole looking for casing leak. Trip in and tested several settings and isolated casing leak at 4250 to 4282'. Trip out packer to 4055'.

6/4/2007: Drop sand on bridge plug. Wait on cementers. Rig up. Set packer. Pump 24 BBL water to clear sand and establish rate. Pump 418 sx Type 5 cement ( 861 cf)12.5 ppg, 2% metasylicate. Pump 100 sx Type 5 cement (132 cf) 14.8 ppg. Good circulation throughout job. Displace with 12 BBL water and close bradenhead. Pump 12 BBL water to clear packer. Pump 1 BBL. Squeeze to 900 PSI. Pump ¼ BBL squeeze to 1000 PSI. Release packer and pick up 1 jt. Reverse out with 35 BBL. Put 500 PSI on casing and shut in. Wait on cement.

6/5 - 6/2007: Trip out packer.

6/7/2007: Pick up bit, 2 DC's, and trip in to drill out cement. Tag cement at 4019'. Drill hard cement to 4294'. Trip in 3 stands and circulate well clean. Pressure test casing to 350 PSI. Held OK. Trip out.

6/8/2007: Pick up retrieving head. Pick up BP and trip out of hole. Trip in with saw tooth collar, 1 jt. 2 7/8" tubing, seating nipple, 180 jts. 2 7/8" tubing. Clean out to PBD.

6/11-12/2007: Nipple down BOP. Trip in rods and pump. Hang well on. Load tubing. Started pumping. Rig down.

NAME (PLEASE PRINT) <u>Tom McCarthy</u>	TITLE <u>Engineer</u>
SIGNATURE	DATE <u>6/22/2007</u>

(This space for State use only)

(5/2000)

(See Instructions on Reverse Side)

**RECEIVED**  
**JUN 28 2007**  
DIV. OF OIL, GAS & MINING