

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG \_\_\_\_\_ ELECTRIC LOGS \_\_\_\_\_ FILE X WATER SANDS \_\_\_\_\_ LOCATION INSPECTED \_\_\_\_\_ SUB REPORT/abd \_\_\_\_\_

DATE FILED 12-1-86

LAND: FEE & PATENTED \_\_\_\_\_ STATE LEASE NO. \_\_\_\_\_ PUBLIC LEASE NO. U-20895 INDIAN \_\_\_\_\_

DRILLING APPROVED: 12-5-86

SUDDEN IN: \_\_\_\_\_

COMPLETED: \_\_\_\_\_ PUT TO PRODUCING: \_\_\_\_\_

INITIAL PRODUCTION: \_\_\_\_\_

GRAVITY A.P.I. \_\_\_\_\_

GOR: \_\_\_\_\_

PRODUCING ZONES: \_\_\_\_\_

TOTAL DEPTH: \_\_\_\_\_

WELL ELEVATION: \_\_\_\_\_

DATE ABANDONED: 1/18 4.7.88

FIELD: WILDCAT

UNIT: \_\_\_\_\_

COUNTY: SAN JUAN COUNTY

WELL NO. HAVASU FEDERAL 11-24 API #43-037-31295

LOCATION 560' FNL FT. FROM (N) (S) LINE. 720' FWL FT. FROM (E) (W) LINE. NW NW 1/4 - 1/4 SEC. 24

| TWP. | RGE. | SEC. | OPERATOR           | TWP. | RGE. | SEC. | OPERATOR |
|------|------|------|--------------------|------|------|------|----------|
| 38S  | 23E  | 24   | MERIDIAN OIL, INC. |      |      |      |          |

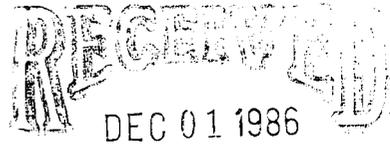
# MERIDIAN OIL

November 26, 1986

State of Utah Natural Resources  
Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Attention: Arlene Sollis

Re: Application for Permit to Drill  
11-24 Havasu-Federal  
NWNW Section 24-38S-23E  
San Juan County, Utah  
Federal Lease No. U-20895



DIVISION OF  
OIL, GAS & MINING

Gentlemen:

Enclosed are three copies of Form 3160-3, Application for Permit to Drill with attachments for the above referenced location.

Please be advised that Meridian Oil Inc. requests that all pertinent data for this location be granted TIGHT HOLE status.

If you have any questions, please do not hesitate to call me at 406-256-4122.

Sincerely,

A handwritten signature in cursive script, appearing to read "S. S. Nelson". The signature is written in dark ink and is positioned above the typed name.

S. S. Nelson  
Sr. Operations Technician

ssn

Encl

1175N

UNITED STATES  
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

**CONFIDENTIAL**

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

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

2. NAME OF OPERATOR  
 MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface: NWNW (560' FNL - 720' FWL)  
 At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 5 miles northwest of Hatch Trading Post

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 560'

16. NO. OF ACRES IN LEASE 1280.00

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1400'

19. PROPOSED DEPTH 6,414' *what*

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 5419' GL (graded)

22. APPROX. DATE WORK WILL START\* 1st Quarter, 1987

5. LEASE DESIGNATION AND SERIAL NO.  
 U-20895

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
 N/A

7. UNIT AGREEMENT NAME  
 N/A

8. FARM OR LEASE NAME  
 Havasu-Federal

9. WELL NO.  
 11-24

10. FIELD AND POOL, OR WILDCAT  
 Havasu WILDCAT

11. SEC., T., E., M., OR BLK. AND SURVEY OR AREA  
 Section 24-38S-23E

12. COUNTY OR PARISH San Juan

13. STATE Utah

PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT  |
|--------------|----------------|-----------------|---------------|---|
| 17-1/2       | 13-3/8         | 48#             | 80            | Redi-Mix to surface.  |
| 11           | 8-5/8          | 24#             | 2,200         | Single Stage. Cmt to sfc w/425 sx "B"+3% salt+16% gel+.2% rtrdr & 110 sx "B"+2% CaCl <sub>2</sub>                         |
| 7-7/8        | 5-1/2          | 15.5#           | 6,414         | Single Stage. TOC @ 1500'. Caliper log + 20% excess. "B" + 16% gel + 3% salt + .4% rtrdr & "B" + 3% Kcl + .8% fluid loss. |

Oil and Gas Order #1  
 Attachments  
 Survey Plat  
 Eight Point Drilling Program  
 Thirteen Point Surface Use Plan

**CONFIDENTIAL INFORMATION**  
**RECEIVED**  
 DEC 01 1986  
 DIVISION OF OIL, GAS & MINING

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

SIGNED *BJ Winters* TITLE Sr. Drilling Engineer DATE 11/25/86

(This space for Federal or State office use)

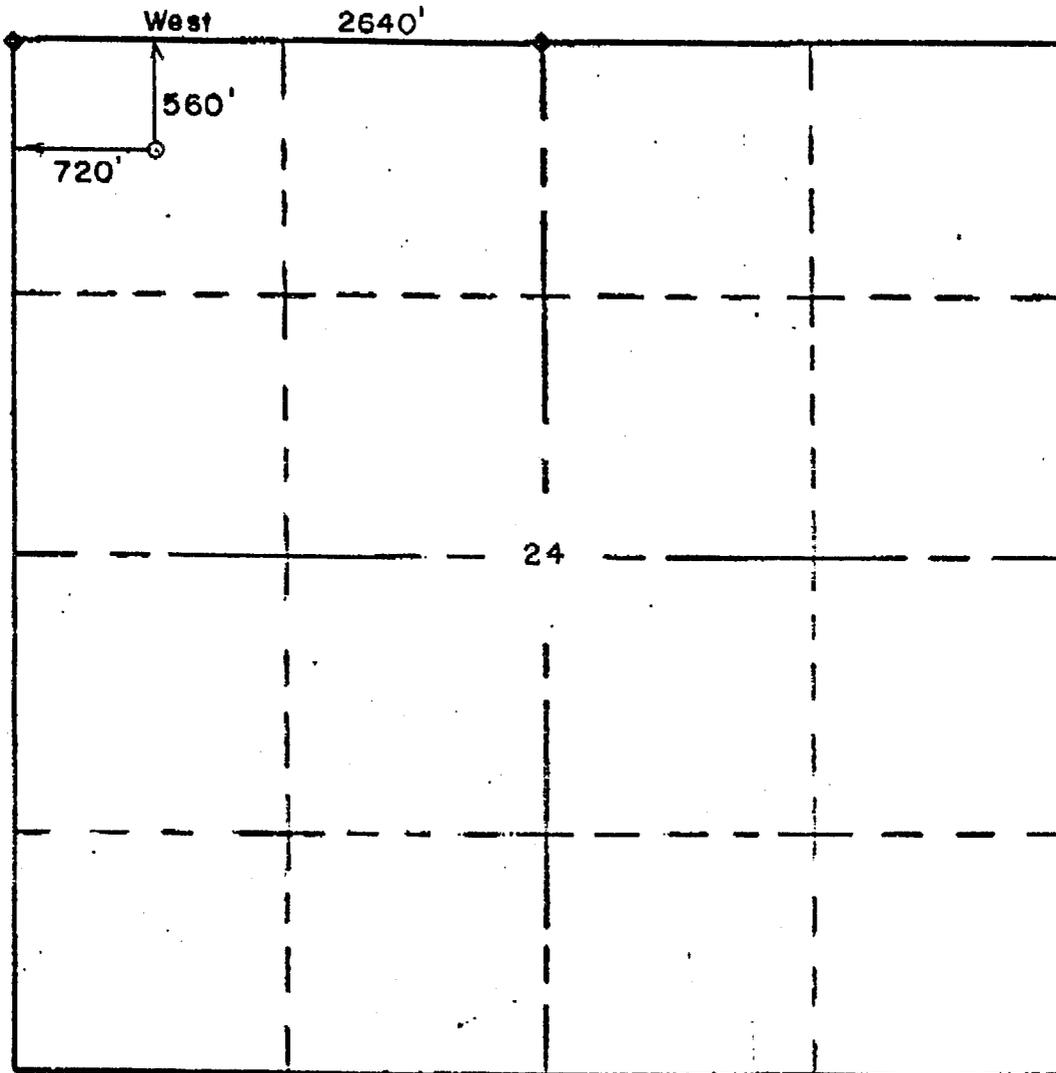
PERMIT NO. 43-037-31295 APPROVAL DATE 12-5-86  
 APPROVED BY *John R. Bay* DATE 12-5-86  
 BY: *John R. Bay*

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
 CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE  
 OF UTAH DIVISION OF  
 OIL, GAS, AND MINING  
 DATE 12-5-86  
 BY: *John R. Bay*  
 WELL SPACING: 302

\*See Instructions On Reverse Side

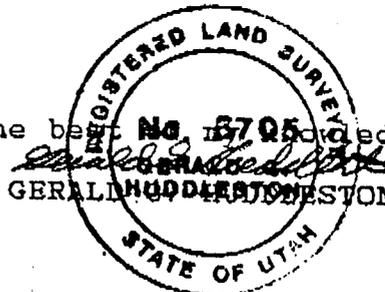
WELL LOCATION PLAT



WELL LOCATION DESCRIPTION:

Meridian Oil 11-24 Havasu Federal  
 560' FNL & 720' FWL  
 Section 24, T.38 S., R.23 E., SLM  
 San Juan County, Utah  
 5420' ground elevation  
 Reference: N0° 30' W, 413', 5437' grd.  
 6 Nov. 1986

The above is true to the best of my knowledge.



1369N

OIL AND GAS ORDER NO. 1

MERIDIAN OIL INC.

LEASE NAME: 11-24 Havasu-Federal  
LEASE NO. U-20895  
LOCATION: NWNW Section 24-38S-23E  
560' FNL - 720' FWL  
San Juan County, Utah  
Havasu Prospect

A. EIGHT POINT DRILLING PROGRAM

1. & 2. Estimated Tops:

|              |         |             |
|--------------|---------|-------------|
| Morrison     | Surface |             |
| Entrada      | 1060    |             |
| Navajo       | 1248    | fresh water |
| Chinle       | 2190    |             |
| Shinarump    | 3180    |             |
| Cutler       | 3300    |             |
| Hermosa      | 5052    |             |
| Upper Ismay  | 5992    | oil         |
| Top Porosity | 6018    |             |
| A Shale      | 6125    |             |
| Lower Ismay  | 6153    |             |
| Desert Creek | 6243    | oil         |
| Chimney Rock | 6325    |             |
| Akah         | 6348    |             |
| TD           | 6414    |             |

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3. Pressure Control Equipment:

- a. A 3000 psi WP wellhead will be installed on the surface casing. A 3000 psi WP Annular preventer and 3000 psi WP double gate preventer equipped with blind and pipe rams will be nipped up on wellhead.
- b. BOP systems will be consistent with API RP 53. Annular preventer will be tested to 1500 psi against casing. Pipe and blind rams, choke line and manifold will be tested to 2000 psi against casing. Casing will be tested to 2000 psi prior to drilling float shoe. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventor controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. Casing program:

Anticipated cement tops will be reported as to depth, not the expected number of sacks. The San Juan Resource Area will be notified 1 day before running casing strings and cement.

| <u>Hole Size</u> | <u>Size</u> | <u>Depth</u> | <u>Casing</u> |              |             |     | <u>Cond</u>  | <u>Cementing Program</u> |
|------------------|-------------|--------------|---------------|--------------|-------------|-----|--|--------------------------|
|                  |             |              | <u>Weight</u> | <u>Grade</u> | <u>Thrd</u> |     |  |                          |
| 17-1/2           | 13-3/8      | 80           | 48#           | H-40         | ST&C        | New | Redi-Mix to surface.   |                          |
| 11               | 8-5/8       | 2,200        | 24#           | K-55         | ST&C        | New | Single stage.<br>Cement to sfc w/425<br>sx "B" + 3% salt +<br>16% gel + .2%<br>retarder & 110 sx<br>"B" + 2% CaCl <sub>2</sub> .               |                          |
| 7-7/8            | 5-1/2       | 6,414        | 15.5#         | K-55         | LT&C        | New | Single stage. TOC @<br>1500'. Caliper log<br>+ 20% excess. "B" +<br>16% gel + 3% salt +<br>.4% retarder & "B" +<br>3% Kcl + .8% fluid<br>loss. |                          |

5. Proposed drilling mud program:

A water base mud system from surface to TD. Maximum anticipated mud weight is 9.3#/gallon.

A mud logging unit will be on location from 3300' to TD.

6. Testing program:

Upper Ismay - Probable  
 Desert Creek - Possible

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Logging program:

GR/DLL/MSFL Base surface casing to TD (GR to surface)  
 GR/CNL/FDC Base surface casing to TD  
 GR/Sonic Base surface casing to TD (GR to surface display)  
 Directional Survey Base surface casing to TD  
 Dipmeter: If Desert Creek indicates productive.

Coring program:

None planned.

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 not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, 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. If requested, samples (cuttings, fluids, and/or gases) will be submitted to the District Manager.

7. Anticipated abnormal BHP or BHT:

No abnormal BHP or BHT are expected in this well.

Potentially hazardous conditions anticipated:

No H<sub>2</sub>S has been found, reported or is known to exist at these depths in this area.

8. Anticipated Starting Dates and Notifications of Operations

The operator will contact the San Juan Resource Area at 801-587-2141, 48 hours before beginning any dirt work.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the San Juan Area Manager, a minimum of 24 hours before spudding. A Sundry Notice (Form 3160-5) will be sent within 24 hours after spudding, reporting the spud date and time. The Sundry will be sent to the District Manager. ~~If the spudding is on a weekend or holiday, the Sundry will be submitted on the following regular work day.~~

In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329, "Monthly Report of Operations," starting with the month in which operations begin and continue each month until the well is physically plugged and abandoned. This report will be sent to the BLM District Office, P. O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NTL-3A.

If a replacement rig is planned for completion operations, a Sundry Notice (Form 3160-5) to that effect will be filed, for prior approval of the District Manager. All conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergencies, verbal approval can be given by the District Petroleum Engineer.

If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than 5 business days following the date on which the well is placed on production.

No well abandonment operations will begin without the prior approval of the District Manager. In the case of newly drilled dry holes or failures, and in emergencies, oral approval will be obtained from the District Petroleum Engineer. A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration.

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 San Juan Area Manager, or the appropriate surface manager.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The following information will be permanently beaded-on with a welding torch: Fed. well number, location by 1/4 1/4 section, township and range, Lease number.

A first production conference will be scheduled within 15 days after receipt of the first production notice. The San Juan Area Manager will schedule the conference.

Other: A separate rig will be used for completion operations.

The following may be inspected and/or witnessed:

1. The cementing and testing of surface casing.
2. (Dry Hole) Setting and testing of surface casing shoe plug.
3. (Depleted Producer) The setting and testing of plugs across the producing horizon and if applicable, the surface casing shoe plug and/or annulus (casing to formation) squeeze jobs.

Notify the San Juan Resource Area (Mike Wade) one day or on dry hole as soon as possible prior to the above at (801) 587-2141 (Home) (801) 587-2026 or if unable to reach Mike, call Moab District office Greg Noble at (801) 259-6111 (Home) (801) 259-8811.

B. THIRTEEN POINT SURFACE USE PLAN

1. Existing Roads (Yellow)

- a. Location of proposed well in relation to town or other reference point:  
5 miles northwest of Hatch Trading Post.
- b. Proposed route to location. (See attached Exhibit "1").
- c. Existing and new access shall be maintained in good or better condition.
- d. An encroachment permit will be obtained from the San Juan County Road Department.

2. Planned Access Roads (Blue)

- a. The maximum total width will be 30 feet.
- b. Maximum grade is 5%.
- c. Turnouts will be constructed as needed.
- d. Road is centerline flagged.
- e. Road will be drained as needed.
- f. If well is drilled during wet winter conditions, surface materials may be required to avoid maintenance problems.

Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the San Juan Area Manager.

The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drill rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.

The Class III Road Standards which ensure drainage control over the entire road through the use of natural, rolling topography; ditch turnouts; drainage dips; outsloping; crowning; low water crossing; and culverts will be determined at the appropriate field inspection.

3. Location of Existing Wells (1 mile radius)

- a. Existing wells in the area are shown on attached Exhibit "1".

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

- a. Battery facility is shown on attached Exhibit "4".

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All permanent (on site for 6 months or longer) above ground facilities (including pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain 5-State Interagency Committee. All facilities will be painted within 6 months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The color will be Desert Brown.

All flowlines will be buried parallel to existing roads unless authorized otherwise by BLM.

If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the battery.

All loading lines will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place before any deliveries. Tests for meter accuracy will be conducted monthly for the first 3 months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the San Juan Area Manager. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

##### 5. Location and Type of Water Supply

All water needed for drilling purposes will be hauled by Hay Hot Oil Service, a commercial water hauler, from a private source.

Use of water for this operation will be approved by obtaining a temporary use permit from the Utah State Engineer, (801) 637-1303 and by receiving permission from the landowner or surface management agency to use the land containing the water source.

6. Source of Construction Materials

Native soil materials from drilling location and access trail, which is available, will be used. Any additional materials needed will be hauled in from authorized commercial sources.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

7. Methods for Handling Waste Disposal

The reserve pit will not be lined with commercial bentonite sufficient to prevent seepage. At least half of the capacity will be in cut.

Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.

A trash pit will be constructed near the mud tanks and dug at least six feet into solid undisturbed material. It will be totally enclosed with a fine wire mesh before the rig moves in. The road and pad will be kept litter free.

A burning permit is required for burning trash between May 1 and October 31. This can be acquired by contacting the San Juan County Sheriff (801) 587-2237.

Produced waste water will be confined to a (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 for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

8. Ancillary Facilities

Camp facilities will not be required.

9. Well Site Layout

Rig layout is shown on attached Exhibit "9a".

Cuts and fills are shown on attached Exhibit "9b".

The reserve pit will be located on the south side of the well pad.

The top 8 inches of soil material will be removed from the location and stockpiled on the west side of well pad. Topsoil along the access will be reserved in place.

Access to the well pad will be from the northwest.

10. Reclamation:

- a. Immediately on completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash pit and will then be compacted and buried under a minimum of two feet of compacted soil.
- b. The operator/holder or his contractor will contact the San Juan Resource Area office in Monticello, Utah, (801) 587-2141, 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.
- c. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.
- d. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.
- e. The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 12 inches deep with the contour.

- f. Water bars will be built as follows to control erosion.

| <u>Grade</u> | <u>Spacing</u> |
|--------------|----------------|
| 2%           | Every 200 feet |
| 2-4%         | Every 100 feet |
| 4-5%         | Every 75 feet  |
| 5+%          | Every 50 feet  |

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- g. Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.  
2 lbs/acre Galleta (Hilaria jamesii)  
4 lbs/acre crested wheatgrass (Agropyron desertorum)  
2 lbs/acre Fourwing saltbush (Atriplex canescens)
- h. After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed areas. The access will be blocked to prevent vehicular access.
- i. The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed as described in the reclamation section. Enough topsoil will be kept to reclaim the remainder of the location at a future date. This remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

11. Surface Ownership: Federal  
Mineral Ownership: Federal

12. Other Information

Archeological site on southeast side of location will be fenced prior to construction.

There will be no change from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor will be provided with an approved copy of the surface use plan.

If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the San Juan Resource Area Office will be contacted. All people who are in the area will be informed by the operator/holder that they are subject to prosecution for disturbing archaeological sites or picking up artifacts. Salvage or excavation of identified archaeological sites will be done by a BLM approved archaeologist only if damage occurs.

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

Your contact with the District Office is: Greg Noble  
Office Phone: 801-259-6111 Address: P. O. Box 970, Moab, UT 84532

Resource Area Manager's Address and contacts:  
Address: P. O. Box 7, Monticello, UT 84535

Your contact is: Rich McClure  
Office Phone: 801-587-2141

13. Lessee or Operator's Field Representative and Certification

Meridian Oil Inc.  
P. O. Box 1855  
Billings, Montana 59103

|    |                                       |              |              |
|----|---------------------------------------|--------------|--------------|
| 1. | Johnny L. Wright, Drilling Supt.      | 406-256-4175 | 406-252-2889 |
| 2. | Bill Lloyd, Drilling Engineer         | 406-256-4129 | 406-252-2328 |
| 3. | John Pulley, Completion Supt          | 406-256-4124 | 406-259-6156 |
| 4. | Barry Winstead, Sr. Drilling Engineer | 406-256-4030 | 406-656-7521 |

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and, that the work associated with the operations proposed herein will be performed by Meridian Oil Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

*WJ*

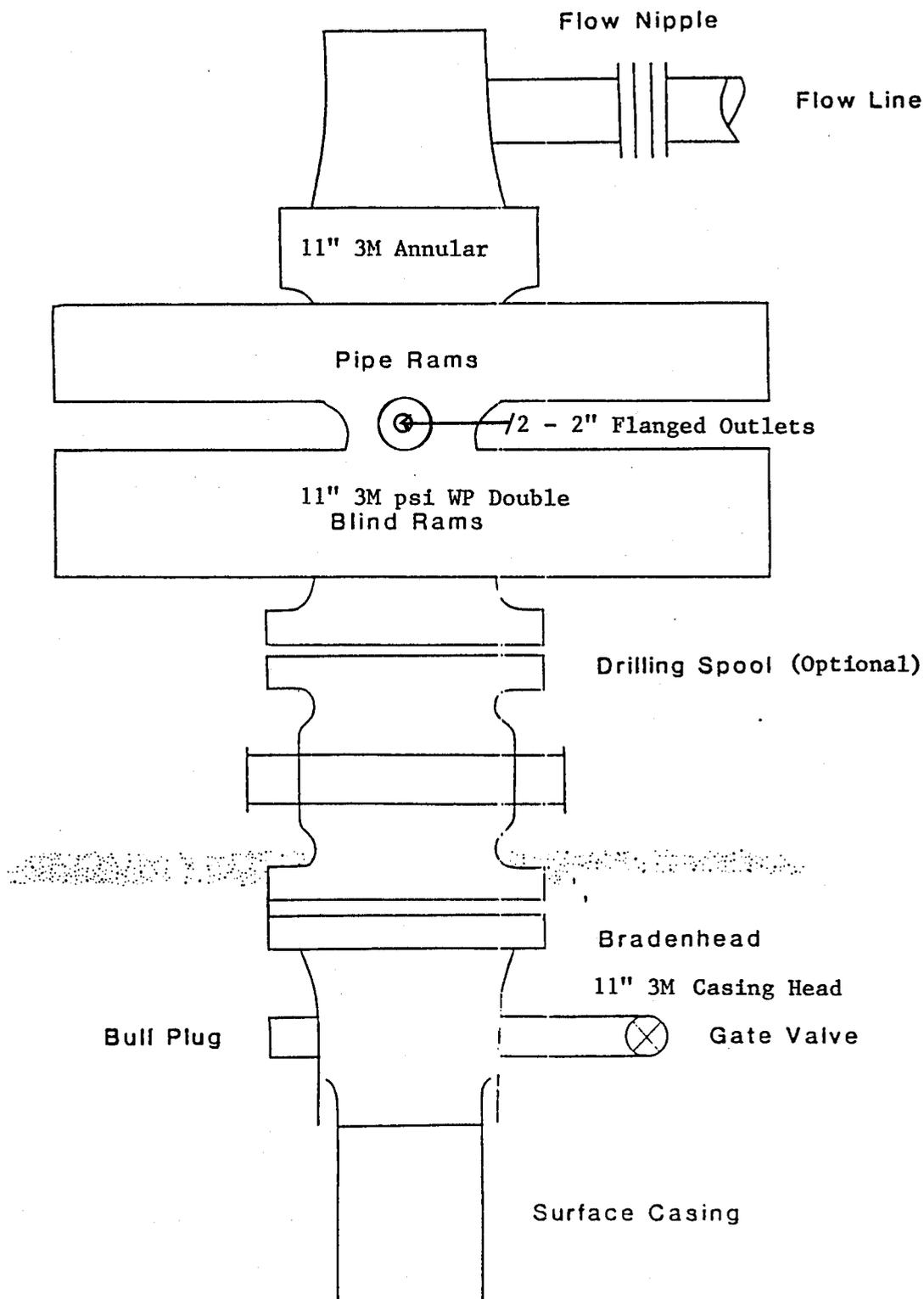
*Barry J. Winstead*  
Barry J. Winstead  
Sr. Drilling Engineer

11/25/86  
Date

SSN

CONFIDENTIAL INFORMATION

# TYPICAL B.O.P. INSTALLATION



Series 900 Double Gate B.O.P.,  
rated at 3000 psi Working Pressure.

When gas drilling operations begin a Shaffer type 50 or equivalent rotating head is installed on top of the flow nipple and the flow line is converted into a blowie line.

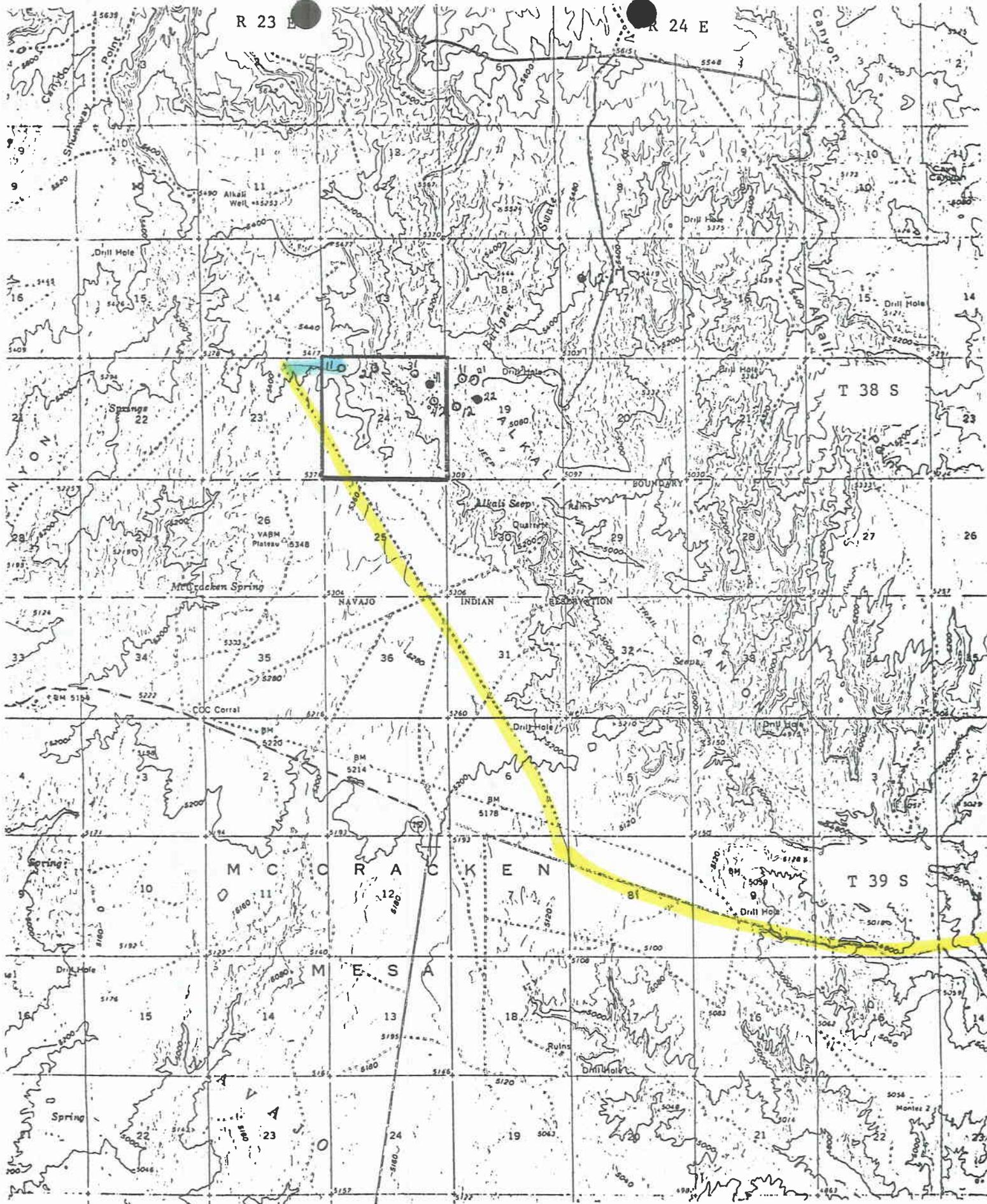


EXHIBIT "1"  
11-24 Havasu-Federal

# WELL PAD PLAN VIEW

11-24



1" = 60'

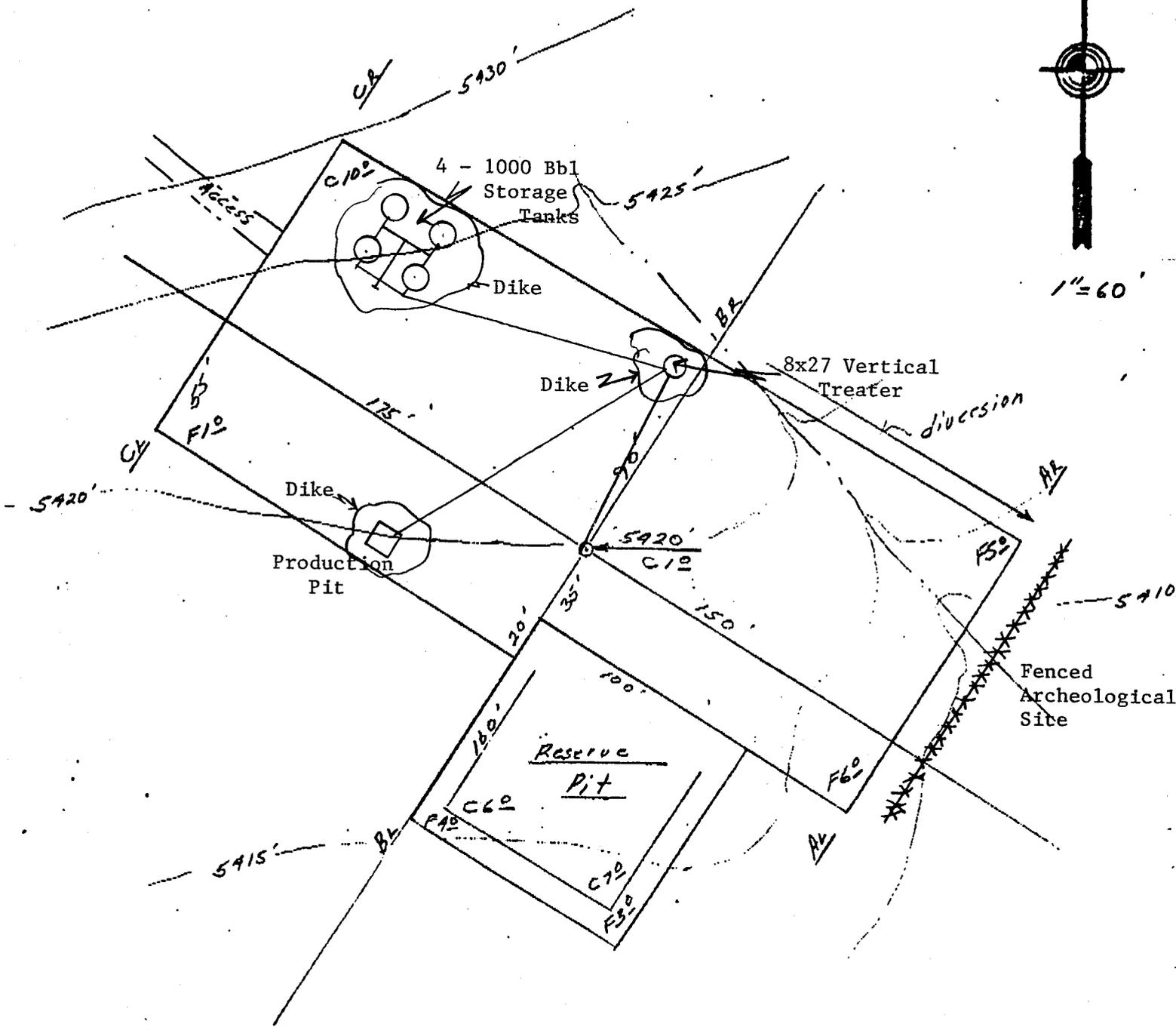


EXHIBIT "4"  
Battery Layout

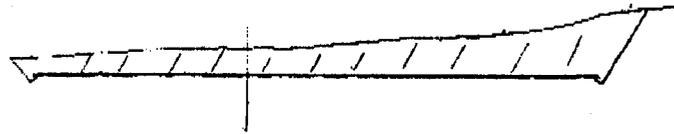


WELL PAD CROSS-SECTION

11-24

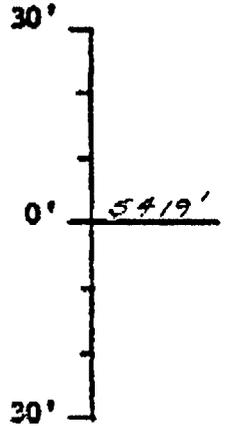
Cut   
Fill 

Scales: 1" = 60' H.  
1" = 30' V.



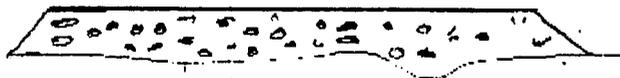
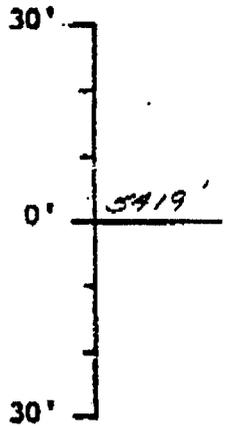
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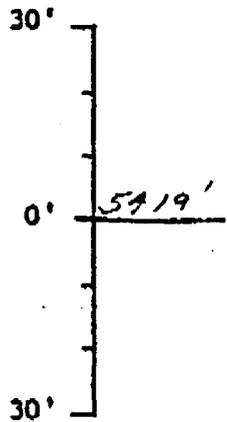


EXHIBIT "9b"  
Cross Sections

CONFIDENTIAL

121017

OPERATOR Meridian Oil, Inc. DATE 12-3-86  
WELL NAME Havasu Fed. 11-24  
SEC NW NW 24 T 38 S R 23 E COUNTY San Juan

43-037-31295  
API NUMBER

Fed.  
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 920'

Need water permit

APPROVAL LETTER:

SPACING:

203

UNIT

302

CAUSE NO. & DATE

302.1

STIPULATIONS:

1 Water



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

December 5, 1986

Meridian Oil, Inc.  
P. O. Box 1855  
Billings, Montana 59103

Gentlemen:

Re: Havasu Federal 11-24 - NW NW Sec. 24, T. 38S, R. 23E  
560' FNL, 720' FWL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Rule 302, Oil and Gas Conservation General Rules, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.

Page 2

Meridian Oil, Inc.

Havasu Federal 11-24

December 5, 1986

5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable State and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.
6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31295.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

as

Enclosures

cc: Branch of Fluid Minerals

D. R. Nielson

8159T

020912

*file*

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

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

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL       DEEPEN       PLUG BACK

b. TYPE OF WELL  
 OIL WELL       GAS WELL       OTHER

2. NAME OF OPERATOR  
 MERIDIAN OIL INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 1855, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)  
 At surface: NWNW (560' FNL - 720' FWL)  
 At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.  
 U-20895

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
 N/A

7. UNIT AGREEMENT NAME  
 N/A

8. FARM OR LEASE NAME  
 Havasu-Federal

9. WELL NO.  
 11-24

10. FIELD AND POOL, OR WILDCAT  
 Havasu

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Section 24-38S-23E

12. COUNTY OR PARISH  
 San Juan

13. STATE  
 Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 5 miles northwest of Hatch Trading Post

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)      560'

16. NO. OF ACRES IN LEASE      1280.00

17. NO. OF ACRES ASSIGNED TO THIS WELL      40

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.      1400'

19. PROPOSED DEPTH      6,414'

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5419' GL (graded)

22. APPROX. DATE WORK WILL START\*  
 1st Quarter, 1987

23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT   |
|--------------|----------------|-----------------|---------------|--|
| 17-1/2       | 13-3/8         | 48#             | 80            | Redi-Mix to surface.   |
| 11           | 8-5/8          | 24#             | 2,200         | Single Stage. Cmt to sfc w/425<br><small>or "R" 43% salt + 16% salt 2%</small> |

RECEIVED  
FEB 06 1987

**CONFIDENTIAL**  
DIVISION OF OIL, GAS & MINING

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

SIGNED *BJ A. Justice* TITLE Sr. Drilling Engineer DATE 11/25/86

PERMIT NO. 43-037-31295 APPROVAL DATE \_\_\_\_\_  
APPROVED BY Kenneth V. Rhea TITLE Acting DISTRICT MANAGER DATE FEB 05 1987

CONDITIONS OF APPROVAL ATTACHED

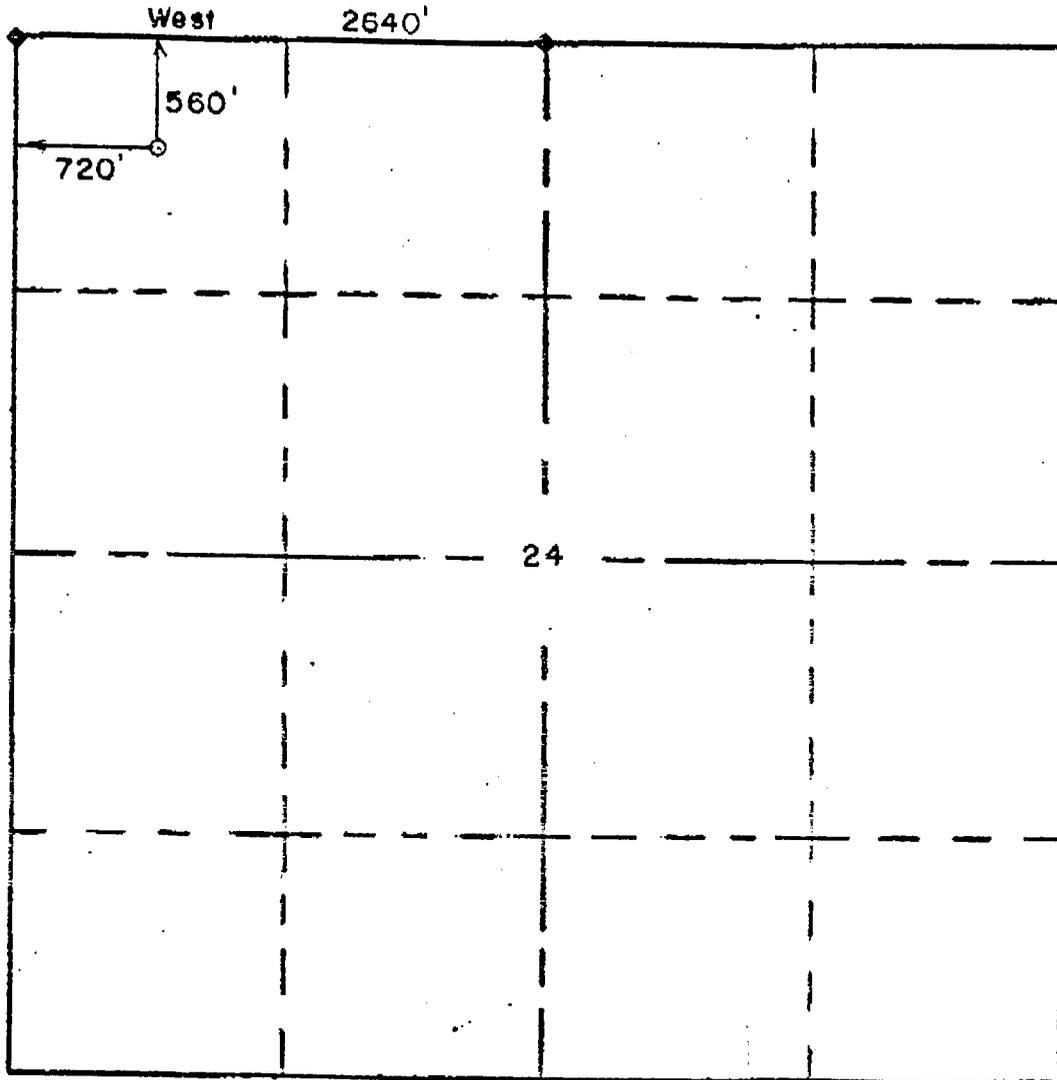
\*See Instructions On Reverse Side

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

Title 18 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.

*Check by Utah DOWM*

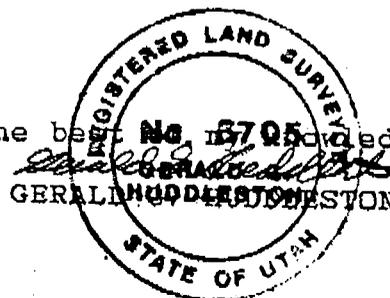
WELL LOCATION PLAT



WELL LOCATION DESCRIPTION:

Meridian Oil 11-24 Havasu Federal  
 560' FNL & 720' FWL  
 Section 24, T.38 S., R.23 E., SLM  
 San Juan County, Utah  
 5420' ground elevation  
 Reference: N0° 30' W, 413', 5437' grd.  
 6 Nov. 1986

The above is true to the best of my knowledge.



Meridian Oil Inc.  
Well No. Havasu-Federal 11-24  
Sec. 24, T. 38 S., R. 23 E.  
San Juan County, Utah  
Lease U-20895

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.

~~Columbia~~  
Meridian

375  
23E  
Sec. 24

43-037-31279 Pow 41-24

43-037-31295 Prl. 11-24 (Cont.)

43-037-31298 Pow 42-24

3046

CONFIDENTIAL  
O.G.M.

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
UTAH STATE OFFICE

REC'D HQD AUG 13 1984

OIL OR HAZARDOUS SUBSTANCE DISCHARGE

020822

1. Investigation Number \_\_\_\_\_ Date of Spill 1-24-88 Time \_\_\_\_\_ (Military)  
Spill Notification: By Bob and ALLEN POHAR Date 1-26-88 Time 10:30AM  
Investigators NONE YET  
Investigation Date \_\_\_\_\_ Time \_\_\_\_\_ Investigation Time (man/hrs) \_\_\_\_\_  
EPA Notification NA State Division of Health Notification NA

2. Place of spill T385 R33E S24 T40N F1E1 ALKALI CANYON  
Legal Description \_\_\_\_\_  
County SAN JUAN COUNTY Nearest Town BLANDING UT.  
Did spill enter a waterway? NO If so, name \_\_\_\_\_ class \_\_\_\_\_  
Extent of spill 40 BARRELS CRUDE  
Type of spill (Region VIII Contingency Plan Definitions) major \_\_\_\_\_ medium \_\_\_\_\_  
minor X  
Responsible Polluter MERIDIAN Address BILLINGS MONTANA  
Contact Person (if known) BILL BROWN Phone Number 406 256 4121

Type of Operation - check one: **CONFIDENTIAL**  
**O.G.M.**  
Pipeline \_\_\_\_\_ Tank Battery X  
Drilling \_\_\_\_\_ Transportation \_\_\_\_\_  
Refinery \_\_\_\_\_ List Vehicle \_\_\_\_\_  
Other \_\_\_\_\_

Type of Oil or Product and Amount:  
Gasoline \_\_\_\_\_ Crude **CONFIDENTIAL** X  
Kerosene \_\_\_\_\_ Other **O.G.M.** \_\_\_\_\_

Cause of spill STUCK TREATED DAMP - ALLOWED OIL TO FLOW INTO FLARE PIT WHERE IT WAS BURNED UP.

3. Draw a simple map showing permanent landmarks and extent of spill on the reverse side of this page.

4. Cleanup Operations: Date of Cleanup Completion \_\_\_\_\_ Time \_\_\_\_\_

Methods - check those which apply:  
Burning X Absorption \_\_\_\_\_  
Skimming \_\_\_\_\_ Burial \_\_\_\_\_  
Pumping \_\_\_\_\_ Other (explain) \_\_\_\_\_

Brief summary of cleanup operation (problem, etc.)  
There won't be much need for clean up since oil was restricted to flare pit and was burned up.

5. Remarks  
Will follow up on this when more photos available.

Moab District  
P. O. Box 970  
Moab, Utah 84532

APR 7 1988

Meridian Oil Inc.  
P. O. Box 1855  
Billings, MT 59103

Re: Rescinding Application for  
Permit to Drill  
Well No. Havasu-Federal 11-24  
Sec. 24, T. 38 S., R. 23 E.  
San Juan County, Utah  
Lease U-20895

43-037-31295

Gentlemen:

The Application for Permit to Drill the referenced well was approved on January 5, 1987. Since that date, no known activity has transpired at the approved location.

Applications for permit to drill are effective for a period of one year. In view of the foregoing, this office is rescinding the approval of the referenced application.

Should you intend to drill this location at a future date, a new application for permit to drill must be submitted.

If you have any questions, please contact the Branch of Fluid Minerals (801) 259-6111.

Sincerely yours,

/S/ GENE NODINE

District Manager

cc:  
State of Utah, Division of Oil, Gas and Mining ✓  
San Juan Resource Area

bcc:  
U-942, Utah State Office

CFreudiger/cf 4/7/88

APR 11 1988

DIVISION OF  
OIL, GAS & MINING



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 21, 1988

Meridian Oil Inc.  
P. O. Box 1855  
Billings, MT 59103

Gentlemen:

Re: Havasu-Federal 11-24, Sec.24, T.38S, R.23E,  
San Juan County, Utah, API No. 43-037 31295

In concert with action taken by the U.S. Bureau of Land Management, approval to drill the above referenced well is hereby rescinded. A new Application for Permit to Drill must be filed with this office for approval, prior to future drilling of the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division of Oil, Gas and Mining immediately.

Sincerely,

A handwritten signature in black ink, appearing to read 'John R. Baza', written over a printed name and title.

John R. Baza  
Petroleum Engineer

tc  
cc: BLM-Moab  
D. R. Nielson  
R. J. Firth  
Well file  
0327T-36