

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS WELL LOG ELECTRIC LOGS

FILE  WATER SANDS LOCATION INSP!

SUB. REPORT/abd

DATE FILED NOVEMBER 10, 1994

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. UTU-72677 INDIAN

DRILLING APPROVED DECEMBER 23, 1994

SPUDED IN

COMPLETED: PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: LOCATION ABANDONED PER BLM EFF JANUARY 22, 1996

FIELD: HORSESHOE BEND FIELD

UNIT: NA

COUNTY: UINTAH

WELL NO. HORSESHOE BEND #1-10 API NO. 43-047-32576

LOCATION 1912' FSL FT FROM (N) (S) LINE. 1844' FEL FT FROM (E) (W) LINE. NW SE 1/4 - 1/4 SEC 1

TWP.	RGE	SEC	OPERATOR
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TWP.	RGE	SEC.	OPERATOR
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7S	21E	1	SNYDER OIL CORP
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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  
 Snyder Oil Corporation Phone: (303) 592-8500

3. ADDRESS AND TELEPHONE NO.  
 1625 Broadway, Suite 2200, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface  
 1912' FSL, 1844' FEL (Lot 10) Section 1, T7S, R21E  
 At proposed prod. zone  
 Same As Above (NW SE)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 Approximately Fifteen (15) Miles South of Vernal, Utah

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1844'

16. NO. OF ACRES IN LEASE 170.36

17. NO. OF ACRES ASSIGNED TO THIS WELL 320

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

19. PROPOSED DEPTH 3820'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 5129' GR

22. APPROX. DATE WORK WILL START\* December 6, 1994

5. LEASE DESIGNATION AND SERIAL NO.  
 UTU-72677

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
 Not Applicable

7. UNIT AGREEMENT NAME  
 Not Applicable

8. FARM OR LEASE NAME, WELL NO.  
 Horseshoe Bend #1-10

9. AM WELL NO.

10. FIELD AND POOL, OR WILDCAT  
 Horseshoe Bend

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Section 1, T7S, R21E

12. COUNTY OR PARISH 13. STATE  
 Uintah Utah

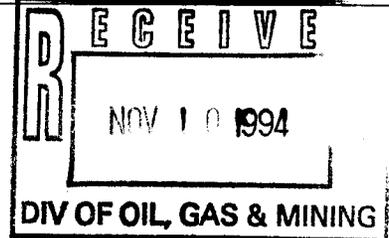
23. (ALL NEW) PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8" J-55	24.0#	0- 300'	250 sx Circulated to Surface *
7-7/8"	4-1/2" J-55	10.5#	0-3820'	700 sx Cement *

\* Cement volumes may change due to hole size. Calculate from Caliper Log.

EIGHT-POINT RESOURCE PROTECTION PLAN ATTACHED.

I hereby certify that Snyder Oil Corporation is authorized by the proper Lease Interest Owners to conduct lease operations associated with this Application for Permit to Drill the Horseshoe Bend #1-10, Federal Lease #UTU-72677. Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Snyder Oil Corporation, Nationwide Bond #WY-2272, who will be responsible for compliance with all the terms and conditions of that portion of the lease associated with this Application.



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 Tim A. Burns TITLE Drilling Engineer DATE 11/04/94  
 (This space for Federal or State office use)

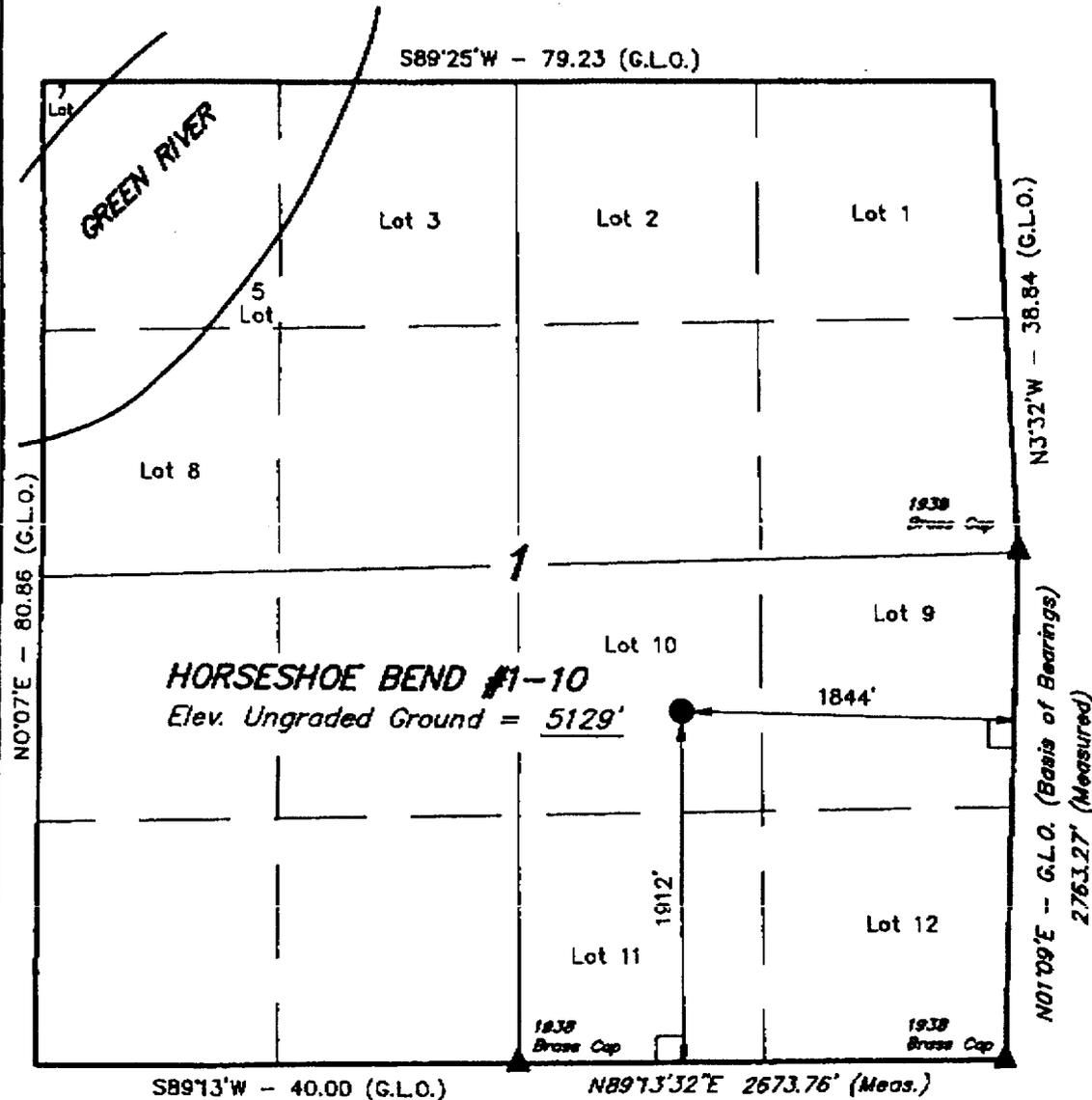
PERMIT NO. 43-047-32576 APPROVAL DATE APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING  
 Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
 CONDITIONS OF APPROVAL, IF ANY:  
 DATE: 12/23/94  
 BY: JAY [Signature]  
 APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

\*See Instructions On Reverse Side WELL SPACING Case 145-8

T7S, R21E, 6th P.M.

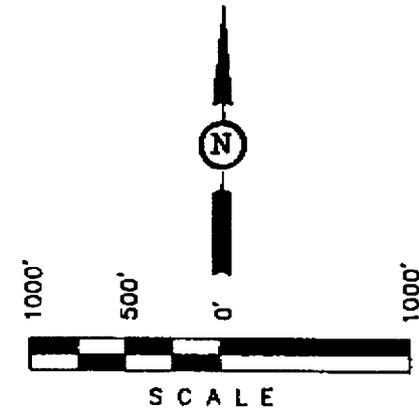
SNYDER OIL CORP.

Well location, HORSESHOE BEND #1-10,  
located as shown in Lot 10 of Section 1,  
T7S, R21E, S.L.B.&M. Uintah County Utah.



BASIS OF ELEVATION

SPOT ELEVATION AT THE SOUTHEAST CORNER OF SECTION 1, T7S, R21E, S.L.B.&M. TAKEN FROM THE RED WASH NW, QUADRANGLE, UTAH, UTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5112 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Robert L. Gray*  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 1319  
STATE OF UTAH

**UINTAH ENGINEERING & LAND SURVEYING**  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(801) 789-1017

LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = SECTION CORNERS LOCATED. (Brass Caps)

SCALE 1" = 1000'	DATE SURVEYED: 10-20-94	DATE DRAWN: 10-22-94
PARTY L.O.T. R.C. D.R.B.	REFERENCES G.L.O. PLAT	
WEATHER COLD	FILE SNYDER OIL CORP.	

SNYDER OIL 9 1 303 592 4617  
 TE -1-303-592-4617  
 Dec 94 16:43 No.005 P.02

SNYDER OIL CORPORATION  
Lease #UTU-72677, Horseshoe Bend #1-10  
Lot 10, Section 1, T7S, R21E  
Uintah County, Utah

<b>DRILLING PROGNOSIS</b>
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**1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS**

Uinta	Surface
Green River	3620'
Total Depth	3820'

**2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERAL FORMATIONS**

Uinta	0-3620'	Gas	: Primary Objective
Green River	3620-3820'	Oil/Gas	: Primary Objective

Any shallow water zones encountered will be adequately protected and reported. All potentially productive hydrocarbon zones will be cemented off.

**3. PRESSURE CONTROL EQUIPMENT - Schematic Attached**

**A. Type:** Eleven (11) Inch Double Gate Hydraulic BOP with Eleven (11) Inch Annular Preventer and 3,000 psi wellhead.

The Blow-Out Preventer will be equipped as follows:

1. One (1) blind ram (above).
2. One (1) pipe ram (below).
3. Drilling spool with two (2) side outlets (choke side 3-inch minimum, kill side 2-inch minimum).
4. Kill line (2-inch minimum).
5. Two (2) kill line valves, one of which will be a check valve (2-inch minimum).
6. 3-inch (minimum) choke line.
7. Two (2) choke line valves (3-inch minimum).
8. Two (2) adjustable chokes.
9. Pressure gauge on choke manifold.
10. Upper kelly cock valve with handle available.
11. Full opening internal blowout preventer or drill pipe safety valve able to fit all connections.
12. Fill-up line above the uppermost preventer.

**B. Pressure Rating:** 3,000 psi

3. PRESSURE CONTROL EQUIPMENT - Continued

C. Testing Procedure:

Annular Preventer

At a minimum, the Annular Preventer will be pressure tested to 50% of the rated working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

- 1) when the annular preventer is initially installed;
- 2) whenever any seal subject to test pressure is broken;
- 3) following related repairs; and
- 4) at thirty (30) day intervals.

In addition to the above, the annular preventer will be functionally operated at least weekly.

Blow-Out Preventer

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface casing by a test plug) or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

- 1) when the BOP is initially installed;
- 2) whenever any seal subject to test pressure is broken;
- 3) following related repairs; and
- 4) at thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day.

All blowout preventer drills and tests will be recorded in the International Association of Drilling Contractors (IADC) driller's log.

**3. PRESSURE CONTROL EQUIPMENT - Continued**

**D. Choke Manifold Equipment:**

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration.

**E. Accumulator:**

The accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. The fluid reservoir capacity will be double the accumulator capacity and the fluid level will be maintained at the manufacturer's recommendations.

The BOP system will have two (2) independent power sources to close the preventers. Nitrogen bottles (3 minimum) will be one (1) of these independent power sources and will maintain a charge equal to the manufacturer's specifications.

The accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six (6) months thereafter. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum limits specified in *Onshore Oil & Gas Order Number 2*.

**F. Special Drilling Operations:**

In addition to the equipment already specified in Items A through E, above, the following equipment will be in place and operational during air/gas drilling:

1. Properly lubricated and maintained rotating head.
2. Spark arresters on engines or water cooled exhaust.
3. Blooie line discharge 100 feet from well bore and securely anchored.
4. Straight run on blooie line.
5. Deduster equipment (not required for aerated water system).
6. All cuttings and circulating medium(s) shall be directed into a reserve or blooie pit.
7. Float valve above bit.

### 3. PRESSURE CONTROL EQUIPMENT

#### F. Special Drilling Operations: Continued

8. Automatic igniter or continuous pilot light on the blooie line (not required for aerated water system).
9. Compressors located in the opposite direction from the blooie line and at a minimum of 100 feet from the well bore.
10. Mud circulating equipment, water, and mud materials (does not have to be pre-mixed) sufficient to maintain the capacity of the hole and circulating tanks or pits.

#### G. Miscellaneous Information:

The Blow-Out Preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and requirements of *Onshore Oil & Gas Order Number 2*.

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub-structure. The hydraulic BOP closing unit will be located at least twenty-five (25) feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill the Horseshoe Bend #1-10.

A flare line will be installed after the choke manifold, extending 125 feet (minimum) from the center of the drill hole to a separate flare pit.

### 4. THE PROPOSED CASING AND CEMENTING PROGRAM

#### A. Casing Program: All New

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft.</u>	<u>Grade</u>	<u>Joint</u>	<u>Depth Set</u>
20 "	16 "	Steel	----	----	0- 60' <sup>1</sup>
12-1/4"	8-5/8"	24.0#	J-55	S'T&C	0- 300'
7-7/8"	4-1/2"	10.5#	J-55	L'T&C	0-3820'

<sup>1</sup> Conductor optional.

The surface casing will have centralizers on the bottom three (3) joints joint of casing, with a minimum of one (1) centralizer per joint starting with the shoe joint.

4. THE PROPOSED CASING AND CEMENTING PROGRAM

A. Casing Program: Continued

Casing string(s) will be pressure tested to 0.22 psi/foot of casing string length or 1500 psi, whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe.

B. Cementing Program:

Surface Conductor - Set with approximately five (5) cubic yards (yd<sup>3</sup>) of Redi-Mix cement, circulated back to surface.

Surface Casing - Set with approximately 250 sx of Class "G" cement + additives, circulated back to surface.

Production Casing - Lead with approximately 310 sx of Pacesetter Lite cement + additives.

Tail with approximately 390 sx of 50/50 Poz-Mix cement + additives.

The production casing string will be cemented back to the 8-5/8" surface casing shoe with 25% excess.

The above cement volumes are approximate and were calculated under the assumption that a gauge hole will be achieved. Actual cement volumes may vary due to variations in the actual hole size and will be determined by running a caliper log on the drilled hole.

All waiting on cement (WOC) times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. MUD PROGRAM - Visual Monitoring

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0- 300'	Fresh Water/Gel	8.8-9.3	28-35	No Control
300-3820'	Aerated Brine	8.2-8.8	30-35	+ 25 cc's
As Needed <sup>1</sup>	Brine/2% KCl	9.2-9.6	35-45	15-20 cc's

5. MUD PROGRAM - Continued

<sup>1</sup> The drilling fluids system will consist of air/mist (with brine water as the base fluid) for as long and/or as deep as possible. Should hole conditions deteriorate prior to reaching total depth, an alternative drilling fluids system would be utilized consisting of a salt/gel mud (with brine water as the base fluid).

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blowout will be available at the well site during drilling operations.

No chromate additives will be used in the mud system on Federal or Indian lands without prior approval of the Bureau of Land Management in order to ensure adequate protection of fresh water aquifers.

Hazardous substances specifically listed by the Environmental Protection Agency as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing or completion operations.

6. EVALUATION PROGRAM

Logs : FDC/CNL/GR/DLL<sup>1</sup> - from 3820' to 300'

<sup>1</sup> Pull Gamma Ray to surface.

DST's : None anticipated.

Cores : None anticipated.

The proposed Evaluation Program may change at the discretion of the well site geologist, with prior approval from the Authorized Officer, Bureau of Land Management.

Stimulation : No stimulation or frac treatment has been formulated for this test at this time. The drill site, as approved, will be of sufficient size to accommodate all completion activities.

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 Vernal District Office not later than thirty (30) days after the completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164.

**6. EVALUATION PROGRAM - Continued**

Two (2) 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. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Authorized Officer, Vernal District Office, Bureau of Land Management, 170 South 500 East, Vernal, Utah 84078, Telephone: (801) 789-1362.

**7. ABNORMAL CONDITIONS**

No abnormal temperatures or pressures are anticipated. No H<sub>2</sub>S has been encountered in or known to exist from previous wells drilled to similar depths in the general area.

Maximum anticipated bottom hole pressure equals approximately 1,910 psi (calculated at 0.50 psi/foot of hole) and maximum anticipated surface pressure equals approximately 1,070 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot of hole).

**8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS**

**A. Anticipated Starting Dates:**

Anticipated Commencement Date - December 6, 1994  
Drilling Days - Approximately 3 Days  
Completion Days - Approximately 7 days

**B. Notification of Operations:**

Vernal District Office, Bureau of Land Management

Address : 170 South 500 East; Vernal, Utah 84078  
Phone : (801) 789-1362  
Fax : (801) 789-3634

In the event after-hours approvals are necessary, please contact one of the following individuals:

<u>Contact Title</u>	<u>Contact Name</u>	<u>Home Phone</u>
Petroleum Engineer	Gerald E. Kenczka	(801) 781-1190
Petroleum Engineer	Ed Forsman	(801) 789-7077

**8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS**

**B. Notification of Operations: Continued**

The Vernal District Office, Bureau of Land Management will be notified at least twenty-four (24) hours PRIOR to the commencement of the following activities:

1. Spudding of the well. This oral report will be followed up with a Sundry Notice (Form 3160-5);
2. initiating pressure tests of the blow-out preventer and related equipment;
3. running casing and cementing of ALL casing strings.

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR, Part 3160), and this approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved Application for Permit to Drill must be on location during construction, drilling and completion operations. The following items are emphasized:

**DRILLING/PRODUCING OPERATING STANDARDS**

There shall be no deviation from the proposed drilling and/or workover program as approved. Safe drilling and operating practices must be observed.

All wells, whether drilling, producing, suspended or abandoned shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, the lease serial number, the well number and the surveyed description of the well.

Any changes in operations must have prior approval from the Authorized Officer (AO), Vernal District Office, Bureau of Land Management.

Pressure tests are required before drilling out from under all casing strings set and cemented in place. Blowout preventer controls will remain in use until the well is either completed or abandoned. Preventers will be inspected and operated at least daily to insure good mechanical working order, and this inspection will be recorded on the daily drilling report.

## 8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS

### B. Notification of Operations: Continued

All BOP tests must be recorded in the daily drilling report. **NOTIFY DISTRICT PETROLEUM ENGINEER AT LEAST TWENTY-FOUR (24) HOURS IN ADVANCE OF PRESSURE TESTS.**

In accordance with *Onshore Oil & Gas Order Number 1*, this well will be reported on MMS Form #3160-6, *Monthly Report of Operations and Production*, starting with 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 the Royalty Management Program, Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217.

All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL-3A will be reported to the Vernal District Office. Major events will be reported verbally within twenty-four (24) hours and will be followed with a written report within fifteen (15) days. "Other than Major Events" will be reported in writing within fifteen (15) days. "Minor Events" will be reported on the *Monthly Report of Operations and Production* (Form #3160-6)

No well abandonment operations will be commenced without the prior approval of the Authorized Officer. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the Area Petroleum Engineer. A *Notice of Intention to Abandon* (Form #3160-5) will be filed with the Authorized Officer within fifteen (15) days following the granting of oral approval to plug and abandon.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The following information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch: Company Name, Well Name and Number, Location by Quarter/Quarter, Section, Township, Range, and the Federal Lease Number.

A *Subsequent Report of Abandonment* (Form #3160-5) will be submitted within thirty (30) days following the actual plugging of the well bore. This report will indicate where plugs were placed and the current status of surface restoration operations.

8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS

B. Notification of Operations: Continued

If surface restoration has not been completed at that time, a follow-up report on Form #3160-5 will be filed when all surface restoration work has been completed and the location is considered ready for final inspection.

Pursuant to NTL-4A, lessees and operators are authorized to vent/flare gas during initial well evaluation tests, not exceeding a period of thirty (30) days or the production of fifty (50) MMCF of gas, whichever occurs first. An application must be filed with the Authorized Officer, and approval received, for any venting/flaring of gas beyond the initial thirty (30) day or otherwise authorized test period.

Not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than ninety (90) days, the operator shall notify the Authorized Officer by letter or "Sundry Notice", of the date on which such production has begun or resumed. The notification shall provide as a minimum, the following informational items:

- a. Operator name, address, and telephone number
- b. Well name and number
- c. Well location " $\frac{1}{4}$ ,  $\frac{1}{4}$ , Section, Township, Range, P.M."
- d. Date well was placed in a producing status
- e. The nature of the wells production, i.e.: crude oil casing gas, or natural gas and entrained liquid hydrocarbons.
- f. The OCS, Federal or Indian lease prefix and number on which the well is located. Otherwise, the non-Federal or non-Indian land category, ie.: state or private.

Within sixty (60) days following construction of a new tank battery, a site facility diagram of the battery showing actual conditions and piping must be submitted to the Authorized Officer. Facility diagrams shall be filed within sixty (60) days after existing facilities are modified. For complete information as to what is required on these diagrams, please refer to 43 CFR 3162.7-4(d).

Snyder Oil Corporation  
Horseshoe Bend #1-10  
Drilling Prognosis  
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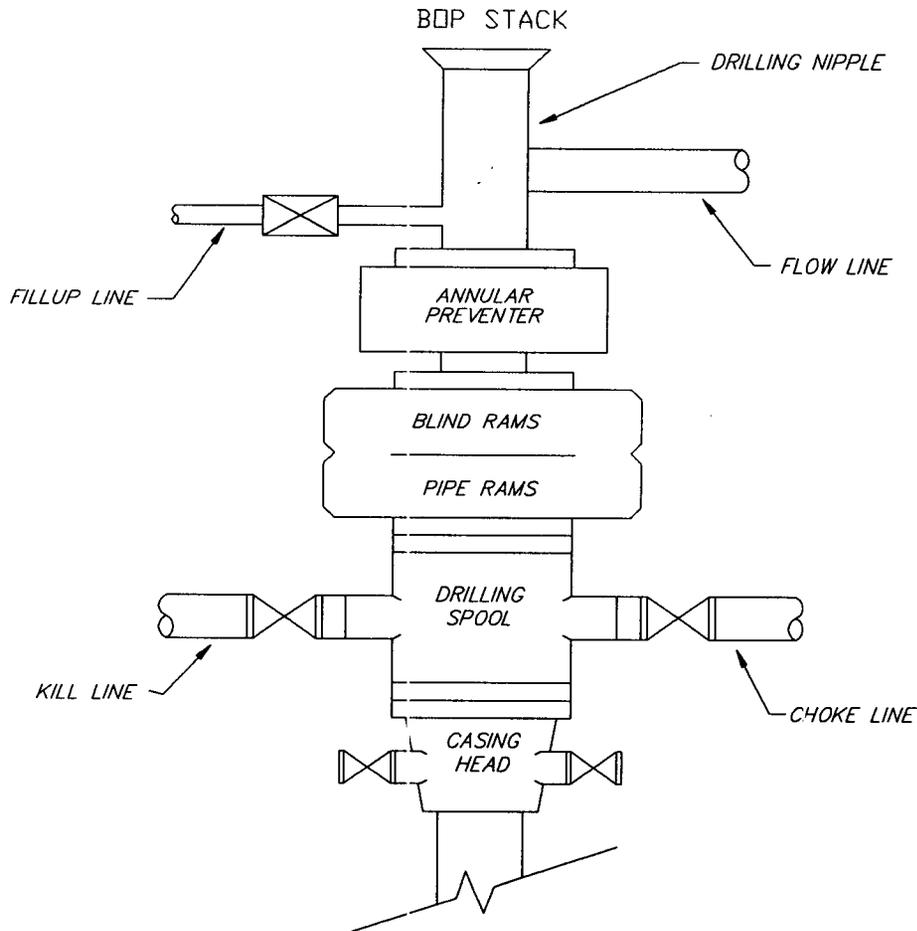
**8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS**

**B. Notification of Operations:**

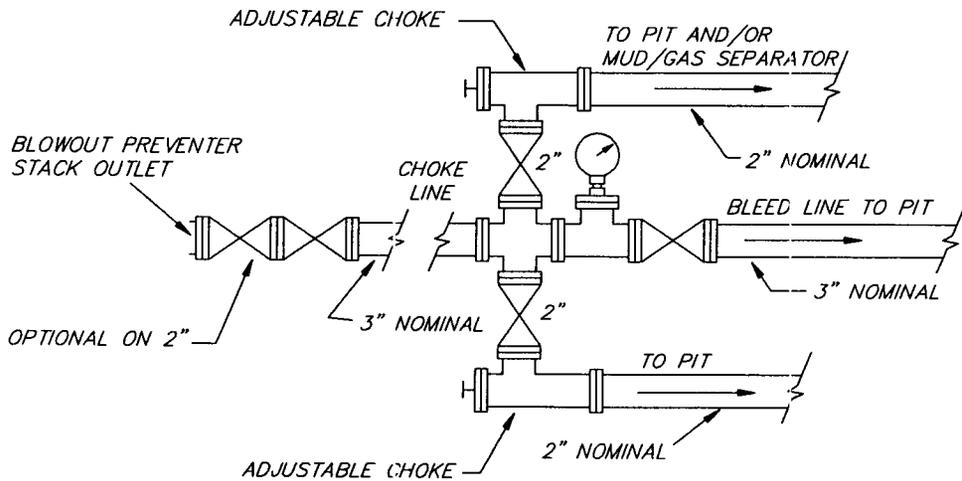
Pursuant to *Onshore Oil & Gas Order Number 1*, lessees and operators have the responsibility to see that their exploration, development, production, and construction operations are conducted in such a manner which conforms with applicable federal laws and regulations and with state and local laws and regulations to the extent that such State and local laws are applicable to operations on Federal and Indian lands.

# SNYDER OIL CORPORATION

## TYPICAL 3,000 p.s.i. BLOWOUT PREVENTER SCHEMATIC



## TYPICAL 3,000 p.s.i. CHOKE MANIFOLD SCHEMATIC



SNYDER OIL CORPORATION  
Lease #UTU-72677, Horseshoe Bend #1-10  
Lot 10, Section 1, T7S, R21E  
Uintah County, Utah

<b>MULTI-POINT SURFACE USE AND OPERATIONS PLAN</b>
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**1. EXISTING ROADS - Refer to Maps "A" and "B" (shown in ORANGE)**

- A. The proposed well site is staked and four (4) 200-foot reference stakes are present.
- B. To reach the location from the city of Vernal, Utah; proceed generally east and south approximately 3.6 miles on U.S. Highway 40 (a paved U.S. Highway), thence generally south/southeast approximately 11.8 miles on Utah Highway 45 (a paved state highway), thence generally west/southwest approximately 3.1 miles on an existing oilfield road (crowned & ditched with a gravel surface), thence generally southwest approximately 1.4 miles on an existing oilfield road (crowned & ditched with a gravel surface), thence generally north/northwest approximately 1.1 miles on an existing oilfield road (crowned & ditched with a native soil surface), thence generally north approximately 0.3 miles to the proposed Horseshoe Bend #1-10 well location.
- C. Access roads - refer to Maps "A" and "B".
- D. Access roads within a one (1) mile radius - refer to Map "B".
- E. The existing roads will be maintained in the same or better condition as existed prior to the commencement of operations and said maintenance will continue until final abandonment and reclamation of the Horseshoe Bend #1-10 well location.

**2. PLANNED ACCESS ROADS - Refer to Map "B" (shown in GREEN)**

Approximately 0.3 miles of new road construction will be required for access to the proposed Horseshoe Bend #1-10 well location.

- A. Width - maximum thirty (30) foot overall right-of-way with an eighteen (18) foot running surface, crowned and ditched for drilling and completion operations.
- B. Construction standard - the proposed access road will be constructed in accordance with roading guidelines established for oil & gas exploration and development activities as referenced in the joint BLM/USFS publication: *Surface Operating Standards for Oil and Gas Exploration and Development*, Third Edition.

2. PLANNED ACCESS ROADS - Continued

- B. Construction standard - the access road will be designed and constructed to meet the standards of the anticipated traffic flow and all-weather requirements. Construction will include ditching, draining, graveling, crowning, and capping the roadbed as necessary to provide a well constructed and safe roadway.

Prior to construction/upgrading, the roadway shall be cleared of any snow cover and allowed to dry completely. Should mud holes develop, they shall be filled in and detours around them avoided.

Traveling off of the thirty (30) foot right-of-way will not be allowed.

Drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or the accumulation of debris in the drainage crossing nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at a frequent intervals by means of cutouts.

Upgrading shall not be allowed during muddy conditions.

- C. Maximum grade - eight (8) percent or less.  
D. Turnouts - turnouts will be constructed along the access road route as necessary or required to allow for the safe passage of traffic. None anticipated at this time.  
E. Drainage design - the access road will be upgraded and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The proposed road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.  
F. Culverts, cuts and fills - one (1) 18-inch culvert will be required at the junction of the proposed access road with the existing oilfield road.

This culvert will be installed in accordance with roading guidelines contained in the joint BLM/USFS publication: *Surface Operating Standards for Oil and Gas Exploration and Development*, Third Edition regarding road construction standards on public domain lands.

2. PLANNED ACCESS ROADS - Continued

- F. Culverts, cuts and fills - there are no major cuts and/or fills anticipated on/along the proposed access road route.
- G. Surfacing material - any construction materials which may be required for surfacing of the access road will be purchased from a local contractor having a permitted source of materials within the general area, if required by the Authorized Officer, Bureau of Land Management.

None anticipated at this time.

- H. Gates, cattleguards or fence cuts - no gates, cattleguards or fence cuts will be required on/along the proposed access road route.
- I. Road maintenance - during both the drilling and production phase of operations, the road surface and shoulders will be kept in a safe and useable condition and will be maintained in accordance with the original construction standards. The access road right-of-way will be kept free of trash during all operations.

All drainage ditches will be kept clear and free-flowing, and will also be maintained in accordance with the original construction standards.

- J. The proposed access road route has been centerline staked.

3. LOCATION OF EXISTING WELLS WITHIN A ONE-MILE RADIUS

- A. Water wells - none known.
- B. Abandoned wells - SW $\frac{1}{4}$ SW $\frac{1}{4}$ , Section 1, T7S, R21E.
- C. Temporarily abandoned wells - none known.
- D. Disposal wells - none known.
- E. Drilling wells - none known.
- F. Producing wells - SE $\frac{1}{4}$ SE $\frac{1}{4}$ , Section 1, T7S, R21E.  
SE $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 1, T7S, R21E.  
NE $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 6, T7S, R22E.  
SW $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 6, T7S, R22E.  
NW $\frac{1}{4}$ NW $\frac{1}{4}$ , Section 6, T7S, R22E.
- G. Shut-in wells - none known.
- H. Injection wells - none known.
- I. Monitoring wells - none known.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES OWNED BY  
SNYDER OIL CORPORATION WITHIN A ONE (1) MILE RADIUS

A. Existing

1. Tank batteries - SE $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 1, T7S, R21E.
2. Production facilities - same as Item #4A1, above.
3. Oil gathering lines - none known.
4. Gas gathering lines - same as Item #4A1, above.

B. New Facilities Contemplated

1. All production facilities will be located on the disturbed portion of the well pad and at a minimum of twenty (20) feet from the toe of the back slope or top of the fill slope.
2. Should drilling result in the establishment of commercial production from the Horseshoe Bend #1-10 well location, production facilities will require an area approximately 250' X 125'.

A diagram showing the proposed production facility layout will be submitted to the Authorized Officer via "Sundry Notice" (Form #3160-5) for approval prior to commencement of installation operations.

3. Production facilities will be accommodated on the disturbed portion of the well pad. Construction materials needed for installation of the production facilities will be obtained from the site; any additional materials needed will be purchased from a local supplier having a permitted source of materials in the general area.

A dike will be constructed completely around those production facilities which are designed to hold fluids (e.g., condensate tanks and/or produced water tanks). These dikes will be constructed of compacted subsoil, be impervious, be designed to hold 100% of the capacity of the largest tank, and be independent of the back cut.

4. All permanent [on-site for six (6) months or longer] above-the-ground structures constructed or installed on the well location (including pumping units, tank batteries, etc.) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Five (5) State Rocky Mountain Interagency Committee.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES OWNED BY SNYDER OIL CORPORATION WITHIN A ONE (1) MILE RADIUS

B. New Facilities Contemplated - Continued

4. All production facilities will be painted within six (6) months of installation. Facilities required to comply with *Occupational Safety and Health Act* Rules and Regulations will be excluded from this painting requirement.

The required paint color is *Desert Brown*, Munsell standard color number 10YR 6/3.

5. If at any time the facilities located on public lands and 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 unit boundary change), the Bureau of Land Management will process a change in authorization to the appropriate statute). The authorization will be subject to the appropriate rental or other financial obligation as determined by the Authorized Officer.

- C. The production (emergency) pit will be fenced "sheep-tight" with woven wire mesh having two (2) top strands of barbed wire held in place by metal side posts and wooden corner "H" braces in order to protect livestock and wildlife (refer to Item #9F, page #'s 9 and 10).
- D. During drilling and subsequent operations, all equipment and vehicles will be confined to the access road and any additional areas which may be specified in the approved Application for Permit to Drill.
- E. Reclamation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended by the Authorized Officer, Bureau of Land Management.

5. LOCATION AND TYPE OF WATER SUPPLY

- A. Fresh water for use in drilling operations will be obtained from production facilities owned by Snyder Oil Corporation and located at the McLish #3 well location: SE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 1, Township 7 South, Range 21 East of Uintah County, Utah.

**5. LOCATION AND TYPE OF WATER SUPPLY - Continued**

- A. In the event this source of water proves inadequate, fresh water for use in drilling and cementing operations would be obtained from the municipal water supply for the city of Vernal, Utah.
- B. Water will be transported via tank truck over existing roads from the point of diversion to the proposed Horseshoe Bend #1-10 well location. No new road construction will be required on/along the proposed water haul route.

Access across any off-lease federal lands which may be crossed on/along the proposed water haul route will be secured under a separate right-of-way authorization to be issued by the Authorized Officer, Book Cliffs Resource Area Office, Bureau of Land Management.

- C. No water well will be drilled on this location.

**6. SOURCE OF CONSTRUCTION MATERIALS**

- A. Any construction materials which may be required for surfacing of the drill pad will be obtained from a private contractor having a previously approved (private) source of materials within the general area.

Please refer to Item #2G (page #3) for information regarding any construction materials which may be required for on the access road.

- B. No construction materials will be taken from federal or Indian lands without prior approval from the appropriate Surface Management Agency.
- C. If production is established, any construction materials which may be required for surfacing of the access road and/or installation of production facilities will be purchased from a local supplier having a permitted (private) source of materials within the general area.
- D. No new access roads for transportation of these construction materials will be required.

**7. METHODS OF HANDLING WASTE MATERIALS**

- A. Cuttings - the drilled cuttings will be deposited in the reserve pit.

7. METHODS OF HANDLING WASTE MATERIALS - Continued

- B. Drilling fluids - including any salts and/or chemicals utilized in the mud system will be contained in the reserve pit. The reserve pit will be constructed so as not to leak, break, or allow discharge. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within one hundred and eighty (180) days after termination of drilling and completion activities.

In the event adverse weather conditions prevent removal of the fluids from the reserve pit within this time period, an extension may be granted by the Authorized Officer upon receipt of a written request from Snyder Oil Corporation.

- C. Produced fluids - liquids produced during completion operations will either be placed in test tanks on the well location (when a gel frac system is used) or into the reserve pit (when a foam frac system is used). Produced water will be confined to a lined pit (reserve pit) for a period not to exceed ninety (90) days after initial well completion.

During this ninety (90) day period, in accordance with *Onshore Oil & Gas Order Number 7*, an application for approval of a permanent disposal method and location, along with the required water analysis, shall be submitted to the Authorized Officer for review and approval as applicable. Failure to file an application within the time frame allowed will be considered as an incidence of noncompliance.

Any spills of oil, gas, salt water or any other potentially hazardous substance will be cleaned up and immediately removed to an approved disposal site.

- D. Sewage - portable, self-contained chemical toilets will be provided by Rocket Sanitation for human waste disposal. Upon completion of operations (or as required) the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. Sewage disposal will be in strict accordance with applicable State of Utah rules and regulations regarding sewage treatment and disposal.

**7. METHODS OF HANDLING WASTE MATERIALS - Continued**

- E. Garbage and other waste material - all garbage and non-flammable waste materials will be contained in a self contained, portable dumpster or trash cage. Upon completion of operations, or as needed, the accumulated trash will be hauled off-site to an approved sanitary landfill. No trash will be placed in the reserve pit.
- F. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned up and removed from the well location. No potentially adverse materials or substances will be left on the location.

Any open pits will be fenced during the drilling operation and said fencing will be maintained until such time as the pits have been backfilled.

- G. Hazardous materials - Snyder Oil Corporation has no plans to utilize, store, transport or dispose of any chemical or chemicals listed on or subject to the Environmental Protection Agency's *Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986*, or any extremely hazardous substances, as defined in 40 CFR 355, on the Horseshoe Bend #1-10 lease.

**8. ANCILLARY FACILITIES**

None anticipated.

**9. WELLSITE LAYOUT**

- A. Figure #1 shows the drill site layout as staked. Cross sections have been drafted to visualize the planned cuts and fills across the proposed well location (please refer to Figure #2).

A minimum of six (6) inches of topsoil will be stripped from the location (including areas of cut, fill, and/or subsoil storage) and stockpiled for future reclamation of the well site. Refer to Figure #1 for the location of the topsoil and subsoil stockpiles.

- B. Figure #1 is a diagram showing a typical rig layout. No permanent living facilities are planned on the Horseshoe Bend #1-10 well location.

9. WELLSITE LAYOUT - Continued

- B. There will be a maximum of three (3) trailers on location during drilling operations, which will serve as both office and housing for the mud logger, geologist and toolpusher.
- C. All equipment and vehicles will be confined to the approved areas in this Application for Permit to Drill (i.e., access road and well pad areas).
- D. A diagram showing the proposed production facility layout will be submitted to the Authorized Officer via *Sundry Notice* (Form #3160-5) for approval prior to the commencement of installation operations. Please refer to Item #4B2 (page #4) for additional information in this regard.
- E. If porous subsoil materials (i.e., gravel, scoria, sand, faulted rock structures, etc.) are encountered during reserve pit construction, an impervious liner will be installed in order to prevent drilling water loss through seepage.

If required, this liner will have a permeability less than or equal to  $1 \times 10^{-7}$  cm/sec. The liner will be chemically compatible with all substances which may be put into the pit and will be installed so that it will not leak. Liners made of any man-made synthetic material will be of sufficient strength and thickness to withstand normal installation and pit use.

The liner would be installed with sufficient bedding (either straw or dirt) to cover any rocks, will overlap the pit walls, extend under the mud tanks, and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc. that could puncture the liner will be disposed of in the reserve pit.

- F. Prior to the commencement of drilling operations, the reserve pit will be fenced "sheep tight" on the three (3) non-working sides according to the following minimum standards (if/as required by the Authorized Officer):
  - 1. 32-inch net wire shall be used with two (2) strands of barbed wire on top of (above) the net wire.
  - 2. The net wire shall be no more than four (4) inches above the ground. The first strand of barbed wire shall be  $\approx$  three (3) inches above the net wire. Total height of the fence shall be at least forty-two (42) inches.

**9. WELLSITE LAYOUT**

F. Prior to the commencement of drilling operations, the reserve pit will be fenced "sheep tight" on the three (3) non-working sides according to the following minimum standards: continued

3. Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
4. Standard steel, wood, or pipe posts shall be used between the corner braces. The maximum distance between any two (2) posts shall be no greater than sixteen (16) feet.
5. All wire shall be stretched, by using a stretching device, before it is attached to the corner posts.

The fourth (4th) side of the reserve pit will be fenced immediately upon removal of the drilling rig and the fencing will be maintained until the pit is backfilled.

G. Any hydrocarbons on the pit will be removed as soon as possible after drilling operations are completed.

**10. PLANS FOR RECLAMATION OF THE SURFACE**

A. Rat and mouse holes will be backfilled and compacted from bottom to top immediately upon release of the completion rig from the location.

B. If any oil is on the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substance(s) will be flagged overhead or covered with wire mesh to protect migrating waterfowl.

C. Producing Operations:

1. Immediately upon well completion, the well location and surrounding area(s) will be cleared of all debris, materials, trash and junk not required for production. Any hydrocarbons on the pit shall be removed in accordance with 43 CFR 3162.7-1.

2. If a plastic or nylon reinforced pit liner is used, it shall be torn and perforated before backfilling of the reserve pit.

## 10. PLANS FOR RECLAMATION OF THE SURFACE

### C. Producing Operations: Continued

3. Before any dirt work to restore the location takes place, the reserve pit will be completely dry and all cans, barrels, pipe, etc. will be removed. All other waste and spoil materials will be disposed of immediately upon completion of drilling and workover activities.
4. The reserve pit and that portion of the location and access road not needed for production facilities and/or operations will be reclaimed within one hundred and eighty (180) days from the date of well completion, weather permitting.
5. For production, the fill slopes will be reduced from a 1.5:1 slope to a 3:1 slope and the cut slopes will be reduced from a 1.5:1 slope to a 3:1 slope by pushing the fill material back up into the cut.
6. Upon completion of backfilling, leveling and recontouring, all disturbed surfaces (access road and well pad areas) will be scarified to a depth of one (1) foot and left with a rough surface. The stockpiled topsoil will then be evenly redistributed to a depth of six (6) inches over the reclaimed area(s).
7. Prior to commencement of seeding operations, the seedbed will be prepared by disking on the contour to a depth of four (4) to six (6) inches, leaving no depressions that would trap water or form ponds.

All disturbed surfaces (including the access road and well pad areas) will be reseeded with a seed mixture to be recommended by the Authorized Officer, Bureau of Land Management.

8. Seed will be drilled on the contour with a seed drill equipped with a depth regulator in order to ensure even depths of planting. Seed will be planted between one-quarter (1/4) to one-half (1/2) inches deep. Where drilling is not possible (too steep or rocky), hand broadcast the seed at double the rate indicated above and rake or chain the area to cover the broadcast seed.

## 10. PLANS FOR RECLAMATION OF THE SURFACE

### C. Producing Operations: Continued

9. Fall seeding will be completed after September 15<sup>th</sup> and prior to ground frost. If applicable, spring seeding will be completed after the frost has left the ground and prior to May 15<sup>th</sup>. The seeding will be repeated until a satisfactory stand, as determined by the Authorized Officer, is achieved. The first evaluation of growth will be made following the completion of the first growing season.

### D. Dry Hole/Abandoned Well Location:

1. At such time as the well is physically plugged and abandoned, Snyder Oil Corporation will submit a "*Subsequent Report of Abandonment*" to the Authorized Officer for approval. At that time, the Bureau of Land Management will formulate the appropriate surface rehabilitation requirements and attach them as the conditions of approval for final abandonment.

## 11. SURFACE OWNERSHIP

The well location and proposed access road route are situated on surface estate which is owned by the United States of America and administered by:

Area Manager  
Book Cliffs Resource Area Office  
Bureau of Land Management  
170 South 500 East  
Vernal, Utah 84078  
Telephone: (801) 789-1362

## 12. OTHER INFORMATION

### A. General Description of the Project Area:

The project area is situated in the Uinta Basin section of the Colorado Plateaus physiographic province in an area of northeastern Utah which has undergone intensive natural gas development activities within the last few years. The overall area is characterized by moderately to severely eroded uplands located directly southeast of the Green River.

## 12. OTHER INFORMATION

### A. General Description of the Project Area: Continued

This area is classified as a "High Plains Steppe" (cold desert) and exhibits a sparse to moderate vegetation density which is typical of semi-arid areas at higher elevations (4500-5500').

Generally, local flora consists of native grasses such as salt grass, galleta grass, needle-and-threadgrass, Indian ricegrass; woody species such as shadscale, horsebrush, black sagebrush, fringe sagebrush, big sagebrush, rabbitbrush, and greasewood along the dry drainages. Local fauna consists primarily of mule deer, coyotes, badgers, skunks, rabbits, raptors, and various smaller vertebrate and invertebrate species.

There are no known threatened or endangered species that would be affected by implementation of operations on the Horseshoe Bend #1-10 well location.

### B. Surface Use Activities:

The primary surface use is for livestock grazing.

### C. Proximity of Water, Occupied Dwellings, Archaeological, Historical or Cultural Sites:

1. The closest source of permanent water is the Green River, located approximately 0.75 mile to the northwest of the proposed well location.
2. The closest occupied dwellings are located approximately fifteen (15) miles to the north of the proposed well location in the city of Vernal, Utah.
3. Snyder Oil Corporation will be responsible for informing all persons associated with this project that they will be subject to prosecution for damaging, altering, excavating or removing any archaeological, historical, or vertebrate fossil objects or site(s).

If archaeological, historical or vertebrate fossil materials are discovered, Snyder Oil Corporation will suspend all operations that further disturb such materials and immediately contact the Authorized Officer.

**12. OTHER INFORMATION**

**C. Proximity of Water, Occupied Dwellings, Archaeological, Historical or Cultural Sites: Continued**

3. Operations will not resume until written authorization to proceed is issued by the Authorized Officer.

Within five (5) working days the Authorized Officer will evaluate the discovery and inform Snyder Oil Corporation of actions that will be necessary to prevent loss of significant cultural or scientific values.

Snyder Oil Corporation will be responsible for the cost of any mitigation required by the Authorized Officer. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, Snyder Oil Corporation will be allowed to resume operations.

**D. Additional Requirements for Operations on Lands Administered by the Bureau of Land Management:**

1. Snyder Oil Corporation will control noxious weeds along rights-of-way for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds may be obtained from the Bureau of Land Management, or the Uintah County Extension Office.

On lands administered by the Bureau of Land Management, it is required that a "*Pesticide Use Proposal*" shall be submitted, and approval obtained, prior to the application of herbicides or other pesticides or possible hazardous chemicals for the control of noxious weeds.

2. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on federal lands after conclusion of drilling operations or at any other time without the proper authorization from the Bureau of Land Management.

## 12. OTHER INFORMATION

### D. Additional Requirements for Operations on Lands Administered by the Bureau of Land Management:

2. However, if Bureau of Land Management authorization is obtained, it is only a temporary measure to allow Snyder Oil Corporation the time to make arrangements for permanent storage at a commercial facility.
3. Snyder Oil Corporation shall contact the Bureau of Land Management between 24 and 48 hours prior to commencement of construction activities on the access road and/or well location: (801) 789-1362.

The Bureau of Land Management shall be notified upon site completion and prior to moving drilling tools onto the location.

## 13. LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

### Representative

Snyder Oil Corporation  
Tim A. Burns, Drilling Engineer  
1625 Broadway, Suite 2200  
Denver, Colorado 80202  
Telephone: (303) 592-8500

Heitzman Drill-Site Services\*  
Dale Heitzman and/or Robert M. Anderson  
P.O. Drawer 3579  
Casper, Wyoming 82602  
Telephone: (307) 266-4840

\* Contact for any additional information which may be required for approval of this Application for Permit to Drill.

### Certification

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations (43 CFR 3100), *Onshore Oil & Gas Orders*, the approved plan of operations, and any applicable *Notice to Lessees*.

13. LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

Certification - Continued

Snyder Oil Corporation will be fully responsible for the actions of their subcontractors. A copy of these conditions will be furnished to their field representative(s) in order to ensure compliance.

The dirt contractor will be provided with a copy of the Surface Use Plan from the approved Application for Permit to Drill.

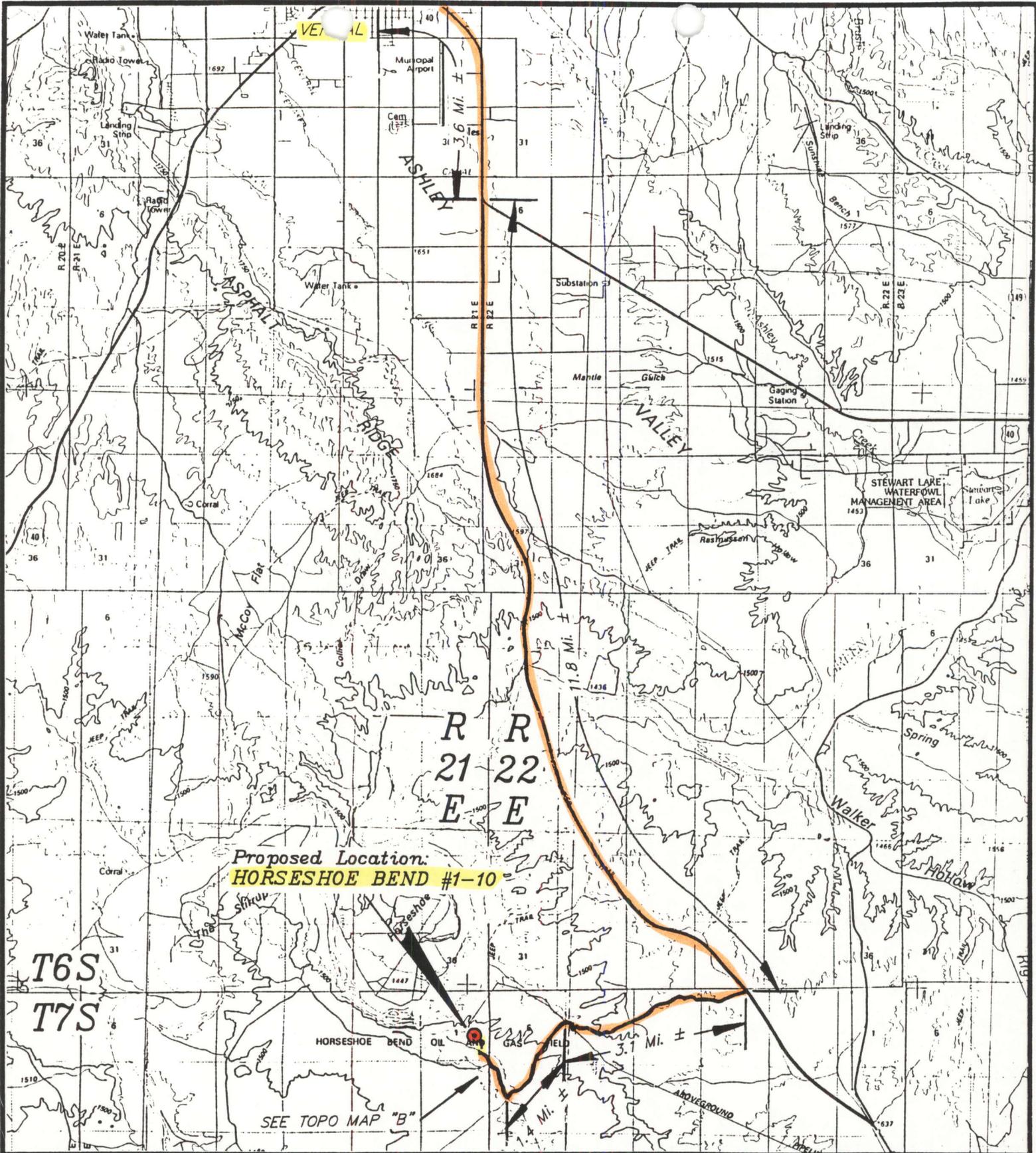
This drilling permit will be valid for a period of one (1) year from the date of approval. An extension period may be granted, if requested, prior to the expiration of the original approval period.

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 Authorized Officer. If operations are to be suspended, prior approval of the Authorized Officer will be obtained and notification given before resumption of operations.

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

4 November 1994  
Date

  
Robert M. Anderson/Authorized Agent



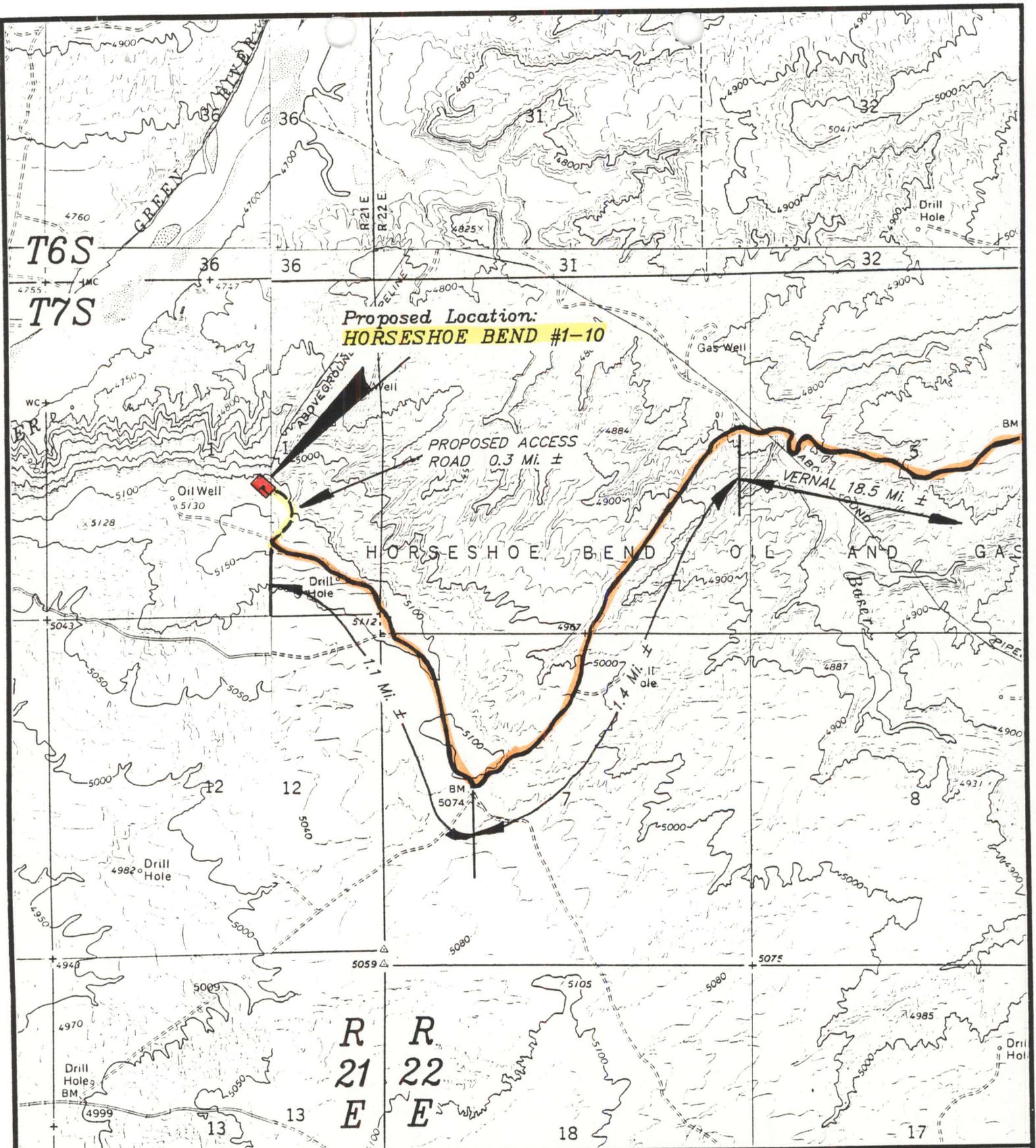
TOPOGRAPHIC  
MAP "A"

DATE: 10-24-94 J.D.S.



SNYDER OIL CORP.

HORSESHOE BEND #1-10  
SECTION 1, T7S, R21E, S.L.B.&M.  
1912' FSL 1844' FEL



TOPOGRAPHIC  
MAP "B"

SCALE: 1" = 2000'  
DATE: 10-24-94 J.D.S.



SNYDER OIL CORP.

HORSESHOE BEND #1-10  
SECTION 1, T7S, R21E, S.L.B.&M.  
1912' FSL 1844' FEL

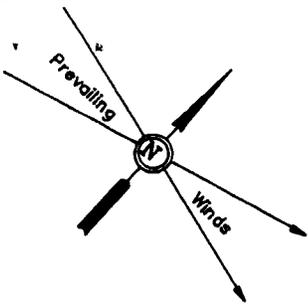
SNYDER OIL CORP.

LOCATION LAYOUT FOR

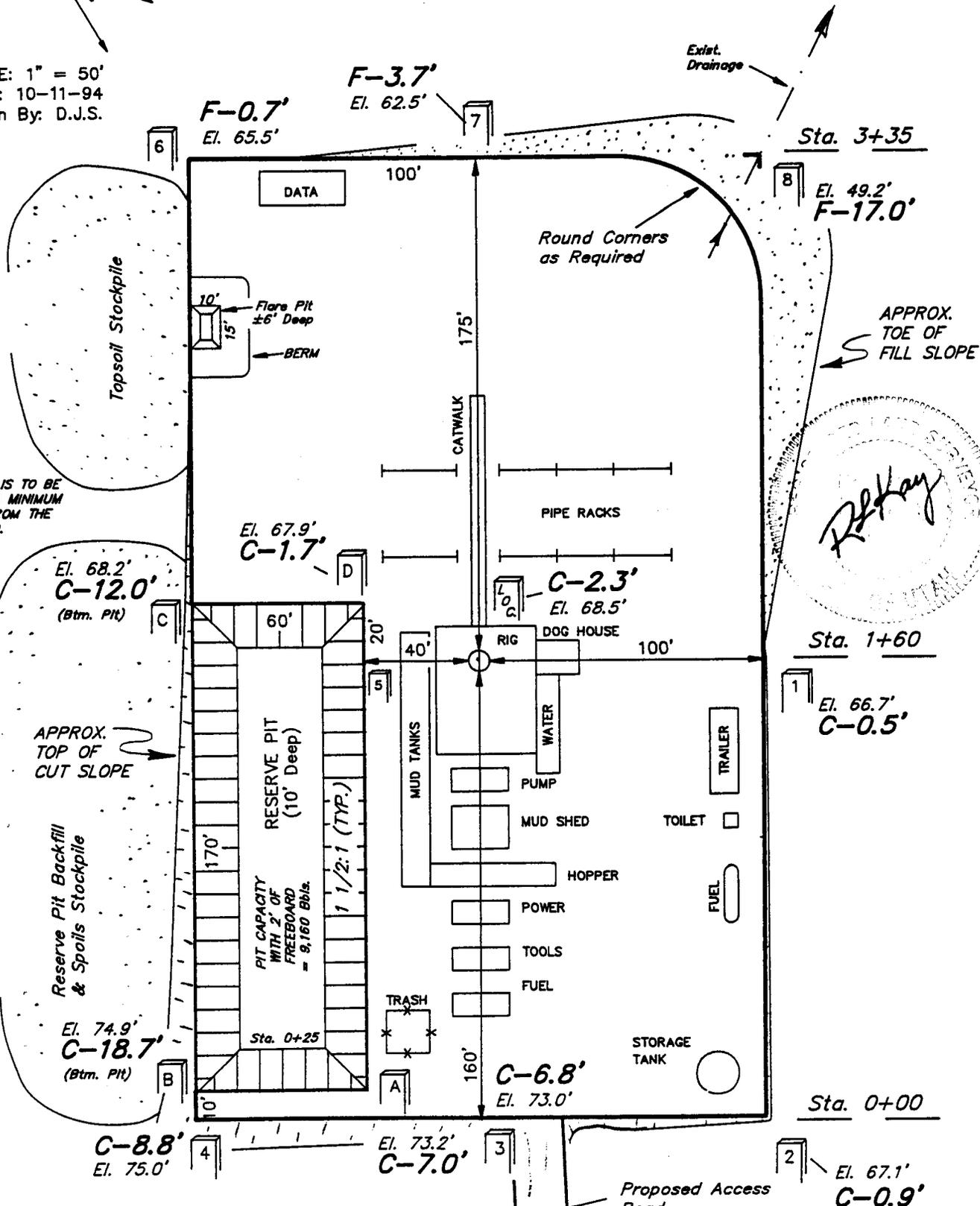
HORSESHOE BEND #4-10  
SECTION 4, T7S, R22E, S.L.B.&M.

1641' FSL 2185' FEL

FIGURE #1



SCALE: 1" = 50'  
DATE: 10-11-94  
Drawn By: D.J.S.



**NOTE:**  
FLARE PIT IS TO BE  
LOCATED A MINIMUM  
OF 100' FROM THE  
WELL HEAD.

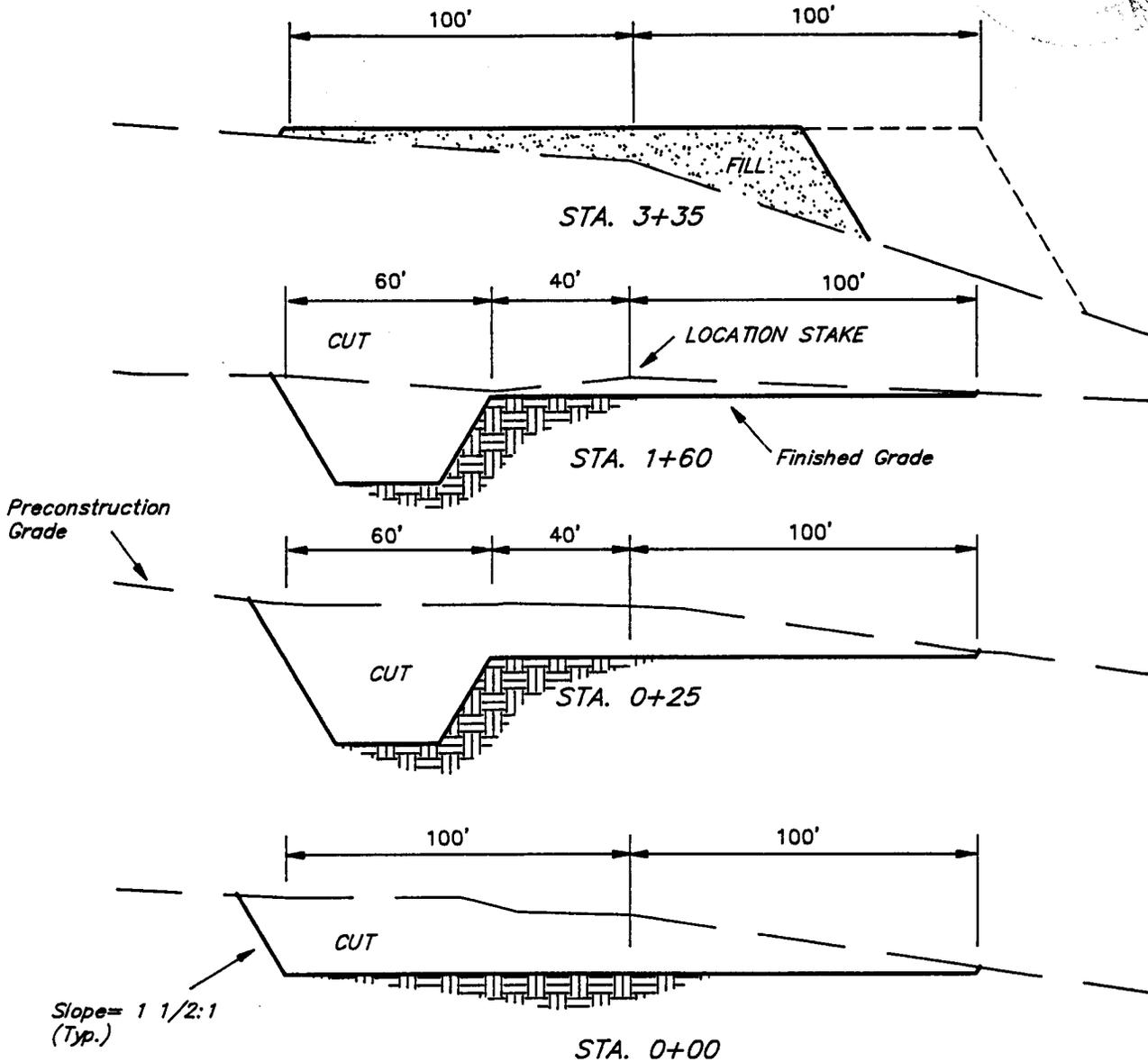
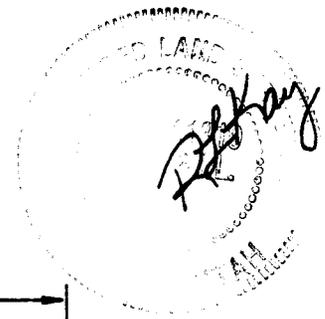
Elev. Ungraded Ground at Location Stake = 4968.5'  
Elev. Graded Ground at Location Stake = 4966.2'

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (801) 788-1017

**SNYDER OIL CORP.**  
**TYPICAL CROSS SECTIONS FOR**  
**HORSESHOE BEND #4-10**  
**SECTION 4, T7S, R22E, S.L.B.&M.**  
**1641' FSL 2185' FEL**

1" = 20'  
 X-Section  
 Scale  
 1" = 50'

DATE: 10-11-94  
 Drawn By: D.J.S.



**APPROXIMATE YARDAGES**

<b>CUT</b>	
(6") Topsoil Stripping	= 1,240 Cu. Yds.
Remaining Location	= 6,880 Cu. Yds.
<b>TOTAL CUT</b>	<b>= 8,120 CU.YDS.</b>
<b>FILL</b>	<b>= 5,290 CU.YDS.</b>

EXCESS MATERIAL AFTER 5% COMPACTION	= 2,550 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 2,550 Cu. Yds.
EXCESS CUT MATERIAL	= 0 Cu. Yds.

**FIGURE #2**

BEFORE THE BOARD OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES AND ENERGY  
IN AND FOR THE STATE OF UTAH

-----  
IN THE MATTER OF THE PETITION OF TXO \*  
PRODUCTION CORPORATION FOR AN ORDER \*  
ALLOWING TWO PRODUCTION WELLS WITHIN \*  
ESTABLISHED 320 ACRE SPACING UNITS \*  
FOR THE UINTA FORMATION IN THE \*  
HORSESHOE BEND FIELD, UINTAH COUNTY, \*  
UTAH. \*

**FINDINGS OF FACT,  
CONCLUSIONS OF LAW,  
AND ORDER**

Docket No. 85-044  
Cause No. 145-8  
\*  
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Pursuant to the Petition of TXO Production Corporation, this cause came on for hearing before the Board of Oil, Gas & Mining, Department of Natural Resources and Energy, State of Utah, on Thursday, August 22, 1985, at 10 o'clock a.m. in the Board Room of the Division of Oil, Gas & Mining, 355 West North Temple, 3 Triad Center, Suite 301, Salt Lake City, Utah. The following Board members were present:

Gregory P. Williams, Chairman  
James W. Carter  
Richard B. Larsen  
John M. Garr  
E. Steele McIntyre  
Charles R. Henderson

The Board was represented by Mark C. Moench, Esq., Assistant Attorney General for the State of Utah.

Appearances for the Division of Oil, Gas & Mining were made by:

Ronald J. Firth, Associate Director,  
Oil & Gas

John R. Baza, Petroleum Engineer

The Division was represented by Barbara W. Roberts, Assistant Attorney General for the State of Utah.

The Petitioner, TXO Production Corporation was represented by John A. Harja of Hugh C. Garner & Associates, 310 S. Main Street, Suite 1400, Salt Lake City, Utah 84101.

Testimony was given by:

Ricky J. Taylor; Geologist, for Petitioner  
Russ E. Gillis; Petroleum Engineer, for Petitioner  
Thomas A. Mitchell; Attorney-at-law, for Petitioner

Mr. Assad M. Raffoul, Petroleum Engineer of the Utah State Office of the Bureau of Land Management was also present.

NOW, THEREFORE, the Board having considered the testimony adduced and the exhibits reviewed in said hearing, and being fully advised in the premises, now makes and enters the following:

**FINDINGS OF FACT**

1. Due and regular notice of the time, place and purpose of the hearing was given to all interested parties as required by law and the Rules and Regulations of the Board. Said parties are listed in Exhibit "B" attached to the Petition.
2. The Board has jurisdiction over the subject matter of the Petition and over all parties interested therein and has jurisdiction to make and promulgate the Order hereinafter set forth.

3. The Board entered its Order in Cause No. 145-2 to establish 320 acre spacing units for the Uinta formation within the following lands:

Township 6 South, Range 21 East, S.L.M.  
Sections 25-27, 34-36

Township 6 South, Range 22 East, S.L.M.  
Sections 28-33

Township 7 South, Range 21 East, S.L.M.  
Sections 1-3, 10-12

Township 7 South, Range 22 East, S.L.M.  
Sections 4-6, 8-10

These 320 acre drilling units are composed of the N1/2 and S1/2 of each governmental surveyed section.

4. The Order in Cause No. 145-2 further provided that well sites within the units would be located not less than 1000 feet from the North line and 1000 feet from the East line of the Northeast Quarter, and not less than 1000 feet from the South line and 1000 feet from the West line of the Southwest Quarter of each section, except in Section 2, Township 7 South, Range 21 East, S.L.M., and Sections 27 and 34 of Township 6 South, Range 21 East, S.L.M., where the permitted well locations were established as not less than 1000 feet from the North line and 1000 feet from the West line of the Northwest Quarter and not less than 1000 feet from the South line and 1000 feet from the East line of the Southeast Quarter of each such exception section.

5. The Order in Cause No. 145-2 further provided that the Board may by administration make exceptions to the prescribed well

locations in the event topographic and other structural considerations so require.

6. This Board entered its Order in Cause No. 145-3 to extend the provisions of the Order in Cause No. 145-2 to Section 4, Township 7 South, Range 21 East, S.L.M., Uintah County, Utah.

7. This Board entered its Order in Cause No. 145-4 to allow for the drilling of and simultaneous production from two wells in the Uinta formation within each 320 acre spacing drilling unit in Sections 31, 32 and 33 of Township 6 South, Range 22 East, S.L.M.

8. The Order in Cause No. 145-4 restricted the permitted well locations within Sections 31, 32 and 33 to the area not less than 500 feet from the boundaries of each surveyed quarter section.

9. The Order in Cause No. 145-4 provided that the Board may administratively make exceptions to the prescribed well locations in the event topographic and other structural variations so require.

10. This Board entered its Order in Cause No. 145-5 to allow, inter alia, two production wells per 320 acre spacing unit for the Uinta formation within Sections 28, 29, 30 of Township 6 South, Range 22 East, S.L.M. Said Order further provided that the permitted well locations should be located within each quarter Section, no closer than 500 feet from the boundaries of such quarter section, and that exception locations to the prescribed well locations may be granted administratively by the Division of Oil, Gas & Mining in the event topographic conditions so require.

11. This Board entered its Order in Cause No. 145-6 to extend the 320 acre Uinta formation spacing (established by Cause No. 145-2) to Section 32, Township 6 South, Range 21 East, S.L.M. Said Order also provided that exceptions to the prescribed well locations, may be granted administratively, (without Board hearing) in the event topography or other structural reasons so require.

12. The Uinta formation constitutes a common source of supply of gas under the following tracts:

Township 6 South, Range 21 East, S.L.M.  
Sections 25-27, 32, 34-36

Township 7 South, Range 21 East, S.L.M.  
Sections 1-4, 10-12

Township 7 South, Range 22 East, S.L.M.  
Sections 4-6, 8-10

13. One well per each 320 acre drilling/spacing unit previously established on the lands described in paragraph 12 will not effectively, efficiently, or adequately drain the gas within the Uinta formation.

14. Economic evaluation of the proposed wells in the lands described in paragraph 12 indicates that the wells will very probably recover commercial amounts of gas, reach payout and provide a good rate of return to investors.

15. The Board has the authority, pursuant to Section 40-6-6(4) U.C.A. (1953 as amended) to modify previous orders to authorize additional wells on each previously established spacing/drilling unit.

16. To protect the correlative rights of the various interest owners, and to prevent waste, maximize recovery of the natural

resource, and prevent the drilling of unnecessary wells, the Board should enter an Order permitting two (2) wells to be drilled and produce simultaneously within each 320 acre Uinta formation drilling unit on the lands described in paragraph 12 above.

17. The permitted well locations within each 320 acre Uinta formation spacing unit should be within each government surveyed quarter section, one well per quarter section, no closer than 500 feet from the boundaries of each quarter section.

18. The Division of Oil, Gas and Mining, or successor agency, should have the right to administratively approve exceptions to the prescribed well locations if topographical, cultural, geological or other considerations so require.

#### CONCLUSIONS OF LAW

1. The Board has the authority, pursuant to Section 40-6-6(4) U.C.A. (1953 as amended) to modify previous orders to authorize additional wells on each previously established spacing/drilling unit.

2. An Order permitting (a) the drilling of additional wells on existing units as provided herein, and (b) the simultaneous production of two wells per 320 acre Uinta formation spacing/drilling unit will prevent waste, maximize recovery, prevent the drilling of unnecessary wells, and protect the correlative rights of interest owners.

Sufficient evidence now being available upon which to reach a decision, the Board issues the following:

ORDER

Based upon evidence presented covering the geology, ownership, reservoir characteristics and reserves of natural gas, and to protect correlative rights and maximize the recovery of gas, the Orders issued in Cause Nos. 145-2, 145-3, 145-6, and 145-7 are hereby amended to the extent necessary to authorize the following:

1. Two production wells are allowed per each 320 acre Uinta formation drilling unit on the following lands:

Township 6 South, Range 21 East, S.L.M.  
Sections 25-27, 32, 34-36

Township 7 South, Range 21 East, S.L.M.  
Sections 1-4, 10-12

Township 7 South, Range 22 East, S.L.M.  
Sections 4-6, 8-10

2. The permitted well locations within each 320 acre drilling unit are within each government surveyed quarter section, one well per quarter section, at a point no closer than 500 feet from the boundaries of each quarter section;

3. The Division of Oil, Gas & Mining, or successor agency, may administratively approve exceptions to the prescribed well locations pursuant to Rule C3 of the General Rules and Regulations of the Board (or any duly promulgated replacement rule) if topographical, cultural, geological or other considerations so require;

4. The Board retains exclusive and continuing jurisdiction of all matters covered by this Order and of all parties affected

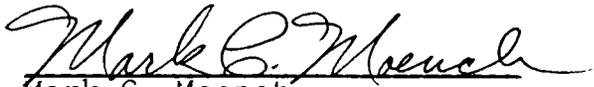
thereby, and particularly reserves exclusive and continuing jurisdiction to make further orders as appropriate and as authorized by statute and regulation.

DATED this 19<sup>th</sup> day of Sept., 1985.

STATE OF UTAH  
BOARD OF OIL, GAS & MINING

  
Gregory P. Williams, Chairman

Approved as to form:

  
Mark C. Moench  
Assistant Attorney General

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/10/94

API NO. ASSIGNED: 43-047-32576

WELL NAME: HORSESHOE BEND 1-10  
OPERATOR: SNYDER OIL CORP (N1305)

PROPOSED LOCATION:  
NWSE 01 - T07S - R21E  
SURFACE: 1912-FSL-1844-FEL  
BOTTOM: 1912-FSL-1844-FEL  
UINTAH COUNTY  
HORSESHOE BEND FIELD (620)

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

LEASE TYPE: FED  
LEASE NUMBER: UTU-72677

PROPOSED PRODUCING FORMATION: GRRV

RECEIVED AND/OR REVIEWED:

Plat  
 Bond: Federal  State  Fee   
 (Number WY-2272)  
 Potash (Y/N)  
 Oil shale (Y/N)  
 Water permit  
 (Number MO LISH #3 WELL)  
 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: 145-8  
 Date: 9-19-85  
UINTAH GAS

COMMENTS: SPACING WELL NO. OR PLAT

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

**STATE OF UTAH**

<b>Operator: SNYDER OIL CORP.</b>	<b>Well Name: HORSESHOE BEND 1-10</b>
<b>Project ID: 43-047-32567</b>	<b>Location: SEC. 01 - T07S - R21E</b>

Design Parameters:

Mud weight ( 9.60 ppg) : 0.499 psi/ft  
 Shut in surface pressure : 1742 psi  
 Internal gradient (burst) : 0.043 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using buoyed weight  
 Service rating is "Sweet"

Design Factors:

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

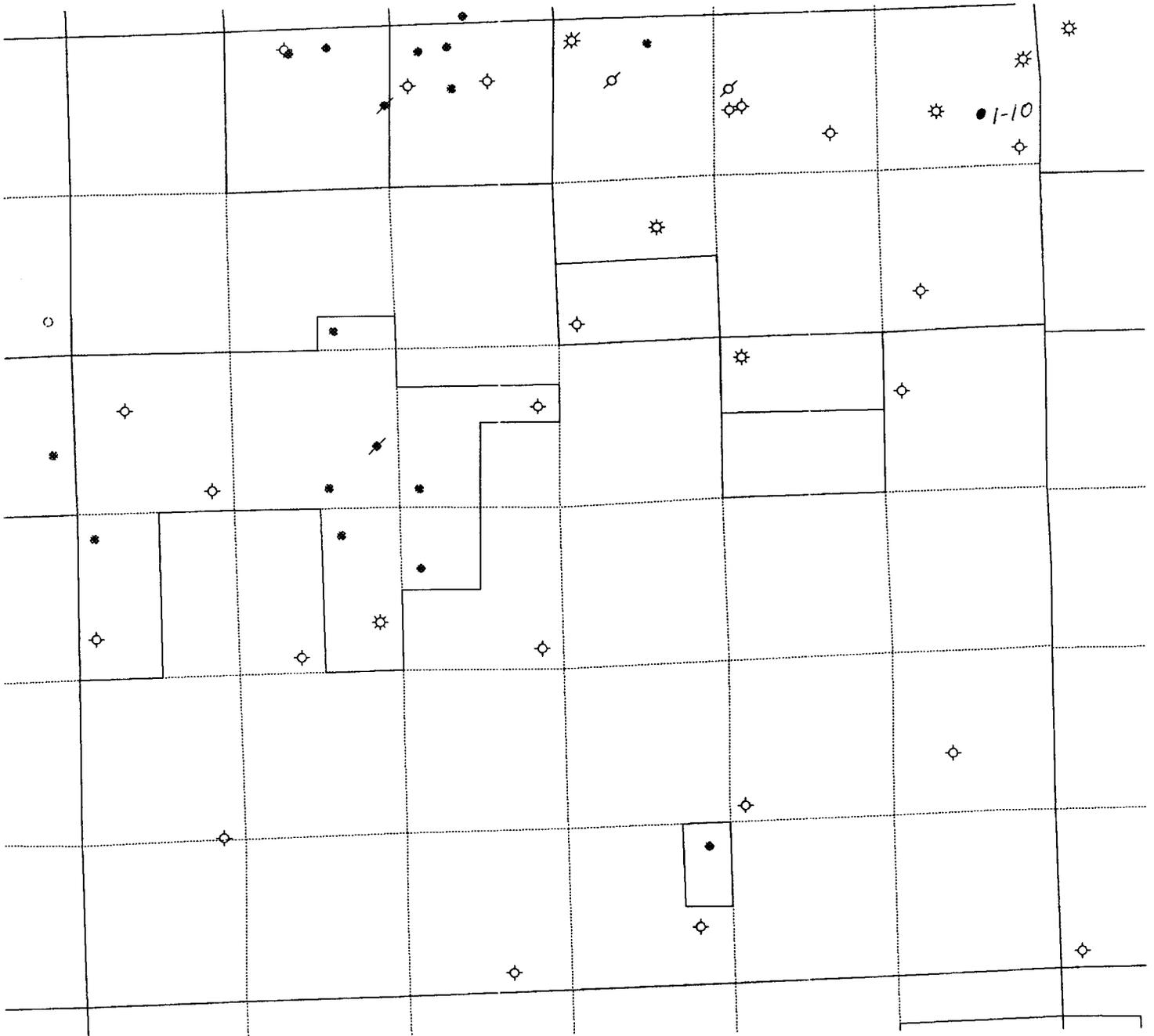
Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	3,820	4.500	10.50	J-55	ST&C	3,820	3.927
	Collapse Load Strgth S.F. (psi) (psi)		Burst Load Strgth (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load Strgth S.F. (kips) (kips)	
1	1905	4010	2.105	1905	4790	2.51	34.22 132 3.86 J

Prepared by : FRM, Salt Lake City, UT  
 Date : 12-22-1994  
 Remarks :

Minimum segment length for the 3,820 foot well is 1,000 feet.  
 SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas temperature of 93°F (Surface 74°F , BHT 112°F & temp. gradient 1.000°/100 ft.)  
 The mud gradient and bottom hole pressures (for burst) are 0.499 psi/ft and 1,905 psi, respectively.

**NOTE:** The design factors used in this casing string design are as shown above. As a general guide-line, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1987 pricing model. (Version 1.06)

SNYDER OIL CORPORATION  
HORSESHOE BEND 1-10  
SEC. 1, T7S, R21E, UINTAH COUNTY



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**R E C E I V E D**

Other Instructions on  
reverse side  
**DEC 22 1994**

FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995

LEASE DESIGNATION AND SERIAL NO.  
UTU-72677

**APPLICATION FOR PERMIT TO DRILL OR DEEPEN OIL, GAS, OR GEOTHERMAL WELLS AND MINING**

1a. TYPE OF WORK  
 DRILL                       DEEPEN

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

2. NAME OF OPERATOR  
 Snyder Oil Corporation                      Phone: (303) 592-8500

3. ADDRESS AND TELEPHONE NO.  
 1625 Broadway, Suite 2200, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface  
 1912' FSL, 1844' FEL (Lot 10) Section 1, T7S, R21E  
 At proposed prod. zone  
 Same As Above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 Approximately Fifteen (15) Miles South of Vernal, Utah

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)                      1844'

16. NO. OF ACRES IN LEASE                      170.36

17. NO. OF ACRES ASSIGNED TO THIS WELL                      320

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.                      N/A

19. PROPOSED DEPTH                      3820'

20. ROTARY OR CABLE TOOLS                      Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5129' GR

22. APPROX. DATE WORK WILL START\*  
 December 6, 1994

INDIAN, ALLOTTEE OR TRIBE NAME  
 Not Applicable

7. UNIT AGREEMENT NAME  
 Not Applicable

8. FARM OR LEASE NAME, WELL NO.  
 Horseshoe Bend #1-10

9. AP WELL NO.  
 43-047-32576

10. FIELD AND POOL, OR WILDCAT  
 Horseshoe Bend

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Section 1, T7S, R21E

12. COUNTY OR PARISH                      13. STATE  
 Uintah                      Utah

23. (ALL NEW) PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8" J-55	24.0#	0- 300'	250 sx Circulated to Surface *
7-7/8"	4-1/2" J-55	10.5#	0-3820'	700 sx Cement *

\* Cement volumes may change due to hole size. Calculate from Caliper Log.

NOV 09 1994

EIGHT-POINT RESOURCE PROTECTION PLAN ATTACHED.

I hereby certify that Snyder Oil Corporation is authorized by the proper Lease Interest Owners to conduct lease operations associated with this Application for Permit to Drill the Horseshoe Bend #1-10, Federal Lease #UTU-72677. Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Snyder Oil Corporation, Nationwide Bond #WY-2272, who will be responsible for compliance with all the terms and conditions of that portion of the lease associated with this Application.

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 Tim Burns TITLE Drilling Engineer DATE NOV 11/04/94  
 Tim A. Burns

(This space for Federal or State office use)

PERMIT NO. NOTICE OF APPROVAL APPROVAL DATE \_\_\_\_\_ CONDITIONS OF APPROVAL TO OPERATOR'S COPY

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 [Signature] TITLE \_\_\_\_\_ DATE DEC 20 1994

ASSISTANT DISTRICT  
MANAGER MINERALS

\*See Instructions On Reverse Side

Div OGM  
UT080-5m-29

**CONDITIONS OF APPROVAL**  
**APPLICATION FOR PERMIT TO DRILL**

Company/Operator: Snyder Oil Corporation

Well Name & Number: Horseshoe Bend 1-10

API Number: 43-047-32576

Lease Number: UTU-72677

Location: NWSE or LOT 10 Sec. 01 T.07S R. 21E

**NOTIFICATION REQUIREMENTS**

- Location Construction - at least forty-eight (48) hours prior to construction of location and access roads.
- Location Completion - prior to moving on the drilling rig.
- Spud Notice - at least twenty-four (24) hours prior to spudding the well.
- Casing String and Cementing - at least twenty-four (24) hours prior to running casing and cementing all casing strings.
- BOP and Related Equipment Tests - at least twenty-four (24) hours prior to initiating pressure tests.
- First Production Notice - within five (5) business days after new well begins, or production resumes after well has been off production for more than ninety (90) days.

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

## CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

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.

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

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

### A. DRILLING PROGRAM

#### 1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered

Report ALL water shows and water-bearing sands to Tim Ingwell of this office. Copies of State of Utah form OGC-8-X are acceptable. If noticeable water flows are detected, submit samples to this office along with any water analyses conducted.

All usable water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

#### 2. Pressure Control Equipment

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc., for a 2M system and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests.

Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a BLM representative upon request.

If an air compressor is on location and is being utilized to provide air for the drilling medium while drilling, the special drilling requirements in Onshore Oil and Gas Order No. 2, regarding air or gas drilling shall be adhered to. If a mist system is being utilized then the requirement for a deduster shall be waived.

The Vernal District Office shall be notified, at least 24 hours prior to initiating the pressure tests, in order to have a BLM representative on location during pressure testing.

3. Casing Program and Auxiliary Equipment

Surface casing shall have centralizers on the bottom three joints, with a minimum of one centralizer per joint.

As a minimum, the usable water and oil shale resources shall be isolated and/or protected by having a cement top for the production casing at least 200 ft. above the top of the Usable Water zone, identified at  $\pm$  3144 ft. . If gilsonite is encountered while drilling, it shall be isolated and/or protected via the cementing program.

The Vernal District Office shall be notified at least 24 hours prior to the running and cementing of all casing strings, in order to have a BLM representative on location while running and cementing all casing strings.

4. Mud Program and Circulating Medium

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

5. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

All Drill Stem tests (DST) shall be accomplished during daylight hours, unless specific approval to start during other hours is obtained from the AO. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vaporproof for safe operations). Packers can be released, but tripping should not begin before daylight unless prior approval is obtained from the AO.

A cement bond log (CBL) will be run from the production casing shoe to **Top of Cement** and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

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 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. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the AO.

6. Notifications of Operations

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 AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

The Vernal District Office shall be notified, during regular work hours (7:45 a.m.-4:30 p.m., Monday through Friday except holidays), at least 24 hours prior to spudding the well.

Operator shall report production data to MMS pursuant to 30 CFR 216.5 using form MMS/3160.

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

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Should the well be successfully completed for production, the AO 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 five (5) days following the date on which the well is placed on production.

Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever occurs first, without the prior written approval of the Authorized Officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

A schematic facilities diagram as required by 43 CFR 3162.7-5 (b.9. d.), and shall be submitted to the appropriate District Office within sixty (60) days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-5 (b. 4).

No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO 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. 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 AO or his representative, or the appropriate Surface Managing Agency.

7. Other Information

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

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

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried or anchored down from the wellhead to the meter and within 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 prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The AO 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 Vernal District Office. All meter measurement facilities will conform with Onshore Oil & Gas Order No. 4 for liquid hydrocarbons and Onshore Oil & Gas Order No. 5 for natural gas measurement.

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

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"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 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

APD approval is valid for a period of one (1) year from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period.

In the event after-hours approvals are necessary, please contact one of the following individuals:

Ed Forsman (801) 789-7077  
Petroleum Engineer

Wayne Bankert (801) 789-4170  
Petroleum Engineer

BLM FAX Machine (801) 781-4410

### EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES

While the following wastes are nonexempt, they are not necessarily hazardous.

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste
- Refinery wastes
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Used equipment lubrication oils
- Waste compressor oil, filters, and blowdown
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes
- Drums, insulation and miscellaneous solids.

**SURFACE USE PLAN OF OPERATION**  
Conditions of Approval (COAs)

**Methods for Handling Waste Disposal**

The reserve pit shall be lined. If a plastic nylon reinforced liner is used, it will be a minimum of 12 mil thickness with sufficient bedding (either straw or dirt) to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc., that could puncture the liner will be disposed of in the pit. More stringent protective requirements may be deemed necessary by the AO.

**Additional Surface Conditions of Approval**

No construction or drilling activities shall be conducted between April 1 and July 15 because of nesting bald eagles northwest of the location. This would avoid impacts to raptors in the area. Also for the raptors and eagles the topsoil stockpile should be designed to create a visual barrier between location and cottonwood trees rather than winrowed on the northwest side of the pad. (piled rather than winrowed) Some of the spoils stockpile could also be placed adjacent to the topsoil pile.



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

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

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

December 23, 1994

Snyder Oil Corporation  
1625 Broadway, Suite 2200  
Denver, Colorado 80202

Re: Horseshoe Bend #1-10 Well, 1912' FSL, 1844' FEL, NW SE, Sec. 1, T. 7 S., R. 21 E., Uintah County, Utah

Gentlemen:

Pursuant to the order issued by the Board of Oil, Gas and Mining in Cause No. 145-8 dated September 19, 1985, and Utah Admin. R.649-3-4, Permitting of Wells to be Drilled, Deepened or Plugged-Back, approval to drill the referenced well is hereby granted.

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

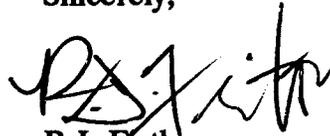
1. Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules.
2. Notification to the Division within 24 hours after drilling operations commence.
3. Submittal of Entity Action Form, Form 6, within five working days following commencement of drilling operations and whenever a change in operations or interests necessitates an entity status change.
4. Submittal of the Report of Water Encountered During Drilling, Form 7.
5. Prompt notification prior to commencing operations, if necessary, to plug and abandon the well. Notify Frank R. Matthews, Petroleum Engineer, (Office) (801)538-5340, (Home) (801)476-8613, or K. Michael Hebertson, Reclamation Specialist, (Home) (801)269-9212.
6. Compliance with the requirements of Utah Admin. R. 649-3-20, Gas Flaring or Venting, if the well is completed for production.



Page 2  
Snyder Oil Corporation  
Horseshoe Bend #1-10 Well  
December 23, 1994

This approval shall expire one year after date of issuance unless substantial and continuous operation is underway or a request for an extension is made prior to the approval expiration date. The API number assigned to this well is 43-047-32576.

Sincerely,

A handwritten signature in black ink, appearing to read "R.J. Firth". The signature is stylized and cursive.

R.J. Firth  
Associate Director

ldc  
Enclosures  
cc: Uintah County Assessor  
Bureau of Land Management, Vernal District Office  
WO11

4/27/96



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Vernal District Office  
170 South 500 East  
Vernal, Utah 84078-2799

Phone: (801) 781-4400  
Fax: (801) 781-4410

IN REPLY REFER TO:  
3162  
UT08438

January 10, 1996

Snyder Oil Corporation  
1625 Broadway, Suite 2200  
Denver, CO 80202

DOGm  
LA date  
←  
JAN 22 1996  
DIV OF OIL, GAS & MIN.

Re: Notification of Expiration  
Well No. Horseshoe Bend 1-10  
Section 1, T7S, R21E  
Lease No. U-72677  
Uintah County, Utah

42-047-32576

Gentlemen:

The Application for Permit to Drill the above-referenced well was approved on December 20, 1994. According to our records, Lease No. U-72677 expired on November 30, 1995. In view of the foregoing, this office is notifying you the approval of the referenced application has expired.

This office requires a letter confirming that no surface disturbance has been made for this drill site. Any surface disturbance associated with the approved location of this well is to be rehabilitated. A schedule for this rehabilitation must be submitted to this office. Your cooperation in this matter is appreciated.

Sincerely,

Margie Herrmann  
Legal Instruments Examiner

cc: State Div. OG&M  
Snyder, Vernal Office