

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
 1625 Broadway, Suite 2200; Denver, Colorado 80202

4 LOCATION OF WELL (Report location clearly and in accordance with any State requirements*)
 At Surface
 875' FSL, 2275' FWL (NE 1/4 SW 1/4) Section 10, T10S, R23E
 At proposed prod zone
 Same as above.

14 DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately ten (10) miles southwest of Bonanza, Utah

10 DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT (Also to nearest drilg unit line if any) 875'

16 NO OF ACRES IN LEASE 1920.00

17 NO OF ACRES ASSIGNED TO THIS WELL 160

18 DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING COMPLETED OR APPLIED FOR, ON THIS LEASE, FT 2250' ±

19 PROPOSED DEPTH 8040'

20 ROTARY OR CABLE TOOTH Rotary

21 ELEVATIONS (Show whether DF, RT, GR, etc) 5368' GR

22 APPROX DATE WORK WILL START* November 15, 1994

5 LEASE DESIGNATION AND SERIAL NO
 UTU-37355

6 IF INDIAN ALLIOTTEE OR TRIBE NAME
 Not Applicable

7 UNIT AGREEMENT NAME
 Not Applicable

8 FARM OR LEASE NAME, WELL NO
 Southman Canyon 10-3-N

9 AP WELL NO

10 FIELD AND POOL, OR WILDCAT
 Southman Canyon

11 SEC, T, R, M, OR BLK AND SURVEY OR AREA
 Section 10, T10S, R23E

12 COUNTY OR PARISH 13 STATE
 Uintah Utah

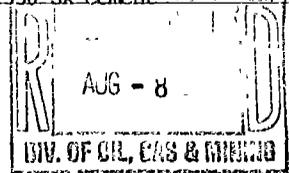
23 PROPOSED CASING AND CEMENTING PROGRAM (All New)

| SIZE OF HOLE | GRADE, SIZE OF CASINO | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|--------------|-----------------------|-----------------|---------------|--------------------------------|
| 12-1/4" | 8-5/8" J-55 | 24.0# | 0-400' | 300 sx circulated to surface * |
| 7-7/8" | 4-1/2" M-75 | 11.6# | 0-8040' | 1530 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 Southman Canyon Federal #10-3-N, Federal Lease #UTU-38261. 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 blow-out preventer program, if any

SIGNED Tim A. Burns TITLE Drilling Engineer DATE August 5, 1994

(This space for Federal or State office use)
 PERMIT NO 43-047-32539 APPROVAL DATE APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS AND MINERALS

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject well space and operations thereon.

CONDITIONS OF APPROVAL, IF ANY
 DATE: 10/17/94
 BY: John D. ...
 WELL SPACE Case 179-6

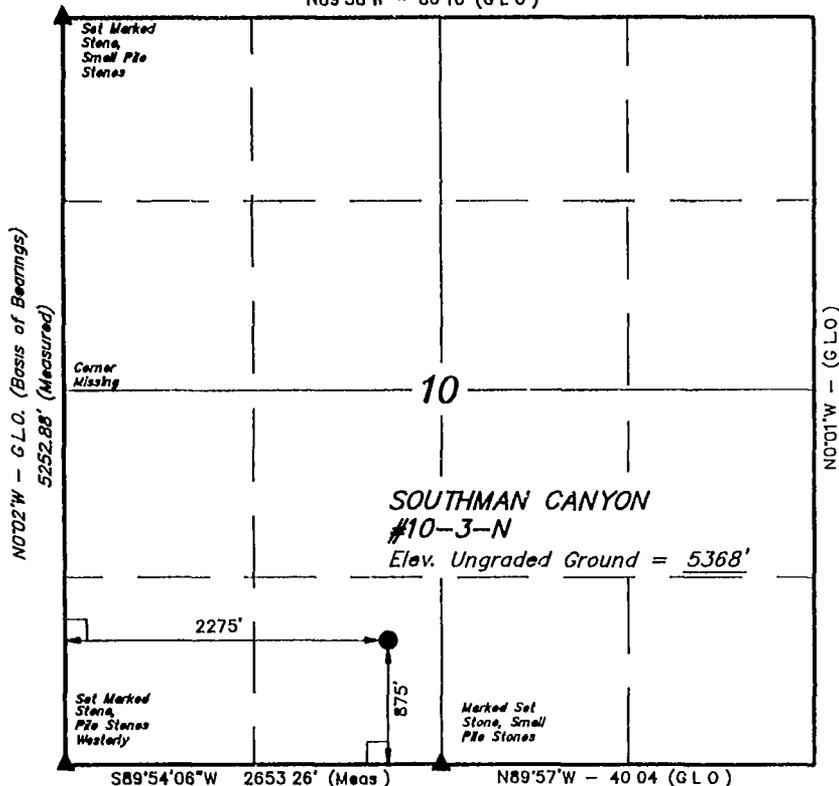
*See Instructions On Reverse Side

T10S, R23E, S.L.B.&M.

SNYDER OIL CORP.

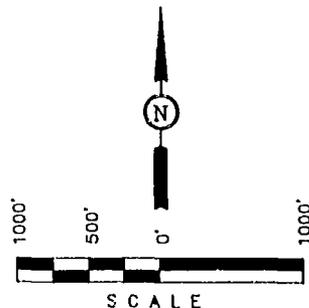
Well location, SOUTHMAN CANYON #10-3-N, located as shown in the SE 1/4 SW 1/4 of Section 10, T10S, R23E, S.L.B.&M. Uintah County Utah.

N89°58'W - 80 10 (G L O)



BASIS OF ELEVATION

BENCH MARK 57 EAM LOCATED IN THE NE 1/4 OF SECTION 29, T9S, R23E, S.L.B.&M TAKEN FROM THE RED WASH SE, 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 5192 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. ...
REGISTERED LAND SURVEYOR
REGISTRATION NO 181318
STATE OF UTAH

LEGEND:

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED

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

| | | |
|-----------------------|--------------------------|------------------------|
| SCALE 1" = 1000' | DATE SURVEYED 4-18-94 | DATE DRAWN, 5-12-94 |
| PARTY GS GB D.R.B. | REFERENCES G.L.O PLAT | |
| WEATHER COLD | FILE SNYDER OIL CORP | |

SNYDER OIL CORPORATION
Lease #UTU-37355, Southman Canyon #10-3-N
NE¼SE¼SW¼, Section 10, T10S, R23E
Uintah County, Utah

| |
|---------------------------|
| DRILLING PROGNOSIS |
|---------------------------|

1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

| | | | |
|-------------|---------|-------------|-------|
| Uinta | Surface | Mesaverde | 5615' |
| Green River | 690' | Buck Tongue | 8015' |
| Wasatch | 3913' | Total Depth | 8040' |

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

| | | | |
|-------------|-------|-------|---------------------|
| Green River | 690' | Water | (Possible) |
| Wasatch | 3913' | Gas | (Primary Objective) |
| Mesaverde | 5615' | Gas | (Primary Objective) |

Any shallow water zones encountered will be adequately protected and reported. All potentially productive hydro-carbon 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 Southman Canyon #10-3-N.

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' ¹ |
| 12-1/4" | 8-5/8" | 24.0# | J-55 | ST&C | 0- 400' ² |
| 7-7/8" | 4-1/2" | 11.6# | M-75 | LT&C | 0-8040' ² |

¹ Conductor optional.

4. THE PROPOSED CASING AND CEMENTING PROGRAM

A. Casing Program: Continued

² Minimum design factors:

| | |
|------------------|-----------------------------|
| collapse = 1.125 | tension (joint) = 1.800 |
| burst = 1.000 | tension (pipe body) = 1.500 |

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.

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 (yd³) of Redi-Mix cement, circulated back to surface.

Surface Casing - Set with approximately 300 sx of Class "G" cement, circulated back to surface.

Production Casing - Lead with approximately 1030 sx Halliburton "Light" cement.

Tail with approximately 500 sx Class "G" (or 50/50 Poz-Mix) cement, as applicable.

A sufficient quantity of tail cement will be utilized to achieve full coverage across the Mesaverde Formation. Estimated top of cement ≈ 3713'.

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.

4. THE PROPOSED CASING AND CEMENTING PROGRAM

B. Cementing Program: Continued

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- 400' | Fresh Water/Gel | 8.8- 9 2 | 28-35 | No Control |
| 400-8040' | Aerated Brine | 8.2- 8 8 | 30-35 | + 25 cc's |
| As Needed ¹ | Salt Water/Gel | 9.8-10.5 | 35-45 | 15-25 cc's |

¹ 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 : DLL/SP/GR¹ - from 8040' to 400'
FDC/CNL/SP/GR¹ - from 8040' to 400'

¹ Pull Gamma Ray to surface.

DST's : None anticipated.

Cores : None anticipated.

6. EVALUATION PROGRAM - Continued

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.

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 H₂S 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 4,100 psi (as calculated in the Downspacing Hearing Study) and maximum anticipated surface pressure equals approximately 2331 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 - November 15, 1994
Drilling Days - Approximately 14 Days
Completion Days - Approximately 10 days

8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS

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) 769-3634

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 |

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.

8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS

B. Notification of Operations: Continued

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. All BOP tests must be recorded in the daily drilling report. **NOTIFY RESOURCE AREA 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.

8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS

B. Notification of Operations: Continued

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. 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 "¼, ¼, Section, Township, Range, P.M."

8. ANTICIPATED STARTING DATES AND NOTIFICATION OF OPERATIONS

B. Notification of Operations:

The notification shall provide as a minimum, the following informational items: continued

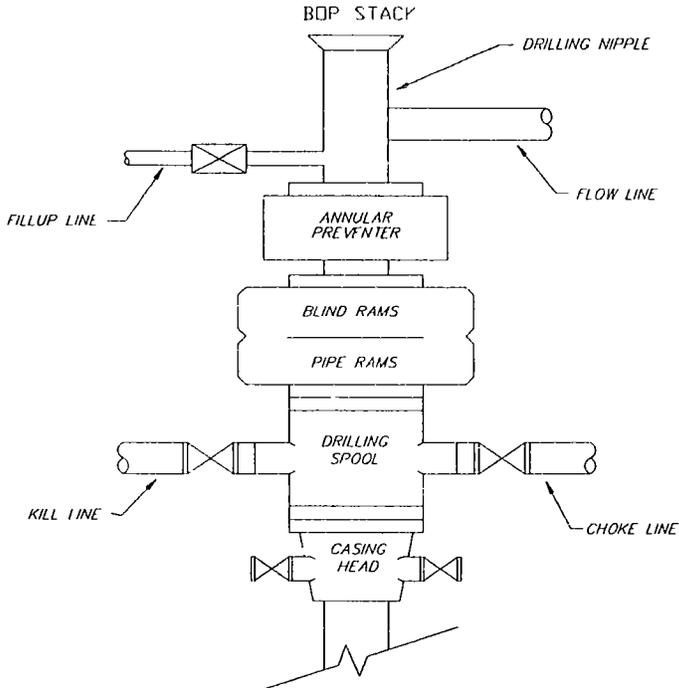
- d. Date well was placed in a producing status
- e. The nature of the wells production, i.e.: crude oil casing gas, or natural gas and entrained liquid hydrocarbons.
- f. The OCS, Federal or Indian lease prefix and number on which the well is located. Otherwise, the non-Federal or non-Indian land category, 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).

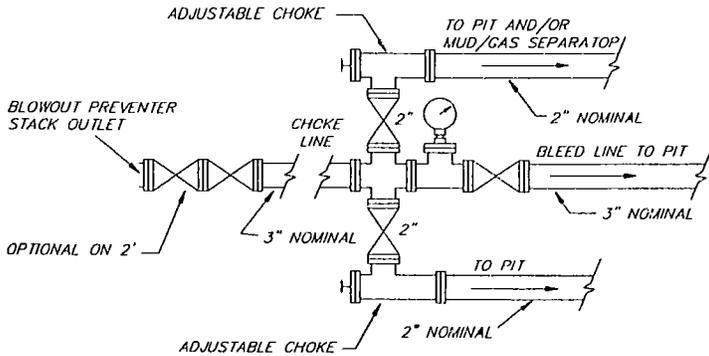
Pursuant to *Onshore Oil & Gas Order Number 1*, lessees and operators have the responsibility to see that their exploration, development, production, and construction operations are conducted in such a manner which conforms with applicable federal laws and regulations and with state and local laws and 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 psi BLOWOUT PREVENTER SCHEMATIC



TYPICAL 3,000 psi CHOKE MANIFOLD SCHEMATIC



SNYDER OIL CORPORATION
Lease #UTU-37355, Southman Canyon #10-3-N
NE¼SE¼SW¼, Section 10, T10S, R23E
Uintah County, Utah

| |
|--|
| MULTI-POINT SURFACE USE AND OPERATIONS PLAN |
|--|

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 3.0 miles on U.S. Highway 40 (a paved U.S. Highway), thence generally south/southeast approximately 35 miles to the community of Bonanza on Utah Highway 45 (a paved state highway), thence generally west approximately 3.9 miles on an existing Uintah County Road (crowned & ditched with a gravel surface), thence generally southwest approximately 1.3 miles on an existing Uintah County road (crowned & ditched with a gravel surface), thence generally west/southwest approximately 4.2 miles on an existing oilfield road (crowned & ditched with a native soil surface), thence continuing generally southwest approximately 1.4 miles on an existing oilfield road (crowned and ditched with a native soil surface) to the SOCO Sheepherder Federal #1-10 well location, thence generally southwest approximately 0.5 miles to the proposed Southman Canyon #10-3-N 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 Southman Canyon #10-3-N well location.

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

Approximately 0.5 miles of new road construction will be required for access to the proposed Southman Canyon #10-3-N 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.

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.

Should mud holes develop, they shall be filled in and detours around them avoided.

- C. Maximum grade - 7%.
- 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 for this short segment of new access road.
- 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 - no culverts will be required along the access road route. There are no major cuts and/or fills 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.

2. PLANNED ACCESS ROADS - Continued

- 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

Please Refer to Map "C".

- A. Water wells - none known.
- B. Abandoned wells - none known.
- C. Temporarily abandoned wells - none known.
- D. Disposal wells - none known.
- E. Drilling wells - none known.
- F. Producing wells - SE $\frac{1}{4}$ NE $\frac{1}{4}$, Section 9, T10S, R23E.
NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 9, T10S, R23E.
NE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 15, T10S, R23E.
NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 15, T10S, R23E.
- G. Shut-in wells - NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 15, T10S, R23E.
- 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 9, T10S, R23E.
NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 9, T10S, R23E.
NE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 15, T10S, R23E.
NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 15, T10S, R23E.
NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 15, T10S, R23E.
- 2. Production facilities - same as Item #4A1, above.
- 3. Oil gathering lines - none known.
- 4. Gas gathering lines - same as Item #4A1, above.

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

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 Southman Canyon #10-3-N 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.

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.

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. The required paint color is Carlsbad Canyon, Munsell standard color number 2.5Y 6/2.
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 drilling will be obtained from an existing water well and reservoir: Uintah #1, owned by Target Trucking, Inc. and located in the SE¼SE¼NE¼ of Section 16, Township 10 South, Range 21 East, Uintah County, Utah; permit #49-991 (A57530).

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.

5. LOCATION AND TYPE OF WATER SUPPLY - Continued

- B. Water will be transported via tank truck over existing roads from the point of diversion to the proposed Southman Canyon #10-3-N 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 2) 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.
- 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.

7. METHODS OF HANDLING WASTE MATERIALS - Continued

- B. 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 ninety (90) 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.
- 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.

7. METHODS OF HANDLING WASTE MATERIALS - Continued

- 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 Southman Canyon #10-3-N 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 (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 Southman Canyon #10-3-N well location. 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).

9. WELLSITE LAYOUT - Continued

- 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 1×10^{-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.

- F. Prior to the commencement of drilling operations, the reserve pit will be fenced "sleep 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 (?) 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.
 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.

9. WELLSITE LAYOUT - Continued

- F. 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.
 - 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 ninety (90) 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.

10. PLANS FOR RECLAMATION OF THE SURFACE

C. Producing Operations: Continued

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, with shrub seeds planted in rows separate from the grass seed, unless otherwise directed by the Authorized Officer, Bureau of Land Management.

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.

9. Fall seeding will be completed after September 15th and prior to ground frost. If applicable, spring seeding will be completed after the frost has left the ground and prior to May 15th.

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.

10. PLANS FOR RECLAMATION OF THE SURFACE - Continued

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 between the White River to the south and the Green River to the east. 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.

12. OTHER INFORMATION

A. General Description of the Project Area: Continued

There are no known threatened or endangered species that would be affected by implementation of operations on the Southman Canyon #10-3-N 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 White River, located approximately 1.5 miles south of the proposed well location.
2. The closest occupied dwellings are located approximately ten (10) miles to the northeast of the proposed well location in the community of Bonanza, 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. 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.

12. OTHER INFORMATION

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

3. 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.

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.

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.

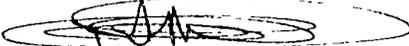
No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the Authorized Officer. If operations are to be suspended, prior approval of the Authorized Officer will be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

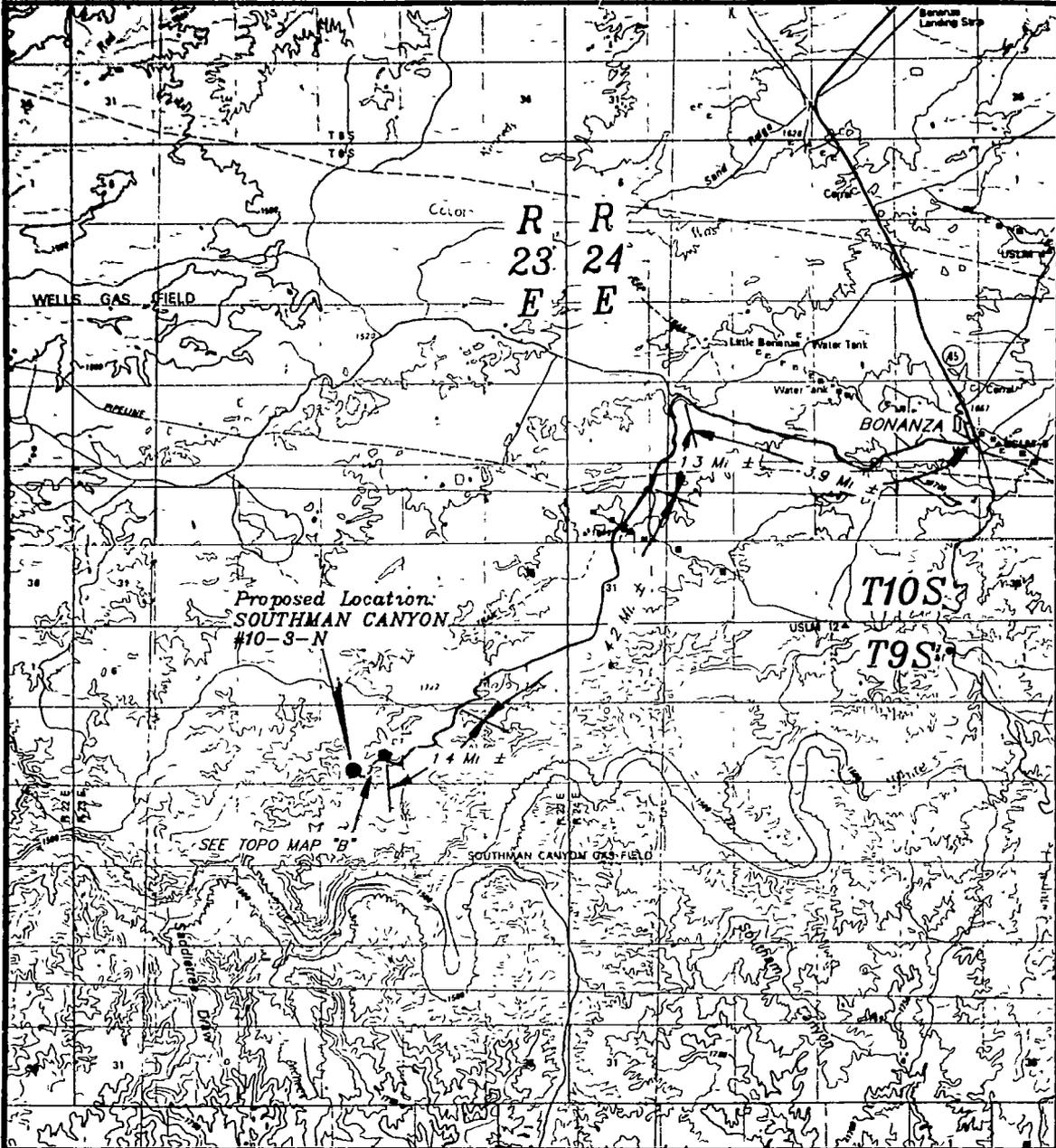
13. LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

Certification - Continued

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.

5 August 1994
Date


Robert M. Anderson/Authorized Agent



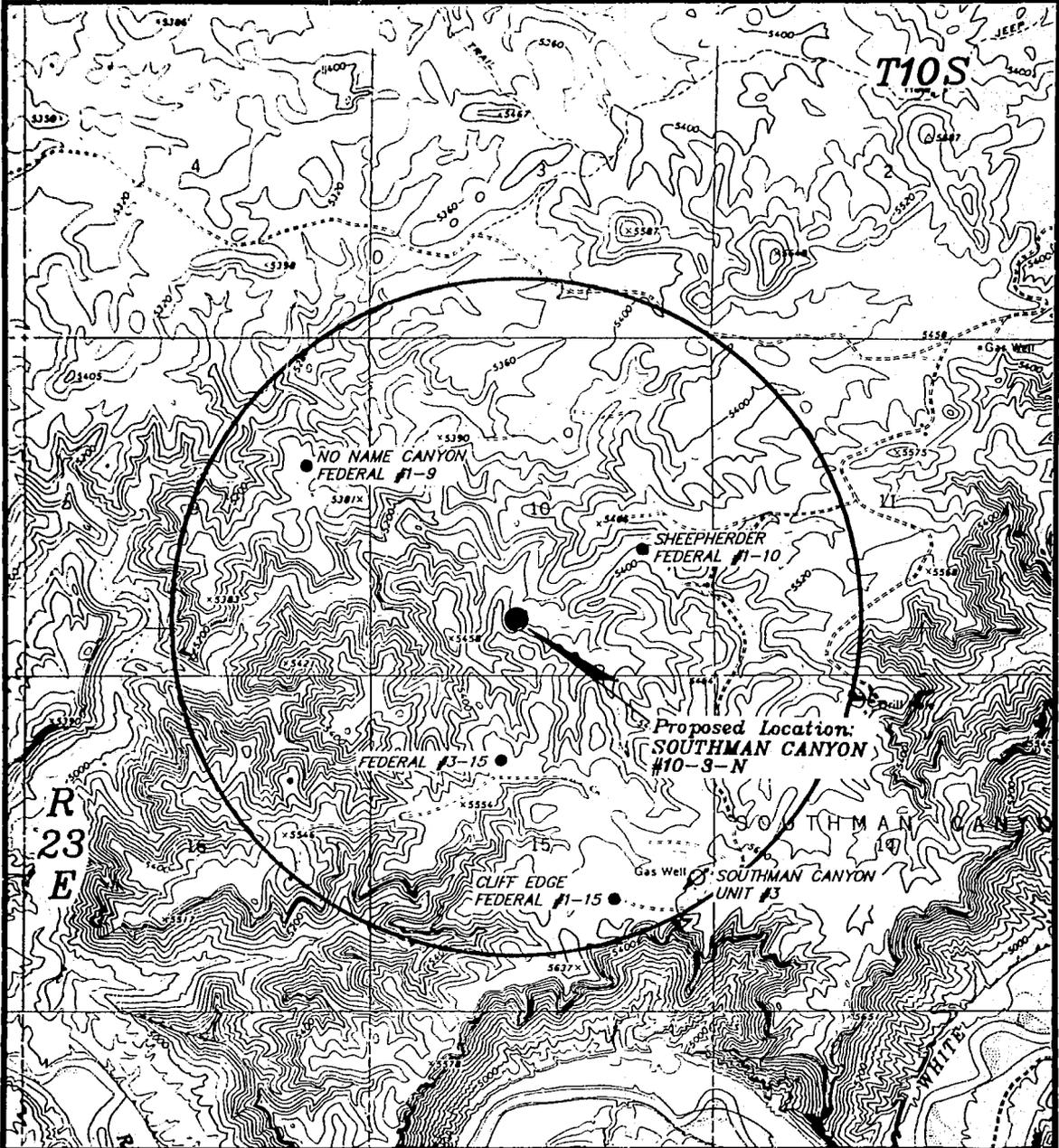
TOPOGRAPHIC
MAP "A"

DATE 5-2-94 CBT



SNYDER OIL CORP.

SOUTHMAN CANYON #10-3-N
SECTION 10, T10S, R23E, S.L.B.&M.
875' FSL 2275' FWL



R
23
E

T10S

LEGEND:

- ⊕ = Water Wells
- ◆ = Abandoned Wells
- ◐ = Temporarily Abandoned Wells
- ⊖ = Disposal Wells
- = Drilling Wells
- = Producing Wells
- ◐ = Shut-In Wells



SNYDER OIL CORP.

SOUTHMAN CANYON #10-3-N
SECTION 10, T10S, R23E, S.1.B.&M.

TOPO MAP "C"

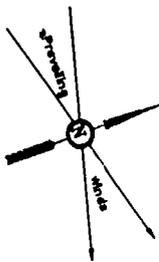
DATE: 5-14-94 C.B.T.

SNYDER OIL CORP.

LOCATION LAYOUT FOR

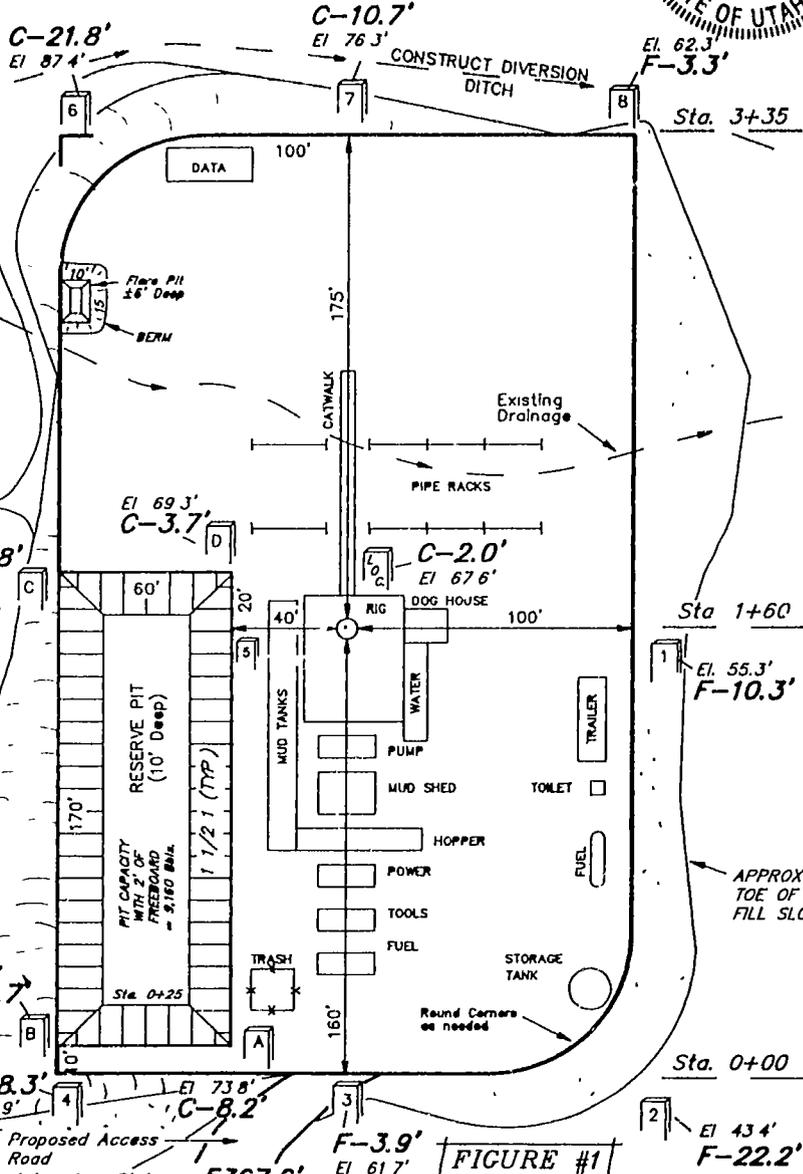
SOUTHMAN CANYON #10-3-N
SECTION 10, T10S, R23E, S.L.B & M.

875' FSL 2275' FWL



SCALE. 1" = 50'
DATE 5-12-94
Drawn By DRB

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



Elev Ungraded Ground at Location Stake = 5367.6'
Elev. Graded Ground at Location Stake = 5365.6'

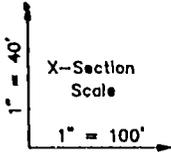
FIGURE #1

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

SNYDER OIL CORP.

TYPICAL CROSS SECTIONS FOR

**SOUTHMAN CANYON #10-3-N
SECTION 10, T10S, R23E, S.L.B.&M.
875' FSL 2275' FWL**



DATE 5-12-94
Drawn By DRB

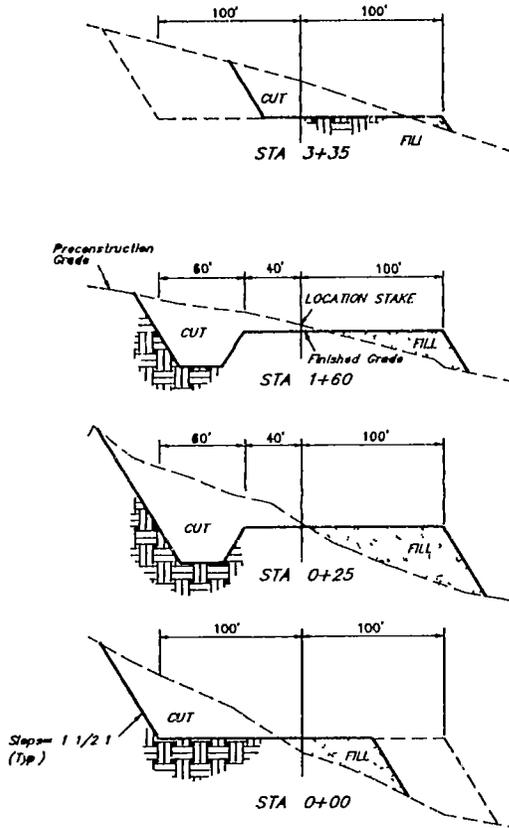


FIGURE #2

APPROXIMATE YARDAGES

| | | |
|------------------------|-----------------|----------------|
| CUT | | |
| (6") Topsoil Stripping | = 1,240 | Cu Yds |
| Remaining Location | = 14,940 | Cu Yds |
| TOTAL CUT | = 16,180 | CU.YDS. |
| FILL | = 12,950 | CU.YDS |

| | | |
|---|----------------|-----------------|
| 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 |

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 08/08/94

API NO. ASSIGNED: 43-047-32539

WELL NAME: SOUTHMAN CANYON 10-3-N
OPERATOR: SNYDER OIL CORP (N1305)

PROPOSED LOCATION:
SESW 10 - T10S - R23E
SURFACE: 0875-FSL-2275-FWL
BOTTOM: 0875-FSL-2275-FWL
UINTAH COUNTY
NATURAL BUTTES FIELD (630)

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

LEASE TYPE: FED
LEASE NUMBER: UTU-37355

PROPOSED PRODUCING FORMATION: MVRD

RECEIVED AND/OR REVIEWED:

Y Plat
Y Bond: Federal State Fee
(Number WY-2292)
N Potash (Y/N)
N Oil shale (Y/N)
Y Water permit
(Number 49-991)
N RDCC Review (Y/N)
(Date: _____)

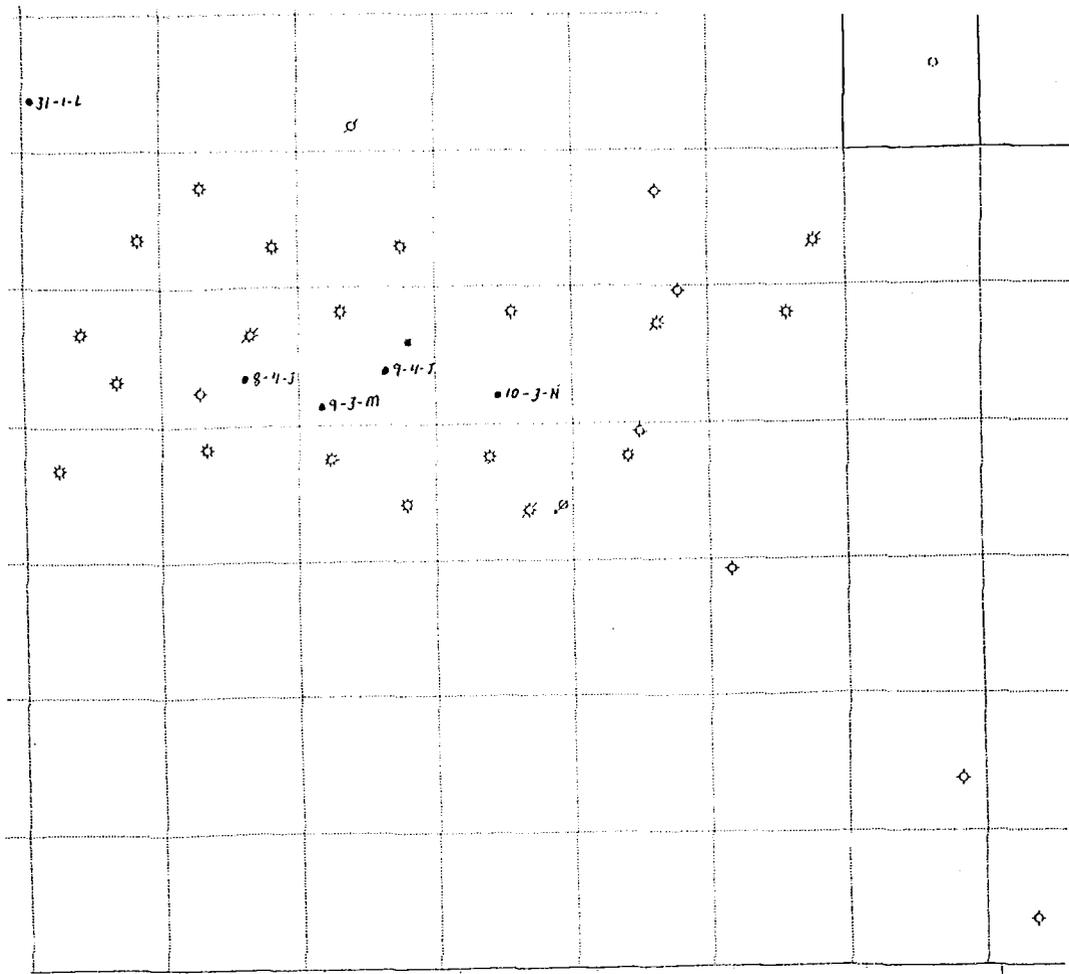
LOCATION AND SITING:

___ R649-2-3. Unit: _____
___ R649-3-2. General.
___ R649-3-3. Exception.
 Drilling Unit.
Board Cause no: 179-6
Date: 5/27/94

COMMENTS: _____

STIPULATIONS: _____

NATURAL BUTTES
SNYDER SOUTHMAN CANYON
31-1-L, 8-4-J, 9-4-J, 9-3-M, 10-3-N



U S
Department of the Interior
Bureau of Land Management
Utah State Office

Summary Report of
Inspection for Cultural Resources

Project Authorization No U-94-GB-223 b

Report Acceptable Yes ___ No ___
Mitigation Acceptable Yes ___ No ___

Comments _____

1 Report Title S O U T H M A N C A N # 1 0 - 3 - N & A C C E S S

2 Development Company SNYDER OIL CORPORATION

3 Report Date 0 5 10 1 9 9 4 4 Antiquities Permi* No 94-UT-54939

5 Responsible Institution G R A N D R I V E R I N S County Uintah

6 Fieldwork Location TWN 1 0 S Range 2 3 E Section(s) 1 0
TWN _____ Range _____ Section(s) _____

7 Resource Area B C TWN _____ Range _____ Section(s) _____

PO=Pony Express, BR=Bear River, WS=Warm Springs, BC=Book Cliffs, HR=House Range,
SE=Sevier River, HI=Henry Mountains, BE=Beaver River, DX=Dixie, KA=Kanab,
ES=Escalante, SJ=San Juan, GR=Grand, SR=San Raphael, DM=Diamond Mountain

8 Description of Examination Procedures A 100 percent pedestrian cultural resources survey of the proposed well location was made by walking a series of concentric circles around the flagged center to a diameter of 750 feet Related access was surveyed by walking zigzag transects to cover a swath 100 feet to both sides of the flagged centerline

9 Linear Miles Surveyed 0 5 and/or _____
Definable Acres Surveyed _____ and/or _____
Legally Undefinable Acres Surveyed 1 0

10 Inventory Type I
R=Reconnaissance
I=Intensive
S=Statistical

11 Description of Findings (attach appendices, if appropriate)
No cultural resources were identified

12 Number Sites found 0 13 Collection N
No sites = 0 I=Yes N=No

14 Actual/Potential National Register Properties Affected None

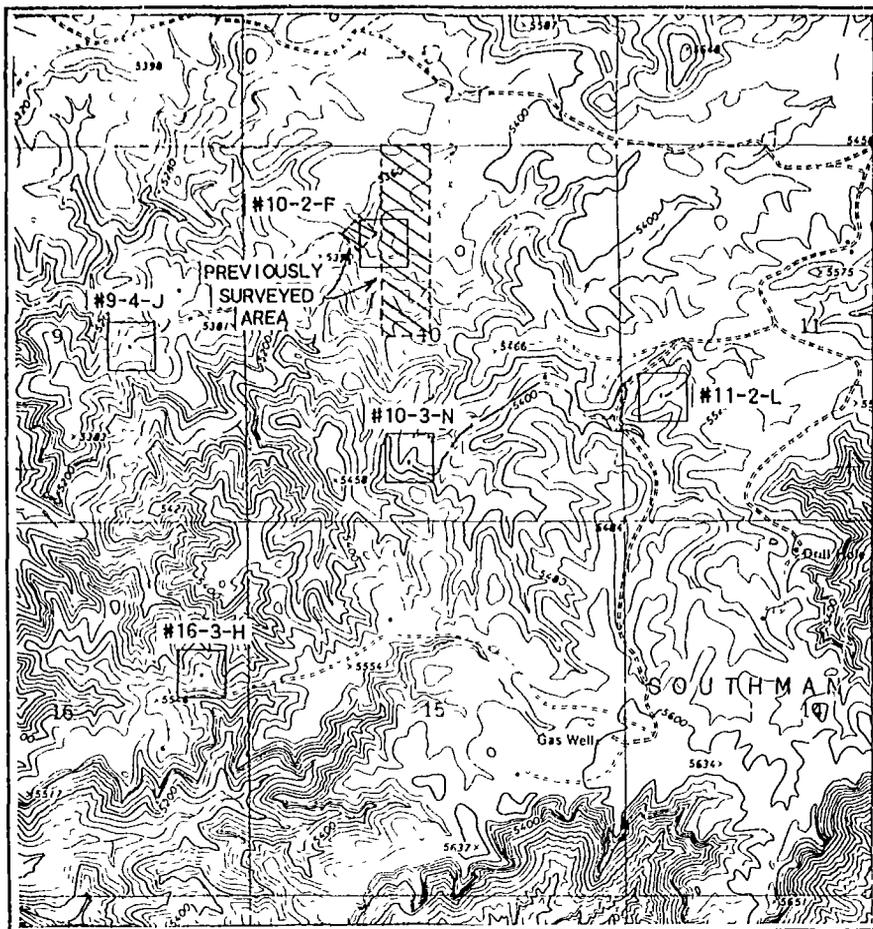
15 Literature Search, Location/Date BLM Vernal District Office 5/3/94

16 Conclusion/Recommendations

No significant historic properties were identified Archaeological clearance is recommended

17 Signature of Administrator & Field Supervisor Administrator Carl E Conner
Field Supervisor Carl E. Conner

*For extra locationals use additional 8100-3 forms



Asphalt Wash Quadrangle
 Utah--Uintah County
 1987

USGS 7.5' Series (topographic)
 Scale 1:24000

Contour interval 40 feet
 T. 10S., R. 23E., S.L.P.M.

Cultural resources inventory of fifteen proposed well locations and related access routes in the Southman Canyon Gas Field, Uintah County, Utah for Snyder Oil Corporation. Area surveyed for cultural resources is highlighted. [GRI Project No. 9430, 5/10/94]

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

---oo0oo---

IN THE MATTER OF THE
REQUEST FOR AGENCY ACTION
OF SNYDER OIL CORPORATION
FOR AN ORDER MODIFYING THE
ORDER IN CAUSE NO 179-1 TO
AUTHORIZE THE DRILLING OF
ADDITIONAL WELLS IN
ESTABLISHED DRILLING UNITS IN
THE BONANZA FIELD AREA IN
UINTAH COUNTY, UTAH, AS TO
THE WASATCH AND MESA VERDA
FORMATIONS, MODIFYING SET
BACK REQUIREMENTS; AND
AUTHORIZING COMMINGLING OF
PRODUCTION FROM PRODUCING
HORIZONS

FINDINGS OF FACT,
CONCLUSIONS OF LAW,
AND ORDER

DOCKET NO. 94-010

CAUSE NO. 179-6

---oo0oo---

This cause came on regularly for hearing before the Board of Oil, Gas and Mining (the "Board") on Wednesday, April 27, 1994, at 10:00 a.m., in the Boardroom of the Division of Oil, Gas and Mining at 355 West North Temple, 3 Triad Center, Suite 520, Salt Lake City, Utah

The following Board members present and participating in the hearing were: Chairman Dave D. Lauriski, Judy F. Lever, Jay L. Christensen, Kent G. Stringham, Raymond Murray, Thomas Faddies, and Elise L. Eler. Staff members of the Division of Oil, Gas and Mining (the "Division") present and participating in the hearing included James W. Carter, Director; Ronald J. Firth, Associate Director for Oil and Gas; Brad Hill, geologist, and Frank Matthews, petroleum engineer.

Phillip Wm Lear, Esq , of Snell & Wilmer appeared on behalf of Snyder Oil Corporation ("Snyder"), and Julie L Weber, Linda M Jacobs, and William E Richardson appeared as witnesses for Snyder

Thomas A Mitchell, Esq , Assistant Attorney General, represented the Board; and William R Richards, Esq , Assistant Attorney General, represented the Division. No persons appeared in opposition.

Robert A Henricks, Chief, Branch of Fluid Minerals (Utah State Office); Assad N Raffoul, petroleum engineer (Utah State Office), and Edwin Forsgren, petroleum engineer (Vernal District Office) appeared for the United States of the Interior, Bureau of Land Management

NOW THEREFORE, the Board, having fully considered the testimony adduced and the exhibits received at the hearing, and being fully advised in the premises, makes and enters its Findings of Fact, Conclusions of Law, and Order, as follows:

FINDINGS OF FACT

1. The Board mailed notice of the April 27, 1994, hearing to all interested parties by certified mail, return receipt requested on April 1, 1994, and caused notice to be published in the *Deseret News* and in the *Salt Lake Tribune* on April 4, 1994, and in the *Vernal Express* on April 6, 1994.

2. Snyder mailed photocopies of the Request for Agency action to all owners

3. Snyder is a Delaware Corporation in good standing, having its principal place of business in Fort Worth, Texas. Snyder is licensed to do business in Utah.

4 The lands affected by the Request for Agency Action are public domain lands of the United States of America, administered by the Bureau of Land Management ("BLM"), allotted Indian lands, and trust lands of the State of Utah, administered by the Utah Division of State Lands and Forestry.

5 By Order in Cause No 179-1 dated October 24, 1978 (the "Order"), the Board established 320-acre stand-up¹ drilling units for the Bonanza Field Area of Uintah County for the production of oil, gas and associated hydrocarbons from the common source of supply in the Green River, Wasatch, Mesa Verde, and Castlegate formations in the following described lands in Uintah County, Utah;

Township 10 South, Range 23 East, S.L.M.

| | |
|-------------|-----|
| Section 1 | All |
| Section 2. | All |
| Section 3 | All |
| Section 4 | All |
| Section 5 | All |
| Section 6. | All |
| Section 7 | All |
| Section 8 | All |
| Section 9 | All |
| Section 10 | All |
| Section 11: | All |
| Section 12. | All |
| Section 13 | N ½ |
| Section 14 | N ½ |
| Section 15 | All |
| Section 16. | All |

¹ The north-half of Sections 13 and 14 comprise lay-down 320-acre drilling units

Section 17 All
Section 18 All

(containing 10,884 acres, more or less)

These lands are hereinafter referred to as the "Spaced Lands "

6 The interval spaced in the Spaced Lands is described as being from the surface down to the top of the Mancos formation and includes the Green River, Wasatch, Mesa Verde, and Castlegate formations ("Spaced Interval"). The Order ultimately provided for one well to produce from the Spaced Interval in each drilling unit.

7 Under the Order, the Board established a uniform spacing pattern in the Spaced Lands and Spaced Interval authorizing the legal location for unit wells at the center of the NW¼ and SE¼ of each governmental survey section or its equivalent, excepting only the N½ of Sections 13 and 14 where the permitted location is authorized at the center of the NW¼ or its equivalent, and further permitting a tolerance of 600 feet from the center of such designated quarter-sections.

8 Snyder owns or controls 9,591 of the 10,844 acres comprising the Spaced Lands and is the predominant owner of working interests in the Spaced Lands and Spaced Interval.

9 Snyder or its predecessors have successfully drilled, tested, and produced wells at legal locations in the drilling units; and 20 wells are currently capable of production from the Spaced Interval ("Existing Wells")

10 Snyder is the operator of 19 of the Existing Wells, and Chevron U S A Inc is the operator of the remaining Existing Well

11. The productive horizons are the Wasatch and Mesaverde formations, comprising continental deposits including channel sandstones, siltstones, and shales deposited by aggrading streams flowing northwesterly into the Uinta Basin. The lenticular channel sandstones form the common source of supply where the hydrocarbons are stratigraphically trapped in their updip pinchout

12 The Spaced Interval thicknesses across the Spaced Lands range from 3, 950 to 4,350 feet, with the productive Wasatch and Mesaverde formations ranging in thickness from 20 feet to 70 feet in channels less than one-half mile wide.

13. Geologic and engineering data obtained from drilling and development operations on the Spaced Lands and in the Spaced Interval, related technical studies within the same geologic provenance and formations in adjoining lands containing the identical horizons, and the position of the existing producing wells confirms that one well drilled in legal locations in the drilling units does not drain the common source of supply in the Spaced Interval. The beds have insufficient thickness or have limiting characteristics precluding effective and efficient drainage of the recoverable reserves from the common source of supply

14 Many of the productive beds are not correlatable from well to well and will not afford communication between wells located 1,000 feet apart.

15. The surface of the Spaced Lands exhibits severe topographic relief consisting of high mesas and steep canyons incised and dissected by the White River and its tributaries. Appropriate locations for oil and gas drilling operations are radically limited, justifying larger than usual drilling windows defined by setbacks of 330 feet from the drilling unit boundary (quarter-section lines) for interior drilling units to accommodate drilling.

16. Archeological and environmental considerations further limit the number of adequate drilling locations in the Spaced Lands.

17. The Spaced Lands are bounded on three sides by federal exploratory units necessitating 500-foot setbacks from the exterior boundaries of the Spaced Lands.

18. By allowing administrative approval for exception wells for topographic, archaeological, and environmental reasons and when the landowners impose "no surface occupancy" stipulations upon the lease or similar conditions upon the permits to drill (without limitation to a footage tolerance), Snyder will be able to select appropriate locations even at the exterior boundaries of the Spaced Lands.

19. All existing wells conform to the existing spacing pattern and to the spacing pattern established in this Order.

20. Snyder proposes to drill wells to the Spaced Interval at the following potential locations in the Spaced Lands:

SW ¼ Section 4-10S-23E
NE ¼ Section 4-10S-23E

NW¼ Section 8-10S-23E
SE¼ Section 8-10S-23E
SW¼ Section 9-10S-23E
SE¼ Section 9-10S-23E
NW¼ Section 10-10S-23E
SW¼ Section 10-10S-23E
NE¼ Section 10-10S-23E
SW¼ Section 11-10S-23E

These wells would constitute legal locations under the Order as modified.

21. At the hearing, Snyder orally modified its Request for Agency Action to apply to, and embrace, all formations spaced under the Order; and further, orally modified its Request for Agency Action to provide setbacks for the drilling windows of 500 feet from the exterior boundary of the Spaced Lands.

CONCLUSIONS OF LAW

1. The Board has jurisdiction of the parties and of the subject matter of Snyder's Request for Agency Action, pursuant to Chapter 6 of Title 40 of the *Utah Code Annotated* and pursuant to the Order; and has the authority to make and promulgate the order hereinafter set forth

2. The Board has authority to modify its previous Order to permit additional wells to be drilled within established units pursuant to section 40-6-6(4) of the *Utah Code Annotated*.

3. The Board gave due and regular notice of the time, place, and purpose of the hearing to all interested parties as required by law and by the rules and regulations of the Board.

4. Snyder's petition poses an appropriate request for modification of the existing Order to authorize infill drilling under Utah law

5. A 330-foot setback from the exterior boundary of all interior drilling units and a 500-foot setback from the exterior boundary of the Spaced Lands will prevent waste of the resource in the common source of supply by allowing Snyder to drill at surface locations not otherwise available

6 Drilling at the locations as modified will prevent the drilling of unnecessary wells, and therefore economic waste, inasmuch as Snyder will be able to intersect productive sands not otherwise accessible from the existing legal locations.

7 Modifying the existing Order to authorize the drilling of a second production well within the established drilling units will protect the correlative rights of owners who have participated in the drilling of existing wells.

8. Based upon the known geologic and engineering data, modification of the existing Order to authorize production from a second well in the Spaced Interval within the 320-acre drilling units will promote the development, production, and utilization of oil and gas within the Spaced Interval in such a manner as to achieve the greatest ultimate recovery

ORDER

IT IS THEREFORE ORDERED that to prevent waste of the oil, gas, and associated hydrocarbons, to increase the ultimate recovery of the resource, to prevent physical and economic waste, and to protect correlative rights:

A Snyder's Request for Agency Action, as orally amended at the hearing to include all existing formations within the Spaced Interval, is granted

B The Order in Cause No 179-1 is hereby modified to authorize the drilling of a second production well from the Spaced Interval in the existing drilling units at locations hereinafter defined

C Wells shall be drilled no closer than 1,000 feet from the nearest well producing from the Spaced Interval

D. The legal location for second wells within the existing drilling units shall be near the center of each governmental survey quarter-section or its equivalent, within a drilling unit described as follows

For Interior Drilling Units by setbacks of no less than 330 feet from the existing exterior boundary of each interior drilling unit

For Exterior Drilling Units by setbacks of no less than 330 feet on the three interior sides of the drilling unit and by no less than 500 feet on the exterior side of the drilling unit for those drilling units comprising the exterior drilling units of the Spaced Lands

E The Division may grant administrative approval for exception wells for topographic, archaeological, and environmental reasons and when the landowners impose "no surface occupancy" stipulations to the leases or "no surface occupancy" conditions to the permits to drill, without limitation as to footage from legal locations under his order

The Board retains exclusive and continuing jurisdiction of all matters covered by this order and of all parties affected thereby, and specifically, the Board retains and reserves exclusive and continuing jurisdiction to make further orders as appropriate and authorized by statute and applicable regulations.

ENTERED this 21st day of May, 1994

STATE OF UTAH
BOARD OF OIL, GAS AND MINING



Dave D. Lauriski
Chairman



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 Trade Center Suite 350
Salt Lake City Utah 84100 1203
801 538 5340
801 359 3940 (Fax)
801 538 5319 (TDD)

October 17, 1994

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

Re Southman Canyon 10-3-N Well, 875' FSL, 2275' FWL, SE SW, Sec. 10, T. 10 S., R. 23 E., Uintah County, Utah

Gentlemen:

Pursuant to the order issued by the Board of Oil, Gas and Mining in Cause No. 179-6 dated May 27, 1994, 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:

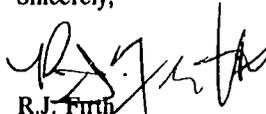
1. Compliance with the requirements of Utah Admin R. 649-1 et seq., the Oil and Gas Conservation General Rules
2. Notification to the Division within 24 hours after drilling operations commence
3. Submittal of Entity Action Form, Form 6, within five working days following commencement of drilling operations 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

Page 2
Snyder Oil Corporation
Southman Canyon 10-3-N Well
October 17, 1994

6. Compliance with the requirements of Utah Admin. R. 649-3-20, Gas Flaring or Venting, if the well is completed for production.

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 43-047-32539.

Sincerely,



R.J. Firth
Associate Director

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

nlsh7



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

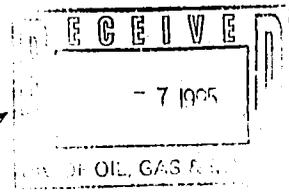
IN REPLY REFER TO

3162
UT08-438

November 29, 1995

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

*ETA
12/6/95
LA
dot*



Re: Notification of Expiration
Well No. Southman Canyon 10-3-N
Section: 10 T10S, R23E
Lease No. U-38261
Uintah County, Utah

43-047-32539

Gentlemen:

The Application for Permit to Drill the above-referenced well was approved on November 23, 1994. Since that date no known activity has transpired at the approved location. Applications for Permit to Drill are effective for a period of one year. In view of the foregoing, this office is notifying you the approval of the referenced application has expired. If you intend to drill at this location at a future date, a new Application for Permit to Drill must be submitted.

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